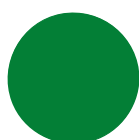




# CLINICAL HEALTH PROMOTION

Research & Best Practice for patients, staff and community

## 26<sup>th</sup> International Conference on Health Promoting Hospitals & Health Services



HEALTH PROMOTION STRATEGIES TO ACHIEVE  
REORIENTATION OF HEALTH SERVICES:  
EVIDENCE-BASED POLICIES AND PRACTICES

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Bologna, Italy



#### Editorial Office

WHO-CC, Clinical Health Promotion Centre  
Health Sciences, Lund University, Sweden  
Bispebjerg & Frederiksberg Hospital,  
University of Copenhagen, Denmark

#### The Official Journal of

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Hospitals and Health Services

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## Editorial

Dear participants of the 26th International Conference on Health Promoting Hospitals and Health Services, dear readers of Clinical Health Promotion!

This year, the annual International Conference on Health Promoting Hospitals and Health Services will take place in Bologna, Italy. The HPH Network Emilia-Romagna, which kindly will host the event, was founded in 1999 and has been coordinated by the Local Health Authority of Reggio Emilia since 2016. It has provided valuable support to the international HPH network ever since, not least through its considerable participation in the HPH Task Force on Migration, Equity & Diversity.

The local host, together with the scientific committee, has decided that the focus of the 26th International HPH Conference will be on "Health promotion strategies to achieve reorientation of health services: evidence-based policies and practices". The reorientation of health services towards health promotion was already formulated as an objective in the Ottawa Charter in 1986, but has so far only been achieved to a limited extent. This year's conference will therefore be an opportunity to highlight and reflect on the actual contribution of health promotion strategies to the reorientation of health services. The topic is dealt with in five overarching thematic areas:

1. Good governance for health promoting health services
2. The role of HPH in developing people-centered health care systems by coordinated and integrated care services
3. Incorporating health promotion into disease management programs for NCDs
4. Co-producing better health gain through user participation and community involvement
5. Strengthening health promotion and disease prevention in primary health services

Altogether, 19 plenary lectures by renowned international experts will address these themes during the two and a half days of the conference.

In addition to these five plenaries, the conference will offer a rich parallel program including oral presentations and workshops, mini oral presentations and posters. Overall, the Scientific Committee screened almost 1000 abstracts, which were submitted from numerous countries around the world. Out of these, 797 abstracts (81%) were finally accepted for presentation in 41 oral sessions and workshops (163 abstracts), 20 mini oral sessions (93 abstracts), and two poster sessions (541 abstracts). Delegates from all over the world will meet at the conference to present, discuss, and network around topics related to HPH. Similar to previous years, the abstract book of the 26th International HPH Conference will be published as a supplement to the official journal of the international HPH network, Clinical Health Promotion – Research & Best Practice for patients, staff and community. This will ensure high visibility and recognition for the conference contributions of the delegates. Furthermore, attention will be increased through the publication of the Virtual Proceedings after the event at [www.hphconferences.org](http://www.hphconferences.org).

Now we would like to thank all those who contributed to the program development and to the production of this abstract book. Our special thanks go to the plenary speakers, all abstract submitters, the members of the Scientific Committee, in particular for the review of numerous abstracts, the chairs of the plenary and parallel sessions, the Editorial Office at the

WHO Collaborating Centre for Evidence-based Health Promotion in Copenhagen, and above all the local host of this 26th International HPH Conference in Bologna, Italy.

Jürgen M. Pelikan & Rainer Christ

WHO Collaborating Centre for Health Promotion in Hospitals and Health Care at Gesundheit Österreich GmbH (Austrian Public Health Institute)

## Scientific Committee

- Isabelle AUJOLAT (International Union for Health Promotion and Education, Université catholique de Louvain, BEL)
- Zora BRUCHÁČOVÁ (HPH Network Slovakia, SVK)
- Gernot BRUNNER (President, HPH Network Austria, AUT)
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- Jerneja FARKAS-LAINSCAK (HPH Network Slovenia, SLO)
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- Miriam GUNNING (Global Network for Tobacco Free Health Care Services, IRE)
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- Chin-Lon LIN (HPH Task Force HPH & Environment, TWN)
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- Irena MISEVICIENE (HPH Network Lithuania, LTU)
- Peter NOWAK (WHO-CC-HPH, Austrian Public Health Institute, AUT)
- Jürgen M. PELIKAN (Director, WHO-CC-HPH, Austrian Public Health Institute, AUT)
- Kaja PÖLLUSTE (HPH Network Estonia, EST)
- Manel SANTIÑÀ (HPH Task Force on Implementing and Monitoring Standards, ESP)
- Ilaria SIMONELLI (HPH Task Force on Health Promotion for Children & Adolescents in & by Hospitals, ITA)
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- Ying-Wei WANG (HPH Governance Board, HPH Network Taiwan)

Raffaele ZORATTI (HPH Network Italy, ITA)

## Scope & Purpose

In 2018, the 26th annual International Conference on Health Promoting Hospitals and Health Services (International HPH Conference) is hosted by the HPH Network of Emilia-Romagna and will take place in the Bologna Conference center.

The title and focus of the conference will be "Health promotion strategies to achieve reorientation of health services: evidence-based policies and practices".

Reorienting health services towards the promotion of health is an ambition outlined already in 1986 in the Ottawa Charter, but which has only been realized to a limited degree so far. Therefore, the conference in the year 2018 intends to show and reflect the contribution of health promotion strategies in pursuing the goal of reorienting health services. Key elements with a scope ranging from policies and large scale transformations to direct interaction with users and communities will be presented and discussed.

### Good governance for health promoting health services

There is no effective and sustainable change in organizations without adequate governance. Governance includes more than decisions on which services are covered, it also is about on how services are funded, managed, and delivered. Governance in this context addresses culture, structures and processes to enable health services to be more health promoting. So, we need to look on perspectives of global governance and how they support and interact with national and regional strategies. Which governance tools/policies have been experienced by health services to be helpful for implementing health promotion? What was the contribution of HPH to good governance of health services so far and how can HPH better contribute to further improvement?

### The role of HPH in developing people-centered health care systems by coordinated and integrated care services

Reorienting health services means developing better integrated and stronger people centered health services as an answer to the "dominant fragmented system designed around diseases and health institutions". For this to happen, WHO demands "... putting the comprehensive needs of people and communities at the center of health systems, and empowering people to have a more active role in their own health". The goal is to "refocus on the total needs of the individual as a whole person". Presentations will reflect on how concepts and experiences of health promoting health services have contributed to achieving more people-centered health systems and how the New Haven Recommendations on partnering with patients, families and citizens from 2016 can contribute to future developments. How are these concepts supported by experience from everyday practice in the field in various kinds of health services and considering diverse user and patient groups?

### Incorporating health promotion into disease management programs for NCDs

The enormous burden of non-communicable diseases even brought this health topic on the agenda of the UN General Assembly in 2011. There, it was acknowledged that the global burden and threat of NCDs constitutes one of the major challenges in the twenty-first century. While management of NCDs is understood as the detection, screening and treatment of NCDs, health promotion, also addresses the determinants of health – both, personal behaviors and situational living conditions – and thus the underlying risk factors of NCDs. WHO

recently published the "Montevideo roadmap 2018-2030 on NCDs as a sustainable development priority", which supports this priority with strong reference to health literacy. The health promotion perspective widens the scope of interventions and offers a variety of activities which can be undertaken. Those interventions and activities typically counteract more than one health problem, e.g. cardiovascular conditions, obesity, mental health disorders. What are successful examples that bring disease management and health promotion together?

### Co-producing better health gain through user participation and community involvement

Individuals are the experts on their own health, thus reorientation of health services will not work without good participation of people who have to be enabled to contribute to creating their health and co-producing treatment of their diseases. Therefore, the question is how to best provide the opportunities, skills and resources people need to be articulate and empowered users of health services? Which structures, practices and professional skills are needed for accompanying participation processes and community involvement? How do patients and their families want to be involved in health care decisions, and what specific role can self-help groups and the self-help-friendly hospital play? How can it be ensured that underserved and marginalized groups become involved? And, last but not least, how can risks of under- and overuse of the health system be managed?

### Strengthening health promotion and disease prevention in primary health services

40 years have passed since the Alma Ata declaration on strengthening primary health care has been agreed, however, too little happened so far. Nevertheless, there is evidence that those health care services are efficient and effective that prioritize primary and community care services (PHC) and the co-production of health. WHO states "A strong primary health care platform with integrated community engagement within the health system is the backbone of universal health coverage." Which obstacles have to be overcome and which incentives, competencies, forms of delivery and types of organization can support the strengthening of health promotion in primary health services? Which experiences from HPH can be transferred to primary health care, but also, which new and supplementary approaches have to be developed and applied?

## Monday, June 4, 2018

**13:00-17:00**

HPH Summer School Day 1

**15:45-16:15**

Coffee, tea, refreshments

**16:15-17:45**

Plenary 3: Incorporating health promotion in disease management programs for NCDs

**19:30-22:00**

Conference Dinner

## Tuesday, June 5, 2018

**09:00-14:00**

HPH Summer School Day 2

**14:00-17:00**

HPH Newcomers workshop

## Friday, June 8, 2018

**09:00-10:30**

Plenary 4: Co-producing better health gain by user participation and community involvement

**10:30-11:00**

Coffee, tea, refreshments

**11:00-12:30**

Oral Sessions 3

**12:30-13:30**

Lunch

**13:30-14:15**

Mini Oral Sessions 2

**13:30-14:15**

Guided (E-)Poster-Sessions 2

**14:15-15:45**

Oral Sessions 4

**15:45-16:00**

Coffee, tea, refreshments

**16:00-17:00**

Plenary 5: Strengthening health promotion and disease prevention in primary health services

**17:00-17:15**

Conference Closing Award of poster prizes, announcement of International HPH Conference 2019

**17:15-18:30**

Farewell Refreshments

## Wednesday, June 6, 2018

**09:00-16:00**

Tobacco free standards achieving change in healthcare services: Sharing evidence-based policies and practices

**17:00-17:30**

Formal Opening

**17:30-19:00**

Opening plenary: Good governance for health promoting health services

**19:00-21:00**

Welcome Reception

## Thursday, June 7, 2018

**09:00-10:30**

Plenary 2: The role of HPH in developing people-centered health care systems by coordinated and integrated health care services

**10:30-11:00**

Coffee, tea, refreshments

**11:00-12:30**

Oral Sessions 1

**12:30-13:30**

Lunch

**13:30-14:15**

Mini Oral Sessions 1

**13:30-14:15**

Guided (E-)Poster Sessions 1

**14:15-15:45**

Oral Sessions 2



## Plenary 1: Good Governance for Health Promoting Health Services

### Large system transformation to facilitate people-centered health care systems

#### BERLAND Alex

Large-scale change is hard to manage in the complex adaptive systems so typical of the health care environment. In order to deliver people-centred and health promoting services, leaders at all levels need to transform organizational culture, as well as traditional structures and processes. However, this transformation is not easy because many organizations lack capacity for systems thinking or have no experience in collaborative learning and using change methods. This presentation introduces "systems-thinking" tools to illustrate the challenges and opportunities in transforming complex adaptive systems. The systems-thinking case studies include national strategies for tobacco control in USA; coalition-building for Non-Communicable Disease and Primary Health Care in Canada; Background/Problem/Objective of clinical guidelines across the entire hospital system of a Canadian province, and evolution of a global network for Human Resources for Health. The tools briefly introduced include systems dynamics modelling, network analysis, causal loop diagrams and others. These tools open the possibility of "strategic conversations" about people-centered care within health services. The case studies illustrate the importance of a learning approach and the significant role of leaders in large-system transformation. The lessons learned emphasize "simple rules" for promoting and sustaining on-going change in a Complex Adaptive System. For example, creating structures and processes with the right mix of "tight" and "loose" management; and sustaining change through effective network development. People-centred care is coming whether or not health services are ready. Fortunately, leaders exist at all levels in our health care systems. We need to provide them with the right tools and support for large system transformation.

**Contact:** BERLAND Alex

In-Source Research Group, [aberland@telus.net](mailto:aberland@telus.net)

### Effective policies and strategies to implement health promotion: The Emilia-Romagna case

#### PETROPULACOS Kyriakoula

Health promotion in Italy is planned on a national basis through the National Prevention Plan, adopted for the first time in 2005, now the 2014 version is used. It sets Macro Goals with a high strategic value that each Region is due to adapt developing a Regional Prevention Plan (RPP). Emilia-Romagna, a 4.5 million inhabitants region in North-Eastern Italy, moved from a Region-

al Health Profile based on four settings - Workplace, School, Healthcare, Community – developed in four policies - Integration, Sustainability, Evidence-based Prevention, and Equity. Integrated policies can promote healthy lifestyles more effectively and can be a strong element of sustainability. Equity in particular is a distinctive reference value for all regional policies, striving to give effective answers with a pragmatic approach on the mechanisms that generate inequalities. Two elements are relevant for our plan: monitoring and evaluation, and the shared work with all the eight Local Health Units, to find the best ways for local intervention, with an emphasis on a clear role assignment. At this level the RPP is put in place with much attention towards synergies and integration with all the local subjects. Monitoring and evaluation can count on consolidated databases also for personal behaviour surveillance (PASSI, Passi d'argento, OKkio alla salute, HBSC). The RPP also wants to find answers to the challenge of new health needs and risks. In this, the development of the "Case della Salute" network has made it possible to try innovative actions for prevention. The making of the RPP began with a participative path named "Costruire Salute", which means "Building Health", with the aim to involve in an active way regional and local stakeholders, in order to get a shared planning process for the RPP. This path is based on a virtual "Piazza" that offered the opportunity to collect ideas and indications that were used at regional and local level. The RPP is a great opportunity to try new solutions, strengthen shared processes at every level, monitor results, and be more effective towards health and wellbeing of the people who live in Emilia-Romagna.

**Contact:** PETROPULACOS Kyriakoula, Emilia-Romagna Region

[Kyriakoula.Petropulacos@regione.emilia-romagna.it](mailto:Kyriakoula.Petropulacos@regione.emilia-romagna.it)

### Is HPH contributing to improving governance for health promoting hospitals and health services?

#### FAWKES Sally

The HPH Newsletter Number 25 published in 2005 and edited by WHO-CC-HPH in Vienna, included an item by WHO Regional Office for Europe on a new governance structure for the International HPH Network (HPH). This signaled the shift to the network's independence from WHO, with the formation of a structure that "strengthens participation of coordinators and will better reflect the concerns and issues faced at the level of national/regional networks and hospitals". A secretariat function was established to "enable better support of countries in their hospital reform processes and adoption of quality improvement models". A steering group (now the HPH Governance Board) was set up to "aim at a better development of the network, a closer collaboration of the working group/ task force leaders, national/regional coordinators and external partners". Now, more than a decade after these structures were put in place, what can we say about governance for health promoting hospitals and health services? Drawing on case examples, this presentation will consider two dimensions of governance: governance of the International HPH Network and governance in HPH member organisations that enables the comprehensive concept of reorientation of health services to be adapted and thrive. It will briefly explore contemporary concepts of 'good governance' and 'networked governance' and links between



HPH and the dual policy agendas of Universal Health Coverage and Sustainable Development Goals. Finally, this presentation will propose the idea of collectively developing a set of 'Vital Signs' of good governance for use in diverse contexts by the International HPH Network.

**Contact: FAWKES Sally**

HPH Network Australia, La Trobe University,  
[S.Fawkes@latrobe.edu.au](mailto:S.Fawkes@latrobe.edu.au)

## Plenary 2: The role of HPH in developing people-centered health care systems by coordinated and integrated care services

### Health promoting hospitals and health services as main drivers for more people-centered health systems

#### FRAMPTON Susan

Today, partnerships with patients and families are at the forefront of health care service delivery and quality improvement efforts globally. Yet, within the International Network of Health Promoting Hospitals and Health Services (HPH Network), a systematic strategy to involve patients, families and citizens in health promoting healthcare is still under development. In comparison, the World Health Organization (WHO) with its Declaration of Alma Ata (WHO 1978), its Ottawa Charter for Health Promotion (WHO 1986) and its Declaration on the Promotion of Patients' Rights in Europe (WHO 1994) has played a decisive role in initiating and supporting partnerships with patients, families and citizens for decades. More recently, the WHO Strategy on People-centered and Integrated Health Services spells out clearly the importance of partnering with and involving patients and health service users to achieve health services that are responsive to and appropriate for people's needs (WHO 2015). WHO has developed a formal position that defines patient and family engagement (PFE) as essential for patient safety and quality improvement efforts (WHO 2016). In summary, integrated people-centered health services means putting the comprehensive needs of people and communities, not only diseases, at the center of health systems, and empowering people to have a more active role in their own health. This goal is aligned with the HPH objectives set out in the current Work Group on HPH and Patient and Family Engaged Care, to both set norms and standards for patient engagement in hospitals and health service, and to promote and support the necessary organizational level structures, functions and practices associated with successfully engaging patients in their own health promotion. Once developed and then integrated into HPH standards, effective dissemination and uptake by HPH Network members and others will truly drive more people-centered health systems.

Contact: FRAMPTON Susan

Planetree International, [sframpton@planetree.org](mailto:sframpton@planetree.org)

### Deployment of integrated care services for complex chronic patients. Limitations and opportunities

#### HERNÁNDEZ Carme

Over the last years, the epidemics of non-communicable diseases and the need for cost-containment are triggering factors for a profound transformation of the way we approach delivery of care for chronic patients. The Chronic Care model is widely accepted as a conceptual framework to effectively address the burden of Non-Communicable Diseases, with Integrated Care Services (ICS) being one of its core components. Large scale deployment and adoption of ICS services in Europe seek health efficiencies with simultaneous reduction of outcome variability within and among regions. The development of Integrated Care Services at Hospital Clinic dates back to year 2000. The initial randomized controlled trials (RCTs) generated evidence on efficacy of the novel services: i) Home Hospitalization and Early Discharge and; ii) Prevention of Hospitalizations. These initial experiences had an important impact, leading to the creation of a dedicated facility, the Integrated Care Unit (2006) to provide transversal care services and to explore and exploit potential benefits of bridging between hospital-based specialized care and community care with support of information and communication technologies (ICT). In parallel, a broader strategy promoting organizational change aiming at care coordination in the health care sector of Barcelona-Esquerra (AIS-Be, 540.000 citizens) was also initiated in 2006. The main driver of the AIS-Be program is the need for enhancing efficiencies of specialized care through transference of care complexities from hospital to home. The current presentation relies on seminal contributions on chronic care management generated at the Hospital Clinic. The primary objective was to evaluate transferability of complex care from the hospital to the community and to identify strategies to foster more widespread implementation of the new model of care for chronic patients. The lecture covers the following areas, namely: (i) the results of two ICS (HH/ED and EC) deployed in Barcelona, together with an overall assessment of project results; and, (iii) analysis of necessary developments for the future regional deployment.

Contact: HERNÁNDEZ Carme

Hospital Clinic Barcelona, [CHERNAN@clinic.cat](mailto:CHERNAN@clinic.cat)

### Towards older people-centered health care in a global aging era - Taiwan's framework of age-friendly health care

#### CHIOU Shu-Ti

In its "Global Strategy and Action Plan on Ageing and Health", 2016, WHO pointed out that the health system needs to be aligned to the needs of older populations by orienting health systems around intrinsic capacity and functional ability, developing and ensuring affordable access to quality older people-centered and integrated clinical care, and ensuring a sustainable and appropriately trained, deployed and managed health workforce. Taiwan's Framework of Age-friendly Health Care was developed in 2009 with an aim to provide systematic guidance on management policy, communication and services, physical environments, and care processes for health services to promote health, dignity and participation of all older people they served. This framework takes a life-course perspective and

population approach. It contains 4 standards, 11 sub-standards and 60 measurable elements, and can be used for self-assessment, implementation and external recognition. Together with the framework, several tools on execution of its priority areas, performance indicators for monitoring and benchmarking, and an organizational implementation pathway were also developed and shared. The priority topics include integrated lifestyle management and non-communicable diseases control, medication safety, fall prevention, frailty intervention, mental wellbeing, patient engagement and shared decision making (especially on end-of-life decisions), high-risk geriatric assessment for hospitalized patients, inter-facility coordination and continuity of care, etc. To scale up diffusion of the re-oriented model of care, the government launched a set of strategies including synchronized collective change with shared learning, competition & awarding; grant support coupled with governance and accountability; advocacy, political engagement and synergy between age-friendly communities, age-friendly health care and age-friendly long-term care; and creation of an enabling environment including payment reform and accreditation reform. Taiwan's framework of age-friendly health care has been applied to more than 300 health service organizations including 169 hospitals, 76 primary health centers and 64 long-term care institutions, and has been validated and translated into English, German, Estonian, Greek, etc. While the momentum of age-friendly initiative is growing globally, age-friendly health care initiative should continue to support and collaborate with the widespread age-friendly city initiatives. Scientific evaluation on the effectiveness and value of age-friendly health service reform would be the key for future dissemination. Key words: age-friendly health care; health promoting hospitals; ageing and health; health service delivery reform; UHC; integrated, people-centred health services

**Contact: CHIOU Shu-Ti**

School of Medicine, Yang-Ming University, [stchiou@ym.edu.tw](mailto:stchiou@ym.edu.tw)

sionals' evaluation and comments and they have been shared with the rest of the Task Force. At this point the main issue for this and other tools is how to make them be effectively used by organizations: it is time to overcome professionals' resistances towards their implementation, as health promotion should always accompany clinical activities. Are children's and adolescents' views perceived as fundamental for re-orienting healthcare services? As a matter of fact a critical approach and possibly an international debate on this issue could be useful in order to understand the reasons behind possible hindrances and hesitations of professionals in implementing children's rights and health promotion tools in hospitals and healthcare services, both at planning and at operational level. How can these tools have an impact on children's and adolescents' health if they are not considered as part of healthcare services protocols? Children's specific needs must be intended as part of an efficient and inclusive Healthcare service in order to help building child friendly policies and practices.

**Contact: SIMONELLI Ilaria**

Healthcare Trust of the Autonomous Province of Trento

[ilariasimonelli79@gmail.com](mailto:ilariasimonelli79@gmail.com)

## Standards and indicators on health promotion: re-orienting healthcare services for children's health promotion

### SIMONELLI Ilaria

In 2017/2018, the Task Force on Health Promotion for Children and Adolescents in and by Hospitals and Health Services started working on Standards and Indicators on Health Promotion for Children and Adolescents in Hospitals and Healthcare Services. The goal was to give a specific contribution on children's and adolescents' specific health promotion needs in hospital and healthcare services. The standards and indicators took inspiration from the concepts, guidelines and outcomes of the WHO Standards for Health Promotion in Hospital (2004) and from the Child Rights-based Approach developed by the UN Agencies (WHO, UNICEF, UNESCO). The Task Force produced a document to assist professional with the Standards implementation process. This document has been peer-reviewed and the standards have been tested in five Children's Hospitals and Healthcare services. After the testing phase conclusion, the TF Standards and indicators have been revised taking into account profes-

## Plenary 3: Incorporating health promotion in disease management programs for NCDs

### Value-based health care - implications for tackling dementia, disability and dependence

#### ISON Erica

Health services worldwide face three major problems, the first of which is unwarranted variation in the provision of care to the population in need. Unwarranted variation is variation that cannot be explained by need or patient preference; its presence reveals the other two major problems: the underuse of effective interventions, which often discloses inequity in provision, and the overuse of interventions. Despite the healthcare developments over the last few decades – the prevention of disease, the uptake of evidence-based medicine, quality and safety improvement and increased efficiency (cost reduction) – unwarranted variation has persisted or increased. It has done so in the context of increasing need and demand, rising expectations, financial constraints and consequences of global climate change. A new paradigm is needed to enable the health sector to tackle unwarranted variation, known as value-based or ‘Triple value’ healthcare. In a Beveridge-based healthcare system such as that in Italy or the UK, value is not ‘value for money’ but value in terms of the outcomes of treatment (benefits minus harms) for the right patients at the right time in relation to the resources invested (including financial cost, time, staff and carbon). There are three components to value: personal value, determined by how well the outcome relates to the values of the person being treated; allocative value, determined by how well resources are distributed to different subgroups in the population in need; and technical value, determined by how well resources are used for all the people in need in the population. Personal value relates to individual people being treated, whereas allocative and technical value relate to populations and comprise important aspects of population healthcare. Population healthcare is focused on population groups defined by a common need such as a symptom or characteristic and not on institutions or specialties. The aim of population healthcare is to optimise value for those populations in need and the individual people within them. To increase value for individuals and populations it is important to take a systems approach and identify systems of care for those population groups defined by a common need. Two important activities follow: not only to identify unmet need in the population but also to identify low-value interventions and shift the resources to increasing rates of high-value interventions and to introducing high-value innovations. Resources can be shifted from within a system of care, such as from treatment to prevention, or across systems of care within a programme. The role of health-promoting hospitals can play in implementing value-based and population healthcare will be outlined, especially with reference to addressing the problems of dementia, disability and dependence.

**Contact: ISON Erica**  
Better Value Helthcare, Oxford, [erica.ison@bvhc.co.uk](mailto:erica.ison@bvhc.co.uk)

### Examples and contributions of HPH to mental health promotion and mental illness prevention

#### RISÖ BERGERLIND Lise-Lotte

The WHO definitions of health and the Ottawa Charter describe mental health as an integral part of health. Like health promotion, mental health promotion also includes measures to help people to adopt and maintain a healthy lifestyle and create supportive living conditions or environments for health. In December 2016, the HPH Governance Board approved the Task Force on Mental Health as a new international task force within the International Network of Health Promoting Hospitals and Health Services (HPH Network). The Task Force will focus on three areas: One area concerns the mental health of young people, as more and more young people suffer from mental illness and antidepressants are increasingly being used. Today, we know that early detection and non-pharmacological treatment involving lifestyle factors in a family setting can be sufficient to prevent further diseases. The second focus is the somatic health of people with mental illnesses such as schizophrenia or bipolar disorders, for whom the average life expectancy is 20 years shorter than for the rest of the population. The cause of early death is not only explained by suicide, but mainly by not receiving the same treatment as the rest of the population for their somatic diseases such as diabetes and cancer and by life style factors. Working with lifestyle factors in psychiatry raises interesting and difficult ethical questions, for example about non-smoking psychiatric wards. The third area focuses on the perspective of “recovery” and not only freedom from symptoms as a goal in mental health care. This means that patients, including their relatives, are involved in all parts of the treatment as an equal part of the psychiatric team and different techniques such as shared decision-making are used. Their life goals are as important as reducing their symptoms.

**Contact: RISÖ BERGERLIND Lise-Lotte**  
HPH Task Force Mental Health  
[lise-lotte.risobergerlind@vgregion.se](mailto:lise-lotte.risobergerlind@vgregion.se)

### Evidence-based policies and practices for health promotion in disease management programs for NCDs

#### ZORATTI Raffaele

Noncommunicable diseases (NCDs) are one of the major health and development challenges of the 21st century. The human, social and economic consequences of NCDs are felt by all countries but are particularly devastating in poor and vulnerable populations; in the absence of evidence-based actions, the costs of NCDs will continue to grow and overwhelm the capacity of countries to address them. Reducing the global burden of NCDs is an overriding priority and a necessary condition for sustainable development. In 2012 NCDs were responsible for

68% of the world's 56 million deaths and caused 16 million of premature deaths under age 70 years, the majority of them occurring in low- and middle-income countries. Addressing NCDs, through International cooperation and advocacy, is now recognized as a priority not only for health but also for social development and investments in people. To accelerate national efforts to address NCDs, in 2013 the World Health Assembly adopted a comprehensive global monitoring framework, with 25 indicators and nine voluntary global targets for 2025: 25% reduction in premature death of people aged 30 to 70 from cardiovascular diseases, cancer, diabetes or chronic respiratory diseases; 10% reduction in the harmful use of alcohol; 10% reduction in prevalence of insufficient physical activity; 30% reduction in salt/sodium intake; 30% reduction in tobacco use; 25% reduction in the prevalence of high blood pressure; Halt the rise in diabetes and obesity; Ensure that 50% of eligible people receive drug therapy and counseling to prevent heart attacks and strokes; Establish 80% availability of affordable technology and essential medicines, including generics, to treat major NCDs in both public and private facilities. Current medical paradigm focuses on identifying high-risk individuals and treating their individual risk factors, but population-based approaches choices are essential to shift the population distribution towards greater overall health. Health Promoting Hospitals and Health Services International Network has to strengthen national capacities and leadership in supporting NCDs prevention, control and treatment, to reduce modifiable risk factors, promote high-quality research and strengthen health systems to gain better health even with ongoing limited resources.

**Contact: ZORATTI Raffaele**

AOUD S. Maria della Misericordia, [raffaele.zoratti@libero.it](mailto:raffaele.zoratti@libero.it)

## Examples and contributions of the Taiwanese HPH Network to improve primary and secondary prevention of NCDs

### WANG Ying-Wei

The International Network of Health Promoting Hospitals was established by the World Health Organization in 1990, and Taiwan became the first member in Asia in 2006. Through policy development, the Health Promotion Administration assists medical institutions to transform from medical service provider into a holistic health promotion provider, seizing on the opportunities of patient contact to offer preventive services and improve the quality of non-communicable disease prevention. Health promotion in Taiwan is based in medical institutions. Through certification process, hospitals will regularly examine the hardware, software environments and care processes to develop a patient-centered health service modality. For example, in care of chronic diseases: Primary prevention: enhanced chronic disease risk factor management for patients through lifestyle and overall risk assessments. Secondary prevention: early screening and diagnosis. Taiwan is the only country in the world to offer government-subsidized cancer screening and adult health preventive services. Hospitals develop and implement active reminder systems to notify medical

personnel to actively promote screening services for suitable patients, and provide referral and subsequent care for positive cases to achieve better prognosis. Tertiary prevention: continuous care, rehabilitation and hospice care. Integrated chronic disease management is put in place to offer comprehensive care and guidance to prevent complications, as well as mental, physiological, occupational rehabilitation and long-term care. Hospice care for various diseases are also promoted to raise awareness on respect for life. Strong promotion by the Taiwanese Government and participation by Taiwan's medical institutions have increased the number of HPH members to 163 as of the end of 2017; adult preventive health services have served over 1.8 million individuals, 29.3% (530,000) of which were provided by hospitals; 5.1 million have undergone the four-cancer screening, 53.7% (2.75 million) of which were performed in hospitals. These results showed that hospitals are becoming the optimal environment to promote healthy lifestyles and health promotion. In the future, Taiwan will incorporate similar health issues (aging, environment-friendly and health literacy) into the Health Hospital certification system, coinciding with the adjustment made to the international HPH standards, and hopes to create a better work environment for hospitals.

**Contact: WANG Ying-Wei**

Health Promotion Administration, [drywwang@gmail.com](mailto:drywwang@gmail.com)

## Plenary 4: Co-producing better health gain by user participation and community involvement

### Patient centered collaboration: involving patients and families in health care

**DICLEMENTE Carlo C.**

The majority of death and disability worldwide is caused by non-communicable diseases caused by lifestyle risks. Managing both acute and chronic illnesses involves not simply medication and medical procedures but also a focus on behavior change to achieve health and wellness. This presentation proposes that an effective integrated care model should seek to create a collaborative framework that involves client/patient and life context. Collaborative integrated care must address not only multiple conditions and problems but also client characteristics like readiness to change, self-efficacy, and self-regulation. A dynamic understanding of the personal process of change as well as current efforts to motivate patients and empower families can improve health outcomes.

**Contact: DICLEMENTE Carlo C.**  
University of Maryland, [diclemen@umbc.edu](mailto:diclemen@umbc.edu)

### The role and contributions of self-help groups and the self-help-friendly hospital

**TROJAN Alf**

After having given some clarifications on key concepts I will present some traditional roles of patients as well as new roles they may get in the shaping of health services. Patient centredness and participation opportunities for patients are essential requirements for quality improvements in health care. Self-help friendliness is an approach to implement patient centredness and participation on the collective level, i.e. the level of self-help groups and organizations. The development of the approach and its main features will be described in the second section. In section 3 the quality criteria defining self-help friendly hospitals will be presented, followed by research results concerning the acceptance of the criteria and experiences with putting them into practice. Section 4 deals with the conference theme: Can we produce better health gain through implementing self-help friendliness as an approach to more patient centredness? In the Conclusions/Lessons learned I will sum up the present state of knowledge and reflect on the transferability of the approach to other countries than Germany. Information on the recent foundation of a European network for self-help friendliness will be given.

**Contact: TROJAN Alf**

University Medical Center Hamburg, [trojan@uke.de](mailto:trojan@uke.de)

### The development and implementation of the Italian Regional Program on Health Literacy

**RUDD Rima**

The Italian Regional Program on Health Literacy has long been attentive to health literacy and the responsibility that professionals and institutions have in removing literacy related barriers to health information, services, and care. Starting over ten years ago, this program began with efforts to transform oncology care, to increase community involvement and engagement, and to forge a better partnership between hospitals and their community. This presentation highlights steps taken to illustrate mechanism of change and potential efficacious outcomes. Health Literacy is now an important variable in health research and is being recognized as having several key components. Over the past two decades, the focus of attention for researchers, practitioners, and policy makers, has moved beyond a singular attention to the skills and abilities of individuals and links to health outcomes. Health literacy studies now include careful evaluations of health texts, examinations of the communication skills of health professionals, and analyses of the literacy related characteristics of health and health care institutions. This expanded notion of health literacy informed the action taken by the Italian Regional Program on Health Literacy.

**Contact: RUDD Rima**  
T.H. Chan School of Public Health, [rdudd@hsph.harvard.edu](mailto:rdudd@hsph.harvard.edu)



## Plenary 5: Strengthening health promotion and disease prevention in primary health services

### The role of primary health care in disease prevention and health promotion

#### PECKHAM Stephen

Since the 1970s there has been a growing policy and practice interest in the public health role of primary care but little is known about the effectiveness of delivery of health improvement and disease prevention within primary care settings. In order to understand how such services are delivered in UK general practice and to identify what evidence there is of effectiveness we undertook a review that examined who delivers interventions, where they are located, what approaches are developed in practices and how individual practices and the primary healthcare team organise such public health activities. Generally, little attention has been paid to examining the impact of the organisational context on the way public health services are delivered or how this affects the effectiveness of health promoting interventions in general practice. While health promotion is seen as an integral part of primary care practice, the main focus of research has been on individual, secondary prevention approaches despite general practices engaging in both primary and secondary prevention activities. Consequently there is insufficient good quality evidence to support many of the preventive interventions undertaken in primary care and more attention needs to be paid to the role of primary care organisations in promoting public health.

#### Contact: PECKHAM Stephen

Centre for Health Services Studies, University of Kent,  
[S.Peckham@kent.ac.uk](mailto:S.Peckham@kent.ac.uk)

### Bridging the gap between public health and primary care: experiences from the Netherlands

#### ASSEDELFT Pim

The Netherlands are characterized by a strong primary healthcare system. All persons are registered at a general practice. This provides opportunities for a role of the general practitioners (GPs) in health promotion and community care in a broader sense. GPs see all persons in the community and are a trusted person concerning health matters. In addition, health complaints are a good starting point for lifestyle change. Despite this opportunities, primary care is hesitant in taking a large role in health prevention. Main barriers are role definition by primary care workers, lack of specific training in prevention and lacking reimbursement. A national initiative for a prevention consultation at the GP's office has pitifully

failed. Fortunately, the last decade some promising developments have taken place. In the GP vocational training "prevention" has been selected as one of the 8 core themes of the training. A national obligatory course, specially developed for this purpose, has started in 2018. The national Health Insurance Board has decided that several sorts of indicated prevention, like smoking cessation support, alcohol counselling and depression prevention, is now reimbursed. Most likely, next year a costly intensive integrated lifestyle intervention for obesity is also being reimbursed. In the background some hopeful developments are taking place. The national organizations of both medical specialists and GPs have given prevention a prominent place in their recent vision documents. On a local level, due to national legislation, all municipalities are giving shape to a community-based interaction between the welfare and medical domain. Social welfare teams that are formed by the municipality are supposed to work closely together with primary care. On a regional level municipal health services are collaborating with public and primary care departments at universities in so-called academic collaborative centers. On the national level organizations of healthcare providers, health insurance companies, hospitals and the government are now working towards a collective "Prevention deal". Bridging the gap between public health and primary care is a process of taking small steps and being patient. I would like to share my personal experiences with you, and hope to inspire you to proceed working on collaboration between sectors.

#### Contact: ASSEDELFT Pim

Radboud University, Nijmegen, [Pim.Assendelft@radboudumc.nl](mailto:Pim.Assendelft@radboudumc.nl)



## Session O1.1: Reorienting health services

### Core values - A strategy to achieve person-centered care

**JOHANSSON Yvonne A, KENNE SARENMALM ElisabethBÖL Inger**

#### Background/Problem/Objective

The core values for Skaraborg Hospital are based on the fact that everyone, patients and their relatives, has the right to respect and honesty, compassion and safety, partnership and community, growth and understanding. Person-centered care (PCC) embraces both a philosophical approach as well as a practical dimension with implications for practice. The dynamic concept changes with a patient's physical and psychical condition. Nevertheless, there is a lack of understanding of factors supporting or impeding the development and practice of PCC.

#### Methods/Intervention

In this action research project we designed an intervention to transform the core values to clinical practice for facilitating PCC. All healthcare professionals in seven pilot units were involved, and learning networks were created. Structured reflections about the core values were related to PCC, discussed individually and together in the unit teams. The intervention was evaluated continuously in monthly meetings where the unit managers described their own and the teams' experiences. The reflections were analyzed using a qualitative analysis.

#### Results (of evaluation)

The intervention to transform the core values to clinical practice for facilitating PCC resulted in: - Improved person-centered approach. - Improved person-centered working practice. - Improved awareness to the needs of patients and their next-of-kin. - Improved individualized patient care plans. - Early identification of patient's capacities and health resources. - Creation of mutual ethics to guide person-centered care actions. - The unit managers felt strengthening in their roles as managers. - The teams felt strengthening in their daily work.

#### Conclusions/Lessons learned

To reflect about core values related to person-centered care had positive effects for both patients and healthcare professionals. The result suggests that it is a prerequisite to reflect about core values among healthcare professionals to achieve the development and practice of person-centered care. Reflections about core values can also be seen as a health promotion strategy for the healthcare professionals in hospitals as both the unit managers and the unit teams felt strengthening in their roles and in daily work.

**Contact: JOHANSSON Yvonne A**

Jönköping University

Utvecklingsenheten Skaraborgs Sjukhus 541 85 Skövde

[yvonne.a.johansson@vgregion.se](mailto:yvonne.a.johansson@vgregion.se)

### Collaborative methodology in Stakeholder and Change Management

**RODRÍGUEZ VALIENTE Núria , MOHARRA FRANCES Montserrat, SALAS FERNÁNDEZ Tomàs, C. BESCOS H. Schonenberg, V. Gaveikaite, R. v. d. Heijden , D. Filos, K. Lourida, I. Chouvarda, N. Maglaveras, S. Newman, J. Roca, J. Escarrabill, , C. Buchner, S. Hun, E. Ritson, C. Pedersen, E. Nielsen, M. Craggs, D. Barrett, J. Hatfield, A. Fullaondo, D. Schepis, E. de Manuel, E. Buskens, M. Lahr, I. Zabala, S. Störk.**

#### Background/Problem/Objective

Increased life expectancy and longevity, and declining birth rate, have led to an ageing Europe. The challenge is how to adapt the growing demand in health services and its sustainability. ACT@Scale is a European Project who tries to identify, transfer and scale up existing and operational Care Coordination and Telehealth (TH) good practices. The objectives are to gather iterative information from the staff engaged, to score stakeholder engagement through the assessment of the overall staff engagement in five European regions

#### Methods/Intervention

The collaborative methodology was based on Plan-Do-Study-Act cycles developed during 2017. This methodology helped to apply multi-organizational structured collaborative quality improvement procedures and to adapt integrated care experiences. After a Baseline phase to agree methods and indicators across regions and programmes, there were two improvement cycles. The Learning Cycle consisted of a learning session with local stakeholders to depict the PDSA cycle of the Action Period. The Coaching Cycle will consider the lessons learned

#### Results (of evaluation)

The improvement areas detected were: Lack of evidence, Lack of Management, insufficient coordination between healthcare levels and a poor implementation of TH. Interventions were related to measure the stakeholder management; creating teams representing stakeholders; developing strategies to scale up; defining coaching modules to improve cooperation among healthcare levels; and defining a framework for implementing TH. Thus, programs have involved and identified stakeholders, they have also improved in process indicators such as Organizational models, Workforce development, ICT's support, Integrated care Pathway

#### Conclusions/Lessons learned

ACT@Scale programs are implementing the cultural transformation in their organizations. The change is being secured alongside the structural and procedural changes to deliver quality and performance. Also, they are emphasizing the team

work and coordination, indeed, these practices are associated with a greater implementation, quality improvement processes and a better functional health status to patients. The managing and changing the organizational culture is a lever for health care improvement, as well as, the culture change in health care is argued as a complex and contested terrain

**Contact: RODRÍGUEZ VALIENTE Núria**

Agency f. Health Quality and Assessment of Catalonia, Barcelona,  
[nrodriguezv@gencat.cat](mailto:nrodriguezv@gencat.cat)

## Empowering Hospital: an effectiveness trial of a health promotion model in the hospital setting

**COPPO Alessandro, FAGGIANO Fabrizio, PENNA Angelo, BACCHI Maurizio DONAT Lucas**

### Background/Problem/Objective

Increasing evidence highlights the importance of healthcare facilities as an ideal setting to provide counseling sessions and support to patients before and after the discharge in order to promote healthy behaviours. Empowering Hospital (Emp-H) is a project funded by the European Commission aimed at engaging chronic patients, their relatives and hospital staff in health promoting activities inside and outside the hospital, and at redesigning hospital environment. Intervention's effects in two European hospitals will be presented.

### Methods/Intervention

Hospitals: Ospedale degli Infermi (Biella-Italy); La Fe (Valencia-Spain). Study design: RCT comparing two parallel conditions (counseling and health promoting opportunities vs usual care). Target populations: 1) outpatients contacted during medical visits for type II diabetes, overweight, stroke, breast, prostate and colon cancers; 2) outpatient's relatives contacted during the same visit; 3) hospital staff on voluntary base. Intervention: screening and referral to a hospital unit giving a profile based counselling. Data collection and follow-up: interview and telephone interview at 6 months.

### Results (of evaluation)

977 subjects were enrolled. At baseline, hospital staff showed a lower consumption of fruit and vegetable, a higher smoking prevalence, and a lower physical activity. At follow up, intervention groups showed a reduction of excessive alcohol consumption (OR 0.4, 95% CI 0.1-1) and an increase in the amount of physical activity (OR 1.9, 95% CI 1.3-2.7). At organizational level the intervention was able to double in two years the offer of health promoting activities without any extra budget.

### Conclusions/Lessons learned

Emp-H has proven to be effective in reshaping the hospital environment as a health promoting setting. At the same time the intervention has centered the goal to reduce some behavioural risk factors in the target populations. Hospitals can be used to develop tertiary prevention activities, but also to target the healthy population attending hospitals for different reasons.

**Contact: COPPO Alessandro**

University of Eastern Piedmont, via Solaroli 17, 28100 Novara,  
[alessandro.coppo@med.uniupo.it](mailto:alessandro.coppo@med.uniupo.it)

## Diversity policy inside a psychiatric hospital - good practices

**VAN REETH Esther, DHAEEZE Ria, VAN DE GEUCHTE Sofie VAN VAERENBERGH Leona**

### Background/Problem/Objective

UPC KU Leuven is a psychiatric hospital in Belgium. Our aim is to provide equal access to health care and equal use of health care. Because of our proximity to Brussels, we attract a very diverse public which makes our aim a real challenge. To provide equal access we have to consider all possible thresholds that patients can encounter when they come to our hospital, as much as thresholds that our hospital staff is confronted with in delivering qualitative care. The thresholds include mobility, language, financial resources, etc.

### Methods/Intervention

We took part in the European project 'Migrant-friendly hospitals' in 2014. This included a comprehensive self-assessment tool to get a closer look at the hospital's diversity policy and possible areas of improvement. Since 1999 we are the only psychiatric hospital in Flanders that is involved in the governmental project 'intercultural mediation', which allows us to offer free language assistance via face to face or remote interpreters. Finally our hospital is involved in a PhD research of the University of Antwerp on communication with foreign language speaking patients.

### Results (of evaluation)

The self-assessment tool of the 'Migrant-friendly hospitals' project revealed that we are often unaware of all the aspects that can lead to inequity or inequality in health care. That is why a steering committee 'Diversity' was set up. This committee launched the project 'your opinion counts' in which not only patients, but also hospital staff can give anonymous suggestions to improve our services or report difficulties they encountered during their visit or hospital stay. The PhD research gives us more insight into how communication works.

### Conclusions/Lessons learned

Our hospital took some major steps towards becoming a health promoting healthcare organisation with attention for the needs of our diverse patient population and hospital staff. Concrete examples of problems the committee 'Diversity' tackled or is tackling are culturally sensitive healthcare, accessibility of the website, acquaintance with the interpreter service, the selection of snacks in the vending machines, the limited space and hours in which patients and visitors can go to the cafeteria, etc. The PhD project on the other hand will help us improve communication and doctor training. We believe our hospital's good practices can be an example for other (psychiatric) hospitals.

**Contact: VAN DE GEUCHTE Sofie**

UPC KU Leuven, University of Antwerp  
[sofie.vandegeuchte@uantwerpen.be](mailto:sofie.vandegeuchte@uantwerpen.be)

## Implementation of a new national health promotion framework in a university teaching hospital in the Republic of Ireland

**CUNNIFFE Elaine , STYNES Sinead , LYONS Ailsa , DOHERTY Kirsten, KINSELLA Laura, DALY Leslie, KELLEHER Cecily FITZPATRICK Patricia**

### Background/Problem/Objective

The Healthy Ireland Implementation Plan 2016-2019 provides a framework and details action for preventive and responsive action to health inequalities, lifestyle behaviours and increasing chronic illness; 13.1% of adult discharges and 22.8% of inpatient bed-days are accounted for by people with a principal diagnosis of a major chronic disease.<sup>1</sup> St Vincent's University Hospital (SVUH) falls within the Ireland East Hospital Group (IEHG), a new partnership initiative which comprises 11 hospitals and a catchment population of 1,877,463.

### Methods/Intervention

The IEHG set a number of priority key performance indicators (KPIs) to monitor the implementation of the Healthy Ireland (HI) Framework plan such as: implementation of calorie posting and healthy vending policies, meeting staff training targets in the 'Making Every Contact Count' initiative, provision of programmes supporting staff to manage their health and monitoring initiatives supporting active travel.

### Results (of evaluation)

SVUH's Department of Preventive Medicine and Health Promotion (DPMHP) has led out on many HI actions. The DPMHP has a key role in implementing the national Healthy Vending Policy, and improvement of catering provision to meet KPIs, providing incentives to physical activity including the step challenge and couch to 5K, auditing compliance with the smoke-free campus, and providing a smoking cessation service. There has also been improved engagement with staff through Healthwise; a health focused newsletter aimed at staff. The framework provides motivation to the wider hospital setting to engage with HI. The hospital health promotion committee provides the forum for engagement, with representatives from physiotherapy through to facilities.

### Conclusions/Lessons learned

Successful execution of the IEHG Plan will create an environment where patients, staff and the wider community will be supported to live healthy lifestyles and reach their health potential.

### Contact: CUNNIFFE Elaine

St Vincents University Hospital Dublin  
Department of Preventive Medicine, Elm Park Dublin 4  
[E.Cunniffe@svhg.ie](mailto:E.Cunniffe@svhg.ie)

## Session O1.2: Healthy nutrition

### Healthy – regional – seasonal: Implementation of sustainable nutrition in a university hospital- A best practice example

**EISENBERGER AnnaBRUNNER Gernot**

### Background/Problem/Objective

During a hospital stay the diet plays an important role in supporting the recovery process. The choice of food influences our physical health as well as our environment. That's the reason why the variety of regional and seasonal products is an important concern for the university hospital Graz. The aim of our project was to increase regional and seasonal products in the community catering for patients as well as for the health care staff.

### Methods/Intervention

The actual state of the proportion of regional products (produced in a radius of 150km) was determined via the electronically recorded data base of SAP. General criteria and special requirements regarding the use of regional food were defined. Among regional suppliers a potential analyses by an online-questionnaire was carried out. Furthermore, product groups with possible improvement were defined and tastings and evaluations concerning the suitability of the regional products were performed. The patients and health care staff were informed about the improvements by newsletters and posters.

### Results (of evaluation)

Due to this improvements the amount of regional and seasonal products was increased from 21,7 % to 26,7 %. The amount of national products was increased from 50 % to 80 %. Furthermore, production networks among regional suppliers were formed which ensures an all-season delivery of regional salad. Further, the meat will be provided exclusively from national suppliers. Additionally 100 % free-range eggs are used and fair trade bananas and glutamate free meals are offered. All this quality improvements are made without any additional costs.

### Conclusions/Lessons learned

The results demonstrate that sustainability and resource-efficient actions can be combined. As a consequence of the project, now more and more regional producers show interest in a cooperation with the university hospital Graz. For the patient and health care staff this initiative makes an important contribution to maintaining and recovering their health. An online-questionnaire survey confirms the satisfaction of the health care staff concerning the improvements. Additionally the project contributes to an environment improvement.

### Contact: EISENBERGER Anna

University clinic Graz, Auenbruggerplatz 21, 8036 Graz,  
[anna.eisenberger@klinikum-graz.at](mailto:anna.eisenberger@klinikum-graz.at)

## Healthy food environments: nudging consumers to healthier choices

**NOBLE Kia, SMOKER Gemma**

### Background/Problem/Objective

Alfred Health has invested strongly in improving the healthiness of foods and drinks available at its retail outlets, in vending machines and catering practices. Building upon the success of Alfred Health's previous trials modifying the display and promotion of food and drinks, Alfred Health applied behavioural insights principles to further investigate the influence of the environment on consumer choices. These trials use a traffic light system to classify food and drinks; 'green' food and drinks are the best choices and 'red' are those that should be limited.

### Methods/Intervention

Alfred Health investigated the impact of changes to the retail environment by: - Removal of fried food from display - Implementation of a loyalty program to incentivise healthy choices - 'buy ten 'green' salads, get one free' Observational sales data and consumer surveys were obtained during baseline and intervention periods. Independent samples t-tests were conducted to compare purchases before and after each intervention.

### Results (of evaluation)

Both trials resulted in statistically significant shifts away from unhealthy foods: - Fried food off display resulted in a 38% reduction in fried food sales ( $p < 0.05$ ) with an 8% drop in overall sales - The loyalty program resulted in a 6% reduction in 'red' food sales ( $p < 0.0001$ ) with no change in overall sales Overall this translates to 118,000 fewer unhealthy meals sold at one retail outlet annually.

### Conclusions/Lessons learned

Applying behavioural insights principles to the food environment is feasible and an effective way to nudge consumers towards healthier choices.

### Contact: NOBLE Kia

Alfred Health, Level 5, 553 St Kilda Rd, 3931 Melbourne,  
[Kia.Noble@alfred.org.au](mailto:Kia.Noble@alfred.org.au)

## Nutrition Education and Health Promotion through Short Videos and Animations on Social Media

**KAO Mia, CHEN Joyce, CHANG Yi-Ping, CHIU Tina**

### Background/Problem/Objective

Whole Food Plant-Based Diets (WFPBD) are good for environment, health, weight management, and could prevent and target the roots of many chronic disease. In promoting WFPBD, we came across many myths, misunderstanding, and questions – Is it safe? Won't we get nutrient-deficient? Where's the proteins? Where do we get enough calcium? How to cook?

Where did we get enough nutrition? But I have gout, is it ok to eat soy?

### Methods/Intervention

Nowadays, in Taiwan, many people, including the elderly, are learning and sharing new information by social media, such as LINE and Facebook. So our dietitians designed a series of short animations and videos on nutrition knowledge and recipes, to demystify these common myths, and to promote tips on healthy eating, that could be easily shared on LINE and Facebook. Our animations are short (ranging from 3 to 5 minutes), easy-to-understand, portable (easy to access), and humorous.

### Results (of evaluation)

In the past two years, we have produced 10 videos, including 6 short animations covering topics on cardiovascular disease, diabetes, environmental and health issues about fish, choosing healthy plant based protein, pros and cons of dairy products, and eating for strength training; 3 short online learning video on common myths; and 2 recipes to boost calcium intake, as the Health and Nutrition Survey in Taiwan indicated that most of Taiwanese do not consume enough calcium.

### Conclusions/Lessons learned

These videos have reached 1,167,274 hits on Facebook and Youtube (not including LINE) as of January 9th 2018, and are more popular and much better received than the traditional paper handouts provided by the hospitals. Our presentation will share examples of the animation and video and how our dietitians went about designing the program.

### Contact: KAO Mia

1.Tzu Chi Medical Foundation 2.Taiwan Vegetarian Nutrition Society, No.542-6, Zhongzheng Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.), 23148 Taipei,  
[miamia0717@gmail.com](mailto:miamia0717@gmail.com)

## Evaluating a healthy lifestyle training course for a group of medical students during their learning visit in Hong Kong

**CHUK Peter, TSAI Albert, SIU Alan**

### Background/Problem/Objective

Education of healthy lifestyle is pivotal to manage chronic diseases which are a global concern for prevention and control. Literature shows that clinical teaching with reflective practice is effective in skills learning for undergraduate nursing students. No such structured health training and development are found from the current literature for healthcare professionals. The objective of this study was to evaluate the effectiveness of a healthy lifestyle training course and the measured indicators outcome for a group of medical students.

### Methods/Intervention

An 8-hour health training course and workshops titled "Medical Health & NEWSTART" for a group of 48 medical students during their learning visit in Hong Kong in August 2017. Teaching of structured learning contents with a clinical scenario, discussion, demonstration and practice were provided by expert profes-

sionals. Twelve questions were posed to elicit their health learning experience at the end of the course.

#### Results (of evaluation)

Health indicators measured were body composition, blood pressure, stress level and health habits for learning outcome and evaluation. Findings identified overfat/obese(4.2%(2/48)), overweight/obesity(22.9%(11/48)), inadequate physical activity/underweight(20.9%(10/46)), excessive stress level(12.5/46(29.2%)), and lack of adequate exercise (82.6%(38/46)) and sleep(50.0%(23/46)). A Pearson Correlation of BMI to Metabolic Age gain and Visceral Fat Rating (VFR) is positive with a correlation coefficient of 0.726 ( $p<0.001$ ) and 0.88 ( $p<0.001$ ) respectively. The medical students, based on a satisfaction scale, strongly agreed the teaching method was beneficial for facilitating health learning, enhancement of interest and changing lifestyle habits.

#### Conclusions/Lessons learned

The education method using reflective practice serves as an effective means of health learning for the medical students on some key health indicators. Some health deviation was also identified with provision of lifestyle intervention guidelines to be followed up by affected students for disease risks reduction. It is recommended to integrate this structured training method into medical students or other undergraduate healthcare professionals teaching curriculum for benefits of individual health learning and gain, and practice of lifestyle medicine in primary health care.

**Contact: CHUK Peter**

Hong Kong Adventist Hospital - Stubbs Road, Hong Kong,

[pkcchuk@netvigator.com](mailto:pkcchuk@netvigator.com)

### Eating habits and body mass index (BMI): questionnaire results from a large Japanese cohort

**WONG Toh Yoon, GONDO Ayumi, MURATA Hirohiko**

#### Background/Problem/Objective

Obesity, which can be defined and classified using body mass index (BMI), is associated with a variety of complications such as cardiovascular disease, fatty liver disease, type 2 diabetes, sleep apnea syndrome and cancer. In this study, we evaluated eating habits that may contribute to a higher BMI using questionnaire results from a large sample of Japanese adults receiving health check-ups at our hospital.

#### Methods/Intervention

Japanese adults (above the age of 20) who received health check-ups at our hospital's health check-up center during an 8 month period from April to November 2017 were enrolled into this study. Participants age, gender, BMI and response towards a standardized questionnaire provided by the Japanese Ministry of Health Labour and Welfare were collected and analyzed to determine eating habits that may affect their BMIs.

#### Results (of evaluation)

7175 Japanese adults (3564 men) were enrolled into this study. Mean age was  $49.6 \pm 13.8$  years old and mean BMI was  $22.7 \pm 3.7$  kg/m<sup>2</sup>. Participants who reported eating faster than aver-

age (meal duration), skipped breakfast and ate less than two hours before sleeping (late meals) had higher BMIs than those who did not. After adjusting for age, gender, smoking status, alcohol intake frequency and sleeping quality, meal duration along with late meals were associated with increase in BMI.

#### Conclusions/Lessons learned

Our results confirm the findings of a recently published questionnaire study (in Clinical Health Promotion) associating simple dietary habits with BMI, blood pressure and a healthy lifestyle. Although there are many studies focusing on different types of diet, simple practices such as eating slowly and not having meals late at night are relatively easy to follow and could help prevent obesity.

**Contact: WONG Toh Yoon**

Hiroshima Kyoritsu Hospital, Asaminami-ku Nakasu 2-19-6

[easybs@hotmail.com](mailto:easybs@hotmail.com)

## Session O1.3: Smoking cessation

### Efficacy of intensive face-to-face interventions for smoking cessation

**RASMUSSEN Mette, PEDERSEN Bolette, LAURIDSEN Susanne Vahr, TØNNESEN Hanne**

#### Background/Problem/Objective

Many studies have established tobacco as the most important preventable risk factor for public health. WHO estimates that approximately 6 million people die each year from smoking, globally. However, smoking is still widespread in most parts of the world. More and more evidence has been gathered regarding effective smoking cessation interventions with or without pharmacological support. There is substantial difference in the intensity of these programmes with the brief interventions as the most commonly used. The efficacy of intensive interventions has not yet been systematically reviewed.

#### Methods/Intervention

**Aim:** To assess whether intensive smoking cessation interventions for adult daily smokers are more effective than shorter interventions or usual care, and to identify if there are different effects of intensive interventions in different groups of smokers. **Method:** A systematic review and meta-analysis if possible, conducted using MEDLINE, EMBASE, Cochrane Central Register of Controlled Trials (CENTRAL) and CINAHL. The study includes randomised controlled trials. The main outcome is measured as continuous abstinence on long and short term, secondary point prevalence is used.

#### Results (of evaluation)

Results will be presented at the conference.

#### Conclusions/Lessons learned

The study will provide new knowledge about the efficacy of intensive smoking cessation interventions. The results will be of great importance for the individual patient and for the benefit of public health and the economy in general.



**Contact: RASMUSSEN Mette**

Clinical Health Promotion Centre, WHO-CC

Frederiksberg University Hospital, Ndr. Fasanvej 57

2000 Copenhagen, [mette.rasmussen.03@regionh.dk](mailto:mette.rasmussen.03@regionh.dk)

## The Effect of Smoking Cessation Services for The Inpatients on Smoking Abstinence Rate in a Taiwanese Population

**LIN Chi-Wei, HUNG Wei-Chieh, CHIN Wei-Lin, TSAI Hsiu-Hui, HONG Wei-Wei, LIOU May-Fan, CHIU Tzu-Jung**

**Background/Problem/Objective**

Stronger motivations to quit smoking were highly correlated with successful smoking cessation. In Taiwan, we commonly focused on providing smoking cessation services to the outpatients. However the inpatients may have higher motivations to quit smoking because of relatively serious illness than outpatients. Thus, the aim of this study is to clarify the effect of providing smoking cessation services to inpatients on abstinence rate.

**Methods/Intervention**

This cross-sectional study enrolled 2,972 participants who received the smoking cessation services in E-Da hospital between 1st January 2015 and 30th June 2016. After excluding the participants who refused following up from the phone interview at 3 and 6 months after first service, a total of 1,288 subjects with completed data were included for final analysis. All participants received smoking cessation counselling and the pharmacotherapy for smoking cessation was the unnecessary options for them. Successful smoking cessation was evaluated by self-reported 7-day point prevalence abstinence at 3 and 6 month follow-up period from the phone interview.

**Results (of evaluation)**

The 7-day point-prevalence abstinence rate at 3 and 6 month was 49.9% (635/1288) and 50.4% (649/1288), respectively. After adjusting for age, gender, drugs intervention, and times of smoking cessation counselling, smoking cessation services for inpatients were independently correlated with higher successful smoking cessation rate at 3 month (OR: 1.45; 95% confidence interval 1.05-2.01) and 6 month (OR: 1.40; 95% confidence interval 1.01-1.94) as compared to outpatients. In addition, older age and times of cognitive-behavioral treatment were positively related to successful smoking cessation rate at 3 and 6 months.

**Conclusions/Lessons learned**

This study demonstrated the smoking cessation services for the inpatients were shown to be the better effect on smoking abstinence rate at 3 and 6 month than the outpatients. Besides older age smokers and times of smoking cessation counselling were also the positively related to the smoking abstinence rate. Although this study showed the smoking cessation services for inpatients were higher abstinence rate at 3 and 6 month than

outpatients, the further studies need to investigate the long-term effect.

**Contact: HUNG Wei-Chieh**[sydebat921@gmail.com](mailto:sydebat921@gmail.com)

## Smoking cessation counseling provided by trained health professionals in health services, workplaces, and in cancer screening settings

**BOSI Sandra , GORINI Giuseppe, GOZZI Cristina, ZIRONI Francesca , TAMELLI Marco , FORZA Giovanni, AMEGLIO Mateo , WIDMANN Silvana, LICHERI Eralda, MERCATILI Grazia , FRANCHELLA Milena, POLO Fabrizia , MARCHESI Cristina DI CLEMENTE Carlo**

**Background/Problem/Objective**

Smoking cessation counseling is effective and cost-effective, but few health professionals are adequately trained and routinely delivered it. Main aim of this project was to develop an Internet e-learning portal to train health professionals, and to conduct an intervention for smoking cessation in three settings: community-based healthcare delivery services for specialist care or for delivering vaccinations; workplaces; cancer screening outpatient clinics. This project was funded by the Italian Minister of Health (CCM 2015) and was developed in 9 Italian Regions.

**Methods/Intervention**

An in-depth Internet e-learning course was developed in order to train "trainers of health professionals". Then, a shorter Internet e-learning course was developed in order to directly train health professionals working in the three settings. They completed the course in collaboration with "trainers of health professionals". Then, a protocol for delivering smoking cessation counseling in different settings and a monitoring system were developed in order to understand which settings were more suitable to deliver this type of counseling.

**Results (of evaluation)**

More than 300 health professionals in 9 Italian regions (Emilia-Romagna, Toscana, Marche, Veneto, Friuli-Venezia-Giulia, Calabria, Lazio, Molise, Sardegna) were trained using the Internet e-learning courses. Trained health professionals began delivering counseling during their usual activities. Occupational physicians at workplaces were very interested in this type of training, and were more able to deliver smoking cessation counseling in comparison to other health professionals, such as those involved in cancer screening, or in administering vaccinations, or specialists during their usual activities.

**Conclusions/Lessons learned**

Many health professionals were very interested in Internet e-learning courses regarding healthy lifestyles, because most of them were not adequately trained at University on how to deal with healthy people with unhealthy lifestyles. In some settings

smoking cessation counseling is easy to implement after an adequate training of health professionals.

**Contact: GORINI Giuseppe**

ISPO, Cancer Prevention & Research Institute  
via delle Oblate 2, 50100 Florence,  
[g.gorini@ispo.toscana.i](mailto:g.gorini@ispo.toscana.i)

## Session O1.4: WORKSHOP: Creating Patient Engagement Standards for Health Promoting Hospitals

### Creating Patient Engagement Standards for Health Promoting Hospitals

**FRAMPTON Susan**

#### Background/Problem/Objective

The HPH working group (WG) on “HPH and Patient and Family Engaged Health Care (PFEC)” has as an objective to make other countries, and in particular, HPH members, familiar with the concept of PFEC and the foundations, structures, and practices associated with successfully adapting and translating the concept and framework to other health care contexts. The WG seeks to connect elements of PFEC as detailed in the 2017 National Academy of Medicine publication, to the New Haven Recommendations on Partnering with Patients, Families and Citizens to Enhance Performance in Health Promoting Hospitals and Health Services, released by HPH in 2016, in order to ensure that the context of health promotion is emphasized.

#### Methods/Intervention

The WG has convened several times to discuss and develop a set of standards, tools and indicators based upon the crosswalk of the “New Haven Recommendations on Partnering with Patients, Families and Citizens to Enhance Performance in Health Promoting Hospitals and Health Services” and the NAM Guiding Framework on Patient Family Engaged Care for the improvement of performance and organizational engagement of patients, families and citizens in creating better access, better health, and better culture monitoring.

#### Results (of evaluation)

To-date, a partial set of standards, tools and indicators has been developed by members of the WG. Given the scope of this task, further input from a broad group of interested professionals is required at this time. The annual HPH conference provides an important opportunity to reconvene the WG members, as well as additional interested participants, to complete this essential task. Once completed, the WG can fulfill additional deliverables.

#### Conclusions/Lessons learned

Developing a comprehensive set of standards, tools and indicators for an emerging area of interest such as Patient and Family Engaged Care, is an ambitious undertaking, requiring the input of not only identified WG members, but the broader HPH community.

**Contact: FRAMPTON Susan**

Planetree International, [sframpton@planetree.org](mailto:sframpton@planetree.org)

## Session O1.5: Promoting the health of staff

### Meeting healthcare professionals for safety issues can lead to work well-being?

**SPINOSA Mariangela, PALLADINO Teresa, BIGNAMI Simonetta, TOVOLI Daniele, MINARINI Andrea**

#### Background/Problem/Objective

Safety is one of the major factors influencing workplace climate in healthcare organizations. Working into an organization where safety culture is the guiding factor to create the building blocks for a safe, reliable and better workplace environment. In Italy occupational safety management and patient safety management are two processes with diverse standards and rules. Recently there is a growing awareness to join together the processes to get a full vision of healthcare risk factors. The project with the acronym VI.SI.T.A. RE. (in Italian visit a place) aim to collect healthcare professionals opinions about safety in their workplace, their feeling at work, and workplace organization critical issues.

#### Methods/Intervention

The methodology used was interviews and audits carried out by a team of experts meeting the department healthcare professionals involved. The interviews and the audits were based on the same topics to compare the results, and were administered encountering the healthcare professionals of different Departments. Based on the problems collected, the team support healthcare professionals to set up and development of the improvement actions, and promote a multiprofessional approach to problem solving. The follow up was done through the administration of a two parts questionnaire (t0 during the meeting and t1 after 6 months).

#### Results (of evaluation)

The project began in 2014 and is still in progress. The team met 8 Department, mainly of Surgery, Neurology, Urology, Neurology Rehabilitation. The critical issues detected has been potential dangerous clinical practices, factors influencing work distress and workload. The professionals proposed 42 improvement actions, 39 of them were developed and all of them have been completed. Apart from this we observed increase in motivation by professionals, enhance for sharing different experience and overcome distrust. Moreover listen to their opinions created better communication among professionals and management, and good organizational climate.

#### Conclusions/Lessons learned

Healthcare professionals participation to detect critical items like safety not only allow to deal with safety issues with efficacy and appropriateness improving organization safety culture



too, but also allow improve organization climate and broadly speaking wellbeing at work, with lower cost than other methodology.

**Contact: TOVOLI Daniele**

Az. USL di Bologna

c/o Osp. Maggiore, L.go Nigrisoli, 40133 Bologna,

[d.tovoli@ausl.bologna.it](mailto:d.tovoli@ausl.bologna.it)

## Occupational health service experts' influence on public organisation managers

**LIFF Roy, WIKSTRÖM Ewa**

### Background/Problem/Objective

This study investigates the conditions necessary for occupational health care specialists (OHCS) to achieve a greater decision-making influence in relation to managers in the organizations they serve. Over decades, OHCS have been successful in conducting rehabilitation services but less so in the prevention of work-related illnesses and health promoting efforts. The research gives explanations to why this is a persistent problem by studying the way influence is wielded through the experts' positioning in identity work processes.

### Methods/Intervention

This is a qualitative study in which individual and focus-group interviews were conducted in a Swedish context with occupational health care specialists, managers, and HR experts during two years.

### Results (of evaluation)

In the rehabilitation service, OHCS have a self-identity, which is accepted of the managers in the organization they serve of both sameness and difference in relation to the internal HR-resources. In the case of preventive and promoting OHCS have an identity of sameness but not difference, and especially lacking the concepts, tools and jargon to demonstrate difference from the internal HR-resources and the managers' own knowledge.

### Conclusions/Lessons learned

The study's main contribution, in contrast to earlier research, concerns the insight that it is possible and necessary to uphold sameness, process alignment and strategy alignment at the same time as difference, distinction of tools and professional attributes. The established experts have underestimated the importance of difference constructed from jargon and professional attributes in their attempts to become experts. Practising experts may be guided by the insights of this study, especially those concerning the most difficult situation: organizational changes to promote health in a context dominated by a distinct, available discourses such as medical logic and focus on the individual.

**Contact: WIKSTRÖM Ewa**

University of Gothenburg, Box 610, 40530 Gothenburg

[ewa.wikstrom@handels.gu.se](mailto:ewa.wikstrom@handels.gu.se)

## The impact of employee assistant programs (EAPs) on reductions of mental disturbance: Evidence from employees working in hospital in Taiwan

**WANG Chiao Chu, CHEN Ming Ting**

### Background/Problem/Objective

Mental-health problems play an important role for staff issues in hospital for which relative research has remained unclear and uncanny. In this article, we would like to clarify whether Employee Assistant Programs (EAPs) can significantly alleviate anxiety, depression, sleep disorder, and employee turnover rates. The initiation of EAPs program in this hospital includes psychological interventions accompanied with aromatherapy for which has already proved to be helpful releasing negative emotion and hereby advance sleep quality.

### Methods/Intervention

The Chinese version of General Anxiety Disorder-7(GAD-7), Brief Symptom Rating Scale (BSRS) and Insomnia Severity Index (ISI) are questionnaires to capture any difference in Pretest-and-Posttest examination among 2085 staffs from February 2016 to March 2017 at regional hospital in central Taiwan. T-test was therefore used to compare the distinguished numbers regarding the scores of sleepless, anxiety and depression as well as the rates of resignation before and after the EAPs.

### Results (of evaluation)

We found not only the employee turnover rate was significantly decreased after adoption of program in this hospital ( $p < .05$ ), but also were the scores of anxiety and depression ( $p < .05$ ). However, the scores of sleeplessness stayed still after EAPs.

### Conclusions/Lessons learned

EAPs could be helpful for employees whoever suffering from mental disturbance resulting from negative emotion. Nevertheless, it could be difficult for hospitals to start the whole project, because the working time for each staffs could be discrete to cooperation. Despite of which, our finding surely warrants the establishment of EAPs for hospitals in Taiwan.

**Contact: WANG Chiao chu**

Tung's Metro Harbor Taichung Hospital

No.699, Sec. 8, Taiwan Blvd., Wuqi Dist., Taichung City,

[julewang1014@gmail.com](mailto:julewang1014@gmail.com)

## A three month hospital-based exercise program was effective on decreasing sedentary behavior and rate of turn over

**WANG Chiao chu, CHEN Ming Ting**

**Background/Problem/Objective**

Nearly one-quarter of employees in our hospital are categorized into Obese whose BMI is above 27 kg/m<sup>2</sup> and roughly 33.1% of all employees seldom exercise once in a week. All of which suggests that people working in hospital might suffer from health issues. In fact, it is difficult to develop an exercise regimen in hospital because of features in this industry. In such case we design an exercise program to promote physical activities and perhaps would change the whole circumstance.

**Methods/Intervention**

We call this program 'Let's Tung' meaning LEAD, EXERCISE, TREAD, SATISFIED and TUNG. Supervisor LEADS first the program and everyone under would simply follow. Before every meeting we demand an EXERCISE of short anaerobic fitness. We also encourage them to TREAD, walking above ten thousand steps in a day for at least a month. Besides, promoting lottery draw SATISFIED participants. Tung stands for the name of our hospital and pronounced quite similar as exercise in Chinese

**Results (of evaluation)**

Through the program we would like to know whether it will decrease turnover rate as well as absent and alter exercise habit. The t-test was used to determine any difference before and after the initiation of program. Our sample include 2704 people and among which are male (20.1%), physicians (8.2%), nurse (44.4%), technicians (9.7%) and regular staffs (37.7%). We found both sedentary habit and resignation rate significantly decreased after the program ( $p < .05$ ), though absent rate remained still.

**Conclusions/Lessons learned**

Although lots of literatures supported the benefits of physical activities, few of them had ever focused on the impacts regarding the working environments in hospital. We not only explore the effects of circumstances but also want to promote to community nearby in the coming future, which contribute to a better and healthier life for whoever works in this hospital and lives around.

**Contact: WANG Chioa chu**

Tung's Metro Harbor Taichung Hospital  
No.699, Sec. 8, Taiwan Blvd., Wuqi Dist., Taichung City,  
[julewang1014@gmail.com](mailto:julewang1014@gmail.com)

## Use lot technique and data analysis to setup an violence prediction and prevention system in ER

**LIN Chi-Feng****Background/Problem/Objective**

Taiwan implement National Health Insurance (NHI) from 1995. This policy improve the medical accessibility. Because of people easy to obtain medical services, result in the medical services was increasingly high requirements. Most people think the health care industry have to satisfy their demand likes the service industry. Therefore, unreasonable demands for medical services led to the physician-patient relationship become strained. The violence happen in hospital become frequently. Violence in hospital not only harmful physicians, but also interferes patient safety.

**Methods/Intervention**

This study combines emergency cases visit and the external information (such as meteorological data) for analysis. We through data analysis to identify the factors of violence. Our finding will become reference for remind staff to avoid violence. Beside, we use lot technique to build an early warning system. When ER staff feel dangerous, they can press wearable devices for pass the message at the shortest time. Security staff also got the message by wearable devices at the same time.

**Results (of evaluation)**

Our finding include: 1. Medical violence hotspot is in ER. 2. Most cases were happen in midnight to early morning. 3. Weekend had higher violence cases. 4. The lower temperature had the higher violence cases, due to the people like to dietary supplementation or drink in winter. After implement this system, violence cases from 12.0 cases per month to 1.6 cases per month. We decrease 87% violence cases. About 94% of ER staff believe that institution will give them support and satisfy this process.

**Conclusions/Lessons learned**

When ER staff be reminded in high risk condition, they will keep up their guard. Beside, setup an early warning systems also has a positive effect on medical violence prevention. The wearable devices has tangible result for early warning. Before the patient's emotions gets out of control, appeasement will reduce the incidence of violence effectively. This system not only protect staff safety, but also decrease patient emotional disorder. After strategies implement, we found the violence cases have significantly reduce.

**Contact: LIN Chi Feng**

MacKay Memorial Hospital  
No.92 Sec.2 Chung-Shan N. Rd. Taipei  
[chifeng@mmh.org.tw](mailto:chifeng@mmh.org.tw)

## Session O1.6: Early care and interventions

### Risk Factors of Postpartum Depression in a Mother-Child Friendly Hospital Using Structured Equation Model

#### HWANG Lee-Ching, SHAO Hsin-Hui, CHAN Hsin-Lung, HUANG Wei-Hsin, LEE Shu-Chen

**Background/Problem/Objective**

Postpartum depression is a highly prevalent syndrome, characterized by increased vulnerability to subsequent morbidity and mortality. The aim of this study was to explore prevalence of postpartum depression and its associated predictors.

**Methods/Intervention**

A cohort of 914 postpartum women was recruited in the post-natal wards. Hospital records were examined and self-report

questionnaires were completed at recruitment, and at 1 month postpartum. Assessment of postpartum depression was based The Edinburgh Postnatal Depression Scale (EPDS). A score of 13 or more is test positive. Multivariate analyses and Structured Equation Model were used to identify independent predictors.

#### Results (of evaluation)

The mean maternal age at delivery of the participants was 33.3 (SD: 4.0) years. Breastfeeding was initiated by 93.8 % of the participants; at 1 month, 37.9 % of women were exclusive breastfeeding and 6.2% were exclusive formula feeding. At 1 months postpartum, the mean of EPDS score was 7.7 (SD: 4.9) and 18.8% of the participants developed postpartum depression. The results revealed participants who were primipara, with concomitant situation (diabetes, hypertension and preeclampsia), exclusive formula feeding had the higher prevalences, while participants who breastfed, with more family support and cared in the maternity confinement center had the lower prevalences. Odd ratios for postpartum depression were significantly lower among breast feeding women (OR: 0.47 (CI: 0.24-0.93) for exclusive breastfeeding, 0.46 (0.23-0.93) for combining breast feeding and formula feeding). Using Structural Equation Model, family support from husband, parents and parents in law all diminish depression score through direct effect.

#### Conclusions/Lessons learned

Breastfeeding and family support diminished the risk of postpartum depression among Taiwanese postpartum women. Assistance with breastfeeding issues should be included in the management of postpartum depression.

#### Contact: CHC mmh

Community Health Center, Mackay Memorial Hospital,  
No. 92, Sec. 2, Zhongshan N. Rd., Taipei City,  
[mmh1089@ms1.mmh.org.tw](mailto:mmh1089@ms1.mmh.org.tw)

## Korean Unwed Mothers' Mental Health and Intellectual Abilities

**HA Naram, JO Suyeon, PARK Soowon, YOUN Jung Hae, SOHN Bo Kyung, CHOI Hyo Jung, LEE Ji Yeon, LEE Jin Yong, PARK Min Hyun, LEE Jun Young**

#### Background/Problem/Objective

This study's purpose is to estimate the current state of the mental health and intellectual characteristics of unwed mothers compared to the general women population in Korea. Recent studies have shown that unwed mothers face a variety of challenges including economic deprivation and discrimination, but there are lack of studies focused on the psychiatric characteristics and intelligence. In this context, there is need for research to identify the mental health and intellectual ability of unwed mothers, which would be the basis for healthy motherhood, the quality of their lives and also the development of policies and support programs.

#### Methods/Intervention

The participants were recruited from two shelter homes in South Korea. A total of 48 single mothers agreed to participate

in this study. To compare mental health and intellectual abilities of unwed mothers with the general female population, reference materials from national studies were used. Two sample t-test for percent, logistic regression, and one sample t-test were used to assess mental health status and intellectual capabilities.

#### Results (of evaluation)

Unwed mothers were more likely to have mood disorders, post-traumatic stress disorder, alcohol and nicotine use disorder, and ADHD than the general women population. Among 48 participants, 20 (41.7%) were under 70 Intelligence Quotient (IQ), while the mean of IQ was significantly lower than the IQ mean of general women. In addition, it turned out that psychiatric disorders were closely related with intellectual disability.

#### Conclusions/Lessons learned

Through this research we confirmed that unwed mothers living in Korean shelter homes experience more mental disorders and lack intellectual abilities than general women population. Thus, a systematic approach to ease their psychiatric disorders should help develop support programs or establish policies to enhance their quality of life.

#### Contact: HA Naram

SMG-SNU Boramae Medical Center  
Boramaero 5gil, Dongjak-gu, Seoul,  
[naramha@gmail.com](mailto:naramha@gmail.com)

## Pre-pregnancy Body Mass Index, Gestational Weight Gain and Infant Birth Weight in Taiwanese primiparous women

**WAITS Alexander, CHIEN Li-Yin, WANG Ying-Wei**

#### Background/Problem/Objective

Pre-pregnancy body mass index (BMI) and gestational weight gain (GWG) are well-known predictors of infant birth weight. Since the adoption of BMI-specific GWG guidelines in Taiwan, there has been no nationwide study on GWG and birthweight. Our study aimed to investigate the role of pre-pregnancy BMI and BMI-specific GWG ranges in associations with low birth weight (LBW), small for gestational age (SGA), large for gestational age (LGA), and macrosomia. The interaction between pre-pregnancy BMI and GWG was also assessed.

#### Methods/Intervention

Our analysis was based on 6 pooled nationwide surveys commissioned by Taiwan Health Promotion Administration (HPA) in 2011-2016. Primiparous mothers with singletons and normal term (37-41 weeks) were included. Pre-pregnancy BMI was categorized by Taiwanese cutoffs of 18.5, 24 and 27 kg/m<sup>2</sup> for underweight, overweight, and obesity, respectively. Inadequate and excessive GWG was categorized according to BMI-specific guidelines of Institute of Medicine. BMI-specific odds ratios and interaction between BMI and GWG were assessed by multivariate logistic regression adjusted for confounders.

#### Results (of evaluation)

Among 30,573 respondents, underweight women were more likely to have LBW (aOR=1.27) and SGA (aOR=1.38). LGA was positively associated with overweight (aOR=1.46) and obese (aOR =2.03). Inadequate GWG was positively associated with LBW (aOR=1.73) and SGA (aOR=1.49). Excessive GWG showed higher odds of LGA (aOR= 1.72), and macrosomia (aOR= 2.06). The interaction term was significant only between underweight BMI and inadequate GWG in association with LBW - 2.23 times higher odds, compared to the group with normal GWG and normal BMI.

#### Conclusions/Lessons learned

Overweight and obese mothers and mothers with excessive GWG had higher odds of LGA and macrosomia. Underweight mothers and mothers with inadequate GWG had higher odds of LBW and SGA. GWG and BMI were independently associated with adverse birth weight, except for the joint effect of underweight BMI and inadequate GWG on LBW. Therefore, underweight women with inadequate GWG, as a vulnerable group for low birth weight, should not be overlooked and be advised to gain more weight during pregnancy.

#### Comments

We applied for oral presentation. If committee members decide that our abstract more fits another format, we will happily accept their decision. Thank you.

#### Contact: WAITS Alexander

National Yang-Ming University, International Health Program  
No 155, Sec. 2, Li-Nong St., 112 Taipei,  
[suurikko@gmail.com](mailto:suurikko@gmail.com)

## Effectiveness of hearing screening in newborn population: A systematic review

**KUO Nai-Rong, LIU Chia-Yu, TUNG Tao-Hsin**

#### Background/Problem/Objective

Whether the newborn hearing screening can really affect the following developmental outcome is still unclear. This systematic review is conducted to investigate the correlation between hearing screening and developmental outcome and quality of life of the newborn subjects.

#### Methods/Intervention

We searched PubMed, MEDLINE, and Cochrane Library for relevant studies without language restriction. Searching keywords include: "newborn or infant or neonatal" and "hearing screening or hearing detection" and "language development or speech outcome or school performance". Two authors independently assessed risk of bias. The disagreements were solved after discussion with a third author.

#### Results (of evaluation)

18 articles were included in our systematic review. Two articles were published in languages other than English. Most of the studies state an improvement in language development for hearing screening groups compared to non-screening groups.

#### Conclusions/Lessons learned

Although current evidence supports that there is a better developmental outcome for newborns who underwent hearing screening programs. Further randomized controlled trials that provide larger sample sizes are needed to clarify whether hearing screening programs have efficacy for newborn subjects.

#### Contact: TUNG Tao-Hsin

Cheng-Hsin General Hospital  
No45, Cheng-Hsin st, 112, Shipai, 112 Taipei,  
[ch2876@gmail.com](mailto:ch2876@gmail.com)

## Bridging the Gaps of Child Welfare: A Pilot Health Care Project in a Rural Area of Southern Taiwan

**HSU Meng Fan, CHOU Po-Ching, HUANG Yu-Shuo, HSIEH Mi-Chin, CHEN Ying-Hsiao, HUANG Joh-Jong**

#### Background/Problem/Objective

The numbers of child maltreatment victims are rapidly rising worldwide during recent years, especially the age of patients during infancy and toddler. Unless being reported, the family with the needs can hardly be found actively. Many studies had been indicated the risk factors of mortality resulting from child maltreatment included developmental delay, lived in rural area and poor social support. Based on the original health care system, we try to develop a pilot health care project to solve the problem.

#### Methods/Intervention

In a rural area of Kaohsiung city (Southern part of Taiwan), we built a special clinic, which can previously provide only routine vaccination. During routine vaccination visit weekly, developmental screening was arranged. A multidisciplinary team from Kaohsiung municipal Ta-Tung hospital was gathered in the clinic monthly to give expert opinions. Early intervention medical services were referred according to the needs. Focus group of parenting skills was conducted and children with risks of maltreatment was reported.

#### Results (of evaluation)

During November 2017-January 2018, 90 patients, aged from one month to five years old came to local public health center for scheduled vaccination. 38.8%(35) patients received developmental screening and 74.2%(26) of them was diagnosed developmental delay. Among the patients with developmental delay, 57.7% of them are aged during 1 to 3 years old and 26.9% of them are during infancy (aged below 1 year old).

#### Conclusions/Lessons learned

Distance from home to medical units may play the critical part of willingness for parents to find medical sources. The multidisciplinary team in local public health center provided an integrated, accessibility services in rural area. Through early intervention and parenting skills consultations may bridge the gaps of public health system and decrease child maltreatment, especially for the child during toddler and infancy.

**Contact: CHOU Po-Ching**

Kaohsiung municipal Ta-Tung hospital  
No.100, Tzyou 1st Road, 801 Kaohsiung,  
[tsai68686868@hotmail.com](mailto:tsai68686868@hotmail.com)

## Session O1.7: Age-friendly standards

### Outcome Differences between Medical Centers and Community Hospitals in Recognition Project of Age-friendly Hospitals in Taiwan

**HUNG Shan-Ching, CHIOU Shu-Ti, SHEU Shew-Meei, YANG Hsin-Yi, HOU Jung-Ying, CHANG Yu-Cheng, CHEN Wei**

#### Background/Problem/Objective

As the growing elderly population, it is quite important to note that health service utilization can impose risk to/or add health gain for senior persons. Accordingly, Taiwan launched the first recognition project of Age-friendly Hospitals and Health Services (AHHS) in the world. The aim of the study was to evaluate the outcome differences between medical centers and community hospitals by implementing this project.

#### Methods/Intervention

This was a retrospective analysis of prospective collected dataset, which was conducted between April 2013 and December 2016. A total of 93 hospitals were recognized as AHHS (11 medical centers, 82 community hospitals). The recognition project comprised four standards, which were management policies, communication and services, care process, and physical environment. Each hospital should complete the internal review (self-evaluation) and be externally reviewed by a committee for the eleven substandard by scoring from 60 to 95.

#### Results (of evaluation)

The satisfaction was higher in community hospital than that in medical centers (89% vs. 82%). Reviewed by the committee, all substandard scores of medical centers were significantly higher than those in community hospitals ( $p < 0.05$ ), except two substandard, transportation and accessibility. The similar scenario was also found in the self-evaluation. The top three score difference between self-evaluation and committee ratings were: (1) tolerance for the examination, (2) Comprehensive Geriatric Assessment (3) service from the elder's point of view.

#### Conclusions/Lessons learned

Almost all the substandard scores of medical centers were significantly higher than that in community hospital, either by self-evaluation or committee ratings. By finding the top score differences between self-evaluation and committee ratings, we may understand the difficulties for implementing age-friendly care in community hospitals and further improve the quality of care in the future.

**Contact: HUNG Shan-Ching**  
CHIA-YI CHRISTIAN HOSPITAL

No.539,Zhongxiao Rd., Chiayi City 60002,Taiwan (R.O.C)  
[cych05509@gmail.com](mailto:cych05509@gmail.com)

## Optimized Aging – A Holistic and Salutogenic Approach with focus on Housing

**AHLSTRÖM Petter, BJELKE Börje, LINDAHL Göran, FELLESON Markus**

#### Background/Problem/Objective

Worldwide there is a growing aging population, age 65+, showing a better health status, better education, better economy and having a higher demand on life quality and personal performance. The way our homes and housings are designed matters more and more and contributes to our late life well being and performance. Thus, it is important to understand the epidemiological changes in relationship to the upcoming demands on housing and living environment in relation to health promoting aspects.

#### Methods/Intervention

By questioning different populations concerning their willingness of paying for various services in relation to their housing one can find out both what people are willing to pay for and how much. In the housing market there is a trend that buyers of housing are willing to pay more related to social content. In order to further address these questions we are setting up a multidisciplinary team including most specialities from health care professionals, engineers to lawyers and economists.

#### Results (of evaluation)

The trend is clear on that the context, both social and physical affect pricing and experiences of housing. Physical and spatial conditions are intertwined with social content and can be related to the way these aspects have been considered by architects and builders alike. The additional physical health promoting aspects in the "c process" due to housing and housing construction remains to be further investigated.

#### Conclusions/Lessons learned

The aim is to show to senior housing stakeholders that value creation in housing and quality of life is related to the integration of soft and hard values and to spatial and social aspects and that the integration, or packaging, of these are important to create synergies that the senior housing client experience as qualities in the housing offer. Qualities that are also important to identify for municipalities and real estate owners in their role as service providers.

**Contact: BJELKE Börje**

Dept of Neurol, University of Oslo, Norway, Sykehusveien 25  
1474 Nordbyhagen, [borje.bjelke@medisin.uio.no](mailto:borje.bjelke@medisin.uio.no)



## Effects of bed-exit alarm use to prevent falls in the nursing home

**KUO Yi-Chun, HUANG Hui-Chun ,  
CHUANG Shu-NI, YANG Hsin-Yi , HU  
Fang-Fei, HUANG Hsiu-Chen, CHEN Wei,  
HUANG Huei-Chin**

### Background/Problem/Objective

Falls and fall-related injuries remains a serious issues among elderly people, which may cause an enormous care burden for the healthcare system and families. Evidence showed that elderly residents in nursing home have a higher relative risk of falls. The bed-exit alarm is one of the strategy for fall prevention but its' effect is still controversial. The aim of this study was to evaluate whether bed-exit alarm can decrease the incidence of fall in the nursing home.

### Methods/Intervention

This was a retrospective study which enrolled the older adults in a 196-bed nursing home during a 9-month period. We recorded the fall events before and after the intervention of bed-exit alarm. The possible causes of fall, including health status, medications, and environmental factors were also analyzed.

### Results (of evaluation)

A total of 180 elderly people were enrolled in this study, with a mean age of 84 years, and 58% of females. Before installation of bed-exit alarms, the incidence of falls from slipping off gaps in bed rails was 0.039% and the incidence was significantly decreased to 0.017% ( $p < 0.05$ ) after installation of bed alarms.

### Conclusions/Lessons learned

Bed-exit alarm use in a nursing home had significant effect on prevention of fall events. Therefore, it can be considered especially for those with high risk of fall.

### Contact: HUNG Shan-Ching

CHIA-YI CHRISTIAN HOSPITAL

No.539,Zhongxiao Rd., Chiayi City 60002,Taiwan(R.O.C)

[cych05509@gmail.com](mailto:cych05509@gmail.com)

## Session O1.8: WORKSHOP: Promote equity to improve responsiveness to diversity: the Equity Standards tool

### Promote equity to improve responsiveness to diversity: the Equity Standards tool

**CHIARENZA Antonio, NIRMAL KUMAR  
Bernadette, SPILKER Ragnhild, INGLEBY**

**David , HAKKINEN Eeva, MCHUGH Laura,  
GLOVER James, SERDYNKA Marie,  
KARMALI Karima, HORVAT Lidia,  
FERNANDEZ GONZALEZ Manuel,  
ABRAHAM Elizabeth, VERREPT Hans,  
GARCIA-RAMIREZ Manuel, BENEDICT-  
PETROVA Roumyana**

### Background/Problem/Objective

The enormous influx of migrants towards Europe has posed new challenges for health care providers. New migration has brought with it an increased level of diversity that calls for an equity approach to address the multiple factors that contribute to variation in health care experience. To help health care organisations to appropriately respond to these challenges the HPH-Task Force Migration Equity & Diversity has developed a set of Standards for Equity in Health Care for Migrants and other Vulnerable groups. The aim of the workshop is to present and discuss the challenges and opportunities for health care organisations implementing the equity standards.

### Methods/Intervention

Similarly to the existing HPH standards, Equity Standards were developed following the recommendations of the International Society for Quality in Health Care, as described in their ALPHA programme, which include a critical review of the literature (existing models and standards), a proposal for standards, a review of standards, a draft of preliminary standards, pilot testing, the development of "final" standards, implementation and continuous revision and adjustment to changes in evidence and health care delivery.

### Results (of evaluation)

Preliminary standards were pilot tested in 12 countries in order to assess their clarity, relevance and applicability. Based on the results of this first pilot test the final standards were developed and further tested in 16 countries in order to assess their implementation in 54 health care organisations. Pilot organisations were able to self-assess the compliance with the standards; to identify areas of improvements; to select outcome indicators, and to develop an action plan based on the findings from self-assessment.

### Conclusions/Lessons learned

The standards for equity in health care address 5 domains: (1) Equity in policy, (2) Equitable access and utilisation, (3) Equitable quality of care, (4) Equity in participation and (5) Promoting equity. The Equity standards provide opportunity for staff and services to question what they do, why they do it, and whether it can be done better.

### Contact: CHIARENZA, PHD Antonio

Task Force Migrant-Friendly and Culturally Compete

HPH Regional Network of Emilia-Romagna Via Fornaciari, 5

42100 Reggio Emilia,

[antonio.chiarenza@ausl.re.it](mailto:antonio.chiarenza@ausl.re.it)

## Session O1.9: HPH and primary health services

A pilot experience to train general practitioners in implementing health promotion and improving patient's involvement

**CAPPI Valentina, BOSI Sandra, RONDINI Ermanno, MARTUCCI Gianfranco**

### Background/Problem/Objective

This paper aims to show the results of a qualitative research carried out between 2016 and 2017 in Emilia Romagna. This study's purpose was to evaluate the impact of an experimental training module conceived and applied by LILT Centre for Health Promotion "Luoghi di Prevenzione" in Reggio Emilia. The module was intended to train physicians, who are attending their specific training in general medical practice, to the Transtheoretical Model, a method for accompanying and sustaining patients to change unhealthy lifestyles.

### Methods/Intervention

The study, based on the methodologies of participant observation and in-depth interviews (14 of the 34 physicians that took part in the training's pilot experience have been interviewed), evaluated the efficacy of the training proposed by "Luoghi di Prevenzione" to enable general practitioners to promote a more efficient involvement of their own patients in co-defining health goals, both in the field of prevention and in treatment.

### Results (of evaluation)

The Transtheoretical Model has been beneficial for the general practitioners as they learned facilitating techniques for managing the relationship with their own patients; moreover, it turned out to be useful as a self-efficacy practice for the professionals themselves, who initially reported not to feel self-confident in engaging with patients. The TM could be a factor of individual and community empowerment if shared as a practice by the network of professionals who are going to be trained to adopt it.

### Conclusions/Lessons learned

The initial data was a situation of frustration, anger and demotivation for the general practitioners, who reported to not succeed in negotiating with their patients a co-constructed therapeutic plan. The training proposed by "Luoghi di Prevenzione" demonstrates to provide relevant tools for the establishment of effective and satisfactory relationships, and to enable general practitioners to answer to the daily demand for care in a people-centered, non-judgmental, non-bureaucratic and self-reflective manner.

### Contact: CAPPI Valentina

University of Bologna, Via delle Moline 14  
40126 Bologna, [valentina.cappi3@unibo.it](mailto:valentina.cappi3@unibo.it)

Idea Bank for Healthy Life Centers - a practical tool for health personnel for sharing knowledge and experiences

**SKARPAAS Inger Merete, KILLINGSTAD Jorunn**

### Background/Problem/Objective

Sixty percent of municipalities in Norway have established a Healthy Life Center (HLC). This is an interdisciplinary primary health care service, which offers effective, knowledge-based programs for health behavior change, and coping with health problems and chronic diseases. The Norwegian Directorate of Health has published a guide for HLCs who describes recommendations for quality and content of the service, and provides information on their website. In addition, a web-based tool for sharing best practice was needed.

### Methods/Intervention

The idea bank for HLCs is a web-based tool, which provides HLC employees opportunity to share measures, methods and experiences from their municipality and employ ideas from other municipalities in their own context. The website was initiated and developed by the Norwegian Directorate of Health in cooperation with HLCs in 5 municipalities. The idea bank is run by a HLC in the Modum municipality. The website is continually developed by its contributors. This presentation shows the innovation, content and experience with the idea bank.

### Results (of evaluation)

The idea bank for HLCs is a resource and a practical tool for sharing knowledge and experience. By sharing and reusing best practices, local HLCs contribute to quality and development of HLCs nationally. More than 80 examples of best practice from 22 HLCs all over the country have been published so far during the idea bank's 10-months of existence. By the end of 2017, there were 83 registered subscribers. Users and contributors receive a newsletter every other month.

### Conclusions/Lessons learned

Take a look at <http://idebank.frisklivssentralen.no/> Information in English will be available.

### Contact: SUNDAR Turid

Norwegian Directorate of Health, Universitetsgt. 2, 0164 Oslo  
[turid.sundar@helsedir.no](mailto:turid.sundar@helsedir.no)

A Regional Health Care Concept for Primary Health Care Centers and Networks in Styria, Austria

**BURGMANN Sarah, ABUZAHRHA Muna, HORVATH Karl, SIEBENHOFER Andrea, SPRENGER Martin**



### Background/Problem/Objective

As a strategy to strengthen primary health care in Austria, governmental bodies will financially support the establishment of so-called primary health care centers/networks (PCC) providing integrated, multi-professional and continuous care for all health concerns. Health care professionals planning to establish a PCC are by law required to provide a comprehensive health care concept. The objective of our project was to originate an instrument enabling health care professionals to develop the concepts largely by themselves and still addressing all required and important issues. We also intended to heighten the awareness of the health professional on the components of high quality primary care.

### Methods/Intervention

We developed a sample form including either fields to be filled out or check boxes addressing all necessary items for a comprehensive high quality health care concept. The items included a depiction of the present regional epidemiological situation, a description of the service landscape, organizational conditions such as the planned roles of team members and others. We also included fill-in helpers for all items.

### Results (of evaluation)

So far, the template was used twice in practice. While experiences show a high acceptance of the instrument despite initial discomfort because of the large extent, they also showed that health professionals were not able to complete the form solely by themselves. Reflections were initiated on traditional assignment profiles of health care professions, scope of services and practice management. The framework assures completeness, comparability, evaluation and standardization of the concepts in Styria, Austria.

### Conclusions/Lessons learned

Using a standardized template for developing comprehensive health care concepts future PCC teams can increase their awareness of key aspects of high quality primary health care, stimulate a thinking process of the team members' roles and establish a basis for discussions with stakeholders. There is a need to simplify the sample form.

### Contact: BURGMANN Sarah

Institute of General Practice and Evidence-based Health Services Research, Auenbruggerplatz 2/9, 8036 Graz,  
[sarah.burgmann@medunigraz.at](mailto:sarah.burgmann@medunigraz.at)

## Implementing health promotion, disease prevention and health literacy in primary care units – an Austrian Initiative

**ROJATZ Daniela, NOWAK Peter, FINKER Susanna, CHRIST Rainer, LEUPRECHT Eva, PELIKAN Jürgen M.**

### Background/Problem/Objective

While the reorientation of health services towards health promotion (HP) in hospitals has already developed to some extent through the efforts of the HPH-Network, primary care

has remained largely unaffected by these efforts in many countries. The new Austrian primary care strategy defines HP and prevention as central task of primary care. Strategy documents also emphasize the relevance of health literacy (HL). So far, however, it remains largely undetermined what HP, prevention and HL can mean and comprise in the new primary care units.

### Methods/Intervention

In a first step, the existing scientific evidence of HP interventions in primary care was analyzed and the status quo of HP in primary care was explored. The derived recommendations include, among other things, the development of an organizational model "Health promoting and health literate primary care unit". As a result, we launched a transfer initiative for the systematic implementation of HP, prevention and HL in primary care units in cooperation with the Main Association of Austrian Social Security Institutions and the Institute for Health Promotion and Prevention.

### Results (of evaluation)

The transfer initiative focuses on the organizational level, since it is assumed that primary care units must develop corresponding processes and structures in order to implement HP, prevention and HL sustainably. In addition, this requires training measures and guidelines for the primary care team as well as consideration at the administrative and political level. Participatory development of the organizational model and training measures with relevant stakeholders is key to promote their acceptance and applicability.

### Conclusions/Lessons learned

An initial exchange workshop with representatives of the social insurance carriers shows that, in addition to comprehensive development work, it is also necessary to provide interim results more quickly in order to support the ongoing implementation efforts. One of the main challenges will be the pragmatic inclusion and funding of HP and HL in everyday routine of the primary care units.

### Contact: ROJATZ Daniela

Austrian Public Health Institute  
Stubenring 6, 1010 Vienna, [daniela.rojatz@goeg.at](mailto:daniela.rojatz@goeg.at)

## Session O1.10: WORKSHOP: Person centered re-orientation of Healthcare: the Italian case

### Person centered re-orientation of Healthcare: the Italian case

**FORNERO Giulio, CHIARENZA Antonio, ROMANO Giovanni, VIOLA Giuseppina, AGUZZOLI Cristina, RIBOLDI Benedetta, ZORATTI Raffaele, GIACOMINI Luisa, TORRI Emanuele, SIMONELLI Ilaria, GALLI Giorgio, CASTIGLION Anna, PROSPERI**

**Patrizia, LAZZARI Claudio, CONFALONI  
Elisabetta, CELESTI Lucia, COSOLA Alda**

**Background/Problem/Objective**

In Italy, the broad experience gained during the 40 years of activity of the National Healthcare Service brought to relevant results also in terms of health promotion. Still, weaknesses and critical aspects persist. It seems useful and appropriate to understand the possible reasons for these obstacles and to find new, innovative ways to keep health promotion active and to strengthen equity mechanisms in order to effectively re-orient healthcare services and keep people at their center.

**Methods/Intervention**

The Symposium will use a Peer-learning methodology, consisting in an open debate on key points singled out by International and Italian NHS experts, with particular attention to the main achievements and critical aspects related to health promotion and to the healthcare re-orienting actions related to it. The key presentations by the experts will be supported by two discussant who will stimulate the debate with the audience.

**Results (of evaluation)**

The expected results concern the acquisition of an improved knowledge on the gaps and difficulties in promoting health; an improved knowledge on the possible ways for strengthening health promotion and health literacy at national level; new ideas on how to support advocacy, mediation and enabling actions for health promotion in accordance with the Ottawa charter; an improved vision for the Italian HPH Networks in designing innovative and health promoting healthcare services; a stronger approach to equity in healthcare services.

**Conclusions/Lessons learned**

The Symposium is an occasion to analyze and discuss the main results, achievements and failures of Health Promotion at National level. The Conclusions/Lessons learned of the event will be useful to improve the modalities for planning, carrying out and evaluating health promotion results in the Italian NHS with particular regard to the five actions proposed by the Ottawa Charter: Build Healthy Public Policy, Create Supportive Environments, Strengthen Community Actions, Develop Personal Skills, Reorient Health Services.

**Contact: FORNERO Giulio**

Città della Salute, Torino, [gfornero@cittadellasalute.to.it](mailto:gfornero@cittadellasalute.to.it)

**Session O1.11: WORKSHOP: New  
positioning for Healthy Hospital:  
Health-Literate Orientation**

**New positioning for Healthy Hospital:  
Health-Literate Orientation**

**WANG Ying-Wei**

**Background/Problem/Objective**

Lack of health literacy may result in inferior health care outcomes such as low utilization rate of health promotion services and high inpatient rate. Studies on health literacy of patients in Taiwan's HPH were 18.7%, 56.0% and 25.3% for high, medium and low respectively. In 2017 the Taiwanese government updated the HPH standards by including age-friendly and environment-friendly features, as well as emphasizing health literacy as core component of clinical care, which could improve the outcomes of health promoting health care.

**Methods/Intervention**

1) Develop an updated HPP standard by incorporating certifications of tobacco free hospital, age-friendly and environment-friendly hospitals, and health literacy (shared-decision making) into a 7 standards, 38 articles "Healthy Hospital Certification". 2) Develop health literacy evaluation and intervention tool kits, guidelines and convene seminars to help hospitals to promote health literacy and health promotion work.

**Results (of evaluation)**

Initiated in May of 2017, a total of 98 hospitals applied for the new standard, and 91 have passed (93%); 58.2% of hospitals completely fulfilled the requirement for health literacy in the standard, while some hospitals need additional work adjustment. The initial result of health literacy promotion by the Healthy Hospital standard was promising. The government will continue to support the growth of HPH in Taiwan, and hope to complement hospital accreditation in the future.

**Conclusions/Lessons learned**

There are now 178 HPH members in Taiwan and account for 39% of all medical institutions, with 95% of them being larger hospitals (over 500 beds). The future work will be to improve the participation from regional and district institutions. Study has also shown that over 80% hospitals are capable of realizing health literacy in health care. We hope that by introducing certification and tool kits, the health literacy environment can be enhanced to increase the quality of care further.

**Comments**

This is intended for a symposium taken place during the oral sessions. The session is expected to feature 4 speakers and expected audience is about 50. Additional details on speakers will be added when available. The session will be co-organized by the Health Promotion Administration of Taiwan. For information please contact [wxiii013@hpa.gov.tw](mailto:wxiii013@hpa.gov.tw)

**Contact: HUANG Tony Yen Lin**

Health Promotion Administration  
Tacheng Street, 10341 Taipei City,  
[wxiii013@hpa.gov.tw](mailto:wxiii013@hpa.gov.tw)

## Session O2.1: Integrated health services

### The Implementation of Integrated Management Program of Chronic Obstructive Pulmonary Disease in Taiwan

**LIN Ming-Shian, WANG Ying-Wei, CHEN Ran-Chou, CHIA Shu-Li, TSAI Way-Yi, LEE Hui-Lan, CHEN Wei**

#### Background/Problem/Objective

COPD is one of the major chronic diseases which currently account for almost 60% of all deaths and 43% of the global burden of disease on 2020. Similarly, COPD is also a serious economic burden and health burden in Taiwan. The prevalence of COPD is around 10% by telephone interview and the mortality rate ranks top seventh for the past decade. By previous experiences from other countries, implementation of integrated management program for COPD may reduce the hospital admission and COPD exacerbations. Therefore, we initiated a program for caring COPD patients by integrated management in Taiwan.

#### Methods/Intervention

This was a prospective study, which conducted between November 2014 and March 2016 and took place only in Chiayi city and county. The study was funded by Health Promotion Administration, Ministry of Health and Welfare, Taiwan. In this study, once a patient was diagnosed to have COPD, the patient would go into our protocol, which include classification of disease severity, pulmonary function test, basic laboratory test, smoke cessation counselling, influenza and pneumococcus vaccination, nutrition and inhaler use education. Thereafter, the patient would be followed-up at third, sixth and twelfth month.

#### Results (of evaluation)

Overall, seven community hospitals participated in the study with a total of 540 patients recruited. The most common comorbidity was hypertension (n=270, 50%), followed by hyperlipidemia (n=161, 30%), cardiovascular disease (n=115, 21%), and diabetes (n=106, 20%). By the intervention of this program, the successful smoke cessation rate at sixth month increased from 25% to 32%. The correct use of inhaler increased from 10% to 79%. The severe exacerbation rates declined from 26.9% to 7.6% per year.

#### Conclusions/Lessons learned

By implementation of COPD integrated management program, patients can get more knowledge of self-care for COPD, which results in increased smoke cessation, decreased inhaler device use error, and eventually reduced exacerbations.

#### Contact: HUNG Shan-Ching

CHIA-YI CHRISTIAN HOSPITAL  
No.539,Zhongxiao Rd., Chiayi City 60002,Taiwan(R.O.C)  
[cych05509@gmail.com](mailto:cych05509@gmail.com)

## Influence of the integrated care program on the healthcare utilization of hypertensive and diabetes patients in Taiwan

**YANG Pei-Chun, LIU Yi-Lien**

#### Background/Problem/Objective

This study collaborated with an established community healthcare group to determine whether differences in healthcare utilization exist among hypertensive and diabetes patients that had joined an integrated care program.

#### Methods/Intervention

A total of 1351 individual joined the integrated care program between August, 2015 and January, 2016. Among these subjects, 125 had hypertension, 244 had diabetes, 224 had both hypertension and diabetes, and 758 did not have either hypertension or diabetes. The study focused on the average number of clinic visits, medical expenses, blood pressure, and blood sugar levels of patients in the six months before and after joining the integrated care program. The mean age of the participants was 61.05 years.

#### Results (of evaluation)

Considering all participants as a whole, the average number of clinic visits was 4.78 before joining the program and 4.20 after joining the program, which is equivalent to a statistically significant reduction of approximately 0.58 visits ( $P<0.001$ ). Considering only those patients who suffered from both hypertension and diabetes, the average number of clinic visits was 10.11 before joining the program and 8.42 after joining the program, a statistically significant reduction of approximately 1.69 visits ( $P<0.001$ ).

#### Conclusions/Lessons learned

The integrated care program broadened patient knowledge pertaining to integrated care services, which in-turn prompted these patients to make return visits on time and more regularly. Research had demonstrated that proper control of blood sugar and blood pressure in conjunction with good health tracking and management can significantly prevent or delay the occurrence of complications.

#### Contact: EVE Chiu

Min-Sheng General Hospital  
168 Ching-Kuo Rd., 33044 Taoyuan City,  
[a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## Experience in caring for Rheumatoid arthritis patients by using an integrated health care model in Taipei TzuChi Hospital

**NI Yi-Chia, CHEN Chen-Hung, LIU Chin-Hsiu, CHEN Chun-Hsiung**

#### Background/Problem/Objective

Rheumatoid arthritis (RA) is a chronic systemic inflammatory disease of immune dysregulation, leading to synovial hypertrophy and chronic joint inflammation. Although people of any age may be affected, RA is much more common after the age of 40 and women are affected two to three times more often than men. The prevalence of rheumatoid arthritis (RA) is relatively constant in many populations, at 0.5–1.0%. However, a high prevalence of RA has been reported in Taiwan (3%). We have set up the "RA Association and Family Support Group" in our hospital since 2017 to achieve the goal of "health promotion", "disease prevention" and "long-term care" for RA patients.

### Methods/Intervention

We enrolled and consulted subspecialists to be part of group which included rheumatologists, rehabilitation doctors, radiologists, psychologists, neurologists, pharmacists, dietitians, nurses and social workers to be cross-group members and cooperation team. Integrated care and follow-up were performed by telephone tracking. Brief Symptom Rating Scale (BSRS-5) to assess the patient's psychologic status was performed. By such way to give patients health education guidance and care. "RA Association and Family Support Group" was held annually in our hospital which increased RA awareness and participated by RA families.

### Results (of evaluation)

From investigation of 2017 "RA Association and Family Support Group". We supplied informative support by different subspecialists held in our hospital. The overall patients' satisfaction was 94% (N=139). Base on BSRS-5 investigation, 73% of RA patients have sleep problems and 33.6% have severe insomnia. Among them, 17% of RA patients have mild emotional disturbances, 13% have moderate emotional stress and 7% have the idea of suicide. Our nurse practitioner inquired all patients' condition through telephone interviews and assisted the case referrals to the psychologists and social workers for tracking follow-up questions.

### Conclusions/Lessons learned

Our team provides a wide range of medical and health care services, including professional diagnosis, patient education, anti-rheumatic drug counseling, nursing care, nutrition counseling, rehabilitation program and psychological consultation. In conclusion, our hospital could provide a good integrated health care, including comprehensive and continuous medical care for RA patients.

#### Contact: NI YI-CHIA

Taipei Tzuchi Hospital  
No. 289, Jiaguo Rd., Xindian Dist., 23142, 23142 New Taipei City,  
[wen640606@gmail.com](mailto:wen640606@gmail.com)

## Taipei virtual diabetic hospital- an integrated care system

### HOU Kuan Ting, CHEN Chung Sen

#### Background/Problem/Objective

Background: Education of lifestyle modification was a essential component of glycemic control. Telephoto care system to monitor and communicate of patient and education team were time limited and not immediately. Objectives: Constructed a virtual diabetic hospital by internet to provide integrated care by doctors, certified diabetic educators, and nutritionists.

#### Methods/Intervention

The team consisted of 18 endocrinologists and 25 certified diabetic educators (nurses and nutritionists). We served in office time from Monday to Friday. Whether the ios or android mobile phone could be used. Members recorded their blood sugar, blood pressure, body weight, food, exercise and mood of the day. Educators will notice the data immediately in the cloud. There were three choices to communicate to team: face to face by phone, telephone, and messages. Notice of abnormal record sent alarm to team.

#### Results (of evaluation)

The virtual diabetic hospital was opened last December. There were about 1000 members enrolled from our outpatient clinics. Face to face consultations were 131 times and messages communications 28 for one month. We provided 9 videos on demand and 13 articles of education. Abnormal record were be alarm to patient and team, thus we could call back. The laboratory data, image results, and proscriptions were available in app. Educators could review the record of the members and broadcast them individualized.

#### Conclusions/Lessons learned

Lifestyle modification was the corn-stone of the glycemic control. Behavior change was difficult. Use of the mobile phone to record the data and behavior was easy. These data could immediately notice by educators, thus we could provided suggestions from hospital to phone anywhere and anytime. Telephoto care system will provide benefit to disability and remote patients anywhere.

#### Comments

Taipei virtual diabetic hospital was the pioneer telephoto care system in Taiwan. There were free of charge to our members. We wanted to provide the integrated care from hospital to phone in anywhere. Face to face communication and videos on demand will be one solutions of diabetic education.

#### Contact: CHEN chung sen

taipei city hospital  
10 f, No 2, 16 alley, 101 Ln, section 1, academic Rd., 115 taipei,  
[ccs8813@gmail.com](mailto:ccs8813@gmail.com)

## Integrated home-based medical care in Taipei City Hospital

### WOUNG Lin-Chung, HUANG Sheng-Jean, LIEN Hsin-Yi, CHAO Kang-I, KO Ming-Chung, SUN Wen-Jung, WEN Su-Ying, LEE Ya-Ling

#### Background/Problem/Objective

Population aging increases the proportion of aged and disabled people with difficulty obtaining or being completely unable to access office-based primary care due to the frail, functionally limited, and homebound issues. For their care to be optimized, homebound people require coordinated home-based medical care comprising physicians of different specialties and some durable diagnostic tools. In the study, the practice of an integrated home-based care model implemented in Taipei City Hospital with special emphasis on teleconsultation of derma-

tology, dental care by dentists, utilization of portable ultrasound in a home setting are demonstrated along the research.

#### Methods/Intervention

Taipei City Hospital has implemented home-based medical care since March, 2016. To cope with the complex medical demand of homebound people, dermatologist, dentists, internists, and family physicians have been formed to work together as team. Furthermore, the portable ultrasound machines were utilized when necessary. Teleconsultation of dermatology was initiated if the home visiting physician was not confident in treating the dermatological conditions of the home care patients. The home visiting physician photo the skin lesions and pass the photos by internet to the dermatology consultant. Dental care by dentists was initiated after evaluation by home visiting health care providers.

#### Results (of evaluation)

There were 2,634 home care patients have been taken care of from March 1st, 2016 to October 31th, 2017. Among them, 436 were home palliative care patients, and 1,022 subjects have, at least, a nasogastric tube, an indwelling urinary catheter or a tracheostomy tube. Teleconsultation of dermatology was performed for 145 times. Infectious or inflammatory skin lesions accounted for the majority of the causes of teleconsultation. Most of the skin lesions were improved after treatment. Dental care by dentists was performed for 85 times, and most of the subjects were treated for caries and oral hygiene. Portable ultrasonography was performed for 420 times, mainly on gastrointestinal system and genitourinary tract.

#### Conclusions/Lessons learned

Well integrated home-based care with incorporation of teleconsultation of dermatology, dental care by dentists, and utilization of portable ultrasound in a home setting may further improve the quality of home based medical care.

#### Contact: WOUNG Lin-Chung

Taipei City Hospital  
NO.145, Zheng-Zhou Road, Taipei, Taiwan, R.O.C.  
[wounglc@tpech.gov.tw](mailto:wounglc@tpech.gov.tw)

## Conceptualising Skill Mix in the Health Services

**CUNNINGHAM Jennifer, WELLS John, S.G.O'TOOLE Thomas**

#### Background/Problem/Objective

Skill mix is a contentious topic that is foremost on health policy agendas due to specific local pressures within international health services, such as health service reform, budgetary constraints, changing demographics, increased service demands and perpetual human resource shortages. At present, however, there is large variation in terms of what is understood by the concept of 'skill mix' and there is a scarcity of research that attempts to analyse this concept.

#### Methods/Intervention

Using Rodgers' evolutionary method of concept analysis, this study aims to 'unpack' the concept of 'skill mix' into its constituent parts to achieve a better understanding and reduce confusion associated with the term. A conceptual model of the

dimensions of skill mix, its attributes and the contextual factors that influence the process of skill mix is presented.

#### Results (of evaluation)

Definitions of skill mix are often vague and ambiguous and may refer to one or more attributes of skill mix. If a definition or attributes of skill mix is unclear, the usefulness of the fundamental task of skill mix is impaired.

#### Conclusions/Lessons learned

If skill mix means different things to various stakeholders it is necessary to question its value as a driver of health care policy. A lack of understanding of the concept of 'skill mix' can lead to an ad hoc interpretation of policy recommendations related to skill mix at local level. A better understanding of the concept of 'skill mix' and its attributes can assist policy makers and clinical stakeholders to ensure that the potential of skill mix is maximised.

#### Contact: CUNNINGHAM Jennifer

Waterford Institute of Technology, Cork Road Waterford Ireland  
[jcunningham@wit.ie](mailto:jcunningham@wit.ie)

## Session O2.2: Managing diabetes

### Changing the Perception of the Healthcare System and Healthcare Organizations on Coping with the Diabetes Problem

**BISHARAT Bishara, TUR-SINAI Aviad**

#### Background/Problem/Objective

Diabetes and obesity are leading health problems today in terms of their frequency and severity around the world and are conspicuously so among the Arab population. In Israel, almost one-third of the Arab population over age fifty has diabetes and most of the other two-thirds are pre-diabetic or several years away from becoming so. Complications of diabetes are rising steadily and significantly and are accompanied by steep and escalating healthcare costs.

#### Methods/Intervention

The diabetic member of the Arab population encounters unhealthy nutrition every day. The question in this study relates to the practical and the desired role of the healthcare system and healthcare organizations in tackling the problem. The question is whether the healthcare system should intervene among the patient's family and in the community—so that the patient will have a healthy and supportive environment and find it easier to marshal the discipline to maintain healthy nutrition.

#### Results (of evaluation)

Frequently, caring for what is urgent takes precedence over caring for what is important—prevention. For example, vast resources are invested in providing diabetes patients with additional units of insulin instead of focusing on, intervening in, and assuring that patients have a healthy and supportive environment. It is the role of the primary care physician, hospitals and other health organizations to set an example for their patients in terms of healthy lifestyle and healthy nutrition.



### Conclusions/Lessons learned

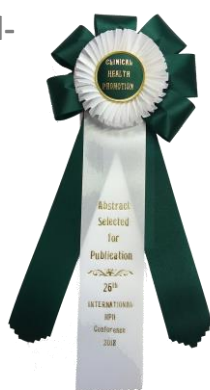
The healthcare system, the hospitals, and the HMOs should constitute a positive leadership in promoting health and preventing illness by assuring healthy nutrition in hospitals for staff, patients, and visitors. The WHO's program for health-promoting hospitals should be adopted and the civil-society leadership should be incentivized to advance the topic and legislate laws and regulations, establish emergency programs, and adopt a broad national view that will assure the existence of an environment supportive of healthy food and healthy lifestyles.

**Contact: TUR-SINAI Aviad**

The Hebrew University of Jerusalem

Mount Scopus, 9190501, [avts2309@netvision.net.il](mailto:avts2309@netvision.net.il)

## C.H.A.N.G.E.-D.: Developing and testing an innovative health promotion initiative for promoting health behavior change and self-management among people with diabetes in a national health service organization



**LEVIN-ZAMIR Diane**

### Background/Problem/Objective

The increasing prevalence of diabetes challenges health systems to develop, test and implement innovative health promotion methods for patient self-management and effective, long-term lifestyle change (DSME). The main study objective: to test an innovative intervention program, promoting lifestyle changes, medication adherence and health outcomes.

### Methods/Intervention

A representative sample of 502 Jewish and Arab adults with uncontrolled Type 2 diabetes was recruited from the primary care registry of Israel's largest health service organization. While continuing normal care, half were randomly assigned to a comparison group, and half participated in a special program: 6 individual face-to-face sessions and up to 14 telephone support sessions, with one of a multi-disciplinary group of 15 health-promoting coaches, recruited and trained in culturally appropriate behavior change methods. Health behavior and quality-of-life indicators were reported before, 6, 12 and 18 months after the program. Glycemic control (HbA1C), BMI, glucose, and lipids were measured prior to 6, 12, 18 months after the program.

### Results (of evaluation)

Findings showed significant improvement in physical activity ( $p<.0001$ ), eating habits ( $p<.001$ ), and quality-of-life indicators ( $p<.03$ ) for program participants. Both groups improved equally for foot examination ( $p<.0001$ ). While neither group reported

significant improvement in medication adherence, glycemic control measures showed highly significant improvement ( $p<.0001$ ) 6 months after intervention and less after one year. The opposite true for the comparison group. Results were analyzed for gender, ethnicity, age and other personal measures.

### Conclusions/Lessons learned

Introducing a health-promoting coach into the array of DSME methods augmenting primary care, offers promising possibilities for empowering people with chronic conditions to adopt health promoting behavior. Improvement in comparison group may be attributed to intense follow-up. Ongoing support for long-term maintenance should be considered.

**Contact: LEVIN-ZAMIR Diane**

Clalit Health Services Dept. of Health Education and Promotion + University of Ha, 101 Arlozorov St., 69395 Tel Aviv,

[dianelev@clalit.org.il](mailto:dianelev@clalit.org.il)

## Strategies to Prevent Type 2 Diabetes for the people with Pre-Diabetes in Health Promoting Hospitals (HPH) in Korea: 12-month Result of Intervention Program



**NAH Eun-Hee, CHU Jieun, CHO Seon, CHAI Jong-Yil**

### Background/Problem/Objective

As the focus of health policy changes from disease treatment to prevention, it is necessary for the HPH to develop strategies targeting risk groups to prevent diseases. Particularly, type 2 diabetes mellitus (T2DM) is caused by genetic, behavioral, and environmental risk factors. It is important for pre-diabetes groups to prevent T2DM through elimination of controllable risk factors. Thus this study was designed to see the effects of lifestyle intervention or periodical blood glucose/HbA1c test on the prevention of T2DM for prediabetes groups.

### Methods/Intervention

This study was performed for high-risk individuals (aged 30-70) with prediabetes at the health promotion centers of KAHP in Korea. They were randomly assigned to intervention group 1 (IG1), intervention group 2 (IG2) and control group (CG) and the intervention performed for 12-months. IG1 was provided with lifestyle intervention and glucose/HbA1c tests every 3-months. For IG2, only glucose/HbA1c tests were conducted. Health examinations were conducted for all groups after 12-months. IG1 set intervention goals at baseline and was evaluated for achievement after 12-months.

### Results (of evaluation)

After 12-month intervention, total-cholesterol, LDL-cholesterol and FBS levels have been significantly decreased in IG1 and IG2 ( $p<.001$ ). However, there was no significant difference between two groups on reducing FBS. Among 5 intervention

goals of IG1, reducing intake of lipid and increasing dietary fiber were highly achieved but the achievements in reducing intake of sugar, practicing moderate physical activities and losing weight were low. Incidence of T2DM in IG1(5.7%) and IG2(4.3%) were lower than in CG(6.5%) but there were no significant difference.

#### Conclusions/Lessons learned

Regular lifestyle intervention and blood glucose/HbA1c test were effective on reducing FBS in high-risk individuals with pre-diabetes. More intensive and continuous intervention for increasing moderate physical activities was thought to be needed in IG1. It is necessary to be followed for three years, to determine effects of intervention on T2DM prevention.

**Contact: CHU Jieun**

Korea Association of Health Promotion, 350 Hwagokro, Gangseo-gu, ASI|KR|KSO Seoul, [je\\_wow@naver.com](mailto:je_wow@naver.com)

### Clinical Implications of Diabetic Retinopathy Screening among Type 2 Diabetes: An Experience of Population-Based Study in Kinmen, Taiwan

**LIU Jorn-Hon, TUNG Tao-Hsin**

#### Background/Problem/Objective

Epidemiologic and clinical studies have shown that diabetic retinopathy is a common chronic ocular disorder that developed in most type 2 diabetes. From the viewpoint of preventive medicine, the most crucial topic for preventing diabetic retinopathy is how to achieve early detection and appropriate treatment by using effective screening tools. To understand the morbidity of diabetic retinopathy and to prevent its occurrence requires considering the disease progression of this complication. Early prevention of diabetic retinopathy is needed to understand the relevant risk factors of its occurrence and transitional influence.

#### Methods/Intervention

From 1991 to 1993, 971 type 2 diabetics, underwent diabetic retinopathy screening performed by a panel of ophthalmologists using on-site indirect ophthalmoscopy and 45-degree color fundus retinal photographs during 1999-2002 and then evaluated utility and willingness-to-pay values in 2003. The basic epidemiology, multi-state natural history and economic evaluation of screening for diabetic retinopathy were estimated.

#### Results (of evaluation)

There are several findings showed in this screening. Firstly, in addition to poor glycemic control, which is the most significant risk factor for the development of diabetic retinopathy and significant prognostic factor for the progression of non-proliferative diabetic retinopathy to proliferative diabetic retinopathy or blindness among type 2 diabetics, longer duration of diabetes, higher systolic blood pressure, and elevated serum triglyceride levels are also associated with the development of diabetic retinopathy. Secondly, for estimates of disease natural history of diabetic retinopathy, the average time of developing from no diabetic retinopathy to blindness is approximately 26.5 years for type 2 diabetics. Thirdly, the different degrees of diabetic retinopathy revealed to decrease the utility value and increase the willingness-to-pay values in type 2 diabetics after adjustment for the confounders. Finally, assessing the progression of diabetic retinopathy following the

proliferative pathway and through economic evaluation suggests that screening for diabetic retinopathy is worthwhile and that annual screening interval for type 2 diabetics should be recommended.

#### Conclusions/Lessons learned

In conclusion, this eye screening experience not only indicated a series demographic and biochemical markers related to diabetic retinopathy, but also demonstrated the screening efficacy and optimal screening interval for early detection of diabetic retinopathy. Further organized evaluating quality of care programs should consider costs and benefits carefully before setting universal screening standards of diabetic retinopathy among type 2 diabetes.

**Contact: TUNG Tao-Hsin**

Cheng-Hsin General Hospital, No45, Cheng-Hsin st, 112, Shipai 112 Taipei, [ch2876@gmail.com](mailto:ch2876@gmail.com)

### Session O2.3: Addressing health equity

#### The Swedish HPH network – a network for equal and health-promoting health service

**KRISTENSON Margareta, DAHLIN Sofia, KARLSSON Lovisa, HARLID Ralph**

#### Background/Problem/Objective

The Swedish HPH networks started in 1997 and today includes all health services in the country. The aim has been to work according to the comprehensive HPH concept integrating health promotion and disease prevention for patients, staff and the community served, using a reorientation towards health to achieve a more efficient health service. However, there is today a rising awareness in Sweden that health services also have an important role in reducing social inequalities in health.

#### Methods/Intervention

The aim of health services is better health gain by treatment, prevention and rehabilitation given according to need, and thereby reducing inequalities in health. However analyzes repeatedly demonstrate that health services do not provide interventions according to needs. Instead, there are systematic inequities in delivery and quality of health services, thereby contributing to increased inequities in health. There are several reasons for these inequities, the common ground being how the system learns to identify and respond to different needs.

#### Results (of evaluation)

To meet these challenges the Swedish HPH network changed the name to "Equal and health-promoting health service" three years ago. We have according to this, developed our strategies through an equity lens and now work to develop more health literate organizations, expand our preventive work to be more proactive and sensitive for unmet needs and to develop our evaluation system to systematically identify needs in different socioeconomic groups and evaluate effects in terms of equity.

#### Conclusions/Lessons learned



The reorientation towards an “equal and health-promoting health service” has just started, but the labeling is one important signal reminding us of the importance of being more responsive to needs. We have also developed our work and learned that this is not a matter of doing more but rather to adopt new perspectives and realizing the need of better skills to listen to, and communicate with, patients. We also need to use experiences from research, and from the field, for tailored interventions according to proportional universalism.

**Contact: KRISTENSON Margareta**

Dep of Medicine and Health  
Hälsan Hus, s 58183 Linköping,  
[margareta.kristenson@liu.se](mailto:margareta.kristenson@liu.se)

## The promotion of health equity and organizational planning: insights from an exploratory case study

**CIFALINò Antonella, LISI Irene Eleonora, PASSETTI Emilio**

### Background/Problem/Objective

This study explores the instruments and the processes through which healthcare organizations promote the health equity principle and integrate it within their organizational planning. Opposing health inequalities is a priority issue in terms of both public policies and organizational actions. In particular, healthcare organizations have a fundamental responsibility in activating decision-making and implementation processes aimed at reducing health inequalities, also through the application of specific tools for assessing health equity.

### Methods/Intervention

This research is based on an exploratory case study conducted within an Italian local health unit (AUSL of Reggio Emilia). The choice of this method was motivated by the novelty of the phenomena under investigation. AUSL of Reggio Emilia was selected based on its particular commitment to health equity topics. Data were collected through a variety of sources (interviews, company documents, and direct observation). Concerning the interviews, 18 actors were interviewed at different hierarchical levels and across different functional areas.

### Results (of evaluation)

The findings reveal a widespread cultural sensitization related to the health equity principle, coupled with the experimental application of some ad hoc tools. Yet, the process of moving from the in vitro to the in vivo phase (i.e., from thought to action) is fraught with difficulties in systematically diffusing such tools and, thus, in fully integrating the health equity principle within organizational planning. Such difficulties derive from the complexity of this principle itself, which is broad and elusive.

### Conclusions/Lessons learned

This study contributes to the literature on equity in health through a detailed empirical analysis of the meanings that healthcare professionals attribute to this principle. Such meanings appear more nuanced and articulated than academic definitions. In addition, this paper contributes to the literature on the processes whereby ethical principles come to be practiced in organizations by highlighting the peculiarities and the

difficulties of translating such a complex principle as health equity from the in vitro to the in vivo domain.

### Contact:

[ireneeleonora.lisi@unicatt.it](mailto:ireneeleonora.lisi@unicatt.it)

## Addressing omissions in health care: training health professionals' cultural competence

**BELINTXON Maider, LOPEZ-DICASTILLO**

**Olga, PUMAR-MENDEZ María Jesús,**

**MUJIKA Agurtzane, DOGRA Nisha**

### Background/Problem/Objective

Health care providers face many challenges when they meet families from different cultural backgrounds. The development of cultural competence among healthcare professionals is considered an essential condition to improve quality of care in a culturally diverse context and to reduce health inequities. There exist many models for teaching cultural competence. We use the constructivist approach to address the learning processes involved in the development of this competence.

### Methods/Intervention

The development of cultural competence is a process that needs reflection and action and can be helped through training. We propose the use of constructivist teaching strategies to increase health professionals' cultural sensibility, knowledge and skills. We consider that health professionals' characteristics, their personal trajectory, and the health care and social, political and cultural context influence need to be dealt with during the training.

### Results (of evaluation)

Enhancing cultural competence in health professionals under this approach is seen as an essential, relevant and effective factor in health services to reduce disparities and micro-aggressions in health, and therefore to improve patients' safety, quality of care and health professionals' satisfaction.

### Conclusions/Lessons learned

The training that we will be presenting can help to provide effective and good-quality services in a culturally diverse context to take nurses or students beyond the established structures of their practice.

### Contact: LOPEZ-DICASTILLO Olga

University of Navarra. School of Nursing  
Irunlarrea, 1, 31008 Pamplona,  
[olopezde@unav.es](mailto:olopezde@unav.es)

## Struggling for equity in sexual and reproductive healthcare for Roma women in a disenfranchised Spanish neighbourhood

**GARCÍA-RAMÍREZ Manuel, ESCOBAR-BALLESTA Marta, ALBAR M-Jesús, PALOMA Virginia**

**Background/Problem/Objective**

To describe the challenges, resources and strategies presented by the staff from the family planning program of the Healthcare Center Polígono Sur of Seville during their attention to Roma women.

**Methods/Intervention**

This is a descriptive study in which in-depth interviews and discussion groups were conducted to all program professionals, including a documentary review of the program. The information was analyzed based on the Roma Health Integration Policy Index, a tool that evaluates the ownership, accessibility, sensitivity and capacity of change of health programs for the Roma population.

**Results (of evaluation)**

Professionals encounter multiple challenges to implement the family planning program with Roma women due to the characteristics of the users and the low sensitivity of the program towards them. The absence of specific actions for Roma women within the family planning program, agreed to by the healthcare district, obliges professionals to develop adaptations and strategies to ensure quality sexual and reproductive health services for their users.

**Conclusions/Lessons learned**

It is necessary to adapt sexual and reproductive health programs targeted at Roma women by (a) detecting, evaluating, systematizing and disseminating good practices, (b) developing actions that address the multiple vulnerabilities of Roma women, (c) acknowledging professionals who advocate for the health of these women within their organizations, and (d) promoting reproductive justice as the ultimate goal of these programs.

**Contact: GARCIA-RAMIREZ Manuel**

Universidad de Sevilla  
Camilo Jose Cela, s/n, 41003 Sevilla,  
[magarcia@us.es](mailto:magarcia@us.es)

**Can Health Technology Assessment (HTA) contribute to safeguarding equity?**

**BALLINI Luciana**

**Background/Problem/Objective**

Health Technology Assessment (HTA) is a multidisciplinary scientific process that summarises information about medical, social, economic and ethical issues related to the use of a health technology. It supports decisions on health policy and has been declared by the WHO as necessary for health systems based on universal coverage pursuing equity, quality of care and efficiency (WHO Resolution WHA67.23-2014). Health policy makers across Member States have been urged to establish and systematically use HTA to inform policy decisions.

**Methods/Intervention**

Through the presentation of specific examples, the HTA process of assessments will be explained together with its main “domains” which include: description of health condition to identify unmet needs; technical characteristics of the technology to assess feasibility; clinical effectiveness and safety to measure added clinical value; costs to assess economic sustainability; organizational requirements; social, ethical and legal consequences. The relevance of the above information for coverage decisions will be described.

**Results (of evaluation)**

Results of assessments of health technologies, ranging from robotic instruments for minimally invasive surgery, genetic testing for rare diseases and medical devices for common chronic conditions, will be briefly presented together with the main characteristics of the subsequent decision making process informed by HTA. Results will be used to discuss how systematic and transparent assessments of equity issues, together with assessment of comparative clinical effectiveness and costs, can support decision making.

**Conclusions/Lessons learned**

Innovative health technologies pose serious risks to equity. Great attention is given, by decision makers and the public, to added clinical value and sustainability of new technologies. However equal attention needs to be granted to how technologies might unbalance rights of access to effective care. HTA is one of the Evidence Based Medicine tools which includes impact on equity among its measures for assessment and its systematic use by policy makers is being advocated worldwide.

**Contact: BALLINI Luciana**

Azienda USL di Reggio Emilia; ASSR Emilia-Romagna  
via Amendola 2, 42100 Reggio Emilia,  
[luciana.ballini@ausl.re.it](mailto:luciana.ballini@ausl.re.it)

**Session O2.4: Health literacy for children and adolescents**

**Governance for young people: culture, structures and processes to enable health services and schools to be more health promoting**

**LUISA GIACOMINI Aguzzoli Cristina, ALESSIA COLONNA Cinzia Braidà, Chief Medical Officer Lidia Di Stefano**

**Background/Problem/Objective**

The System What's Up[SWUP] is a program of health promotion dedicated to mental health and resilience in young people. It was created in response to the worrying needs that emerged in our region and in particular in the Health Services n°2 community to face the risk of juvenile self-harm and to improve stress management techniques during the growth age. The Hbsc Survey showed that six out of ten young, in Italy, report high level of distress symptoms more than once a week.

**Methods/Intervention**

In 2014 was signed a Memorandum of Understanding between our Health Service and the CARIGO Foundation in order to implement life skills strategy and resilience in school contexts. The strategy is based on the activation of a WellBeing Coordination [WBC], integrated into the school organization. The coordinators responsible for the WBC have the task of setting up the multi-professional Committee that represents the stakeholders of the school in needs evaluation. It works the same way the Local HPH Committee works, linked with monothematic groups.

#### Results (of evaluation)

The start up of SWUP was implemented during 2015/2016 getting its final form in the 2016/2017 academic year. At the moment it involves all the school of the province of Gorizia (27 schools, 17.000 students). The procedure implemented was shared with the school managers to enter into daily school planning. The multi-professional working groups have shared: a vademecum for actions, a kit of tools of WCB, process and outcome indicators for the reorientation of the organization and life skills learning by the students.

#### Conclusions/Lessons learned

The application of this innovative model based on link between HPH Standards and SHE Rapid Assessment Tool has proved to be adequate and appropriate in advocacy and empowerment of school settings towards the value of health promotion as the framework of enhancing resilience during growth.

#### Comments

SWUP resume the principles described by the National and Regional Prevention Plans 2014/2018 from the point of view of the Health promotion. The problem of sustainability concerns the need to maintain the vision of community stakeholders during the phases of political and institutional change. The HPH and SHE standards have this universal function. At the moment we're set up the monitoring of incidence of discomfort and disease through the dialogue between the psychologists in charge in schools (WCB) and the health services.

#### Contact: AGUZZOLI cristina

Azienda Assistenza Sanitaria 2 Bassa Friulana Isontina  
Via Vittorio Veneto, 34170 Gorizia,  
[cristina.aguzzoli@aas2.sanita.fvg.it](mailto:cristina.aguzzoli@aas2.sanita.fvg.it)

## HI-FIVE: Health Literacy-For young Individuals. Its Value for Empowerment and successful transition

**FLØTTEN Kjersti J. Ø., NAKSTAD Britt, AUJOLAT Isabelle, SOLEVÅG Anne Lee**

#### Background/Problem/Objective

The Department of Paediatric and Adolescent Medicine and Centre for health promotion at Akershus university hospital (Ahus) in Norway have, for the past 5-10 years, had a strategic focus on paediatric to adult transition and health promotion for adolescents. We now want to explore whether our transition program is adequately implemented. The aim of the PhD project is to provide additional knowledge about the implementation, relevance and effect of the program with a particular focus on adolescent empowerment and health literacy.

#### Methods/Intervention

To follow up the goals of the transition program regarding empowerment and quality of life, our point of departure is the definition of health promotion with a particular focus on adolescents. The choice of methods in this PhD project will be based on their relevance in evaluating health promotion. We will use a Qualitatively Driven Mixed Methods Design where the theoretical drive will be abduction. Our core component will be qualitative data supplemented by both quantitative and qualitative supplemental component(s).

#### Results (of evaluation)

The project started in January 2018 and will not be finalized by the time of the conference. The aim of the presentation will be to present more details about how the project will be designed and implemented. We will present ideas about how to structure interviews of eligible adolescents and health care workers, as well as how to analyze and supplement interview data through a mixed methods approach. Thus, we are open for feedback on our protocol and plans.

#### Conclusions/Lessons learned

We plan to evaluate the implementation of a transition program for adolescents in Norway. It is crucial to choose appropriate methods to explore the health literacy and empowerment aspects of the program. Feedback and advice is highly sought, appreciated and will be the main driver for presentation of the project at the current stage.

#### Contact: FLØTTEN Kjersti

Akershus university hospital, Norwegian HPH  
P.O. Box 1000  
1478 Lørenskog,  
[kjersti.flotten@ahus.no](mailto:kjersti.flotten@ahus.no)

## Patient Engagement: Teenagers Involvement

**CELESTI Lucia, VIOLA Elita, RAPONI Massimo**

#### Background/Problem/Objective

Due to the increasing importance of patients' engagement in the healthcare system, it is essential make patients aware, educated and proactive. The aim of chronic patients' therapeutic education is, above all, to improve patient's quality of life making patients able to manage by itself the disease's progressive development and its related complex medical treatments; enhance efficiency of healthcare process in facing chronic patients changing needs; provide doctor-patient and patient-patient relation with a peer-to-peer tool in the healthcare process.

#### Methods/Intervention

20-hours course divided into taught class and peer-to-peer counseling simulations between trained patient and untrained patient. At least 3-hour lesson of psychology, one lesson about specific illness, one lesson about communication strategies, etc. Trainees involved: psychologists, teachers, healthcare operators (nurses, doctors, etc.), communication professionals, chronic patients already trained. A training course led by experts, doctors and healthcare professionals with not only scientific but also communicative skills can be useful.

**Results (of evaluation)**

As results, it can be considered the number of trained patients, decreased hospitalizations, decreased inappropriate requests to doctors, assessment questionnaires filled by participants, assessment questionnaires filled by those who benefit from counseling service, course completed, activation of a help line service, activation of a counseling center for chronic patients, involvement of chronic trained patients in the wards.

**Conclusions/Lessons learned**

The patient's therapeutic education represents a useful tool to foster the patient's involvement in the healthcare process. A chronic patient trained is more conscious and aware about his/her clinic and psychophysical conditions and more able to adapt his/her everyday-needs to disease's evolution. Therefore, the patient become protagonist of his/her healthcare and keen to collaborate with healthcare professionals, social services and his/her community of reference in a peer-to-peer approach.

**Contact: VIOLA Elita**

Ospedale Pediatrico Bambino Gesù  
Piazza S. Onofrio, 4, 00165 Rome,  
[elita.viola@opbg.net](mailto:elita.viola@opbg.net)

## Reduced all-cause mortality among young men 24 to 26 years after a lifestyle health dialogue in primary health care

**LINGFORS Hans, PERSSON Lars-Göran****Background/Problem/Objective**

To compare all-cause mortality and socioeconomic status among young men invited to a lifestyle directed health dialogue targeting cardiovascular disease with men from the same age cohort from all Sweden after approximately 24 years. To analyse the association between lifestyle and all-cause mortality up to 26 years after participation in the health dialogue.

**Methods/Intervention**

A health examination and lifestyle directed health dialogue was conducted by a nurse supported by a graphic pedagogic health profile. High risk patients were further examined by a physician. Group activities were carried out by primary health care in cooperation with local associations. Standardised all-cause mortality rate up to 2010 from health care registers at the Swedish National Board of Health and Welfare for all 757 men born between 1943 and 1952 invited to a health dialogue at primary care in 1985-1987 in Habo was compared to all men from the same age cohort in all Sweden. Income and educational level was collected from Statistics Sweden. Association between lifestyle at baseline and all-cause mortality was analysed.

**Results (of evaluation)**

All-cause mortality rate was 29 % lower among all 757 men invited to the health dialogue compared to all men from the same age cohort in all Sweden (intention to treat) and 43% lower among men participating in the health dialogue (on treatment). A healthy lifestyle was associated with decreased mortality (OR=0.16) with strongest association for no smoking (OR=0.38) and a healthy diet (OR=0.37). There was a higher

proportion of men in Habo with short education in comparison to all Sweden, while income level was equal.

**Conclusions/Lessons learned**

This long follow-up study indicates that combining a low- and high-risk strategy comprising a health examination with a lifestyle directed health dialogue supported by a graphic pedagogic tool conducted in ordinary work in a primary health care setting in cooperation with local associations can contribute to reduce premature mortality

**Contact: LINGFORS Hans**

Primary Health Care Unit for Research and Development, Futurum, Region Jönköping  
FoU-enheten, Futurum, Region Jönköpings, S-55448  
[hans.lingfors@rjl.se](mailto:hans.lingfors@rjl.se)

## The RICA questionnaire: screening of the Internet Related Risk in Adolescence

**KETTMAYER Matteo, MARAMALDO Daniele, TOMASI Giulia****Background/Problem/Objective**

Earlier access to the internet and its dangers is, one of the biggest matters of concern for families and schools. The team "Navigare a Vista" has developed a screening instrument, called RICA. This instrument is based on peer to peer literature and information obtained from working with students, providing a categorised risk level for students.

**Methods/Intervention**

We applied a quantitative cross-sectional survey in which all relevant variables were measured both instantly and simultaneously. The questionnaire evaluated the following categories: - external risk: Divided into: Grooming risk, risk of being infected by computer viruses ; risk of running into content unsuitable for their age; -internal risk: Divided into: 1) addiction behavior, 2) relationship problems in the family caused by the use of new technologies; -risk of cyber-bullying: -dangerous use of social networks and video games; -protective factors

**Results (of evaluation)**

More than 1000 children from Schools in Provincia of Trento participated, with ages ranging from 10 to 15 years. The results show that "age" affects all other variables: if it increases, all the dimensions of risk will increase. Also having elder siblings affects dimensions of risk. The RICA shows that the "gaming risk" correlates with the gender "male", and the "social network risk" correlates with the gender "female".

**Conclusions/Lessons learned**

RICA is a questionnaire that frames students into a general Internet risk index and at the same time finds specific dimensions. From here, we use these results to take our work into the classroom.

**Contact: MARAMALDO Daniele**

University of Trento, Via Paludi 9, 38121 Trento,  
[progettonavigareavista@gmail.com](mailto:progettonavigareavista@gmail.com)

## Evaluation of an intervention aimed at supporting new parents: the Baby Newsletter project

**PANZA Costantino, BROCCOLI Serena, BONVICINI Laura, VOLTA Alessandro, MARCHESI Maddalena, GIORGI ROSSI Paolo**

### Background/Problem/Objective

Anticipatory guides for parents are commonly used with the aim to improve parenting skills. Results about their effectiveness are not consistent and probably depend on how and to whom they are proposed. The objective is to evaluate the effectiveness of 8 newsletters with advices and recommendations on child care and development in improving self-efficacy parenting in interaction with infant.

### Methods/Intervention

This is a pre/post controlled study. Parents of newborns resident in S. Ilario d'Enza born from 9/1/14 to 12/31/15 received the Baby Newsletter (NG). Parents resident in the Health District of Montecchio were the Control Group (CG). Parents with linguistic barriers, with preterm or hospitalized children were excluded. Enrollment took place in the Hospital or in the family paediatrician clinic during the first week after delivery. Parenting domains were assessed with a validated questionnaire (TOPSE, Tool to Measure Parenting Self Efficacy), at birth (T1), 5 (T2) and 12 months of life (T3). Variations of each TOPSE score between T1 and T3 were compared in the two groups, adjusted by parity, education, age of parents and child's gender. Analyses stratified by parity and parents' education were performed.

### Results (of evaluation)

136 families (69%) accepted to participate to the study. Parents with complete follow-up are 79 in the NG and 107 in the CG. T3 scores are higher than T1 in both groups for all TOPSE domains. Difference in scores between T1 and T3 are greater in the intervention than in the CG for: play (difference in the means of variation: 2.03 95%CI: 0.30; 3.8), self-acceptance (2.25 95%CI: 0.23; 4.27) emotions (1.25 95%CI: -0.57; 3.08) and stress control (1.99 95%CI: -1.38; 5.37). No differences are observed for empathy and learning. The increase in scores is more pronounced for parents with high educational level at first child.

### Conclusions/Lessons learned

The intervention proved to be effective for many domains of parenting. However, it risks worsening existing differences between high and low educated parents.

**Contact: BONVICINI Laura**

[laura.bonvicini@ausl.re.it](mailto:laura.bonvicini@ausl.re.it)

## Session O2.5: Good governance for HPH

From experience towards large scale implementation – the strategic objectives of the Austrian Network of Health Promoting Hospitals and Health Services



**BRUNNER Gernot, CHRIST Rainer**

### Background/Problem/Objective

The Austrian Network of Health Promoting Hospitals and Health Services has a tradition of more than 20 years with a stock of active member organisations. However, we are still far from a preferable level of reorientation of health systems towards health promotion in Austria.

### Methods/Intervention

The Austrian network undertook a process to reflect how best to boost its impact on the desired transformation process. It started with a retreat of the management board of the network and continued with consultations of the member organisations during the national conference and with a questionnaire. The benefits of network activities have been addressed and also obstacles and challenges.

### Results (of evaluation)

Five essential objectives have been identified for Austria which frame the strategic directions of the network for the coming years. A high priority is given to addressing the need and potential of health promotion in health services towards stakeholders and the strategic public. A legal basis for health promotion in health services and secured financing of activities is a requirement claimed by the network. In addition, health promotion must become a mandatory part in the curricula of medical and nonmedical health professionals. To reinforce the impact of the network on politics public relations activities will be improved to give the network more visibility and to emphasize the competence of the network. Also the benefit of being a member of the network needs continued attention. Health promoting leadership in health care organisations and health promotion for staff will be main topics in capacity building activities.

### Conclusions/Lessons learned

These activities and maintenance of a knowledge base on health promotion in health services should help to spread good practices beyond the network and to gain further network members. The undergone strategic development was a helpful process to focus the activities of the network, which still depends on limited resources.

**Contact: BRUNNER Gernot**

Austrian Network of Health Promoting Hospitals and Health Care Institutions, Stubenring 6, 1010 Vienna,  
[ongkg@ongkg.at](mailto:ongkg@ongkg.at)



## Brand Strategy: Reinforcing the HPH Catalunya Network

**INIESTA Cristina, SANTIÑÀ Manel, PÉREZ Anna Carol, RAMÓN Isabel, BRIANSO Maria, SERRA Marisa, SIMON Rosa, FERRET Anna, JUVINYÀ Dolors**

### Background/Problem/Objective

Health promotion is a primary focus in the agendas of health care policies. Currently, HPH-Catalunya network (HPH-Cat) has identified the necessity to reinforce the HPH brand as a reference in the community. The objectives of this project were to obtain more influence and major visibility regarding knowledge and activities in health promotion. Besides, the HPH-Cat wanted to reinforce the internal communication among the working-groups.

### Methods/Intervention

Prospective strategy. Between June-July 2017 a branding workshop has been performed to create the three most important values for the network and to define a new slogan. Likewise, a new logo and the website have been redesigned and new contents have been updated. Between October-November 2017 the internal working process has been redefined and the Corporate Identity Manual was also redefined for internal and external communication.

### Results (of evaluation)

"Balance, movement and advancement" were described as the three main points to identified the HPH-Cat Network. "We are the Health Promotion network" has been identified as the new slogan. Currently, three working groups represented the HPH-Cat (health literacy, healthy work place and standards of health promotion). With the new brand strategy a new additional group focus on improvement and facilitation of the internal and external communication has been created. At the end of each working group meeting a progress report summarize the Conclusions/Lessons learned, highlighting the most important features to be known to the global network. In the oral presentation we will show you the new logo and the changes of the image of our network as a results of this work.

### Conclusions/Lessons learned

Brand strategy is an important exercise to reinforce the HPH-Cat network and increase the visibility and influence in the community. Also, rethinking the impact of the brand could improve the relationship between the global network.

### Contact: SANTIÑÀ Manel

Hospital Clinic of Barcelona, Villarroel, Barcelona,  
[msantina@clinic.cat](mailto:msantina@clinic.cat)

## The Regional Management in Friuli Venezia Giulia (Italy) and the role in planning the HPH commitment

**AGUZZOLI Cristina, TONUTTI Giuseppe**

### Background/Problem/Objective

Several factors explain the leading role of hospitals in implementing health promotion: hospitals are central to the health care system because they consume 40–70 % of the national health care expenditure. The barriers in order to implement the HPH strategy are often related to a lack of written policies for health promotion in the different setting. In Italy the main frame is based on prevention and it is unclear the link with HPH. The concept of HPH is based on WHO's setting approach to health promotion. After a period of good governance, 2003–2017, with great results, our network has to face the new HPH agreement under the reform that has redesigned the organizational structure of the health agencies.

### Methods/Intervention

We need a clear understanding of the new rules and the best way to highlight the supportive structures. During 2017 there were some directors of HPH members that asked to leave the network and we thought was necessary to enhance the commitment. The Health Regional Department has played a fundamental role, indicating in the management lines an ad hoc chapter and the deadlines for the renewal of Coordinators and Committees.

### Results (of evaluation)

The regional management lines show the commitment for each health service. In 2018 we will proceed with the identification of a local HPH coordinator for each health service, which will also be part of the regional HPH committee. The HPH Coordination Committee will define a regulation for the composition and operation of the company's Leadership Committees. The regional HPH coordination committee will propose to the Regional Directorate the lines of work to be implemented in 2019 and in the following years.

### Conclusions/Lessons learned

To sustain health promotion in hospitals, the role of leadership is essential. However, in reality, leaders might not consider health promoting efforts to be a first priority. The managers may not be enthusiastic about performing health promotion, partly because they do not have an adequate understanding of the concept of HPH. We have learned that it is not enough to have passion, method or to produce evidence, it is necessary to have clarity of the commitment to stabilize the strategy during times of organizational stress.

### Comments

It's very important to build the conditions to train the leaders on the concept of HPH, based on WHO's setting approach to health promotion and on clinical health promotion.

### Contact: AGUZZOLI cristina

Azienda Assistenza Sanitaria 2 Bassa Friulana Isontina  
Via Vittorio Veneto, 34170 Gorizia,  
[cristina.aguzzoli@aas2.sanita.fvg.it](mailto:cristina.aguzzoli@aas2.sanita.fvg.it)

## Partnering in healthcare - a co-designed framework to deliver better healthcare and outcomes.

**HORVAT Lidia**

### Background/Problem/Objective



Victoria's Partnering in healthcare outlines a journey to develop a coherent policy framework for consumer and patient participation in their health care, and in the design, delivery and governance of health services. It comprises five domains, linked in their impact on healthcare experience and outcomes: Person and family centred services, care and outcomes; Teams, partnerships, knowledge transfer and shared learning; Participation and shared decision making; Equity, diversity, inclusion and responsiveness and Health literacy, information and communication.

#### Methods/Intervention

Partnering in healthcare employs a co-design approach to address variation in health services' capacity to enable people to partner in their healthcare at direct care, service and system levels. Adapting a Cochrane review prioritisation methodology and digital engagement strategy, the framework domains are tested and refined with consumers, patients, families, healthcare providers and health services. Then the priorities and strategies are developed for implementation in Victorian health services to deliver higher quality, equitable and person and family centred healthcare.

#### Results (of evaluation)

The presentation outlines the learnings derived from the following phases: project team establishment including employment of consumer and sector leads; activation and evaluation of the digital consultation and engagement strategies; implementation and evaluation of the Cochrane review prioritisation methodology; survey data analysis and broad priority establishment; implementation and evaluation of the priorities summit with stakeholders to review identified priorities in each domain and rank them for primary strategies and intervention development for health services implementation.

#### Conclusions/Lessons learned

The application of a co-design approach to policy development and research is a key implementation strategy in government and healthcare organisations. Insights from Partnering in healthcare will identify: the process and benefits of co-designing and co-producing healthcare priorities with consumers and healthcare providers; the key components of a prioritisation review; and the results, learnings and practical insights for use in participants' own work environments. This work is currently in progress.

#### Contact: HORVAT Lidia

Safer Care Victoria, 50 Lonsdale Street, 3000 Melbourne,  
[lidia.horvat@optusnet.com.au](mailto:lidia.horvat@optusnet.com.au)

## Implementing a people centered health promoting and social care model

### MENDEZ Elvira

#### Background/Problem/Objective

The Asociación Salud y Familia (ASF), a non-profit NGO, has developed over 20 years (1998-2018) a robust and cost-effective operating model oriented to deliver health promoting and social care to vulnerable people and to perform strategic advocacy actions aimed at maintaining and improving access to

public goods mainly in the areas of reproductive, mother-child and family health promotion.

#### Methods/Intervention

\*Principles of good governance connected with health promotion as they are: a culture of bolstering user's salutogenesis, a structure based on a pluralistic and interdisciplinary board of directors and a matrix system of services delivering. \*Organizational processes to enable health promotion and social services to be more people-centered through analysis of the changing profiles and needs of vulnerable families and the resulting responses in key of health promotion and user's involvement.

#### Results (of evaluation)

\*Nowadays ASF develops 11 direct care programmes in health promotion and social support attended by 13.713 users and 3 community development programmes reached 13.255 people (2017). \*The connectivity of ASF services is very high with two hospitals, five health care centers, three social care centers, twenty-one job placement NGOs, ten migrant people NGOs and a varied network of women, human rights and social NGOs. \*ASF has established mechanisms for capturing hard to reach vulnerable families of Latin, Moroccan, Chinese and Pakistani origin. \*Crucial, timely and easy health promoting and social delivery services from ASF are evaluated from the user's perspective.

#### Conclusions/Lessons learned

\*ASF has developed and innovative partnership perspective with vulnerable families and also with active regional network of health promoters resources. \*ASF design and redesign vulnerable people friendly environments obtaining user's involvement and make visible this involvement as a virtuous circle.

#### Contact: MÉNDEZ Elvira

ASOCIACIÓN SALUD Y FAMILIA  
VIA LAYETANA, 40, 3º2ª B, 08003 BARCELONA,  
[emendez@saludyfamilia.es](mailto:emendez@saludyfamilia.es)

## Creating an Introductory Course in Scientific Article Writing

### RAFFING Rie, BERN JENSEN Thor, LARSEN Sanne, TØNNESEN Hanne

#### Background/Problem/Objective

Medical evidence is primarily communicated through scientific articles. Therefore it is important that PhD students with a medical background master the skill of writing. However, unknown why, these PhD students find it more challenging than others to write their first scientific article. We investigated which barriers to article writing PhD students with a medical background reported. Based on this data we created an introductory course in scientific article writing and evaluated if it was useful to the target group.

#### Methods/Intervention

In order to identify barriers to article writing, we conducted 7 in-depth interviews with PhD students in the target group and developed a course program, learning objectives and a course title. Program, learning objectives and title was tested in a group interview and subsequently modified. Then we devel-

oped a pilot course, ran it with participants in the target group and evaluated it in a group interview.

#### Results (of evaluation)

The three day course was dispersed over a month with intermediate time for the participants to integrate what was learned into their articles. The course focused on the barriers identified in the interviews and used concrete examples such as model articles chosen by the participants' supervisors. Tools and tips on starting the writing process, basic academic English and the peer review process of an article were also included. Lecturers were experienced authors and in some cases editors of scientific journals.

#### Conclusions/Lessons learned

This investigation confirmed that a) there is a need of an introductory course in scientific article writing among PhD students with a medical background and b) it is possible to create a tailor made course evaluated positively by participants.

#### Contact: RAFFING Rie

Clinical Health Promotion Centre / WHO CC  
Nordre Fasanvej 57-59, indgang 5, 2. Sal, Frederiksberg,  
[rie.raffing@regionh.dk](mailto:rie.raffing@regionh.dk)

## Sesson O2.6: Community health promotion I

### Health services role in public health work and contribution to comprehensive, coordinated services – Examples from municipal Healthy Life Centers THE NORWEGIAN DIRECTORATE OF HEALTH HPH 2018

#### ØIEN Henriette

#### Background/Problem/Objective

Health services have, in line with other sectors, shared responsibility for contributing to public health work. Different health services, sectors and organizations must be complementary so that users can experience coherent and coordinated services. Healthy Life Centers (HLC) are municipal health services that are partners in local public health work and provide individual and group-based support for behavioral change.

#### Methods/Intervention

This presentation gives examples from HLCs on how health services contributes to public health work and are a part of comprehensive, coordinated services.

#### Results (of evaluation)

HLCs can be used in an early intervention to prevent or limit development of illness, and be complementary to other services for patients in all stages of treatment. According to the Coordination Reform, mutual exchange of expertise within the municipality and with the specialist health service should be facilitated. The HLCs cooperates with other public, non-governmental and private actors. HLCs contribute to public

health work by providing information and guidance to the whole population. HLCs also provide important health data to the municipalities which are included in the public health profiles. The profiles give summaries of health data to identify and measure areas for improvement. Documentation from HLCs can reveal the need for new measures in- and outside the health service. HLCs can initiate establishment and participate in the implementation of new measures, and enhance competence in other services. For example by strengthen employee's competence provide guidance other municipal sectors in how to facilitate health promoting environments and healthy living.

#### Conclusions/Lessons learned

Health services can complement each other to promote coherent and coordinated services. They can contribute to the public health work by cooperating with other public, non-governmental and private services, and providing health data and reports on challenges and revealing needs for new measures.

#### Contact: SUNDAR Turid

Norwegian Directorate of Health  
Universitetsgt. 2, 0164 Oslo Oslo,  
[turid.sundar@helsedir.no](mailto:turid.sundar@helsedir.no)

## Factors Associated with Papanicolaou test utilization by Taiwanese Women

### CHOU Chia-Pei, HUANG Chih-Fang, CHIANG Jui-Chin, HUANG Kun-Siang

#### Background/Problem/Objective

In Taiwan, cervical cancer ranks the 12th leading cause of death in 2016. Papanicolaou test (Pap testing) is considered to be the most effective screening tool for cervical cancer. There are still sectors of the population unwilling to receive the screening. The aim of this study was to analyze the factors associated with Pap testing utilization among Taiwanese women.

#### Methods/Intervention

We conducted a secondary analysis using the data from 2009 Taiwan's National Health Interview Survey (NHIS). Univariate and multiple logistic regression analyses were used to evaluate 20 potential factors associated with Pap testing utilization.

#### Results (of evaluation)

Of the 6,376 respondents, 4,423(69.4%) had ever received a Pap testing in the past three years. Multiple logistic regression analyses revealed 13 significant and independent factors were associated with the Pap testing utilization in the past three years. These 13 factors could be divided into 4 categories, which were medical history, personal habits, socioeconomic status and medical knowledge. The most common reason(33%) for not receiving a Pap testing was "no need for it because of being in good health".

#### Conclusions/Lessons learned

Findings from this secondary data analysis of the NHIS revealed 13 factors significantly and independently associated with Pap testing utilization. These factors may provide a basis for the implementation of public health promotion strategies for Pap testing utilization in Taiwan.

**Contact: CHOU Chia-Pei**  
[libra760924@hotmail.com.tw](mailto:libra760924@hotmail.com.tw)

## Exploring new strategies of health promotion facilitating people to be the main actors. The Italian beFood project.

**PENNUCCI Francesca, DE ROSIS Sabina, NUTI Sabina**

### Background/Problem/Objective

Classical health promotion interventions are delivered using a top-down process, with targeted people seen as passive receivers. This kind of interventions have a limited impact on people's behaviour, while collaborative and engaging processes are much more effective to foster a behavioural changing learning path stimulating individual and collective responsibility towards life-style and health outcomes. In order to test this collaborative approach, an action research project (beFood) was implemented in Tuscany (Italy).

### Methods/Intervention

Researchers, aided by experts, involved 49 students from the ten Tuscany provinces, as a part of their mandatory work-related learning pathway ("Alternanza Scuola-Lavoro"). The main objective was to shift the participants' role from passive receivers to active messengers. They were engaged in a process of education-activation-empowerment, based on a learning-by-doing approach, co-designing and co-conducting the beFood digital technology-based survey using a webAPP. The participants had to spread the healthy messages they learnt, also collecting data on their peers' life-style habits.

### Results (of evaluation)

During a six-months period, more than 5000 people have been reached by the beFood message. The participants evaluated as excellent their specific tasks as well as their whole experience. More than the half have felt to be completely protagonist in spreading the healthy messages. A great amount of the adolescents reported to pay more attention to the life-style habits of their peers, after the beFood project, giving voluntary to them advices for improving their life-style.

### Conclusions/Lessons learned

This exploratory experience underlines the need of a health services reframing. The healthcare system should put in place strategies and resources to change the providers' role in the prevention activities. They should become facilitators to ensure people an active role in shaping and managing their health. This can create a new type of partnership between healthcare providers and patients, to reach together better health outcomes.

**Contact: PENNUCCI Francesca**  
 Laboratorio Management e Sanità, Institute of Management,  
 Scuola Superiore Sant', Piazza Martiri della Libertà, 33  
 56127 Pisa,  
[f.pennucci@santannapisa.it](mailto:f.pennucci@santannapisa.it)

## Community-based volunteer training program to promote healthy diet for the elderly population

**YU-SHAN HUNG, TZU-YANG HAN, TONG-YUN HSIAO, HUNG--YU HSIEHCHUNG-FENG WENG**

### Background/Problem/Objective

Older persons are particularly vulnerable to malnutrition. This is due to various reasons, lack of information sources, deteriorated swallowing and digestive functions, and environmental factors making it difficult to obtain appropriate ingredients. For the idea of healthy diet to take root in the community, specialized training in healthy buying and cooking are taught. This not only bring the concept of healthy eating closer to every participant and but also improve the nutritional status.

### Methods/Intervention

The participant are selected via volunteers and homemakers of Xindian District Jixiang Community. A 2-hour per 2-week course of cooking classes and lectures were organized for two months. The classes offer ideas of healthy diet for the elderly as well as real-time cooking. Using appware (LINE) allowed instant communication through smartphones and continued to encourage and even practice healthy diet after class.

### Results (of evaluation)

A total of 16 participants participated in the program, with an average age of 62.28 years. Questionnaires of KAP (Knowledge, Attitudes, Behavior) of healthy eating were used before and after two-month course of lectures. Statistical analysis was performed using paired-t test. The average pre-test for nutritional knowledge was 9.31 (standard deviation 1.45), the average after test was 10.69 (standard deviation 0.48),  $p = 0.0057$ ; the pre-test for healthy eating attitude was 19.31 (standard deviation 2.57) and the post-test average was 21.63 (standard deviation 2.25),  $p = 0.0001$ ; mean before health behavior 29.19 (standard deviation 2.76), posttest mean 31.44 (standard deviation 3.65),  $p = 0.0247$ .

### Conclusions/Lessons learned

Healthy cooking lectures aimed to promote healthy diet, which is achieved by classes that provide food preparation and real-time cooking lessons, especially those with chronic diseases. The study concluded that eating healthy based on the principles of balanced diet and caloric intake can be improved through these programs. Most importantly, change in attitude and behavior will allow the elderly to eat healthy while eating heavenly.

**Contact: YU-SHAN Hung**  
 Cardinal Tien Hospital  
 No.362, Zhongzheng Rd., Xindian Dist., 23148 New Taipei City,  
[a680806@gmail.com](mailto:a680806@gmail.com)

## Healthy Aging: Designing a Social and Digital Innovation Platform to promote Senior Volunteerism

## CHIEN Shou-Hsin, CHEN Ching-Yuan, GAN Cai-Ru, LAI Yi-Ling, CHANG Pin-IHSU Lin-Ying

### Background/Problem/Objective

By 2050, the ratio of individual 65+ to the working age population will be as high as 2:3 with a decreased of 30% economic growth. Taping in senior power can contribute enormous impact on our socioeconomic and elders can benefit from serving in meaningful roles. In Taiwan, only 4.79% participated in voluntary activities due to the lack of adequate training and service opportunities. The project aims to engage seniors, community leaders, volunteering associations and experts to address the problem.

### Methods/Intervention

Elders or retirees regardless gender, education background from neighboring community were recruited to participate the project. Each participant is required to complete a three-phase training in total of 18 hours covering topics on muscle strengthening exercise, social participation, mental health promotion, functionality, rehabilitation, etc. Moreover, workshops also provide techniques and skill development to act as health educator and exercise trainer. SPSS 22 is used for descriptive and inferential statistical analysis.

### Results (of evaluation)

Total of 59 participants enrolled, 32 individual age above 65 accounted 54% of all participants. The result showed significant increase of knowledge on self-care, and increased participation on using social media. By using frail aging simulation in the second phase of training, participants anticipated physical changes, sensory impairments experiences to further identify the needs and to clarify the role of volunteer. To date, 14 volunteers completed the training and have been providing services to 7 villages with 2688 community members.

### Conclusions/Lessons learned

Volunteering can be considered as an empowerment process in which seniors are enabled to promote their health and sense of worth. The paper suggests effective ways to stimulate volunteer opportunity and to promote senior volunteerism through multisector partnership, structured and systematic training. Moreover, by creating a platform to provide lived experience, guided reflection through social media and hands-on exercise will help boost seniors' motivation to be involved.

Contact: HSU lin-ying

Buddhist Tzu Chi Taichung General Hospital

[wowlinying1205@gmail.com](mailto:wowlinying1205@gmail.com)

## Mobile health care in remote areas for elder diabetic patients in Taiwan

HUANG Kun-Siang, TAI Chih-Chiang, GUNG Shin-Yi, WANG Pei-Ming, LAI Wei-An, CHIANG Jui-Chin, CHOU Chia-Pei

### Background/Problem/Objective

In Taiwan, health care service was easily accessible in urban area due to National Health Insurance. However, in remote

areas, the health care resources were still insufficient. The mobile health care consisted of family medicine doctors, nurses and pharmacists by weekly fixed location service for remote area residents. The efficacy of diabetes care was unclear by this model. Therefore, the aim of our study was to evaluate the changes of glycohemoglobin in elder diabetic patients in remote area.

### Methods/Intervention

We collected diabetic patients from the weekly mobile health care in Kaohsiung mountainous districts during 2010 to 2015. The glycohemoglobin values were recorded for evaluation. We divided the patients into three groups according to glycohemoglobin levels (below 6.5%, between 6.5% and 9% and above 9%). The changes of glycohemoglobin levels during the period in the three groups were evaluated by one-way ANOVA. The individual changes of glycohemoglobin at different time points were examined by paired T test.

### Results (of evaluation)

A total of 156 diabetic patients were included. The mean age of the participants was 67-year-old. 70 participants were male (45%). The individual glycohemoglobin values were recorded from one time to six times during the 5-year-period. Significant decrease in glycohemoglobin level ( $P < 0.01$ ) was found between the first and second glycohemoglobin level in the glycohemoglobin above 9% group. Individual glycohemoglobin value changes at consecutive time points were non-statistically significant in all participants.

### Conclusions/Lessons learned

Mobile health care provided convenient medical service for remote area residents. Initially two or more oral hypoglycemic agents use and prominent hyperglycemic symptoms in high glycohemoglobin level group patients may contribute to early glycohemoglobin level decrease. However, advanced improvement in glycohemoglobin level may be limited by insufficient self-disease knowledge and restricted resources in mobile health care. Further integrated care team including dietitians, diabetes educators and social workers may be needed for diabetic care in mobile health care in remote area.

Contact: HUANG Kun-Siang

[awdrgy121@msn.com](mailto:awdrgy121@msn.com)

## Session O2.7: Age-friendly care for the community

### Discussion on the Promotion of Elderly Health Promotion with the Theory of Lifelong Education --- Experience sharing in promoting learning activities for the elderly in a district hospital

CHEN Yu-Mei

### Background/Problem/Objective

When hospitals carry out health promotion activities in communities, it is common to do with health lectures which are

taught by medical staff or held with unit-based activities. Health promotion activities can't stop at one-time lecture or activity. It is necessary to keep healthy concepts deeply in people's hearts through education purposely and continuously. John Dewey, the father of lifelong education advocated "learning by doing", considered "education is life itself", and emphasized that people build knowledge through experiences and transformation.

#### Methods/Intervention

The 10-week "Happy age vitality classroom" course is conducted once a week for 2 hours each. It focuses on regular exercises for the elderly and health lectures. Each lesson begins with a senior aerobic program by instructor, with mild to moderate aerobic activity including strength training, soft exercise, light jump and more. After 50 minutes of exercise, there will be a lecture on the health of the elderly that include: medication safety, fall prevention, healthy eating and even social welfare.

#### Results (of evaluation)

There are 50 elderly who regularly participate in community activities and the program. The ratio of men to women is 14% and 86% for females. There are 39 attendants who complete 10 courses, accounting for 78% of total. The youngest participant is 65 years old and oldest one is 103 years old. The distribution of ages is between 65-75 years, accounting for 36%. The survey after the activity showed that the rate of being happier than before was 76.92%. In addition, because of the continuous aerobic program, we found that the elderly gradually established their regular sports habits and improved their muscle strength, suppleness and aerobic endurance.

#### Conclusions/Lessons learned

Designing health promotion activities with educational perspective makes activities be targeted and easy to achieve, and through setting goals it does not only to assess the impact of activities but also to change behaviors. By means of teaching, elderly people are not only participating in an activity but learning consciously. It engages them more objective and motivated. It is important for the elderly to learn continuously. Chinese saying goes "learning never ends" and to some extent evoke Dewey's philosophy and therefore bring the concept of lifelong education into health promotion activities is meaningful.

**Contact: CHEN Yu-Mei**

Jen-Ai Hospital, 483 Dong Rong Rd., Dali, 412 Taichung,  
[cym728@gmail.com](mailto:cym728@gmail.com)

## Better life in the elderly- The Effectiveness of Interventional Exercise Consultation for Physical Fitness of The Elderly

**HUNG Ta-Chuan, LIAO Lee-Hua, HUANG Tsu-Hsueh**

#### Background/Problem/Objective

Taiwan has already become an aged society in 2018. In the elderly, their physical activities reduced that increased the risk of sarcopenia and falling down. Several studies showed exercise can enhance muscle endurance to reduce falling down. In view of this, MacKay Memorial Hospital cooperating with churches,

village-offices...etc., so called "Health Promotion Committee" held several activities focusing on "preventing frailty and disability in the elderly" which following the policy of Health Promotion Administration, Ministry of Health and Welfare.

#### Methods/Intervention

In 2017, we arrange serial lectures and fitness pre-test for the elderly. The results were assessed and explained by sport experts. We gave the elderly individualized aerobic exercise training, flexibility exercise training, resistance exercise training and sense of balance training program. The community nurse will visit the elderly and follow the effect and compliance of exercise. Post-test was checked 7 items after 5 months, ex. Power Grip, Back Scratch Test, Single Leg Stand Test and 2-minutes Step Test.

#### Results (of evaluation)

We held 5 sessions of lectures with 104 participants. Each of 5 sessions pre-test and post-test physical fitness were held with 81 participants, 22 participants completed pre & post test. Five in seven items got improvement: 37.4% in Power Grip, 24.7% in 30 seconds Chair Stand, 17.8% in 2-minutes Step Test, 17.0% in 8-foot Seated Up- and- Go Test and 15.9% in Single Leg Stand Test. These training can enhance lower limbs muscle endurance, balance and walking stability.

#### Conclusions/Lessons learned

We comply with the government's long-term care policy to promote the prevention muscle weakness or sarcopenia of the elderly by "preventing frailty and disability program". Progressive and regular exercise counseling can increase physical activity and limb muscle endurance of the elderly to reduce falling down. It can reduce not only the burden of family and society but also the consumption of medical resources. Through the efforts of the government and committee, the elderly will have a better life.

**Contact: LIAO Lee-Hua**

MacKay Memorial Hospital, Tamsui Campus  
No. 45, Minsheng Rd., Tamshui District, New Taipei City,  
[870701.6128@mmh.org.tw](mailto:870701.6128@mmh.org.tw)

## Community-based group exercise program in the elderly: a pilot study

**CHEN Yu-Hsuan, LIN Chih-Wen, WU Jie-Ying, LIN Li-Fong, LIN Ying-Chin, CHEN Yi-Su**

#### Background/Problem/Objective

Taiwan is an ageing society, with approximately 13.3% of the nation's population over 65 years of age, and is projected to become a super-aged society by 2025. The effect of rapid ageing is the development of muscular weakness and frailty, which may significantly affect the quality of life, daily activities, and increases the risk of falls. To prevent functional deterioration, community-based exercise program is advocated to improve the overall physical fitness of elders.

#### Methods/Intervention

In collaboration with the New Taipei City's Department of Health, Shuang-Ho Hospital incorporated "Exercise is Medicine" in the 2017 annual elderly health examination. Elders who did



not pass one of the muscular endurance tests: grip strength (male:<26kg; female<18kg) or 6-meter walking speed (<0.8m/s), were enrolled into our 4 weeks exercise program. Classes were held twice a week and each session included 20min exercise education, 20min stretching, 30min resistance training, 20min balance, and 30min aerobics. Results were analysed by paired T-test.

#### Results (of evaluation)

Participants (n=49, male=15 and female=34; mean age 74 years) displayed significant improvements on most of the measurements: Metabolic Equivalent of Task, 6-Meter Walk, grip strength, 30-second chair-rise, arm-curl, 2-minute high-knees, chair sit-to-reach, one-leg standing (all  $p < 0.05$ ). No significant improvements were found in the back-scratch test ( $p=0.22$ ), which assessed the shoulder's range of motion, and the upper body and shoulder flexibility, and the 2.44-meter up-and-go test ( $p=0.29$ ), which required both static and dynamic balance. These two tests are probably more complex for elders.

#### Conclusions/Lessons learned

Community-based exercise program is a safe and cost-effective intervention to promote physical fitness in the elderly. According to previous studies, improvement in functional health lowers the risk of falling, reduces the rate of all-cause mortality, cardiovascular diseases or other chronic diseases common among the elderly, and enhances cognitive function. This exercise program is encouraged in the elders but warrants a longer follow up period to determine its health implications.

**Contact: WU Wendy Jie Ying**

Taipei Medical University Shuang Ho Hospital  
No. 291 Zhongzheng Rd, Zhongho District, 235 New Taipei City,  
[wendeez@gmail.com](mailto:wendeez@gmail.com)

## Effect of a Body-Mind Fitness Intervention Designed to Enhance Physical Fitness in the Community-based Elderly

**WU Meng-Tien, CHIANG Hsiu-Ling, HSU Chiung-Wen, CHANG Pei-Li, CHOU Chi-Chun**

#### Background/Problem/Objective

The percentage of older adults with disability is 7.3%, and the percentage of older adults with dementia is 8.0 % in the aging population of Taiwan. How to prevent physical and mental deterioration is a critical issue. The purpose of this study is to design the Body-Mind fitness intervention, and to test its effectiveness of physical fitness for older adults.

#### Methods/Intervention

Sixty-three cognitively normal older adults over the age of 65 were assigned to participate in a one-arm clinical trial. Over a 12-week period, participants received a 60-min session of physical training and a 60-min session of mental training twice per week. Forty-five participants completed pre- and post- tests of the physical assessments, including body composition, flexibility, strength, and agility fitness items. Thirty-seven participants who achieved seventy percentage of attendance during 12 weeks were involved in this study analysis.

#### Results (of evaluation)

After 12-week intervention, older adults (age =  $71.9 \pm 6.2$  years) improved their flexibility of upper extremity using scratch test ( $p= 0.035$ ) and lower extremity using sit-to-reach test ( $p= 0.016$ ), muscle strength of lower extremity using sit-to stand test ( $p< 0.001$ ), and agility using Timed-Up & Go test ( $p< 0.001$ ) by paired-t test. The older adults also reduced their systolic blood pressure 7.4 mmHg ( $p= 0.030$ ). Qualitative outcome showed that participants improve memory, mental agility, and self-efficacy after intervention.

#### Conclusions/Lessons learned

Body-Mind fitness intervention designed to improve the flexibility, muscle strength, and agility as the physical benefits, and to enhance the self-cognitive improvements and self-efficacy as the mental benefits.

#### Comments

The suggestion of Body-Mind fitness intervention for older adults is at least for 120-min (including 60-min physical training and 60-min mental training), twice per week for 12 weeks.

**Contact: CHUANG CHIN-RU**

Yonghe Cardinal Tien Hospital, No.80, Zhongxing St., Yonghe Dist., New Taipei City, [jnrue80@gmail.com](mailto:jnrue80@gmail.com)

## Dementia friendly hospitals: Health care services reorientation through novel collaborations.

**BAKIDES SOFOCLIS, VARVARESSOS STEPHANOS, KUSHITASHVILI NINO, GEORGAKOPOULOS ILIAS, CHRISTAKOS EVRYDIKINIKOLAOU ANDRIANI**

#### Background/Problem/Objective

"Active aging" has emerged in Europe as the foremost policy response to the challenges of population aging over the last two decades. This calls for a reorientation of health care services. The dementia friendly hospital concept tackles with the difficulties to structure the cooperation between hospitals and Neurology specialists in order to enhance people-centeredness in line with the HPH-New Haven recommendations. This task becomes more challenging especially in a country in socioeconomy crisis for the last seven years in a row.

#### Methods/Intervention

The study aims to present the preliminary dementia registry results in designing a service model that links a Greek NHS hospital to Neurology specialists, providing a friendly service to the healthcare of the elderly within a few minutes walking distance away. The hospital discharge planning services are connected with private neurologists to provide the elderly services in a rural area where the nearest NHS Hospital access to a Neurologist lies at a distance of 128 km away.

#### Results (of evaluation)

The collaboration of the Hospital and private Neurologists began six months ago. The sample included 70 patients aged from 69-98 years old (mean age: 82,91 years). Out of them 35 were examined when they were hospitalized because of severe



immobility problems, 35 visited the Neurologists. Their examination included MMSE testing ( mean value 14.78 ) and C/T or MRI. Alzheimer's Disease had 50 out of 70 (71.4%). Their treatment included donepezil, memantine, rivastigmine and for neuropsychiatric symptoms risperidone, quetiapine. The major comorbid factor found was Hypertension (48,5%).

#### Conclusions/Lessons learned

Greece will be a "super-ageing society" by 2025 so the application of a network service model for elderly with dementia will offer continuous and individualized holistic care services. Apart from acute medical services, hospitals will need to integrate services in long-term and offer proper local care to the elderly. People with dementia and their carers still face a lack of understanding from public services. Our pilot study shows that society as a whole cannot afford to ignore this any longer.

#### Contact: BAKIDES SOFOCLIS

MOLAOI GENERAL HOSPITAL, 1,E.LIMIRAS  
23052 MONEMVASIA, LAKONIA,  
[sbakides@gmail.com](mailto:sbakides@gmail.com)

## Session O2.8: WORKSHOP: Mental health - a challenge for the future

### Mental health – a challenge for the future

**BERGERLIND Lise-Lotte Risö, NERHEIM Inger Kari**

#### Background/Problem/Objective

The Task Force agenda targets 3 issues: 1. an increasing number of young people are suffering from mental illness; 2. average life expectancy among people with mental illness is 20 years shorter than the general population. People with mental health problems and somatic disease have reduced access to treatment and lower quality of life; 3. "personal recovery" with a focus on the individual's connection with society as well as their own ownership to their life has shown great potential.

#### Methods/Intervention

The Task Force on Mental Health invites the participants to discuss practical interventions for our members on the 3 important themes we are targeting. We will through prepared talks and discussions among the participants in the workshop seek to formulate evidence based interventions and actions which our member organizations can initiate in order to prevent mental ill-health and addiction and promote mental health actively in our member organizations.

#### Results (of evaluation)

The results of the Workshop will be used in the further work of the Task Force, and all participants are invited to become members of the Task Force. Consensual intervention suggestions on all 3 themes will be submitted to the General Assembly in 2019. Participants who already wish to sign up and prepare for the workshop, can send an email to [inger.kari.nerheim@sus.no](mailto:inger.kari.nerheim@sus.no) or to leader of the Task Force Lise-Lotte Risö Bergerlind, [lise-lotte.risobergerlind@vgregion.se](mailto:lise-lotte.risobergerlind@vgregion.se)

#### Conclusions/Lessons learned

The Task Force wishes to create a joint understanding in all HPH members of the importance of acknowledging that we cannot help people struggling with mental health and addiction problems without asking them what their priorities are and if the interventions provided actually do help. It will also show that healthcare must target both body and mind at the same time if real health and quality of life will be achieved.

#### Contact: NERHEIM Inger Kari

Stavanger University Hospital  
Jan Johnsen vei 8, 4086 Stavanger,  
[inger.kari.nerheim@sus.no](mailto:inger.kari.nerheim@sus.no)

## Session O2.9: WORKSHOP: Paving the way for a health-oriented primary care: tools for implementing health promotion

### Development of an evaluation framework for health promotion in primary care

**LOPEZ-DICASTILLO Olga, BERMEJO-MARTINS Elena, ANTOÑANZAS Elena, MUJICA Agurtzane, PUMAR-MENDEZ Maria Jesus**

#### Background/Problem/Objective

Evaluation tools are necessary in order to make HP equitable, empowering, participatory, accountable and suitable. Up to date many attempts have been made to measure different aspects of HP, from strategies to programs. However, many characteristics make HP evaluation a challenge. Some of them are the theoretical aspects of the concept of HP itself, the different contexts in which HP actions can be developed and implemented, and the different roles that systems, professionals, community members and individuals can play.

#### Methods/Intervention

In order to aid evaluation, the linkages between the action processes and intended outcomes should be clearly delineated. After carrying a literature review and using consensus methods with experts, we have started the development of an evaluation framework, based on the logic model that will assist the innovation and implementation of HP in primary care.

#### Results (of evaluation)

The components of this evaluation framework are very useful to identify the necessary aspects to address when proposing HP actions in order to achieve proximal and distal health related outcomes. The framework could be adjusted to specific actions, taking into account the context they are developed for.

#### Conclusions/Lessons learned

This evaluation model is of interest because it can help to achieve a better understanding of the implementation features, the changing mechanisms and the context related characteris-

tics that can be promoting or preventing the successful implementation of HP in primary care.

#### Comments

For Symposium: "Paving the way for a health-oriented primary care: tools for implementing health promotion"

**Contact: LOPEZ-DICASTILLO Olga**

University of Navarra. School of Nursing  
Irunlarrea, 1, 31008 Pamplona,  
[olopezde@unav.es](mailto:olopezde@unav.es)

## A taxonomy of omission errors in health promotion for improving safety in primary care

**PUMAR-MENDEZ Maria Jesus, MUJICA Agurtzane, IRIARTE-ROTETA Andrea, HERNANTES-COLIAS Naia, GARCIA-IRIARTE Antonio, BELINTXON Maider, RUIZ-ZALDIBAR Cayetana, LOPEZ-DICASTILLO Olga**

#### Background/Problem/Objective

Errors of omission within health promotion are missed opportunities in achieving individuals and communities' full health potential. The prevalence and impact of this type of errors in the primary care setting is unknown, but likely to be high taking into account existing research describing health promotion practice. To fully understand the extent of the problem a taxonomy of health promotion omission errors that helps in the collection, organisation, and analysis of data is needed.

#### Methods/Intervention

A documentary analysis based on a thorough literature search was carried out in order to develop a taxonomy of health promotion omission errors for use in the primary care setting. The documents reviewed were analysed identifying health promotion activities related to the five strategies described in the Ottawa Charter that were afterwards grouped in a thematic way.

#### Results (of evaluation)

Eight final groups of health promotion activities were identified. These groups are planning, situational awareness, build organizational capacity, awareness generation, advocacy, networks and partnership development and specific program components.

#### Conclusions/Lessons learned

The use of this taxonomy of omission errors in health promotion will help in mapping primary care organizations' health promotion processes and actions, and thus in uncovering their most neglected areas of health promotion. This map can provide the basis for prioritisation of improvement goals and actions that are relevant to the affected community and health professionals.

#### Comments

For Symposium: "Paving the way for a health-oriented primary care: tools for implementing health promotion"

**Contact: LOPEZ-DICASTILLO Olga**

University of Navarra. School of Nursing  
Irunlarrea, 1, 31008 Pamplona,  
[olopezde@unav.es](mailto:olopezde@unav.es)

## Paving the way for a health-oriented primary care: tools for implementing health promotion

**LOPEZ-DICASTILLO Olga, MUJICA Agurtzane, BERMEJO-MARTINS Elena, BELINTXON Maider, IRIARTE-ROTETA Andrea, RUIZ-ZALDIBAR Cayetana, HERNANTES-COLIAS Naia, GARCIA-IRIARTE Antonio, ANTOÑANZAS Elena, PUMAR-MENDEZ Maria Jesús**

#### Background/Problem/Objective

Existing evidence proves the benefits that health promotion (HP) has for persons' health, society and the sustainability of health systems. However, the implementation of a more health-oriented health service is a multifaceted and complex process. Health research regarding the reorientation of health services, as well as changes in professional education and training are necessary. Our aim is to present some tools and research based ideas that could help to achieve more health-oriented health service, particularly a health-oriented primary care (PC).

#### Methods/Intervention

We proposed to carry out a symposium in which we would like to present and discuss with the audience the work that we are doing in three domain to address this complex process. The three presentations will be done presenting the main concepts briefly and providing examples about how these concepts could be applied.

#### Results (of evaluation)

Presentations: First, we will present a taxonomy of omission errors in HP that will help in mapping primary care organizations' HP processes and actions, and thus in uncovering neglected areas of HP in PC. Second, we will describe the development of an evaluation framework, based in the logic model that will aid in the innovation and implementation of HP in PC. Third, we will analyze health professionals' role regarding HP. We will specifically address nurses' role for the implementation process.

#### Conclusions/Lessons learned

Many hopes have been placed into PC trying to show this level of care as the way to promote health promotion and prevention within the health system. Some authors suggest that those working in the field of HP will need a renewed sense of activism and advocacy. We hope that the work and the tools that we will present in the symposium will pave the way for this renewal.

#### Comments

Three members of our group will do the presentations. This proposal includes the following abstracts: 1.A taxonomy of omission errors in health promotion for improving safety in

primary care 2. Development of an evaluation framework for health promotion in primary care 3. Health professionals' role in health promotion and prevention: analyzing nurses' functions in primary care

**Contact: LOPEZ-DICASTILLO Olga**  
University of Navarra. School of Nursing  
Irunlarrea, 1, 31008 Pamplona,  
[olopezde@unav.es](mailto:olopezde@unav.es)

## Health professionals' role in health promotion and prevention: analyzing nurses' functions in primary care

**IRIARTE-ROTETA Andrea, LOPEZ-DICASTILLO Olga, MUJICA Agurtzane, BERMEJO-MARTINS Elena, RUIZ-ZALDIBAR Cayetana, HERNANTES-COLÍAS Naia, PUMAR-MENDEZ María Jesús**

### Background/Problem/Objective

Nurses represent an important workforce in the development and implementation of health promotion. However, international literature emphasizes that nurses have been too slow in embracing health promotion and that they do not perform activities related to their health-promoting role. Previous works have failed to provide a clear description of nurses' functions within this field. We set out to identify nurses' actual functions in health promotion and to compare those functions with their expected role.

### Methods/Intervention

A critical interpretive synthesis of articles published between 2005 and 2017 was conducted between December 2016 and April 2017. The databases PubMed, CINAHL, Scopus, PsychINFO, Web of Science and Dialnet were searched. After applying the inclusion and exclusion criteria, 51 papers were identified. The relevant data were subsequently extracted using a pro-forma, and reviewers jointly performed the integrative synthesis. WHO's framework for health promotion has been used to analyze whether nurses' practice meets the expectations for working in this field.

### Results (of evaluation)

The synthesis produced 30 synthetic constructs that were developed into the five synthesizing arguments describing nursing functions in health promotion: (1) nursing action on individuals: the lifestyle approach; (2) nursing action on the environment: environment assessment and the protection of individuals; (3) community action: focusing on families to strengthen individuals' support; (4) nursing promoting intersectoral action and activities; and (5) nursing action to influence public policy. Compared to lifestyle approach, the other functions appear much less frequently in nursing practice.

### Conclusions/Lessons learned

Nurses' activities focus more on an individual-level target and are disease-oriented rather than focusing on positive health and communities. In terms of thoroughness, frequency and how nurses perform their functions, there is a considerable gap between the expected and enacted roles of nurses. The reasons

behind these results may be found in the nurses' lack of understanding regarding health promotion and political will, the predominance of a biomedical perspective within organizations and a lack of organizational prioritization and support.

### Comments

For Symposium: "Paving the way for a health-oriented primary care: tools for implementing health promotion"

**Contact: LOPEZ-DICASTILLO Olga**  
University of Navarra. School of Nursing  
Irunlarrea, 1, 31008 Pamplona,  
[olopezde@unav.es](mailto:olopezde@unav.es)

## Session O2.10: WORKSHOP: Working Group on HPH and Health Literate Health Care Organizations

### WORKSHOP: Working Group on HPH and Health Literate Health Care Organizations

**PELIKAN Jürgen M., NOWAK Peter, LEUPRECHT Eva**

In the last decade, one of the important trends within health literacy (HL) related to health care was understanding HL as the relationship or fit of personal competences of patients to situational demands of the complex health care system. This first led to measuring HL of patients with short tests, to be able to differently communicate with patients with low HL. Later investments were made to make health information better understandable for patients, to improve communication competences of health professionals and to better navigability of health care institutions. Finally a comprehensive definition of a health literate health care organization (HLHCO) by describing 10 attributes of a HLHCO was offered by a task force of the Institute of Medicine of the National Academies in the US in 2012. This definition was taken up by the Austrian Network of Health Promoting Hospitals and Health Care Institutions (ONGKG) and together with the Vienna WHO Collaborating Centre for Health Promotion in Hospitals and Health Care (WHO-CC-HPH) the "Vienna Concept of Health-Literate Hospitals and Healthcare Organizations" (V-HLO) has been developed. The V-HLO follows a broader understanding of HL and based on the settings approach of Health Promoting Hospitals further expands the scope of the concept by focusing not only on the HL of patients, but also of staff and the population of the catchment area and not only on HL for diagnosis, treatment and care, but also for access to, living and working in the organization, for disease management and prevention and for lifestyle development. Furthermore the V-HLO better relates to quality philosophy in health care by an organizational self-assessment tool of 9 standards, 22 sub-standards and 160 indicators which is based on criteria of ISQUA and allows for benchmarking organizational HL between hospitals. This instrument has been piloted and tested in 9 Austrian hospitals. In order to be able to monitor, benchmark and improve organizational HL in health care in different health care systems an international working

group (WG) on “HPH and Health Literate Health Care Organizations (HPH & HLO)” was founded within the international HPH network in spring 2016, consisting of experts on HLO and of HPH members from different countries. The aim of this working group is to develop an international draft version based on the Vienna concept (V-HLO) and its tool (V-HLO-I) by adapting it to different health care contexts on the basis of different national feedback received. The workshop will present and discuss results of the work of the working group: 1) Presentation of the „International Model of a Health-Literate Healthcare Organization“ (basic theoretical background, rationales to each stand-

ard, objectives a.s.o.) 2) Presentation of the international draft version of the self-assessment tool by the initiating members of the working group 3) Discussion of criteria for an international light or core version of the self-assessment tool 4) Discussion of next steps: Pilot-testing in different countries

**Contact: LEUPRECHT Eva**  
Gesundheit Österreich GmbH  
Stubenring 6, 1010,  
[eva.leuprecht@goeg.at](mailto:eva.leuprecht@goeg.at)

## Session O3.1: Integrated health care services and discharge planning

### Gapless Long-term Healthcare: Quick Response Home-Based Rehabilitation Service to Increase Physical Activity and Improve Function after Hospitalization

**WU Chun-Chieh, KAO Mu-Jung**

#### Background/Problem/Objective

Taiwan is currently meeting the criteria of "aging society". The rapid growth in this aging population will create a greater demand for long-term and home-based healthcare services. There's a time gap of about two months between the patient discharge and the availability for rehabilitation facilities in Taipei. Our team members include physicians, physical therapists, occupational therapists, and speech therapists. We aim at providing cross-professional medical care and reduce the waiting time to healthcare processes, making the long-term care gapless.

#### Methods/Intervention

Subjects hospitalized in Taipei City Hospital due to stroke, traumatic brain injury and fracture of lower limbs were evaluated by our integrated discharge team. Those who developed functional decline and needed further rehabilitation home services after discharge were recruited. Our QRRS(#1) team will provide home therapy tailoring to meet the patient's needs within 3 days and carry out 1 to 6 courses of treatment within 2 months until the beginning of long-term healthcare.

#### Results (of evaluation)

One hundred and sixty eight adults reported QRRS use in 2017. It provided 267 sessions of physical therapy, 203 sessions of occupational therapy and 49 sessions of speech therapy. Overall, 89% reported improvement of activities of daily living based on the assessment of Barthel index, and 4.63 points satisfaction survey by Likert 5-point scales. All of those subjects have no reported new pressure sores and accidental falls during the periods of the services and successfully connected to subsequent long-term healthcare.

#### Conclusions/Lessons learned

With increasing numbers of aging population carrying multiple comorbidities in our society and limited funding for healthcare services, it is essential to provide the gapless services at the right time in a cost effective manner. Long-stay home care patients after hospitalization who receive QRRS have improved clinical outcomes, and prevented complication. It is also helped maintain the effect of acute rehabilitation with reduced utilization of costly health services in hospitalization.

**Contact: WU Chun-Chieh**

Taipei city hospital,  
No.145, Zhengzhou Rd., 103 Taipei,  
[wucc55@yahoo.com.tw](mailto:wucc55@yahoo.com.tw)

## Seamless discharge planning service

**WU Meng Ping, FENG Rung Chuang, TSAO Lee Ing, YANG Shih Chen, CHU I Chen, CHOU Shu Ping, LU Wen Chuan, HUANG Mei ling, HUANG Sheng Jean**

#### Background/Problem/Objective

It did not fully start locally in past. However, the population has been aging rapidly in recent years. The medical team started to focus the discharge service connecting to medical care. Hospital discharge planning service is the bridge of acute and follow-up care. Patients can reintegrate into the community and reduce the rate of returning back to the emergency room and readmission, if they can be well-prepared to be discharged and the follow-up consultancy.

#### Methods/Intervention

It transformed to be an advanced discharge service preparation plan in 2016. To conduct a comprehensive, all-round and cross-professional team of the discharge service, a person-centered and family-unit care, to implement the community integrated, coordinated, and continuous preventive health care and medical treatment. Aims at forming the first "Seamless discharge planning care organization" in Asia. Applying the idea of 4P to connect patients to the resources of long-term care or home-based palliative care, believes that it can achieve the goal of pain-suffering.

#### Results (of evaluation)

This is increase the social resource usage and to reduce the re-admission rate. By applying the advanced discharge service preparation plan, a good physician-patient interaction relation can be cultivated. Combining the home care, PAC, long term care, hospice and palliative care, this discharge preparation service plan can achieve the greatest benefit as well as 5W care. The service quality was also improved, reduce medical legal problem 17 cases and evident from the service satisfaction of 98%.

#### Conclusions/Lessons learned

The medical team started to focus the discharge service connecting to medical care. It transformed to be an advanced discharge service preparation plan in 2016. To conduct a comprehensive, all-round and Integrated team of the discharge service, a person-centered and family-unit care, to implement the community integrated, coordinated, and continuous preventive health care and medical treatment. also it is ensure the integration of diagnostic and treatment while maintaining helps to discharge planning on ensuring the quality care.

**Contact: WU Meng-Ping**

University of Nursing and Health Sciences  
No.365, Mingde Rd., Beitou Dist., Taipei City 11219, Taiwan  
[b1800@tpech.gov.tw](mailto:b1800@tpech.gov.tw)

## Longterm effectiveness of discharge planning service

**CHANG Ku-Chou, JIANG Shu-Ting, CHEN Ting-Wen, CHEN Hsiu-Min**

**Background/Problem/Objective**

Discharge planning service (DPS) is to provide a patient with continue care they need and to prepare a transition to another healthcare facility or to home after discharge. The purposes of DPS are to improve the quality and reduce medical costs of health care. The research aims were to investigate and validate the short- and long-term effectiveness of DPS with the neurological and functional outcomes, readmission rate, and mortality rate.

**Methods/Intervention**

This study enrolled subjects from a medical center in southern Taiwan between Mar. 2015 and Sep. 2017. After explaining with oral consent obtained from patients or next of kin, patients received discharge planning service will be followed and evaluated at enrollment, 1, 3, 6 and 12 months. Evaluations will be available by interview or phone calls at clinics or home visits. The results of the transferal, readmission and the need of medical attention, survival and functional status will be explored.

**Results (of evaluation)**

A total of 895 subjects were enrolled in the study. The mean age was 65.8 ±16.9 years, 57.8% were male. The follow up rate of first month was 60.4% (n=541) and there were 66.2% subjects at home, 15.9% in hospitals, 7.0% in the other healthcare facilities. There was significant improvement between the means of Barthel Index of enrollment and after 1 month (42.2 vs. 53.0, p<0.05). However, there were no significant differences in other evaluations.

**Conclusions/Lessons learned**

The research will continue collect and analyze the long-term data in the future. We believe these findings can help healthcare managers and clinicians to identify indicators of quality of healthcare for developing DPS strategies and policies to fit patients' need and reduce medical costs by minimizing avoidable complications and readmission.

**Contact: CHEN Hsiu-Min**

Kaohsiung Chang Gung Memorial Hospital  
123, Ta-Pei Road, Niao-Sung District, +886830 Kaohsiung,  
[cshowme@gmail.com](mailto:cshowme@gmail.com)

## Session O3.2: Promoting physical activity

Regional strategy to promote physical activity - using a combined top-down and bottom-up approach, from policy to action on grass root' level using social media.

**LEIJON Matti, SCHÖLD Anna-Karin, GLAD Elin**

**Background/Problem/Objective**

There is no national strategy to increase physical activity in Sweden. Since the national campaign "Sweden on the move" in

2001 the area of physical activity promotion has gained less and less attention at national, regional and local levels in Sweden. In the autumn of 2015 the regional politicians in Region Östergötland supported the idea of developing a regional strategy - based on the Physical Activity Strategy for the WHO European Region 2016-2025 and the 2030 agenda for sustainable development.

**Methods/Intervention**

During 2016, a strategy document was developed with different stakeholders. A political decision, at regional level, to support the strategy was made in January 2017. The overall goal; more individuals become physically active; inequality in activity levels between groups decreases; to increase intersectoral cooperation among stakeholders. The strategy is focused on five settings; built environment; leisure time and sports; school and education; work and economic support - social welfare and health care services.

**Results (of evaluation)**

The strategy is nowadays web-based including facts and knowledge, "good examples" of ongoing actions for others to learn and share. The website is (only) in Swedish: [www.sattostergotlandirörelse.nu](http://www.sattostergotlandirörelse.nu) and [www.facebook.com/sattostergotlandirörelse.nu](http://www.facebook.com/sattostergotlandirörelse.nu). The physical activity strategy has received much attention both politically and in the traditional media. During the first year we presented more than 30 different "Good examples" from different stakeholders. Numbers are continuously increasing and have, by itself, already resulted in new initiatives and "good examples" among different stakeholders.

**Conclusions/Lessons learned**

The WHO strategy was useful to create a regional strategy and policy work combined with a bottom-up social media strategy seems to be a useful combination.

**Comments**

We have submitted 3 different abstract that are linked together. This one and: - A total non-smoking health care in Region Östergötland - Educating Health Guides to improve individual empowerment in a small Community. They can be presented individually under different themes but also together. We can then make a common background description of our organization, but also better demonstrate how these different strategic efforts are linked to different levels. We think this would create added value for the audience.

**Contact: LEIJON Matti**

Region Östergötland, Gasverksgränd 2, 58185 Linköping,  
[matti.leijon@regionostergotland.se](mailto:matti.leijon@regionostergotland.se)

**Adapted Physical Activity network in Reggio Emilia between 2011 and 2017: promoting healthy lifestyle for people dealing with chronic conditions**

**FUGAZZARO Stefania, FIOCCHI Alena, IOTTI Evelyn, MALVAROSA Isidoro, TEDESCHI Claudio**



**Background/Problem/Objective**

Physical activity is a priority tool in the prevention of functional worsening. In current health services scenarios, a lot of persons deals with chronic conditions and they need training programs with structured exercise to promote healthy lifestyle, even when slight disability is present, due to aging, arthrosis, surgical intervention for hip/knee prosthesis, stroke or chronic neurological diseases such as Parkinson. Emilia-Romagna Region strongly supported the development of Adapted Physical Activity (APA) programs in the last years.

**Methods/Intervention**

In Reggio Emilia, a multidisciplinary group started a project to implement APA in 2010-2011, involving Rehabilitation Department, Local Health Care Services, General Practitioners (GPs) and sport societies. According to regional guidelines, several exercise protocols were set up and pilot APA groups started, to offer training programs to people with chronic pain for osteoarthritis/arthritis. APA groups were supervised by instructors graduated in Physical Education. The pilot groups experience was very encouraging and a broader network was implemented between 2011-2017.

**Results (of evaluation)**

The local network now involves 22 community gyms (throughout the all district) and the number of persons attending regular APA programs grew from 226 in 2011 to 1223 in 2017. No significant adverse event occurred. The participants level of satisfaction and compliance are very high. The number of GPs supporting APA grew from 106 in 2011 to 578 in 2017. Every year an update event is organized, to implement education for professionalists leading APA groups and to verify exercise protocols.

**Conclusions/Lessons learned**

The development of APA network in Reggio Emilia was a strategy to create opportunities for healthy life style. The key elements of the projects were: 1. interaction between Rehabilitation Department, Local Health Care Services, sport societies and community gyms 2. Structured training for APA group leaders (at least once a year) 3. Involvement of GPs to promote regular physical activity for people dealing with chronic conditions.

**Contact: FUGAZZARO Stefania**

AUSL Reggio Emilia IRCCS S.Maria Nuova  
Viale Risorgimento 80, 42100 Reggio Emilia,  
[stefania.fugazzaro@ausl.re.it](mailto:stefania.fugazzaro@ausl.re.it)

## Empowering of patients, families and citizens in partnering with their associations for the implementation of physical activity promotion

**FORNERO Giulio, CARENA Elisa, CICCONE Giovanni, COSOLA Alda, DE LUCA Anna, PAGANO Eva, RACITI Ida Marina, ZIGNIN Claudio**

**Background/Problem/Objective**

Many physical activity promoting programs are in progress (Training, Information, Walking groups). The efforts often do

not bring effective results. The objective is empowering of patients, families and citizens in partnering with their associations for the implementation of physical activity promotion, increasing awareness. The Participation Conference 2016 (Patient and Family Advisory Council) stated to promote three pilot training courses. Low back pain cure is at high risk of non appropriateness, takes advantage of physical activity and needs more targeted interventions.

**Methods/Intervention**

5 Local Health Units and 3 Hospitals of the Metropolitan City of Turin and Piedmont Region started a partnership for a project in two steps: - a pilot course with specialized teachers for health professionals and leaders of patients, families and citizens associations to increase knowledge and to develop awareness with practice and exercise - assessment of the results of the courses to prepare meetings for divulgation to patients, families and citizens, to be evaluated with survey and repeated measurements

**Results (of evaluation)**

Positive feedbacks by participants were showed especially for the training efficacy of the courses and for the integration in the personal growth. Implementation of health literacy and awareness about health determinants and health promotion take advantage of the use of the method of empowering of patients, families and citizens in partnering with their associations. The leadership of patients, families and citizens associations is a good tool for health promotion.

**Conclusions/Lessons learned**

Patient and Family Advisory Councils of Local Health Units and Hospitals present a key role in this strategy. The Participation Conference 2017 stated to promote further courses for divulgation to patients, families and citizens with active networks of associations and to prepare a randomized controlled trial for the years 2018-2019, in collaboration with the Clinical Epidemiology Unit, using repeatable survey to test increasing knowledge and attitude to change.

**Contact: CARENA elisa**

Città della Salute e della Scienza di Torino  
corso bramante 88, turin,  
[ecarena@cittadellasalute.to.it](mailto:ecarena@cittadellasalute.to.it)

## Community-Based Fitness Training Program: Effects of a 12-week Intervention in Frail and Sub-healthy Elderly

**HUANG Huei-Chin, SHEU Shew-Meei , TSAI Ching-Fang, WU Chun-Yi, WANG Jian-Yu, HOU Jung-Ying, CHEN Wei**

**Background/Problem/Objective**

Frail or sub-healthy elderly have the higher risk of falling, disability, hospitalization and death. Previous studies have shown fitness training program may improve physical activity and physical function in older adults. However, it is unknown whether fitness training program conducted in the community is still effective. The purpose of this study was to determine the benefits of a 12-week community-based fitness program inter-

vention on body strength, flexibility, aerobic test and balance in frail and sub-healthy elderly in community.

#### Methods/Intervention

In this prospective study, 44 participants were recruited and completed all the training and tests. A trained educator would lecture the course in the community. All participants received 2 h of fitness training program a week for consecutive twelve weeks. Functional fitness test including lower body strength, upper body strength, lower body flexibility, upper body flexibility, alternative aerobic test, agility and balance were measured before and after the fitness training program. The data was analyzed by paired-t-test.

#### Results (of evaluation)

Among 44 participants, 34 were female (77%) and the mean age was 79.11 ± 6 years. After intervention, it was significantly increased in Body Mass Index, but decreased in the waist-hip ratio. Lower body strength (30-second chair-to-stand), upper body strength (30-second arm curl) and lower body flexibility (chair sit-and-reach) were significantly increased ( $p < 0.001$ ), but aerobic endurance (two-minute step), upper body flexibility (back scratch), agility (eight-foot up-and-go) and balance (stand on one foot) were not significantly different.

#### Conclusions/Lessons learned

The 12-weeks community-based fitness training program improves lower body strength, upper body strength and lower body flexibility in the frail and sub-healthy elderly. For those senior people who have difficulties in transportation, the fitness training program conducted in the community is effective and worth promoting.

**Contact: HUNG Shan-Ching**

CHIA-YI CHRISTIAN HOSPITAL

No.539,Zhongxiao Rd.,East Dist.,Chiayi City

60002,Taiwan(R.O.C), [cych05509@gmail.com](mailto:cych05509@gmail.com)

## Cross-sectional relationships between television viewing and physical fitness in older adults

**HOU Jung-Ying, TSAI Ching-Fang, WANG Jian-Yu, WANG Cheng-Wei, HUNG Shan-Ching, WU Pei-Lin, CHEN Wei, WAN Cheng-Wei**

#### Background/Problem/Objective

There is a trend that TV viewers are increasingly in the aged. Evidence has shown that frequent television (TV) viewing is associated with poor cardiopulmonary function and muscle strength in children and young adults. However, study investigating the relationships between TV viewing and physical fitness in older adults is limited. The aim of this study was to analyze the association between self-reported TV viewing time and measured physical fitness test in older adults.

#### Methods/Intervention

In this cross-sectional study, 340 older participants aged ≥ 65 years were voluntarily recruited during 2014-2015. TV viewing time was reported and further stratified into two groups: infrequent (≤2 hours/day) and frequent (>2 hours/day) TV viewers.

The functional fitness test included lower body strength (chair stand up for 30 seconds), upper-body strength (arm curl for 30 seconds), cardiorespiratory endurance (2-minute step test) and dynamic balance (8-foot up and go). Self-reported health and brief Symptom Rating Scale (BSRS-5) were also collected.

#### Results (of evaluation)

Of 340 participants, 188 were female (55%) and 226 participants (66.5%) were infrequent TV viewers. The mean age was 73.8 years. Comparing the characteristics and physical fitness between the two groups, infrequent TV viewers had lower body mass index (BMI,  $24.8 \pm 3$  vs.  $25.7 \pm 3$ ,  $p < 0.05$ ), more sleep hours ( $7.2 \pm 1.8$  vs.  $6.7 \pm 1.7$  hr,  $p < 0.05$ ), lower BSRS-5 level ( $0.91 \pm 1.11$  and  $1.20 \pm 1.20$ ,  $p < 0.05$ ) and better dynamic balance (8-foot up and go,  $8.7 \pm 3$  vs.  $7.81 \pm 3$  s,  $p < 0.05$ ).

#### Conclusions/Lessons learned

There are one-third of the participants viewing TV more than 2 hours a day in this study. Infrequent TV viewers are associated with lower BMI, more sleep hours, better emotional status and dynamic balance, which highlight the need for interventions and prevention strategies for the excessive TV viewing in the elderly.

**Contact: HUNG Shan-Ching**

CHIA-YI CHRISTIAN HOSPITAL

No.539,Zhongxiao Rd.,East Dist.,Chiayi City

60002,Taiwan(R.O.C), [cych05509@gmail.com](mailto:cych05509@gmail.com)

## Using Pedometer to Monitoring and Increasing Physical Activity among Overweight Children – The Taitung School Children Program

**CHU Nain-Feng, WU Hong-Lien, LIN Ying-Ching**

#### Background/Problem/Objective

Obesity is a growing rapidly health issue among children in recent decades. Sedentary lifestyle and physical inactivity are the most important risk factors of developing obesity among children. The purpose of this study is to evaluate the effects of using pedometer to monitoring physical activity among overweight children.

#### Methods/Intervention

We conducted an open-labeled 8 weeks intervention program among overweight children. Totally, we enrolled 99 overweight school children (grade 4 to 6, with the mean age of 10.6 years) from eight elementary schools in the Taitung county, Taiwan. Children were asked to monitor their weekly walking steps using pedometer for 8 weeks. They also measured body composition and blood pressure using standard methods.

#### Results (of evaluation)

At baseline, the mean BMI is  $25.6 \pm 3.5$ , percent of body fat is  $31.8 \pm 6.0\%$ , systolic BP is  $121.2 \pm 12.0$  mmHg, DBP is  $68.5 \pm 9.2$  mmHg, and weekly walking is  $27742 \pm 26340$  steps. The girls had more weekly steps than boys at baseline ( $33510$  vs.  $22935$  steps/week). After recruited into study, the walking steps were increased and with the maximum steps at the 2nd week (girls) and the 4th week (boys) and then slightly attenuated at the end

of study. For example, the weekly walking steps among boys are 22935, 23729, 32120, and 30043 steps for the baseline, 2nd, 4th and 8th week but without statistical significance of the trends. For systolic BP, it showed significantly decreased from 121.2±12.0 to 115.9±12.9 mmHg ( $p < 0.05$ ).

#### Conclusions/Lessons learned

From this study, we found that using pedometer to monitoring physical activity can encourage children willingness to conduct more exercise which may be associated with beneficial body composition and blood pressure. However, the effects are more significantly at the early stage of the study and will slightly attenuated at the end of program. Further long-term physical activity program with monitoring body composition and biological parameters may apply to children in future weight management program.

#### Contact: CHU Nain-Feng

Kaohsiung Veterans General Hospital, School of Public Health, National Defense M, P.O. Box 90048-509, Nei-Hu, 114 Taipei, [chuepi369@gmail.com](mailto:chuepi369@gmail.com)

## Session O3.3: Tobacco free health services

### A total non-smoking health care in Region Östergötland, Sweden

**SCHÖLD Anna-Karin, GLAD Elin, WHITE Alexandra, LEIJON Matti**

#### Background/Problem/Objective

From January 1, 2016, Region Östergötland introduced a completely non-smoking healthcare area. The purpose and goal of non-smoking outdoor healthcare facilities is to prevent illness and premature death in smoking related diseases, providing a totally non-smoking environment for all: employees, entrepreneurs, patients, visitors and the population. Patients and their relatives should not pass through smoke to reach their care and it is especially important to protect children from passive smoking.

#### Methods/Intervention

Based on a political decision, at regional level, an action plan was implemented including all levels of the health care systems. The healthcare professionals are taking responsibility for promoting health and disease avoidance. Through various campaigns, like non-tobacco day and non-tobacco week, news and articles on the hospital's intranet, along with printed information in different languages, the purpose was spread. Furthermore, the non-smoking outdoor environment was supported by signs including information about locations to smoke outside the healthcare area.

#### Results (of evaluation)

One important goal of the non-smoking policy is to be a role model of a whole system approach including the environment, employees, entrepreneurs, patients, visitors and the population. There has been a great and increasing acceptance for this strategy, and for the majority of healthcare workers this has become an integrated and obvious part of daily work.

#### Conclusions/Lessons learned

One of the lessons learned is to involve key persons from the beginning, and to have a long term perspective based on flexibility. It is also important to take continuous notice of new knowledge, and to update and develop new activities based on new input. "Keep holding on and be patient."

#### Contact: WHITE Alexandra

[Alexandra.lundvall.white@regionostergotland.se](mailto:Alexandra.lundvall.white@regionostergotland.se)

## A breath of fresh air. Leading the way in the smokefree journey.

**DEAN Emma, BRADFORD Linda, NOBLE Kia**

#### Background/Problem/Objective

Alfred Health's innovative approach to 'Totally Smokefree' uses a range of strategies to improve the physical environment, integrate prevention into patient interactions and actively support the workforce in improving their health.

#### Methods/Intervention

Key strategies implemented include a pharmacy-led clinical model for the management of nicotine dependency among patients, provision of intensive intervention options for inpatients and outpatients with a more complex dependency, active support for staff who smoke to quit and implementation of a range of communication strategies support a 'Totally Smoke-free' environment.

#### Results (of evaluation)

Alfred Health achieved 'Gold' in the international standards for smokefree within healthcare services; not previously achieved by any Australian health service. Nicotine dependency management has been effectively integrated within patient care in greater than 95% of cases. Smoking around the perimeter of The Alfred has reduced to less than one third of its former rate, with the greatest reductions observed among the inpatient population. Up to 42% of patients attending our outpatient smoke free clinic achieve cessation, far higher than similar benchmarks. Pre-admission patients are four times more likely to make a quit attempt, and twice as likely to successfully quit. More than 50% of staff have successfully quit smoking for more than 6 months.

#### Conclusions/Lessons learned

Alfred Health is proud to be recognized for its leadership in Totally Smokefree. Alfred Health has been appointed to a sector leadership role and is actively supporting many other health services to maximise the effectiveness of smokefree environments and better manage nicotine dependency.

#### Contact: NOBLE Kia

Alfred Health, Level 5, 553 St Kilda Rd, 3931 Melbourne, [Kia.Noble@alfred.org.au](mailto:Kia.Noble@alfred.org.au)

## Trends in Smoking Prevalence and attitudes to a hospital campus smoking ban among hospital inpatients 2010-2016

**LYONS Ailsa, BURKE Eimear, NABWIRE Justine, DOHERTY Kirsten, KINSELLA Laura, STYNES Sinead, CUNNIFFE Elaine, CASHMAN Emer, OLBODE Daniella, DALY Leslie, KELLEHER Cecily, FITZPATRICK Patricia**

#### Background/Problem/Objective

It has been shown that smoking bans can contribute to reduction in number of cigarettes smoked, reduce risk of hospital admission from cardiovascular and respiratory conditions and may contribute to smoking cessation. St. Vincent's University Hospital, Dublin implemented the first total hospital campus ban of smoking in Ireland in January 2009. This paper focuses on changes in patient smoking rates and acceptance of the ban amongst patients between 2010 and 2016 and electronic cigarette (e-cigs) use in 2016.

#### Methods/Intervention

Three census surveys of all inpatients in the hospital have been conducted across a single day in 2010, 2013 and 2016, post Background/Problem/Objective of the ban. On each occasion data were collected using an interviewer-administered questionnaire which determined smoking prevalence, validated by breath carbon monoxide (CO) testing, and acceptability of the ban. In 2016 questions were included to address the Background/Problem/Objective of e-cigs to popular use.

#### Results (of evaluation)

Smoking prevalence rates amongst patients are falling inconsistently, in line with trends in national smoking prevalence rates (18% in 2010, 21.4% in 2013 and 13.2% in 2016; with a significant fall between 2013 and 2016 ( $p < 0.05$ )). In 2016, of 29 smokers (13.2%) 44% wanted assistance with cessation. Among smokers, 7 (24.1%) had tried e-cigs at some time and a further 2 were current users. Support for the ban has increased from 84.2% in 2010 to 87.9% in 2013 and 90.3% in 2016 ( $p > 0.05$ ) with rising support amongst smokers (48.5%, 64.1% and 79% respectively,  $p < 0.05$ ).

#### Conclusions/Lessons learned

The trends in campus ban acceptance are strong and smoking prevalence rates among patients are encouraging. There remains a small percentage of patients who continue to smoke; identification of smokers and the provision of smoking cessation support in tertiary care are of critical importance. Electronic cigarette use is minimal in hospital inpatients.

#### Contact: CUNNIFFE Elaine

St Vincents University Hospital Dublin  
Department of Preventive Medicine, St Vincents University Hospital, Elm Park Dublin 4, ROI, Dublin,  
[E.Cunniffe@svhg.ie](mailto:E.Cunniffe@svhg.ie)

### Efficacy of a smoke-free workplace program for the promotion of smoking cessation among employees

**KIM Hyekyeong, KIM Kwang Kee, AHN Jeonghoon, LEE Jakyoun, NAH Eunhee,**

**JEKARL Jung, RODRIGUEZ ROCHA Norma P, LEE Ji-Eun, KIM Hyeyun, KANG Jiwan, LEE Jeongeun, LEE Jaeun**

#### Background/Problem/Objective

The objective of the present study was to develop a workplace smoking-free program from the ecological perspectives, and to evaluate its effectiveness and economic feasibility.

#### Methods/Intervention

For the development of a workplace smoking cessation program, systematic review was conducted to identify the effective strategies, and focus groups were conducted to assess the needs for the program contents. Developed worksite smoking cessation program consisted of interventions in the organizational and the individual level. A total of seven worksites and 89 employees participated in the program. The evaluation of the efficacy was conducted in two parts: smoking cessation and ROI.

#### Results (of evaluation)

By the end of the intervention, among the 99 participants 29.3% ( $n=29$ ) showed a 6-week quit smoking rate, and 39.4% ( $n=39$ ) were current non-smokers (less than 6-weeks of abstinence). Among current smokers, 68.0% had made attempts to quit smoking during the program period. We could estimate that if successful quitters continue abstinent for a 1 year period, the loss in productivity would be reduced by 92,101,358 won per year. The ROI obtained based on the analysis of the amount of productivity loss was 3.8 points, while the productivity loss plus the medical expenses reduction was 4.55 points.

#### Conclusions/Lessons learned

The workplace smoking cessation program at the organizational and individual level was proved to be effective in terms of smoking cessation and productivity plus the medical expenses reduction. Dissemination of a smoking cessation program from the ecological perspectives to other worksite was recommended.

#### Contact: KIM Hyekyeong

Ewha Womans University  
52, Ewhayeodae-gil, Seodaemun-gu, 03760 Seoul,  
[hkkim@ewha.ac.kr](mailto:hkkim@ewha.ac.kr)

### Prevalence and Trends of Cigarette Smoking among Military Personnel in Taiwan -- Results of Ten-Year Anti-Smoking Health Promotion Programs in Military

**CHU Nain-Feng, LIN Fu-Huang**

#### Background/Problem/Objective

The purpose of this study is to evaluate the prevalence and trends of cigarette smoking among young military conscripts, military officers, and military university students during recently 10 years in Taiwan.

**Methods/Intervention**

Repeated cross-sectional surveys were conducted annually among young military conscripts and military university students from 2006 to 2014. All the young conscripts were reviewed within one month at the military training center and before retiring after 1 year of military services. The military officers were included using purposive sampling from 2004 to 2008 and 2013 to 2014 in different military services. Military university students were included in this study. Freshman and senior students were random sampled as the study subjects. We used a chi-square test to examine the difference between the prevalence of cigarette smoking among different groups. The Cochran–Armitage test for trend was applied to examine the change of prevalence of smoking after repeated cross-sectional surveys among populations.

**Results (of evaluation)**

The prevalence of cigarette smoking within military training center and after 1 year military services was 48.6% and 48.1% on 2006, which became 39.2% and 38.6% on 2010, and then further declined to 31.0% and 30.1% on 2014. For military officers, the trends of prevalence of smoking among different military services showed slight decline from 2004 to 2008, but decreased significantly between 2013 and 2014. The prevalence of smoking in 2014 was 32.1, 32.8 and 32.4% for the Army, Navy and Air Force, respectively. More interestingly, the prevalence of smoking of freshman and senior students increased during the first five years (from 2007 to 2011) of survey and then decreased after 2012. Furthermore, in 2014, the prevalence of smoking decreased as the difference became smaller, 4.5% and 6.1% for freshman and senior, respectively.

**Conclusions/Lessons learned**

During this 10-year period, the smoking cessation programs include in-class education course, out-door physical training, anti-smoking clinic and group therapy. After these military health promoting programs, there are some beneficial effects to decline the prevalence of cigarette smoking for military personnel in Taiwan. The military also have to develop specific approaches and programs to prevent cigarette smoking among conscripts and officers.

**Contact: CHU Nain-Feng**

Kaohsiung Veterans General Hospital, School of Public Health, National Defense M, P.O. Box 90048-509, Nei-Hu, 114 Taipei, [chuepi369@gmail.com](mailto:chuepi369@gmail.com)

**Session O3.4: Health literacy**

## Fire and Fury in an Internal Medicine Ward: how Health Literacy(HL) and Communication Skills can stamp out the Flames

**BAGNULO ALBERTO, GAIONI CLAUDIA, GASPARINI IVANNAZOBOLI ALESSANDRA**

**Background/Problem/Objective**

In Italy about 90% of medical-legal disputes have to do with a non-optimal or sometimes bad relationship between doctor and patient and more often between doctor and family. In our

assistance reality of an internal medicine department the conviction in the operators that the communicative and relational skills are not part of the technical-professional baggage is not very far in time.

**Methods/Intervention**

In addition to communication training courses, we have activated a surveillance system by all professionals working in the ward. The reports concerning possible or real relational difficulties with patients' families are addressed to the nurse coordinator and the medical director. For each report a semi-structured interview is scheduled between nurse coordinator and/or director and family/family members. In the most complex cases we proceed to a discussion of the case, from the relationship point of view, with the operators

**Results (of evaluation)**

The most frequently issues faced with families were: not understanding of diagnosis and prognosis, motivations of therapies removed and / or added, communication with the patient, conflicts with the care staff, explanations about instrumental tests performed or not performed, time of hospitalization and modalities of discharge at home. Since this method of "relational surveillance" has been activated (last 2 years), there have been no medical-legal disputes, even in cases of major events such as cases of sudden death.

**Conclusions/Lessons learned**

Systematic training and supervision of care staff on communication-relational skills, together with the use of a compatible HL language, can promote a reduction in the risk of medico-legal disputes. The presence of a relational surveillance system with active intervention by the medical and nursing management can further improve the experience of family members. Negative retrospective reports that are not intercepted or cannot be intercepted can be recovered by inviting family members for an interview, even after discharge

**Contact: BAGNULO Alberto**

San Sebastian Hospital  
via Circondaria, 29, 42015 Correggio, [bagnuloa@ausl.re.it](mailto:bagnuloa@ausl.re.it)

## Right word. Right time: compelling health professionals to raise preventive health

**NOBLE Kia, SMOKER Gemma, DEAN Emma**

**Background/Problem/Objective**

Nine out of 10 deaths in Australia are caused by chronic disease - which are largely preventable. Every year, 9 out of 10 people in Australia see a health professional.

**Methods/Intervention**

Right word. (rightwordrighttime.org.au) is a communication campaign challenging health professionals to recognize the importance of preventive health and motivate them to initiate this dialogue with patients. The campaign features a 3-minute video along with a supporting microsite and 50-second social media video cut. The video central to the campaign uses actors to show a series of life decisions and the impact they have on someone's health. Supporting evidence features throughout the video, such as influences of alcohol, physical activity, diet and smoking on chronic disease. Right



Word. Right Time was shared primarily via digital and social media platforms. The campaign forms part of a larger 'supporting prevention across health services' initiative within the Victorian health system in Australia.

#### Results (of evaluation)

Right word. Right time. demonstrated high reach among its target audience. The microsite has been visited more than 1,400 times, over 7,000 people reached via Facebook and 2,856 Twitter impressions within the first week of the campaign. The campaign received media attention and health professionals expressed highly emotive responses and a strengthened commitment to raise the topic of preventive health with their patients.

#### Conclusions/Lessons learned

Right word. Right time. has changed the narrative on preventive health by reversing the traditional approach and prompting health professionals to change their behaviour – by initiating the conversation – not the patient.

#### Contact: NOBLE Kia

Alfred Health. Level 5, 553 St Kilda Rd, 3931 Melbourne,  
[Kia.Noble@alfred.org.au](mailto:Kia.Noble@alfred.org.au)



### The level of self-rated knowledge among the patients with early rheumatoid arthritis in Estonia: 2-years follow-up

**PÖLLUSTE Kaja, MÜLLER Raili, KALLIKORM Riina, LEMBER Margus**

#### Background/Problem/Objective

Previous study in patients with rheumatoid arthritis (RA) in Estonia demonstrated that the self-reported ratings of knowledge about the disease were rather low, first of all among the patients with shorter disease history. This study aims to explain the trends in level of knowledge among the patients with early RA during the two-years follow-up period.

#### Methods/Intervention

The study sample consisted of 79 consecutive patients (aged 19-79 years, mean 54.2; of them 25% male patients) referred to Tartu University Hospital with first ever RA diagnosis in 2012-2014. Data about patients' background, disease characteristics, and disease-related knowledge were collected three times with the one-year interval by a self-administered questionnaire. Descriptive statistics and regression analysis were used to explain the trends of self-rated level of knowledge and association between these ratings and other variables.

#### Results (of evaluation)

During the two-years follow-up, the proportion of well-informed patients increased significantly ( $p < 0.001$ ) in all areas: nature and prognosis of RA from 30% to 64%; treatment options from 15% to 57%; medication from 21% to 51%; and targets of treatment from 33% to 58%. The better ratings of the level of knowledge were independently related to the younger

age, female gender, and higher level of education. The strongest positive association was found between the ratings of self-rated knowledge and information received from the rheumatologist in all areas, which remained significant after adjusting for age, gender, and education, too. No significant associations were found between the ratings of the level of knowledge and the variables describing the disease activity and health status.

#### Conclusions/Lessons learned

The level of knowledge increased rapidly during the first years of RA; the adequate information from the rheumatologist about the disease, medication, treatment options and targets plays the most important role in good disease-related knowledge among the patients with early RA. The long-term impact of disease-related knowledge on the patients' health outcomes should be studied in the future.

#### Contact: PÖLLUSTE Kaja

University of Tartu, Tartu University Hospital, Puusepa 8  
[kaja.polluste@kliinikum.ee](mailto:kaja.polluste@kliinikum.ee)

### An Italian therapeutic patients education program to support self-management in stroke survivors: feasibility and results

**FUGAZZARO Stefania, BARDELLI Roberta, ACCOGLI Monia Allisen, DENTI Monica, ALTAVILLA Alessandra, CAVALLI Enrica, GHERARDI Paolo, CLERICI Piera, FAENZA Manuela, DALLOLIO Laura, RUCCI Paola, PAGLIACCI Donatella, CALUGI Simona, CAVAZZA Stefano, TEDESCHI Claudio, TARICCO Mariangela**

#### Background/Problem/Objective

In "Rehabilitation 2030: a call for action" WHO invited Healthcare Systems to develop strategies for empowerment in patients with disability. In the last 15 years some programs were developed in USA and Europe to support self-management in chronic conditions. Guidelines recommend Therapeutic Patient Education (TPE) even in stroke patients. There are evidences of efficacy of Self-Management (SM) programs on stroke survivors quality of life and self-efficacy, but there is a great variability in type, timing and setting of existing programs.

#### Methods/Intervention

In 2013 we projected a multicentric trial to develop and evaluate the impact of a standardized Italian TPE program on SM for stroke patients in post-acute phase. Primary outcome: patient perceived self efficacy (SSEQ-Stroke Self Efficacy Questionnaire). Patients assessments included also patients dependence, balance performances, depression, QoL, patient and caregiver's satisfaction, territorial services use. A structured TPE intervention was set up, defining contents, timing and modalities. The program is an adaptation of the Chronic Disease SM Program (Stanford, USA).

**Results (of evaluation)**

Topics of the sessions: stroke and risk factors, rehabilitation, self-management, emotions, good communication, help request, sleep quality, drugs management, pain and fatigue, nutrition, falls prevention and exercise. 265 patients were enrolled in S. Orsola, ASMN and NOCSAE Rehabilitation Units. After the intervention, there was improvement in SSEQ in younger stroke survivors (<75 years) and in people with better cognitive performances (MMSE >24). Compliance to an active life style was significantly better in stroke survivors who attended the program.

**Conclusions/Lessons learned**

This is the first Italian program to support SM after stroke. It includes 6 group sessions and 3 individual sessions directed by physiatrists, physiotherapists and nurses. The focus is the training on goal setting and problem solving. Booklets for patients were created. A guide for sessions leaders is disposable to replicate the intervention. The project analysed barriers and facilitators to SM program delivery in early post-acute phase and explored the feasibility of SM support for patients, caregivers and health professionals.

**Contact: FUGAZZARO Stefania**

AUSL Reggio Emilia IRCCS S.Maria Nuova  
Viale Risorgimento 80, 42100 Reggio Emilia,  
[stefania.fugazzaro@ausl.re.it](mailto:stefania.fugazzaro@ausl.re.it)

## Text editing and provision of healthcare information according to Health Literacy (HL)

**GAZZOTTI Federica, BEDOGNI Valentina****Background/Problem/Objective**

50% Italian adult population hasn't attained secondary school. Moreover, according to 2014-2015 PIAAC survey, promoted by OCSE on adults (16-65) of 33 countries, Italy ranked in the last places both for literacy & numeracy skills. Only 30% Italian population received a passing score. According to PIAAC data, HL deserves much more attention, particularly by providing clearer health information, which can be understood & used by whole population.

**Methods/Intervention**

In 2011, a working group was set up by Emilia Romagna Department of Healthcare Policy to promote HL. Classroom peer-to-peer training was intended to teach both medical staff & administrative employees HL techniques, by emphasizing training of whole Units. Information was edited by sharing texts, while patients & family members participated in the reading process.

**Results (of evaluation)**

After class training of more than 350 healthcare professionals & 100 administrative employees, Reggio Emilia Local Health Authority is systematically editing published information leaflets. Texts introduced by healthcare professionals are being submitted to Communication Office, while patients & family members take part to the editing process. The participants, selected among patients/family members in order to get the richest sample (by sex, age, nationality, educational attainment), are asked to highlight too difficult or technical words,

too long sentences and redundant or missing information. Following unification of Reggio Emilia Local Health Authority and Research Hospital S. Maria Nuova in one single Trust, many information brochures and disclosures related to informed consent are being edited, in an attempt to standardize those previously distributed by the 2 Healthcare authorities. Many of them have been already re-edited: brochures describing Services, leaflets explaining diseases treatment or preventive healthcare and healthy lifestyles.

**Conclusions/Lessons learned**

Participants strongly appreciated classroom training, as their feedback questionnaires evaluated HL techniques and their immediate applicability as useful. Patients and family members taking part in the editing process welcomed such activity too. Re-edited leaflets are in great demand and often consulted by users. An increasing number of Healthcare services address Communication Office asking for leaflets written according to HL principles.

**Contact: BEDOGNI Valentina**

Azienda Usl di Reggio Emilia  
Via Amendola, 2, 42122 Reggio Emilia,  
[valentina.bedogni@ausl.re.it](mailto:valentina.bedogni@ausl.re.it)

**Session O3.5: HPH Standards**

The meaning and realization of equitable healthcare services in Finnish healthcare unit – the viewpoints of healthcare leaders, nurses and immigrant parents described using TF MFCCH equity standards. A study protocol.

**KAMPPILA Hanna****Background/Problem/Objective**

Immigration and increased diversity of population in Finland are causing change in the operational environment of healthcare. Previous studies and ethical considerations show that equity in healthcare should be emphasized especially related to immigrants. How equity is realized and how healthcare organizations can answer the different needs of individuals are major challenges. This abstract provides an overview of a study protocol used in examining what equitable health care services mean to healthcare leaders, nurses and child patients' immigrant parents. The study aims to describe through TF MFCCH equity standards how equitable access and utilization, equitable quality of care & equity in participation are realized from the viewpoints of these groups. Study also aims to recognize areas of improvement.

**Methods/Intervention**

The data for this qualitative case study is collected through interviews at Kuopio University Hospitals' children's and adolescents' ward from healthcare leaders (n=2), nurses (n=6) and the immigrant parents (n=5) of the children treated in the ward during autumn 2017. Participants are selected by convenience sampling. The participants are asked open-ended questions

about perceptions and thoughts about equity in healthcare in general. Next they are asked to fill up a questionnaire based on TF MFCCH equity standards translated into Finnish. Interpreters are used if needed. To analyze and describe the data, content analysis and SPSS Statistics 23 software is used.

#### Results (of evaluation)

Study results will be ready during spring 2018. This study will produce qualitative information about perceptions and experiences about equity, and realization of equitable health services in a Finnish healthcare unit by using TF MFCCH equity standards.

#### Conclusions/Lessons learned

The translated standards are used the first time within this study. This will give important information about the usage and feasibility of standards in the Finnish healthcare system. The results will be used in developing and leading healthcare services.

**Contact: KAMPPILA Hanna**

University of Eastern Finland  
Eerikinkatu 9 A 18, 00100 Helsinki,  
[hannakam@student.uef.fi](mailto:hannakam@student.uef.fi)

## The implementation of Healthy Hospital Accreditation in Taiwan

**LIN Chia-Chen, HUANG Hui-Ting, LIN Jin-Ding, HWANG Lee-Ching, WANG Chia-Fen, CHIEN Po-Shan, WANG Ying-Wei**

#### Background/Problem/Objective

2017 is the year which Taiwan rolled out its newest iteration of the health promoting hospital accreditation, based on the original HPH self-assessment and the five standards published by WHO-HPH Network. The new, localized version of the standards incorporated unique features in Taiwan such as age-friendly design, tobacco-free modality and environment-friendliness, culminating in the "Healthy Hospital Accreditation". This study aims to investigate the effectiveness of this integrated accreditation standards and processes.

#### Methods/Intervention

The new version of Healthy Hospital Accreditation standards consist of a total of 7 major standards and 38 sub-standards. The new standards are promoted across Taiwan's 98 hospitals by 55 experts from various fields. It incorporated the concepts of health literacy and shared-decision making (SDM) into the operation, and carries out its HPH work by using patient focus methodology (PFM), examining and improving services with site visits from experts, operating manual and toolkits, emphasizing on patient-centered health care and employee well-being.

#### Results (of evaluation)

We conducted pilot test in 10 hospitals before we carried out the new standards nationwide. Also, we hosted workshops to illustrate the new process and focus on three new initiatives, which include health literacy, SDM and PFM review. We analyzed the self-assessment forms of 98 hospitals and the average score is 2.66 (out of 3). The highest score is Standard 1 Management Policy (2.81), the lowest score is Standard 6 Age-friendly (2.44). In sub-standards, tobacco-free policy has the

highest achievement rate and SDM was the lowest one (3 & 2.22 respectively)

#### Conclusions/Lessons learned

"Healthy Hospital Accreditation" is a localized certification standards specifically designed for Taiwan's hospitals, with health literacy and SDM as the two key new elements. We will further analyze the relationship of these two concepts in different medical areas and hospital levels. During this accreditation process, we also conducted a survey on health literacy and plan to develop specific education tools that fulfill the needs of Taiwan, in the hope of further improving our overall health service quality and health outcomes for the population.

**Contact: LIN Chia Chen**

Taiwan Society of HPH  
3F., No.400, Sec.2, Bade Rd  
10556 Taipei, [hphthwmail@gmail.com](mailto:hphthwmail@gmail.com)

## Development and Validation of Self-Assessment Tool for Health Promoting Hospitals in Iran based on WHO's Tool

**VAZIRI Mohammad-Hossein , KESHAVARZ MOHAMMADI Nastaran, RAMEZANKHANI Ali, KAVOUSI Amir, OLYAEEMANESH Alireza**

#### Background/Problem/Objective

The concept of Health promoting hospital (HPH) can be considered as implementation of Ottawa Charter's second and fifth strategy, creating health promoting environment and reorientating health services and systems. But this idea is a relatively new concept in Iran. Although WHO has developed an assessment tools for HPH, it needs to be adapted to the socio-cultural as well as health system context of Iran. This study aimed at addressing this need.

#### Methods/Intervention

The present study designed as a mixed study conducted in three stages. In the first qualitative stage, the translated version of WHO assessment tool in addition to few open ended questions were used an interview guide to explore perspectives of 25 national and local stakeholders regarding the concept of HPH and national assessment tool for HPH. They were asked to comment on the translated version of WHO assessment tool, and modify it as they wish to make it appropriate for assessing hospitals in Iran. According to their comments, a new draft of the questionnaire was developed in second stage. In third stage the validity of the questionnaire, content validity index and content validity were measured. The internal consistency and test-retest were used to determine the reliability of tools. Then the final modification was conducted.

#### Results (of evaluation)

The new national tool was developed with 4 standards and 67 questions. A large number of sub-standards were changed and the evaluation score system changed to 1 to 10 range. Mean value of the content validity was 0.87, which was indicative of favorable and acceptable stability. The results of the internal

evaluation of the scale with the Cronbach's alpha index in four standards were 90.02. The results of the test-retest showed the stability of the questionnaire. Six questions were deleted and new five questions were added and 49 questions were changed.

#### Conclusions/Lessons learned

The HPH assessment tool developed by WHO could be adapted to local context of countries including Iran to reflect health system status and interests more efficiently and also increase its utility.

**Contact: VAZIRI Mohammad- Hossein**  
Shahid Beheshti University of Medical Sciences  
Noor St., 1659644311 Tehran,  
[mhvaziri40@yahoo.com](mailto:mhvaziri40@yahoo.com)

## Health Promoting Hospital standards: Results of a study in Iran

**KESHAVARZ MOHAMMADI Nastaran,**  
**VAZIRI Mohammad-Hossein,**  
**RAMEZANKHANI Ali, KAVOUSI Amir**

#### Background/Problem/Objective

The purpose of health promoting hospital approach is changing hospital from a place of diagnosis and treatment to a place for prevention of disease and promotion of health of patients, personnel, clients and community. The purpose of this study was to assess the status of hospitals in Tehran City utilizing Iranian version of WHO Self-Assessment Tool of Health promoting hospitals.

#### Methods/Intervention

This research was a quantitative and cross-sectional study which assessed the status of the 30 hospitals in Iran. The Iranian version of tool included 4 standards and 67 questions. The collected data were analyzed by descriptive statistics using SPSS 21 software.

#### Results (of evaluation)

The average score of standards from was 7.03 out of 10. Lowest score was related to standard 1 (Healthy and Management Policy) and highest score belonged to standard 3 (Personel Health Promotion). Moreover, the standards private hospitals were higher than non-educational and educational public hospitals.

#### Conclusions/Lessons learned

Iranian hospitals already implemented of the standards of health promoting hospitals. However, HPH standards and specially the Iranian version of the tool can help to institutionalize this concept. But given the different preparedness of hospitals to become a health promoting hospital, the implemetaion of the concept should be in a gradual and adaptive manner.

**Contact: VAZIRI Mohammad- Hossein**  
Shahid Beheshti University of Medical Sciences  
Noor St., 1659644311 Tehran,  
[mhvaziri40@yahoo.com](mailto:mhvaziri40@yahoo.com)

## Fast-track strategic implementation of clinical health promotion and ex-

## amples of reporting using the RE-AIM Framework

**KIRK SVANE Jeff, TØNNESEN Hanne**

#### Background/Problem/Objective

To facilitate implementation of clinical health promotion (CHP), the World Health Organization (WHO) and the International Network of Health Promoting Hospitals & Health Services (HPH) developed and validated 5 standards more than 10 years ago. Two related documentation tools were also developed in later years. Looking beyond the confines of CHP implementation, the rapidly growing discipline of implementation science also provides tools to promote the systematic uptake of research findings and other evidence-based practices into routine practice, and, hence, to improve quality and effectiveness of health services.

#### Methods/Intervention

Using the available tools for strategic implementation, the aim of the study was to describe an operational proocess for fast-track implementation of CHP targeting patients staff and the clinical department as an organization.

#### Results (of evaluation)

Using the RE-AIM framework from implementation science, we illustrated how results of strategic fast-track CHP implementation may be reported and monitored continually both at the level of individual clinical departments and in a sample of 18 departments from literature.

#### Conclusions/Lessons learned

Furthering CHP implementation and monitoring the implemen- tation continously may be done using the operational process for fast-track implementation of CHP reported via the RE-AIM Framework.

**Contact: SVANE Jeff Kirk**  
WHO CC Copenhagen  
Frederiksberg Hospital Nordre Fasanvej 57, 2000 Frederiksberg,  
[jeff.kirk.svane@regionh.dk](mailto:jeff.kirk.svane@regionh.dk)

## Staff experiences with strategic implementation of clinical health promotion: A nested qualitative study

**KIRK SVANE Jeff, EGEROD Ingrid, TØNNESEN Hanne**

#### Background/Problem/Objective

Health promotion is on the global agenda, but implementing clinical health promotion (CHP) remains a challenge. While several processes for strategic implementation exist, very few have been tested in randomized designs. A strategic CHP implementation process was recently tested in a randomized trial on the World Health Organization Health Promotion Hospitals Recognition Process. The trial showed that the process improved implementation.

**Methods/Intervention**

To complement this finding, this nested study aimed to explore experiences and perceptions of staff and managers who had completed the process. We interviewed 45 key informant staff and managers from Taiwan, Czech Republic, Malaysia and Japan. Interview transcripts were analyzed using qualitative content analysis.

**Results (of evaluation)**

The informants were positive toward the implementation process, which was perceived to facilitate positive changes and learnings. Our findings also suggest that minor adjustments may improve the process. It is our recommendation to use the process in clinical departments to further CHP implementation.

**Conclusions/Lessons learned**

It is our recommendation to use the process in clinical departments to further CHP implementation.

**Contact: SVANE Jeff Kirk**

WHO CC Copenhagen

Frederiksberg Hospital Nordre Fasanvej 57, 2000 Frederiksberg,

[jeff.kirk.svane@regionh.dk](mailto:jeff.kirk.svane@regionh.dk)

## Session O3.6: User participation and empowerment

### Informed consent and empowerment

**RAGNI Pietro, DE PANFILIS Ludovica, GUALANDRI Giorgio, GAZZOTTI Federica, NINI Antonia, ZANICHELLI Matteo, BINELLI Gianni, CHIESA Valentina, CHIARENZA Antonino, MARCHESI Cristina**

**Background/Problem/Objective**

Informed consent (IC) is a legal issue which is strongly related with ethical concerns: respect of patients' needs and values, healthcare quality and safety, health literacy, sharing decision making, accommodating patients' preferences. Actually, IC is often confused with a form to be filled, without a true involvement of patients. Even for this reason, Italian Parliament adopted in 2018, January a new law about IC in healthcare, that emphasizes the citizens' right to be informed and to decide about themselves.

**Methods/Intervention**

A multiprofessional team with legal doctors, bioethicist, clinicians, communication experts, has defined a project for better patients' empowerment in the path of decision making. We decided to prepare more tools for information and acquisition of consent and we have them preliminarily shared with citizens. In fact, some tools are necessary to give a first confidential information, easily understandable to everyone. Other tools are necessary to give more precise information, also from a legal point of view.

**Results (of evaluation)**

We have made videos and new leaflets about general information, and a brand new consent form. Videos and leaflets

have been evaluated by citizens and have been modified after their critical observations; finally they have been published on our website. We have carried out training courses for medical doctors and professional staff on the ethical aspects of IC and on the use of the new tools and new forms.

**Conclusions/Lessons learned**

About the argument for informed and involved patients when decisions are made, there is growing interest in improving the quality of medical decision making and particularly in ensuring that decisions are patient centered. Empowered patients are in a better position to manage their own health and health care and even to participate in efforts to improve safety. Our experience showed us that listening to the citizens' point of view makes it possible to adopt more comprehensible and effective communication tools.

**Contact: RAGNI Pietro**

Azienda USL Reggio Emilia

Via Amendola 2, 42123 Reggio Emilia,

[pietro.ragni@ausl.re.it](mailto:pietro.ragni@ausl.re.it)

## The relation between patient education, patient empowerment and patient satisfaction

### TUNG Tao-Hsin, YEH Mei-Yu WU Shu-Chen

**Background/Problem/Objective**

Patient empowerment is a paradigm of clinical practice. The goal of patient empowerment is to lead patients' health and wellbeing. The aim of this study is to evaluate the relation between patient education, patient empowerment and patient satisfaction based on multi-hospital cross-sectional study design in Taiwan.

**Methods/Intervention**

In this cross-sectional survey, 609 inpatients in four teaching hospitals in northern Taiwan from August 2009 to July 2010 were recruited. Data were collected using Chinese version of the Patient Perceptions of Empowerment Scale (PPES), Sufficiency of Patient Education Questionnaire (SPEQ) and Patient Satisfaction Questionnaire (PSQ). The multiple linear regression model was used to assess the independent effects of relevant factors on patient empowerment after controlling for the covariates.

**Results (of evaluation)**

The overall mean empowerment scores was 44.80(SD:5.94). There was a significant difference between the total scores and four dimensions of patient empowerment at different hospitals ( $t=5.44$ ,  $p<0.01$ ). Sufficient patient education ( $\beta=0.568$ , 95%CI: 0.486-0.649) and patient satisfaction ( $\beta=0.317$ , 95%CI: 0.259-0.375) could significantly predict patient empowerment based on the multiple linear regression analysis, with a total variance was 54.4%.

**Conclusions/Lessons learned**

In conclusion, both sufficient patient education and patient satisfaction were positively related to patient empowerment. Hospitals in Taiwan should try to improve their patients' active involvement toward empowerment.



**Contact: TUNG Tao-Hsin**

Cheng-Hsin General Hospital

No45, Cheng-Hsin st, 112, Shipai, 112 Taipei,

[ch2876@gmail.com](mailto:ch2876@gmail.com)

## Patient Experience, Partnerships and Participation: Improving communication and collaboration

**SERDYNKA Marie, VIGNEAULT Karine,  
LAMY Danielle, RAMDASS Seeta, MA Amy**

### Background/Problem/Objective

In a multi-complex health centre, communication between healthcare professionals, patients and close others presents an ongoing challenge in the light of advanced technology, self-administered questionnaires and increased patient ratios for healthcare professionals. Clear culturally safe communication and care necessitate time and teach back techniques to verify mutual understanding. These techniques are often in conflict with the trend towards fast paced, automated services which have the potential to increase inequities in care

### Methods/Intervention

This presentation addresses different modalities to improve communication between patients and healthcare professionals including communication styles, patient experience surveys; patient collaboration on an ongoing basis in evaluating hospital protocols, and regular input from patient user committees to improve services, as well as equity promoting tools to educate patients on receiving optimal care.

### Results (of evaluation)

Results from Patient Experience Surveys show that globally, 84% of adult patients and 89% of MCH (pediatric) families using Inpatient Services would recommend MUHC Hospitals to friends and family with indicators highlighting areas for improvement. The Patient Partnerships initiative has launched approximately 20 committees with the involvement of 40 patients. Results include improved access to the Multiple Sclerosis clinic among others. User Committees are active in initiating and supporting Patient-Professional led initiatives such as a legal clinic for families and the creation of a meeting space for Indigenous families

### Conclusions/Lessons learned

In a large tertiary care health centre, addressing patient needs with meaningful health communication is necessarily diverse. However, channels for increased professional and patient collaboration along with accessible educational tools can help reflect inclusive patient experiences. These combined initiatives assist in reducing inequities and improving clinical and cultural safety in patient care.

**Contact: SERDYNKA Marie**

McGill University Health Centre

1001 Boulevard Decarie, H4A 3J1 Montreal,

[marie.serdynska@muhc.mcgill.ca](mailto:marie.serdynska@muhc.mcgill.ca)

## Committee for community health promotion : Enhancing the development and application of community health literacy

**HUNG Ta-Chuan, WEI Ching-Yao, HUANG  
Tsu-Hsueh**

### Background/Problem/Objective

In view of the increasing public concern over self-health management, MacKay Memorial Hospital go into the community actively to promote health promotion. We should rely on community leaders who are highly motivated and proactive, to effectively enhance health promoting power of their communities. Mutual cooperation between community residents and community health service organizations can create a friendly health literacy environment, so we can implement the main target "healthy living, live healthy".

### Methods/Intervention

Our hospital coordinate with Tamsui city, received the WHO Alliance for Healthy Cities certification in 2008. To organize Committee for Community Health Promotion, we integrate community resources with total 69 organizations located within our community. We have cooperated with public sectors, local churches, home associations, school representatives, seniors groups...etc., to build up the Health Promotion Community Network. As a model of multi-organizations, multi-activities and multi-services in the community, we announce health policies and the needs of community health issues.

### Results (of evaluation)

The cooperation areas included Tamsui total 5 administrative districts. The participation rate of the villages reaches 51%, of which Tamsui up to 76%. We held 1184 activities last year and established 71 health stations in communities to offer one-window multi-functions service. Six types of medical professionals provide consultation for residents. The average of receiving health measurements increased from 5.9 to 18 times per person-year. In 2016, BMI outliers decreased 1.3%, BP outliers decreased 5.1%, and abdominal waist outliers decreased 1.4%.

### Conclusions/Lessons learned

Starting from Tamsui healthy city to promote community health promotion, we organize community committee and the leaders of cross-sector organizations hold lots of health activities and set up health stations to promote health literacy. We empower the local volunteers to enhance community health promotion network, which was awarded the Symbol of National Quality. The Committee not only create a Win-Win-Win situation for government, hospital and the residents, but also empower the local organizations for enrich the health promoting power.

**Contact: WEI Ching-Yao**

MacKay memorial hospital

#45,minsheng rd, Tamshui Dist, New Taipei City, Taiwan

[weiyao@mmh.org.tw](mailto:weiyao@mmh.org.tw)

## Advocating for Roma Health Equity in at At-Risk Local Context

**GARCIA-RAMIREZ Manuel , MIRANDA Daniela, BALCAZAR Fabricio, SUAREZ-BALCAZAR Yolanda**

### Background/Problem/Objective

Promoting health equity for Roma has been a challenge. The Roma population has been the victim of social injustices and institutional discrimination that have resulted in a much worse health status than their non-Roma counterparts. Current strategies based on ameliorative, top-down approaches have solidified health disparities since they do not engage the most vulnerable Roma ranks. The study tried to balance powers and generate synergies among a group of health providers and Roma neighbors in Seville, Spain.

### Methods/Intervention

We adapted the conceptual and methodological approach proposed by Griffith et. al. (2007) to facilitate a process composed of four key phases: (1) Identifying and building alliances between Roma community and health resources, (2) building Roma competence among health providers, (3) building advocacy capacity among Roma neighbours, and (4) developing a common agenda where both groups framed Roma health disparities as a consequence of their unjust social and economic conditions.

### Results (of evaluation)

A group of 10 health providers and 11 Roma neighbours were capacitated to advocate for Roma health. A meeting was held to discuss local Roma health inequities, negotiate the allocation of resources and agreed to prioritise a set of initiatives to address health disparities.

### Conclusions/Lessons learned

We will highlight the challenges and best practices that provide a foundation for transformative advocacy processes built upon redistribution of power, creating empowering community settings, mobilizing the leadership of the Roma community itself.

### Contact: GARCIA-RAMIREZ Manuel

Universidad de Sevilla, Camilo Jose Cela, s/n, 41003 Sevilla, [magarcia@us.es](mailto:magarcia@us.es)

## Opinions and attitudes of Patients' Autonomy Act among medical staff

**FANG Chun-Kai**

### Background/Problem/Objective

In order to maintain patient's right of medical autonomy and right of good death, the Legislature Yuan has passed the "Patients' Autonomy Act" on December 18, 2015. Medical staff play an important role, their opinions and attitudes of the act will also affect its implementation. Therefore, this study would like to discuss their opinions and attitudes for Patients' Autonomy Act, to identify its influencing factors. We expected that the findings can be used in clinical practice in the future.

### Methods/Intervention

The study was approved by the Committee of Human Testing and passed the inspection of the Institutional Review Board. We totally invited 700 medical staff (including doctors and nurses) from MacKay Memorial Hospital to fill out the questionnaire. We used SPSS 18.0 to analysis data.

### Results (of evaluation)

The result has showed that 90% of medical staff can understand and agree with the Patients' Autonomy Act, but only 50% of medical staff think that they can be implemented clinically. The articles are mostly related to age, work years, and work areas, marital status and hospital areas have significant differences. We also find that the number of medical staff in different work areas and different hospital areas was significantly different from that of the clauses in understanding and recognition. However, the number of different age groups, working years and marital status were significantly different from those of clinical practice.

### Conclusions/Lessons learned

Medical staff can generally understand the contents of the Patients' Autonomy Act, and also agree that this Act is indeed conducive to the implementation of patient autonomy. However, there are still many details that need to be standardized and explained how to use in the clinical practice. In the implementation of this Law, there is a clearer standard of judgment and enforcement procedures to ensure patients' rights and interests and promote the harmony between medical and health care.

### Contact: FANG Chun-Kai

Mackay Memorial Hospital, 92, sec. 2, Zhongshan Rd, Taipei, [chungkai.fang0415@gmail.com](mailto:chungkai.fang0415@gmail.com)

## Session O3.7: Targeting chronic conditions

### Creating a "culture of exercise" within the dialysis unit by implementation of intradialytic physical training as a standard of care

**BRONNER Karen, ZALEWSKI Danny , GOLDFARB Itai , CONSTANTINI Naama, RAPOPORT Jayson**

### Background/Problem/Objective

Despite the growing body of literature on the unique contribution of physical activity in the treatment of renal diseases and its association with enhanced physical and mental functioning, the vast majority of hemodialysis patients are sedentary. Therefore, the primary objective of this study was to increase activity level of hemodialysis patients by integrating intradialytic training within the standard medical treatment and to measure its effect on functional and cardio-metabolic indicators.

**Methods/Intervention**

Eligible hemodialysis patients were offered a guided intradialytic training thrice weekly that was tailored individually, based on resistance and aerobic training using cycle ergometers, free weights and resistance bands. All participants underwent medical examination, body composition, cardiorespiratory fitness test (Peak VO<sub>2</sub>), muscle strength, endurance and balance tests, monitoring of cardio-metabolic indicators, and completed activity logs.

**Results (of evaluation)**

Sixty one hemodialysis patients were included with average age of 63.5. Prior to the intradialytic training, physical inactivity was reported by 68% of the cohort with an average of 20 sedentary hours per day. Following the intervention, all participants reached weekly physical activity levels of 150- 225 minutes during dialysis treatment in addition to an increase in physical activity during leisure time ( $p<0.01$ ). A 6-month follow up revealed significant ( $p<0.001$ ) improvements in muscle strength and functional capacity according to Hand Grip MVIC, a 30 second sit-to-stand, arm curl and balance tests. Additionally, metabolic benefits were determined by a significant reduction in BMI ( $p<0.01$ ), body fat ( $p<0.001$ ), waist circumference ( $p<0.01$ ) and improvement of lipid and diabetic profile ( $p<0.05$  and  $p<0.001$ , respectively). Furthermore, cardio-respiratory fitness (measured by Peak VO<sub>2</sub>) was moderately yet significantly improved ( $p<0.05$ ).

**Conclusions/Lessons learned**

By integrating training as part of the medical treatment for hemodialysis patients, we have created a "culture of exercise" within the dialysis unit, which resulted in enhancement of physical activity and promotion of the health of non-active comorbid hemodialysis patients.

**Contact: BRONNER Karen**

Assuta Medical Centers  
20 Habarzel St., 69710 Tel Aviv,  
[karenb@assuta.co.il](mailto:karenb@assuta.co.il)

## Therapeutic patients education program in addition to physical activity to engage onco-heamatological patients in managing cancer-related fatigue

**ACCOGLI Monia Allisen, DENTI Monica, COSTI Stefania, FUGAZZARO Stefania**

**Background/Problem/Objective**

Dealing with Cancer-Related Fatigue (CRF) is the first unmet need reported by onco-haematological patients, and it's due to the disease and to treatment side effects. It is known that Physical Activity (PA) could be beneficial in CRF's management and that most patients need accurate information about consented PA and disease management. Several studies showed that Therapeutic Patient Education (TPE) Programs could help people with chronic illnesses to manage their conditions, but their application is still poor or not well structured.

**Methods/Intervention**

We projected a multidimensional rehabilitation program, combining PA and TPE, for onco-haematological patients to manage CRF. The program is offered to onco-haematological patients in Arcispedale S.Maria Nuova in Reggio Emilia (Italy). The sessions are not only informative on disease and symptoms, but a particular attention is given to goal setting, problem-solving, healthy lifestyle, PA and strategies to manage the new condition and dealing with disease. The aim is patients involvement and empowerment on self-management about CRF and other unmet needs. Assessments include 7-months follow-up.

**Results (of evaluation)**

The program includes: 6 weekly individual educational sessions to support and supervise patients in planning their home-based PA and to promote their empowerment through goal setting; and 2 group sessions to inform patients on fatigue and other cancer related symptoms. Specific information leaflets are given to patients to support them during the program. Sessions are ongoing and include patients without health conditions preventing participation to rehabilitation program (cognitive impairment, severe depression, language barrier or other communication problems).

**Conclusions/Lessons learned**

The project allowed the implementation of an Italian program to support self-management in onco-haematological patients, following the best evidence reported in current literature. At congress time, we will describe the specific structure of sessions and leaflets. We will discuss the feasibility of the program and preliminary data of our pilot RCT (in particular: baseline data on CRF, QoL, physical performances and psychological distress of this subgroup of cancer patients and their compliance to intervention).

**Contact: FUGAZZARO Stefania**

AUSL Reggio Emilia IRCCS S.Maria Nuova  
Viale Risorgimento 80, 42100 Reggio Emilia,  
[stefania.fugazzaro@ausl.re.it](mailto:stefania.fugazzaro@ausl.re.it)



## Effectiveness of Vitamin D Supplementation in the Relief of Dysmenorrhea: Meta-Analysis of Randomized Controlled Trials

**CHEN Yi-Chun, SU Yuh-Wen, PENG Ching-Ching, LIN Yeu-Tyng, CHIEN Wu-Hsiung, HSUEH Shu-Ching, TUNG Tao-Hsin, HSIA Shih-Min**

### Background/Problem/Objective

Dysmenorrhea is one of the most common gynecological complaints among young female. Non-steroidal anti-inflammatory (NSAID) drugs are commonly used for symptoms relief. Due to the potential risks caused by NSAID, vitamin D is considered as another feasible way for treatment as to its anti-inflammatory effects and evidences in vitamin D receptors gene in the pathogenesis of menstrual dysfunction. The objective of the study is to assess the effects of vitamin D supplementation in relieving dysmenorrhea.

### Methods/Intervention

We searched PubMed and Cochrane Central Register of Controlled Trials for relevant randomized controlled trials (RCTs) and conducted a systematic review and meta-analysis from inception to 1 January 2018. The search strategy was composed of "vitamin D or 25-hydroxyvitamin D" and "dysmenorrheal or endometriosis or pelvic pain". The primary outcome was the standardized mean difference (SMD) and p value of pain scales in dysmenorrhea treated with vitamin D or placebo.

### Results (of evaluation)

Of 134 records obtained from our search, four RCTs with 185 participants (91 patients in the vitamin D group and 94 patients in the placebo group) met our inclusion criteria. Compared to the placebo, vitamin D supplementation did not significantly improve relief in dysmenorrhea (SMD: -0.42; 95% confidence level [CI]: -1.17 to 0.34).

### Conclusions/Lessons learned

Vitamin D treatment did not show a significant effect in reducing dysmenorrhea and/or pelvic pain in our study. Limited by the small number of participants for the current reports, further rigorous and larger studies are still needed to determine the clinical effects of vitamin D supplementation with more objective measures.

### Contact: CHEN Yi-Chun

Cheng-Hsin General Hospital, Taiwan  
No 45, Cheng-Hsin St. Beitou District, Taipei, Taiwan  
[ycchen1204@gmail.com](mailto:ycchen1204@gmail.com)

**The Research of the Pain Sources, Pain Intensity, Pain Management, and Other Factors of Critically Ill Patients**

**TE-FEN LEE Wen-Hui Lu, HUI-WEN XU  
Xiao-Wen Gao, WAN-CHEN HUNG Mei-Ling Chen, MENG-CHEN LEE Jing-Yu Qiu**

### Background/Problem/Objective

Critically ill patients feel pain due to disease or invasive treatment, but the degree of pain cannot be expressed in language because of many factors. It is necessary to understand the situation of pain and how to deal with it. This study aimed to know the pain sources, pain intensity and pain management.

### Methods/Intervention

This is a quantitative correlation study, the data were collected from intensive care units in two regional teaching hospitals in North Taiwan from April to December in 2017. A total of 67 patients who were conscious in the intensive care unit for more than 24 hours were selected as samples.

### Results (of evaluation)

1. Most of the research subjects were male (64.2% and no work, no surgery, no wound, and no wound drainage tube, etc. Their average age was 61.7 years; the average occupancy-days were 4.11 days; the average support score which from health care providers was 8.2 and from the relatives and friends was 8.25. 2. The most frequently-occurring sources of pain in ICU was "tube placement"; The average number of pain sources was  $2.86 \pm 2.47$ . The mean score of VAS was  $4.26(SD=3.08)$ , and the pain intensity was moderate. The mean score of the Critical-Care Pain Observation Tool (CPOT) was  $1.38(SD=1.81)$ . The study showed, 21.9% patients received analgesics was different from the finding of Olsen, et al. (2016), in which 97% of critically ill patients used analgesics. The use of morphine in this study is more than fentanyl, contrary to the finding of Olsen et al. (2016). This study showed the highest frequency of the non-pharmacological pain relief was adjusted position, the highest score for the pain relief effect of non-pharmacological pain management was deep breathing. 3. Total number of pain sources was positively correlated with CPOT and VAS; APACHE II was positively correlated with total score of CPOT, The support of health care provider was positively correlated with pain relief effect of non-pharmacological pain management.

### Conclusions/Lessons learned

We found pain sources from care and moderate pain, so provided pain relief methods should at the right time. This study concluded that CPOT is a validity pain scale, so suggested that more CPOT scale should be used in related studies to construct the reliability of this scale. There is difference in selecting analgesic drug at home and abroad, the reason for this difference is worth exploring.

### Contact: LEE Te-Fen

Ching Kuo Institute of Management and Health  
No.336, Fuxing Rd., Zhongshan Dist., Keelung City 203, Taiwan  
[dfleelee7@gmail.com](mailto:dfleelee7@gmail.com)

**Meta-analysis of clinical trials evaluating optimal timing of postoperative showering for clean and clean-contaminated wounds**

## HSU Chin-I, LIN Ching-Jung, LEE Shih-Yu, LIN Pei-Chin, CHENG Jin-Shiung

### Background/Problem/Objective

Currently, the optimal timing of postoperative showering for surgical wounds is still controversial. Early showering encourages people to mobilize earlier and prevent sweat and dirt over the body; on the contrary, early cleansing may result in surgical site infection and poor wound healing. Until now the only guidance, from 2008 NICE recommended patients may shower safely 48 hours after surgery, was inferred from studies of various wound classifications. Precise recommendation about postoperative showering for surgical wounds remains inconclusive.

### Methods/Intervention

We conducted a meta-analysis from randomized trials which compared early (24-48 hours) versus delayed (1 week or until suture removed) showering in patients with clean or clean-contaminated wounds. The main outcomes include infection rate and patients' satisfaction.

### Results (of evaluation)

6 trials and 1576 patients were included. The infection rate is rare (early, 1.17%; delayed, 1.23%) and no difference between groups (RR 0.88; 95% CI 0.36-2.15). Patients are more satisfied with early than delayed showering (P-value< 0.00001, NNT=2). The results are consistent among all subgroups, with the analysis based on study quality and definition of infection. However, these Conclusions/Lessons learned can only apply to the surgery types and sites which the 6 trials have mentioned.

### Conclusions/Lessons learned

Patients with clean and clean-contaminated wounds can safely shower early (24-48 hours) after surgery without increasing the risk of infection and have better satisfaction. However, this result cannot be generalized to all kind of surgical situations due to our study inclusion criteria and complexity of surgical situations.

Contact: HSU Chin-I

[cihsu@vghks.gov.tw](mailto:cihsu@vghks.gov.tw)

## Session O3.8: Mental health

### Psychological Vulnerability in asylum seekers and refugees: a network answer in Reggio Emilia

BONVICINI Francesca, MONICI Lucia,  
GRECI Marina, RIBOLDI Benedetta,  
FORNACIARI Rossano, TREVIA Marco,  
BEVOLO Piera, MAZZOCCHI Angela,  
Marco Aicardi, DE MORAES Loverci,  
DEGL'INCERTI TOCCI Nicolò, LATROFA  
Marcella, TAGLIAVINI Lara, CHIARENZA  
Antonio

### Background/Problem/Objective

In Reggio Emilia Province, 1046 asylum seekers and refugees were hosted in 2017. This type of patients has high risk of post-migratory and post-traumatic psychic distress. Since 2017, the local health unit and the hosting cooperatives experimented a shared project dedicated to psychological vulnerability, with the aim of measuring and effectively managing the phenomenon.

### Methods/Intervention

The project was characterized by: active offer of psychological screening to all new arrivals by the psychologists of the cooperatives; psychological support with individual care programs; prompt activation of public and/or of voluntary Services for psychiatric care. The continuous presence of cultural mediators was guaranteed. Furthermore, the project included joint training of private social and public operators and creation of multidisciplinary teams for the discussion of complex cases.

### Results (of evaluation)

During 2017, psychological screening was carried out in 747 refugees (94% men), through the Protect-Able questionnaire. Psychological distress was found in 207 patients (28%), of which 168 were men and 3 minors. In total, 436 individual interviews for psychological support were carried out. Moreover, 88 refugees (12%) needed psychiatric care with 172 visits. Finally 6 admissions to the psychiatric ward were needed. The multidisciplinary teams were held monthly and the project equipped and approved a protocol of intervention where different services work in network. 2 provincial trainings on psychological distress were organized: these opportunities increased collaboration among operators, developing a common language and strengthening a collaborative approach.

### Conclusions/Lessons learned

Psychological distress is a widespread and emerging phenomenon among refugees at the arrival. The problem is likely to worsen during time, especially in case of denial of residence permit. Psychic vulnerability needs to be precociously identified and cured, to avoid its deterioration until hospitalization. An integrated project should be implemented with the objective to survey, take charge and effectively manage vulnerable subjects, with a close collaboration between public and private social Services: the network approach is at the base of all the project.

Contact: RIBOLDI BENEDETTA

LOCAL HEALTH UNIT

VIA AMENDOLA, REGGIO EMILIA,

[benedetta.riboldi@ausl.re.it](mailto:benedetta.riboldi@ausl.re.it)

### Assessing e-mental health use and needs among students at European universities.

#### KHALDOUN RACHID

### Background/Problem/Objective

Scientific literature had shown that students are particularly susceptible to suffering from mental disorders, which are leading causes of disability and mortality in adulthood. E-mental health services therefore appeared to be a solution for bridging the gap between demand and access to mental health services. this research aimed to assess the overall characteristics related



to the use of and trust in the Internet as a source of information on mental health and students' needs for e-mental health interventions and tools.

#### Methods/Intervention

Our study sought to constructively replicate a recent research (2016) on mental health-related Internet use by European university students and their level of trust in online sources compared to conventional mental health services. Thus, from 09 to 31 of May, 2017 we conducted a cross-sectional survey based on a 22-item self-administrated voluntary and anonymous online questionnaire. The target population for our survey was students aged 18 or over of European universities. The collected data were analyzed using descriptive statistics.

#### Results (of evaluation)

The final sample consisted of 464 students and included students in four areas of study from Austria, Germany, Italy, other European countries and elsewhere. The findings indicated that 77.4% of students had previously used the internet for mental health information. This online use was mostly on depression and took place prior to receiving medical advice. Participants reported the unreliability of e-mental health information as main distrust. Nevertheless, 58.4% of the students reported the need of e-mental health as promotion services.

#### Conclusions/Lessons learned

The findings of this research highlight that European students are willing to seek information via e-mental health services and that it represents a relevant tool for mental health promotion in education settings. We hope that the findings of this research will serve to inspire more research, to raise awareness among policymakers about the main aspects with regard to e-mental health use and expectations, and to help them in designing e-mental health services that can meet student's needs within European universities.

**Contact: KHALDOUN RACHID**

[khaledoun.rachid@gmail.com](mailto:khaledoun.rachid@gmail.com)

## Risk of Suicidality in People with Psoriasis: A Systematic Review and Meta-Analysis of Cohort Studies

**CHEN Ting-Hao, CHI Ching-Chi, WANG Shu-Hui, TUNG Tao-Hsin**

#### Background/Problem/Objective

Psoriasis has been associated with psychiatric disorders such as depression and anxiety, but its relationship with suicidality (including suicide, suicide attempt, and suicidal ideation) is unclear. Objective Our objective was to assess the risk of suicide, suicide attempt, suicidal ideation, and suicidality in people with psoriasis.

#### Methods/Intervention

We conducted a systematic review and meta-analysis of cohort studies examining the risk of suicide, suicide attempt, suicidal ideation, and suicidality in people with psoriasis. We searched the Cochrane Library, PubMed, and EMBASE from inception to 24 March 2017. Two authors independently selected studies, assessed the quality of included studies, and extracted data.

Any disagreement was resolved by discussion with a third author.

#### Results (of evaluation)

Five population-based cohort studies were included and considered to be of high quality. We found no increase in the risk of suicide (risk ratio [RR] 1.13; 95% confidence interval [CI] 0.87–1.46), suicide attempt (RR 1.25; 95% CI 0.89–1.75), or suicidality (RR 1.26; 95% CI 0.97–1.64) among people with psoriasis. In the stratified analysis, we also found no increase in suicide, suicide attempt, and suicidality among people with either severe or mild psoriasis.

#### Conclusions/Lessons learned

The available limited, very low-quality evidence does not support an association between psoriasis and suicidal thought and behavior. Further studies that provide data for different age and sex groups are needed to clarify whether a subgroup of patients with psoriasis has an elevated risk of suicidality.

**Contact: TUNG Tao-Hsin**

Cheng-Hsin General Hospital, No45, Cheng-Hsin st, 112, Shipai 112 Taipei, [ch2876@gmail.com](mailto:ch2876@gmail.com)

## Training the facilitators of the BHC-5L for suicide prevention in four counties with higher suicide rates in Taiwan

**FANG Chun-Kai, HSIAO Hsueh-Wen**

#### Background/Problem/Objective

The BHC-5L (being happiness catchers- looking, listening, learning, loving, and living) has been developed in New Taipei City since 2010 not only for suicide prevention but also for mental health promotion. The BHC-5L had been successful to reduce the suicide rate of New Taipei City. The Ministry of Health and Welfare decided to promote the BHC-5L for suicide prevention in community, school, and workplace. The report present the training programs of the BHC-5L.

#### Methods/Intervention

MacKay Suicide Prevention Center were authorized by the Ministry of Health and Welfare to organize and practice the training programs of the BHC-5L. There were 4 counties, including Keelung, Nantou, Chiayi, and Pingtung. The programs included 2-day basic lectures and 2-day workshops. After the basic lectures, all trainee had to attend the written examination. Only who passed the examination could attend the following 2-day workshops as the candidates. After the workshops, all candidates had to attend the oral examination. Passing the examination, they would be the facilitators.

#### Results (of evaluation)

The training programs were practice from January to June 2017. There were 202 trainee attending the 2-day basic lectures in all 4 county, and 198 passed the written examination becoming the candidates. There were 193 candidates attending the 2-day workshops, and 154 passed the final oral examination becoming the facilitators. The final pass rates were 65.4% in Keelung, 75.6% in Nantou, 59.4% in Chiayi, 100% in Pingtung, and total 76.2%.

### Conclusions/Lessons learned

The BHC-5L was a successful project to reduce suicide rates in New Taipei City. The facilitators played important roles to facilitate the health promotion and suicide prevention. For the four counties, the public health officials have to arrange the trained facilitators to lecture the BHC-5L in communities, schools, and workplaces.

**Contact:** FANG Chun-Kai

Mackay Memorial Hospital

92, sec. 2, Zhongshan Rd, Zhongshan Dist., Taipei,

[chunkai.fang0415@gmail.com](mailto:chunkai.fang0415@gmail.com)

## Late life depression and poetry recitation: the He.s.i.o.d. study (Hexameter Study In Older Depressed)

**BELVEDERI MURRI Martino, PADULA Nicola, NEROZZI Erika, CREMONINI Alessandro, BAGNOLI Luigi, ZOCCHI Donato, ASSIRELLI Barbara, TACCONI Carlo, CHIARI Lorenzo, CONI Alice, CHATTAT Rabih, SQUATRITO Salvatore, AMORE Mario, YOHANNES Abebaw, BERTAKIS Klea, MADDALENA De Matteis, FAUSTO Trevisani, ZANETIDOU Stamatula**

### Background/Problem/Objective

Late life Major Depression (LLMD) is usually treated within Primary Care but is still associated with unsatisfactory outcomes and significant residual symptoms. Moreover, LLMD increases somatic and psychological symptoms of anxiety, dyspnea, Fear of Falling (FOF) and risk of falls. These clinical features contribute to worsen patient prognosis and are scarcely responsive to antidepressant drugs (AD). Aerobic physical exercise was shown to be effective against LLMD, but had lower efficacy in patients with higher levels of anxiety. Objective: To develop and test an experimental intervention based on the combination of antidepressants and physical exercise consisting in breathing and postural exercises, aimed to improve patients' anxiety, mood, postural stability, dyspnea and FOF.

### Methods/Intervention

Design: Open label pilot study comparing two intervention groups: 1) antidepressant drugs plus weekly sessions of breathing/postural exercises based on rhythmic recitation of hexameter poetry; 2) antidepressant drugs plus weekly sessions of group reading. Setting: Recruitment is based on a Psychiatric Consultation-Liaison Program for Primary Care. Participants: patients aged 65+, with non-psychotic recurrent LLMD without significant cognitive impairment. Outcome Measures: the main outcome will be based on improvements on MADRS factor scores at 12 and 24 weeks. Secondary outcomes included accelerometer-based measures of postural stability; patient-rated dyspnea and FOF.

### Results (of evaluation)

Patients receiving breathing and postural exercises displayed significantly greater improvements of depression scores, particularly in the anxiety domain, and reduced levels of FOF compared to the control group. Moreover, there was a trend for improvements in the Timed Up&Go performance (SiToWalk Fitfulness).

### Conclusions/Lessons learned

The experimental intervention involving breathing and postural exercises may exert significant clinical advantage when added to the standard antidepressant drug therapy. This study might prompt further research on innovative treatment strategies to improve the outcomes of late life depression in Primary Care.

**Contact:** BELVEDERI MURRI Martino

University of Genoa, L.go Rosanna Benzi 10, 16146 Genoa,

[martino.belvederi@gmail.com](mailto:martino.belvederi@gmail.com)

## Using ISBAR to Construct Critical Evaluation of Emergency Triage to Improve Either the Efficiency of Emergency Physicians Communication or Efficiency of Triage by nurses

**SHENG-I Hsu, LU Huei-Lan**

### Background/Problem/Objective

This unit is a psychiatric emergency room, a unit which is mainly for community hospitalization of psychiatric patients in Greater Tainan area, nurses have to complete the triage procedure within 10 minutes, before inform the physician come to visit, the procedure of triage is to write down the information on a note paper, so the assessment content and the triage level depends on the experience and sensitivity of emergency nurses, and also lack of organization and integrity.

### Methods/Intervention

Using TRM techniques and ISBAR communication skills, our team evaluated and listed the most important testing items for triage and, after discussion, design the "ISBAR Triage Critical Checklist" which list from top to bottom by the importance scale for the suggestion to physicians

### Results (of evaluation)

After using the "ISBAR Triage Critical Checklist", the nursing staff felt that the checklist was satisfactory in terms of typesetting, practicality, convenience, organization and importance satisfaction up to 93.75%, clinical use rate about 80% and 20% of users are not using it. Emergency physicians feel more organized in reporting patient illness. Staff in emergency training feel more hectic and less anxious when they are using the checklist

### Conclusions/Lessons learned

ISBAR Triage Critical Checklist is necessary, it is designed according to emergency room mode and the hospital's operation process, also the content needs to be emphasized rather than emphasize the integrity, the team members can communicate for the patient's condition, drafting the patient treatment plan efficiently and correctly, we can further promote and adjust the leaflet content for further standardization.

Contact: HSU Sheng-I,  
[hellomonica99@gmail.com](mailto:hellomonica99@gmail.com)

## Session O3.9: WORKSHOP: Guidance for Health Promotion in Primary Health Care

### Guidance for Health Promotion in Primary Health Care

**PELIKAN Jürgen M.**

It is expected that primary care can help health systems become more responsive to changing health needs; offer more integrated care delivery; and increase the efficiency of the system overall. Decision-makers are searching for models to redesign primary care systems in line with these promises. Redesigning primary care systems offers opportunities and challenges for health promotion.

This symposium aims to identify ways to support the improvement and further development of primary health care towards health promotion. The symposium will explain what does Health Promotion in Primary Health Care mean, why we should aim towards Health Promotion in Primary Health Care and how to proceed to achieve this aim.

This symposium will synthesize experience and examples from various countries into core messages and the most relevant guidelines for the implementation of Health Promotion in Primary Health Care.

Facilitator:

Jürgen Pelikan, WHO CC on Health Promoting Hospitals and Health Services, Vienna, Austria

Invited Experts:

- Pim Assendelft, Radboud University, Nijmegen, The Netherlands
- Anna Cichowska Myrup, WHO Regional Office for Europe
- Francesco Longo, Dipartimento di Analisi delle Politiche e Management Pubblico, Bocconi University, Italy
- Peter Nowak, WHO CC on Health Promoting Hospitals and Health Services, Vienna, Austria
- Stephen Peckham, Centre of Health Service Studies, University of Kent, Great Britain

## Session O3.10: WORKSHOP on People-centered Age-friendly Health Services

CHIOU Shu-Ti

### Background/Problem/Objective

WHO developed "framework on integrated people-centered health services" (WHO-IPCHS) to facilitate the reform of health service delivery, while the International Framework of Age-friendly Hospitals and Health Services (HPH-AFHHS) was developed for health services to promote healthy aging for all through health service delivery reform, too. This workshop aims to examine whether HPH-AFHHS comprehensively tackled the 5 strategies in WHO's IPCHS framework and would help health services and governments implement delivery reform with a special focus on aging populations.

### Methods/Intervention

In this workshop, best-practice examples of age-friendly health care initiatives will be presented according to the 5 strategic dimensions of WHO's framework on integrated people-centered health services, including engaging and empowering people and communities, strengthening governance and accountability, reorienting the model of care, coordinating services within and across sectors, and creating an enabling environment.

### Results (of evaluation)

The workshop contains brief presentations and encourages open discussions. Topics of presentations are: - People-centered integrated age-friendly health services- leadership and governance - Engaging and empowering older people & communities in and by age-friendly healthcare organizations - Reorienting the model of care- universal risk assessment and personalized intervention for elderly patients - Care coordination and integration for elderly-centered care

### Conclusions/Lessons learned

The contributions of this workshop to HPH are- - facilitating the understanding of WHO's Framework on Integrated People-centered Health Services and identifying the common ground between the two frameworks; - shaping the leading role of HPH in healthcare delivery reform with a special focus on population aging in line with the UN 2030 Agenda & WHO-IPCHS, - supporting governments & HPH members in implementing the WHO-IPCHS, - sharing applicable best practices from frontline teams.

Contact: CHIOU Shu-Ti

School of Medicine, Yang-Ming University  
 155, Linong street, sec 2, 11221 Beitou, Taipei City,  
[stchiou@ym.edu.tw](mailto:stchiou@ym.edu.tw)

## Session O4.1: ICTs to promote health

### eAuthorization in Social- and Healthcare – New Era in eServices

**UKKONEN Anna-Elina, HILTUNEN Matti, SUHONEN Jari, HARTONEN Virva, SALPAKOSKI Anu**

#### Background/Problem/Objective

eHealth and eWelfare increases accessibility in managing health and social services regardless of time and place. These electronic services can improve preventive care and participation in person's own well-being. Identification to services is personal and it is accomplished with the strong identification methods e.g. with the online bank account. Acting on behalf of another person who is over 18 years is possible only in some eServices with the written form. Need for electronic authorization has been knowledge widely.

#### Methods/Intervention

Suomi.fi eAuthorization is a new national service in Finland provided by The Population Register Centre. It enables adult to authorize a reliable person to act on their behalf, providing the right to use digital services when person is unable to do it on his/her own. PUOLA project was presumably the first in the world adapting the eAuthorization in social and healthcare services. The project was conducted in 2016-2017 at the South Savo Social and Health Care Authority (ESSOTE) in Finland.

#### Results (of evaluation)

Project built the integration between national Suomi.fi eAuthorization service and ESSOTE's eHealth platform (Hyvis) to reliably verify a person's authorization and right to act on behalf of another person without any paperwork. In the first stage, the service involves booking a time, but it is gradually expanding to other ESSOTE services and to the national health data service (My Kanta). In the future, person can make a one eAuthorization that can allow comprehensive transactions in several eServices.

#### Conclusions/Lessons learned

Citizens active role maintaining their own well-being can be supported by online services. Finland is a pioneer in electronic authorization and the model is applicable to other countries as well. ESSOTE's solutions has attracted interest, especially among the elderly close relatives. With the eAuthorization, benefits of the digital services can be extended further.

#### Contact: UKKONEN Anna-Elina

Essote, Etelä-Savon sosiaali- ja terveystalvelujen kuntayhtymä  
Porrassalmenkatu 35-37, 50100 Mikkeli,  
[anna-elina.ukkonen@essote.fi](mailto:anna-elina.ukkonen@essote.fi)

### Co-producing solutions for digital health literacy

**GANN Bob**

#### Background/Problem/Objective

Digital (ICT) technologies are increasingly the way in which people access health information, health promotion interventions and health care services. However those who experience the greatest health inequalities are also those who are least likely to be online or have the skills to use digital health resources. If we are to tackle the risk of digital health inequality we need to work with individuals and communities to gain a better understanding of the barriers and then to co-design solutions.

#### Methods/Intervention

Since we started programmes for digital health literacy support in the NHS 2013, technology has changed significantly. More people own devices, particularly mobiles, and technologies are easier to use for those with less digital skills. But many people are still not using digital health tools. We wanted to understand whether lack of skills is still the barrier or whether other factors are now important so in 2017 established a new co-design and production programme in deprived communities to investigate this.

#### Results (of evaluation)

User participation/community involvement workshops have been held with a range of groups including young people in inner-city London, homeless people in deprived seaside towns, people with sensory impairments in the North. Compared with when we started in 2013, lack of digital skills and access to technology is much less of a barrier. Today the biggest problem is lack of motivation - people have devices and skills to use them but often do not find digital health tools relevant and accessible.

#### Conclusions/Lessons learned

Co-production workshops continue through 2018 but emerging findings are clear. Our assumptions are being challenged: for example many older people are now more confident in digital skills and ready to engage through Skype etc, while many younger people find digital health tools unappealing. We are now working through user-centred design to co-create digital health products, services and supportive interventions which address the lives of those who experience the greatest health inequalities.

#### Comments

We presented early findings from the NHS Widening Digital Participation programme at the HPH conferences in Barcelona in 2014 and Oslo in 2015. Building on this work, we are now implementing a second phase developed through co-production and user centred design.

#### Contact: GANN Bob

NHS England, Skipton House, Elephant & Castle, London,  
[bob.gann@nhs.net](mailto:bob.gann@nhs.net)

### Opportunistic multiple behaviour change counselling delivered by trained health professionals in community-based health services, workplaces, and in cancer screening settings

**BOSI Sandra, GORINI Giuseppe, GOZZI Cristina, ZIRONI Francesca, TAMELLI Marco, FORZA Giovanni, AMEGLIO Mateo, WIDMANN Silvana, LICHERI Eralda, MERCATILI Grazia, FRANCHELLA Milena, POLO Fabrizia, MARCHESI Cristina, DI CLEMENTE Carlo, RONDINI Ermanno**

#### Background/Problem/Objective

Opportunistic multiple behaviour change counselling may be effective, but few health professionals are trained and routinely delivered it. Main aim of this project was to develop an Internet e-learning portal to train health professionals, and to promote healthy lifestyles (healthy eating, exercise) in three settings: community-based healthcare delivery services for specialist care or for delivering vaccinations; workplaces; cancer screening outpatient clinics. This project was funded by the Italian Minister of Health (CCM 2015) and was developed in 9 Italian Regions.

#### Methods/Intervention

An in-depth Internet e-learning course was developed in order to train "trainers of health professionals". Then, a shorter Internet e-learning course was developed in order to directly train health professionals working in the three settings, with the help of "trainers of health professionals". Then, a protocol for deliver counseling on exercise and healthy eating in different settings and a monitoring system were developed in order to understand which settings were more suitable to deliver opportunistic multiple behaviour change counselling.

#### Results (of evaluation)

More than 300 health professionals in 9 Italian regions were trained using the Internet e-learning courses. Trained health professionals began delivering counseling during their usual activities. Promoting physical activity and healthy eating was a more time-consuming task than delivering opportunistic smoking cessation counseling. The use and the delivery of a leaflet with the Activity and Health Eating Pyramids, were useful in order to deliver a brief opportunistic counseling intervention.

#### Conclusions/Lessons learned

Many health professionals were very interested in Internet e-learning courses regarding healthy lifestyles, because most of them were not adequately trained at University on how to deal with healthy people with unhealthy lifestyles. Delivering an opportunistic and brief counseling intervention on healthy eating and on exercise is a more complex and time-consuming task than delivering a standard smoking cessation counseling.

#### Contact: GORINI Giuseppe

ISPO, Cancer Prevention & Research Institute  
via delle Oblate 2, 50100 Florence,  
[g.gorini@ispo.toscana.it](mailto:g.gorini@ispo.toscana.it)

## Implementation of Self-Service Technology for Blood Pressure and Blood Sugar Management Between

## the Hospital and the Telecom Operator

**MEI-CHUEN Wang, CHUN-NAN Teng, NIANN-TZYY Dai, CHANG HSUN Hsieh, NIANN-TZYY Dai, DING-CHUNG Wu, CHENG-YU Chen**

#### Background/Problem/Objective

Using a self-service IVR (interactive voice response) to transmit blood pressure (BP) and blood sugar (BG) has the potential to increase patients' awareness of their BP and BG control and free up physician and medical assistant (MA) time. The objective of this study was to evaluate BP/BG Gateway acceptability and usability, as well as its effects on the workflow of patient BP/BG self-measurement in a primary care clinic.

#### Methods/Intervention

We used qualitative and quantitative assessments of SST (self-service technology) implementation via regular telephone call and follow up. In a longitudinal observational study on 613 elderly living alone in rural community in Taiwan. We analyzed the status of these elderly people for joining time and frequency, systolic blood pressure (SBP), diastolic blood pressure (DBP), blood sugar (BG) with a fixed-effects model at 12,24,36 months.

#### Results (of evaluation)

Patients (370 women, 243 men) had a mean age of 76 (SD: 9.7) years. Results Three studies, with total 613 subjects, were included in our systematic review and two were included for meta-analysis. Most subjects were comfortable using the BP/BG Gateway and pay with the traditional phone (67.7% at 36 months, about US\$5/month). Telephone calls significantly reduced SBP by 4.30 mm Hg ( $P<0.001$ ), reduced DBP by 2.20 mm Hg ( $P<0.001$ ) and reduced BG by 2.45 mg/mL ( $P<0.001$ ), improved self-blood pressure monitoring behavior ( $P<0.001$ ) and higher self-measured blood pressure monitoring frequency ( $P<0.001$ ). Initial provider concerns included accuracy and cost, but most gained confidence after comparing it with other monitors and reviewing the literature supporting its accuracy. Patients and providers saw many benefits: easier BP/BG checks, increased patient engagement, and saved MA time for other tasks. The clinic addressed early concerns (eg, infection control, confusing instructions, perceived loss of personal touch). Most participants (97%) supported the clinic continuing to use the telecare equipment.

#### Conclusions/Lessons learned

Providers, staff, and patients adapted to the use of BP/BG Gateway, providing value by engaging patients in their own care and saving MA time. Through simple installation and service, patient health self-management will be improved. The clinic decided to keep the self-service BP/BG Gateway after the pilot period.

#### Contact: CHUNNAN Teng

Tri-Service General Hospital  
No.325,Sec.2,Chenggong Rd.,Neihu District, Taipei City 114,  
[tengchunnan@gmail.com](mailto:tengchunnan@gmail.com)



## Information governance facilitated the one-stop service in outpatient clinic

**TANG Liangfeng, ZHANG Xiaobo, YE Chenjie**

### Background/Problem/Objective

During the past years, smartphones network with mobile pay system completely established in China. The WeChat and Alipay, as the useful social contact and payment applications, have been fully developed and popularized. Taking advantages of these platforms as well as hospital website APPs, it is possible to achieve the widest coverage of intelligence mobile service from hospitals. The healthcare information governance needs to take this opportunity to promote the patient's safety and convenience.

### Methods/Intervention

We constructed self-service system both on smart phones and self-service machines. Patients can resist for outpatient service anywhere and make appointments with physicians in one week using either Wechat or Alipay APPs. The system provided various conveniences for patient visits. Patients can pay for the visit and medication as soon as the ending of the doctor's consultation. The system will also push the information of admission or day-surgery appointment to the parents of children in real time.

### Results (of evaluation)

The use of mobile appointment and registration significantly reduced the waiting time before consultation. Patients have been accustomed to cashless payment. They pay immediately with self-service instead of waiting in line. In November 2017, 95% of patients can pay and leave within 16 minutes, compared with 54 minutes in 2016, with when mobile payment was not yet available. Patients can also check the radiology and laboratory results report through their mobile phones as soon as the reports were provided.

### Conclusions/Lessons learned

Information governance should be patient oriented. We investigate the needs of patients and struggle for the feeling of patients. During information construction of one-stop service system, we tried to find out process defects and accelerate the process re-engineering, in order to promote patients safety.

### Contact: TANG Liangfeng

Children's Hospital, Fudan University  
399, Wanyuan Rd., Minhang District, Shanghai, the People's Republic of China, 201102 Shanghai,  
[lftang@fudan.edu.cn](mailto:lftang@fudan.edu.cn)

## Session O4.2: Alcohol - prevention and coping

### The path to mental health and recovery begins with human rights

**NERHEIM Inger Kari**

### Background/Problem/Objective

The recovery approach, also called the personal recovery approach in mental health and addiction, is the basis of a number of great initiatives to improve services world wide. The initiatives are met with different types of critique, and the talk will address how a human rights based line of thought can simultaneously answer several of these. Special focus will be put on ownership to one's own life and defining one's own life goals as a premise for treatment across cultures.

### Methods/Intervention

A prepared talk of 8 minutes followed by a discussion session for establishing collaboration on this line of work. The author's background is learning through leadership of a mental health service for 16 years followed by a recovery project in the services called The Pathfinder Project, where peer support and recovery experience in one's own life is the foundation of legitimate reasoning in recovery dilemmas. Pending financing one or two of collaborating peer supports will take part in the session.

### Results (of evaluation)

The session will be part of a series of discussions to bring forward important reflections on recovery processes and the understanding of recovery as a social (sociological) activity of the person in recovery, embedding practical values, ethics enacted, professional standards in treatment practice and human rights' principles. The session will be taped, but participants are free to give their names or remain anonymous. All contributions will be cited in further work. To share thoughts in advance, write to [inger.kari.nerheim@sus.no](mailto:inger.kari.nerheim@sus.no)

### Conclusions/Lessons learned

The Pathfinder Project in Southwestern Norway is still ongoing, but lessons learned so far in the project are that the legitimacy questions which arise in implementation of supportive actions for personal recovery, must still be addressed in a thoughtful way, respectful of the complexity of sociological processes, not only addressing individualistic issues or dual relationships between carer/professional and the "ill" person. Conclusions/Lessons learned cannot be drawn before these discussions are taken further, and the session will aid in that endeavour.

### Contact: NERHEIM Inger Kari

Stavanger University Hospital  
Jan Johnsen vei 8, 4086 Stavanger,  
[inger.kari.nerheim@sus.no](mailto:inger.kari.nerheim@sus.no)

## Effect of a Very Integrated Program (VIP) on consumption, health and comorbidity in alcohol /drug addicted

## patients on short term: a randomised controlled trial

**HOVHANNISYAN Karen, ADAMI Johanna, TØNNESEN Hanne**

### Background/Problem/Objective

The alcohol and drug addicted patients are often associated with risky lifestyle and suffer from more chronic diseases, thus have significantly higher morbidity and mortality compared to the general population. A comprehensive health promotion program addressing the lifestyle-related risk factors could be beneficial for alcohol and drug addicted patients. The objective was to test the effectiveness of the integrated health promotion program (VIP) on the better health outcomes for alcohol and drug addicted patients.

### Methods/Intervention

This was a parallel randomized single-blind trial. The computer-generated list of random numbers was used to allocate the participants. Sealed, opaque and sequentially numbered envelopes were used to conceal the allocation. 322 patients were assessed for eligibility. The intervention was a 6 weeks educational program that included motivational interview, smoking cessation program, dietary and physical activity counseling and patient education about the chronic diseases. Main outcome measures were substance-free days, time to relapse and treatment adherence assessed after 6 weeks.

### Results (of evaluation)

214 patients (Intervention n=115; Control n=99) were randomized (mean age 53 [24-80]). There was no statistically significant difference between the Intervention and Control groups regarding the substance-free days, time to relapse, treatment adherence or quality of life. Compared to the Intervention group, patients in the Control group smoked more (OR: 0.51, 95% CI: 0.25-1.01), were more overweight (OR: 0.33, 95% CI: 0.16-0.70) and less physically active (30% vs 19%, OR: 0.54, 95% CI: 0.24-1.22).

### Conclusions/Lessons learned

Although the Very Integrated Program was ineffective in improving the alcohol or drug addiction standard treatment in a short term, it achieved relatively positive results in reducing the lifestyle-related risk factors after 6 weeks.

### Contact: HOVHANNISYAN Karen

Clinical Health Promotion Center  
Lund University, 22472 Lund,  
[karen.hovhannisyanyan@med.lu.se](mailto:karen.hovhannisyanyan@med.lu.se)

## Smoking and alcohol cessation intervention in relation to major bladder cancer surgery

**LAURIDSEN Susanne Vahr, THOMSEN Thordis, KALDAN Gudrun, LYDOM Line Noes, TØNNESEN Hanne**

### Background/Problem/Objective

Despite smoking and risky alcohol drinking being modifiable risk factors for cancer as well as postoperative complications, perioperative cessation counselling is often ignored. Little is known about how cancer patients experience smoking and alcohol interventions in relation to surgery. Therefore the aim of this study was to explore how bladder cancer patients experience a perioperative smoking and alcohol cessation intervention in relation to radical cystectomy

### Methods/Intervention

A qualitative study was conducted in two urology out-patient clinics. We conducted semi-structured in-depth interviews with 11 purposively sampled persons who had received the smoking and alcohol cessation intervention. The analysis followed the steps contained in the thematic network analysis.

### Results (of evaluation)

Two global themes emerged: "smoking and alcohol cessation was experienced as an integral part of bladder cancer surgery" and "returning to everyday life was a barrier for continued smoking cessation/alcohol reduction". Participants described that during hospitalization their focus shifted to the operation and they did not experience craving to smoke or drink alcohol. Concurrent with improved well-being or experiencing stressful situations, the risk of relapse increased when returning to everyday life.

### Conclusions/Lessons learned

The smoking and alcohol cessation intervention was well received by the participants. Cancer surgery served as a kind of refuge and was a useful cue for motivating patients to quit smoking and to reconsider the consequences of risky drinking. These results adds to the sparse evidence of what supports smoking and alcohol cessation in relation to bladder cancer patients undergoing major surgery and point to the need to educate healthcare professionals in offering smoking and alcohol cessation interventions in hospitals

### Contact: VAHR Susanne

University Hospital of Copenhagen, Rigshospitalet  
Blegdamsvej, 2100 Copenhagen,  
[susanne.vahr@regionh.dk](mailto:susanne.vahr@regionh.dk)

## Scand-Ankle – The effect of alcohol intervention regarding complications after acute ankle fracture surgery (RCT)

**EGHOLM Julie, PEDERSEN Bolette, RASMUSSEN Mette, TØNNESEN Hanne, MADSEN Bjørn, LAURITZEN Jes, ADAMI Johanna**

### Background/Problem/Objective

Patients with hazardous alcohol intake are overrepresented in emergency departments and surgical departments. In elective surgery, preoperative alcohol cessation interventions can reduce postoperative complications but no studies have investigated the effect of alcohol cessation intervention at the time of surgery for acute fractures. Our purpose were to evaluate

the effect of the Gold Standard Programme for alcohol cessation intervention (GSP-A) for patients undergoing acute ankle fracture surgery regarding postoperative complications.

#### Methods/Intervention

Our RCT design included a total number of 70 patients from Hvidovre and Bispebjerg Hospitals with an excessive intake of alcohol and an ankle fracture that required osteosynthesis. They were allocated to either standard care or a 6-weeks GSP-A aiming to complete alcohol abstinence peri- and postoperatively. GSP-A involved a patient educating programme and weekly sessions at the orthopedic outpatient clinics. Furthermore, patients were provided with thiamine and B-vitamins, prophylaxis and treatment for alcohol withdrawal symptom and disulfiram to support abstinence. The main outcomes were postoperative complications (requiring treatments), alcohol intake and cost-effectiveness.

#### Results (of evaluation)

In the GSP-A group 12 patients (34%) developed complications compared to 14 patients (42%) in the control group ( $p=1.0$ ). Interestingly, 14% in the control group versus 51% in the GSP-A group had abstained completely from alcohol at 6 weeks follow up. ( $p=0.001$ ).

#### Conclusions/Lessons learned

We found no statistically significant differences in the number of complications between the intervention and control group. However, the majority of the intervention group completely abstained from alcohol in the intervention period.

#### Contact: EGHOLM Julie

Clinical Health Promotion Centre, WHO-CC  
Bispebjerg & Frederiksberg Hospital, Nordre Fasanvej 57, Build.  
14, Entr. 5, 2nd fl., 2000 Frederiksberg,  
[julieweberegholm@gmail.com](mailto:julieweberegholm@gmail.com)

## Factor analysis of abstinence intent and alcohol consumption among patients with alcohol use disorder

### FANG Chun-Kai

#### Background/Problem/Objective

There were few tools to understand the motivation or intent for alcohol abstinence. The study was designed by the theory of planned behavior and the theory of reasoned action. The goals of the study were to confirm the Alcohol Abstinence Intent Scale (AAIS) and to understand the factors of abstinence intent and alcohol consumption among patients with alcohol use disorder (AUD).

#### Methods/Intervention

The study was approved by the Committee of Human Testing and passed the inspection of the Institutional Review Board. We invited patients with AUD at the outpatient clinics of psychiatry, gastroenterology, and family medicine on MacKay Memorial Hospital. The tools included the AAIS and the Alcohol Use Disorders Identification Test (AUDIT). All participants were assisted with the AAIS and AUDIT before clinical intervention with medical services. There were two phases of the study. The first was to preliminarily confirm the AAIS and the second was to follow the participants after 1 month to complete the AUDIT-

C (item-2 and item-3) for understand the primary change. All the data were analyzed by using SPSS 20.0 to test the validity, reliability, and factor analysis.

#### Results (of evaluation)

There were 138 participants enrolled (72 in phase 1 and 66 in phase 2). The AAIS has acceptable reliability with cronbach's alpha 0.80 and the KMO value is 0.773. The Pearson's correlation showed positive correlation ( $\gamma=0.345$ ,  $p<0.01$ ) between AAIS and AUDIT. The factors of the AAIS included attitude toward the behavior, subjective norm, and perceived behavioral control. The attitude toward the behavior is positive correlation with the AUDIT ( $\gamma=0.246$ ,  $p<0.05$ ).

#### Conclusions/Lessons learned

The Alcohol Abstinence Intent Scale (AAIS) is an acceptable tool for understand the abstinence intent of alcoholics. The AAIS should be used in the clinical regular assessment for alcohol prevention services.

#### Contact: FANG Chun-Kai

MacKay Memorial Hospital  
92, sec. 2, Zhongshan Rd, Zhongshan Dist., Taipei,  
[chunkai.fang0415@gmail.com](mailto:chunkai.fang0415@gmail.com)

## Taiwan National project to construct alcohol prevention network by 8 centers

### FANG Chun-Kai, SHIH Pao-Wen, LIN Chia-Hua

#### Background/Problem/Objective

Even alcohol use disorders had become severe public health issues and social safe problems in Taiwan, the clinical enroll pathways for alcohol prevention were still not so structured. The Ministry of Health and Welfare wanted to construct the national alcohol prevention network to actively find and enroll alcoholics to reduce or quit alcohol. The report present the process of the project.

#### Methods/Intervention

There were 8 health care centers authorized by the Ministry of Health and Welfare to attend the project, including MacKay Memorial Hospital, Taipei Tzu Chi Hospital, Taipei Veterans General Hospital Yuli Branch, Tsaotun Psychiatric Center, Jianan Psychiatric Center, China Medical University Hospital, Tung's Taichung Metro Harbor Hospital, and Kaohsiung Municipal Kai-Syuan Psychiatric Hospital. According to different areas, all 8 centers had to construct the possible and appropriate pathways. MacKay Memorial Hospital was the core center to integrate and construct the network.

#### Results (of evaluation)

From January to December 2017, there were 10 clinical enroll pathways, and 679 alcoholics were enrolled the network. The top 3 pathways were psychiatric outpatient clinics (309), special telephone service (116), and non-psychiatric outpatient clinics (71). The other pathways included social welfare departments, motor vehicle departments, local health systems, and judiciary departments. Under the Network, there were 531 alcoholics (78.2%) to attend the treatment programs to control alcoholism, including 447 male and 66 female.

**Conclusions/Lessons learned**

The national alcohol prevention network has been preliminarily constructed through the cooperation with 8 centers and the Ministry of Health and Welfare. It is the good beginning to enroll alcoholics to get treatment. However, there were still some enrolled alcoholics rejected to attend. The next step we have to do is to increase the ability of staff to promote the motivation of alcoholics for quit or reduce.

**Contact: FANG Chun-Kai**

Mackay Memorial Hospital  
92, sec. 2, Zhongshan Rd, Zhongshan Dist., Taipei,  
[chunkai.fang0415@gmail.com](mailto:chunkai.fang0415@gmail.com)

## Session O4.4: Health literate healthcare organizations

### Implementing a national policy for improving healthcare communication in Austria – Train the Trainer Programme for communication skills teaching in healthcare institutions

**NOWAK Peter** **SATOR Marlene**

**Background/Problem/Objective**

Evidence shows that good quality communication between providers and patients is highly relevant with regard to health outcomes. Turning health promoting healthcare organizations into supportive settings for health literacy and good quality communication therefore is a central element of re-orienting health services. Current Data, however, shows that the quality of patient-provider communication in Austria is below average within the EU. International literature suggests that doctor-patient communication has been getting worse rather than better. Despite all the efforts in research and teaching, communication skills do not appear to have found their way into everyday clinical practice. For Austria a comprehensive national strategy for improving healthcare communication was developed within the framework of the Austrian National Health Target "Enhancing health literacy" in 2016.

**Methods/Intervention**

As a consequence to this national strategy, more and more healthcare organizations have shown their interest in piloting communication skills training within their institutions. However, there is a lack of communication skills teachers who are qualified for facilitating in-house-communication skills training in healthcare organizations according to evidence-based international standards. Also there is a lack of clinical teachers qualified for informal workplace communication skills teaching like role modelling, responding to case presentations and observing learners. In close cooperation with EACH: International Association for Communication in Healthcare we therefore developed a Train the Trainer Programme for communication skills teaching in healthcare institutions, a concept for an ongoing community of practice for certified communication trainers and a manual for facilitators including an evidence-based guideline and key elements of a certified communication skills training.

**Results (of evaluation)**

The Train the Trainer Programme has started with 19 participants in January 2018. Most of the participants are already experienced communication skills trainers that are now trained on an international evidenced-based level to set a high level standard for communication trainings in the Austrian healthcare system. The training includes 11 days of intensive study and practice with simulated patients and a practical application of a training in a healthcare institution by each participant within one year. In preparation also a core group of simulated patients for communication skills training for healthcare professionals in healthcare organizations had to be trained according to evidence-based international standards. The whole Train the trainer programme will be evaluated on multiple levels. The presentation will include first experiences with this ongoing training.

**Conclusions/Lessons learned**

The Train the trainer programme was very attractive to high level health professionals. We had to reject more than 20 applicants. To develop patient-centred communication skills seems very timely and important for reorienting health care.

**Contact: NOWAK Peter**

Austrian Public Health Institute  
Stubenring 6, 1010 Vienna,  
[peter.nowak@goeg.at](mailto:peter.nowak@goeg.at)

## Is the hospital an appropriate setting for behavioural change interventions?

**FAGGIANO Fabrizio**

**Background/Problem/Objective**

Health systems are experiencing a dramatic change, with hospitals limiting their role in acute care, and an increasing role of primary prevention. For this, they are increasingly considered an exceptional setting for prevention activities. The objective of this presentation is to review scientific literature to identify effective prevention interventions to be conducted in the hospital setting.

**Methods/Intervention**

A systematic review has been conducted using mainly Medline. The inclusion criteria are the followings: RCTs or Systematic reviews evaluating the effectiveness of interventions for smoking cessation, overweight treatment, and for health promotion especially in the field of diet and physical activity; targeting hospital patients, parents and hospital staff. The results of the metanalysis were analysed in order to assess the possibility to transport them in the hospital setting.

**Results (of evaluation)**

3309, 1587, 2140 and 761 titles were retrieved for a large search on the main literature databases, evaluating interventions on physical activity, nutrition, obesity and smoking cessation respectively. 10, 7, 17 and 121 were included, respectively, and metanalysis showed that there are some effective interventions to be transported to the hospital setting



### Conclusions/Lessons learned

Hospital can be considered an appropriate setting to conduct health promotion interventions aimed at behavioral change. There are effective interventions that can be transported in the hospital setting to target the population of patients, their parents and the hospital staff. The hospital context appears to increase the motivation for a behavioural change. The relationship between effectiveness of intervention and population coverage is a critical issue in considering these interventions.

#### Contact: FAGGIANO Fabrizio

Università del Piemonte Orientale  
Via Solaroli 17, 28100 Novara,  
[fabrizio.faggiano@uniupo.it](mailto:fabrizio.faggiano@uniupo.it)

## Health Literacy Applying to Low-Economic Country to Improve Health Status - A Case Study of Nepal

HSU Shih-Tien, CHOU Hsin-Yun, KUO Nu-Chen, LO Chin-Hsiang

### Background/Problem/Objective

Health literacy (HL) plays a significant role in health outcomes, maintaining or improving quality of life related to health care, disease prevention and health promotion. There is currently quite a paucity of research or reports on HL in Nepal, a low-economic country in South Asia. To promote preventive health care to reduce morbidity and mortality, we conduct a HL survey to provide the most appropriate local health education direction, health care or policy-making

### Methods/Intervention

We conduct the cross-sectional study at the rural village-Jugedi from March to September 2017. The short version of the HLS-EU Questionnaire (HLS-EU-Q16) was administered on 637 subjects aged between 15 and 88 years old. Data was collected by face to face interview using structured interviewer rater questionnaires. A HL score ranging from 0 to 50 points was computed and classified according to the recommendation of the HLS-EU project. Relative risk ratio and 95 % confidence interval (CI) of associated factors were used for the questionnaire

### Results (of evaluation)

Overall, the HL score was 26.7 (index between 0-50, SD 4.3). Among all subjects, 34.6 % showed inadequate HL, 61.4 % problematic HL, 4 % sufficient HL, and no case achieve excellent HL. The study showed that the HL of those  $\geq$  30 years of age was superior to those  $\leq$  70 years of age ( $p < 0.05$ , 95% CI 0.42; 4.5), those without bad habits were superior to those with at least one bad hobby (smoking, drinking, late awake) (95% CI 0.16; 1.56), bath every day in the summer were better than once a week and the others (95% CI 0.25; 2.07 and 1.12; 4.53). Among three levels of HL for health (health care, disease prevention and health promotion), the health care was the best ( $P < 0.05$ , 95% CI 1.6; 3.3)

### Conclusions/Lessons learned

This study shows that most of HL level is poor and normal, but lower compared with other parts of Asia (European Health Questionnaire -47 title version), also found that health promo-

tion is needed most; those who without bad life habits and who know that they need to take a bath every day in summer have a higher HL score, probably representing a better concept of self-care for this group, which also provides following health education direction. Of course, Jugedi's research does not represent the entire Nepali population and more research is still needed to understand

#### Contact: HSU Shih-Tien

Landseed Hospital, 77, Kwan-tai Road, 32449 Pingjeng City,  
[hsust@landseed.com.tw](mailto:hsust@landseed.com.tw)

## Promoting health: professional expertise in supporting changes in high-risk lifestyles

BOSI Sandra, AMEGLIO Mateo, FORZA Giovanni, MARCHESI Cristina, GIANNINI Adriana, BERTOZZI Nicoletta, CHIARENZA Antonio, ZIRONI Francesca, DICLEMENTE Carlo

### Background/Problem/Objective

Expertise in supporting changes in high-risk lifestyles by healthcare workers in all the services is vital for disseminating the motivational approach in accordance with the Trans-theoretical Model of Behaviour Change (TMC). The project of the Reggio Emilia Health Authority (AUSL RE) and LILT, conducted as part of the CCM (Centre for disease control) of the Italian Ministry of Health in 2015, with the regional centre Luoghi di Prevenzione (LdP), includes: i) Dissemination of minimal advice in inter-sectoral network situations by healthcare workers, through e-Learning and in-depth analysis classes; ii) Adoption of second-level structured counselling measures by different services.

### Methods/Intervention

The e-Learning training course had 50 CME credits, 7 modules and two classroom days; it was provided in collaboration with the University of Maryland (C. DiClemente) and LdP. The motivational approach improved professionals' abilities to properly refer users at risk to second-level facilities for informational-motivational support groups; to a telephone helpline; to the map of local opportunities

### Results (of evaluation)

Between 2013 and 2016, 506 health professionals including 110 occupational doctors participated in the e-Learning training programme from 16 Italian regions. The results of a pilot trial conducted in the AUSL RE, showed a 50% increase in adhesion to smoking cessation and a 70% increase in adhesion by users interested in changing their habits with regards to physical activity and eating behaviour.

### Conclusions/Lessons learned

Professionals acquired expertise to promote changes in users' high-risk lifestyles through the TMC in different settings (workplace, cancer screening and medical practice/health centres). Effectiveness analysis of outcomes of the motivational actions carried out by workers was conducted. E-Learning courses carrying 24 CME credits are currently underway for specific



healthcare professionals, with some having already almost completed the experimentation stage.

**Contact: BOSI Sandra**

LILT - Luoghi di Prevenzione, Via Alfieri 1/2, 42122 REGGIO EMILIA,  
[segreteria@luoghidiprevenzione.it](mailto:segreteria@luoghidiprevenzione.it)

## Session O4.5: Workplace health promotion

The needs for active aging courses among medical and administrative staff of an age-friendly hospital in Taiwan

**HUANG Chin-Huan, CHEN Ya-Wen, LIN Ming-Nan**

### Background/Problem/Objective

One of the organizational support strategies of the Taiwan's Framework of Age-Friendly Hospitals and Health Services is that all staff receives basic training in age, gender, and culturally sensitive practices that address knowledge, attitude, and skills. However, little is known regarding the needs for active aging courses among age-friendly hospital staff. Therefore, the aim of this survey study was to explore the needs for active aging courses among the staff in an age-friendly hospital in Taiwan.

### Methods/Intervention

A survey design was used to investigate the medical and administrative staff of an age-friendly hospital in southern Taiwan. A total of 892 questionnaires were distributed and 867 (97.2%) were returned. The areas of needs were evaluated and they included: (1) health maintenance, (2) spiritual growth, (3) personal safety, (4) social life, and (5) voluntary services. Data were analyzed using t-test, Chi-square test, and multiple linear regression analysis.

### Results (of evaluation)

Among the five areas of needs for active aging courses, health maintenance showed the greatest need while voluntary services exhibited a lowest need by the study respondents. The needs for active aging courses were significantly higher for respondents who were (1) female, (2) nurses, medical technicians, or administrative staff (compared with physicians), (3) planning to retire 21 years later, and (4) participants in similar courses previously. The most favorable training format was seminar talks. In addition, Saturdays and Sundays were the preferred days for training. Each training session was preferably to be 1 to 2 hours in length. The hospital was the choice for the training venue, and courses should be free-of-cost.

### Conclusions/Lessons learned

Findings from this survey of an age-friendly hospital in Taiwan showed that active aging courses on health maintenance had the greatest demand. Respondents indicated that they would prefer free seminar talks to be held in the hospital during the weekend.

**Contact: LIN MingNan**

Buddhist Dalin Tzuchi General Hospital  
 No.2, Ming-Shen Road, 622 Chiayi County,  
[mingnan.lin@gmail.com](mailto:mingnan.lin@gmail.com)

The longitudinal study for the associated factors to job performance among nurses in emergency department

**CHEN Kuan-Chen, TUNG Tao-Hsin, CHIOU Shy-Yang, CHEN Fu-Li**

### Background/Problem/Objective

To explore the relationship between baseline information, personal factors, working characteristics, and job performance among nurses in emergency department based on a follow-up database.

### Methods/Intervention

Two-hundred and twenty-two nursing staff were interviewed with repeated questionnaires for data collection (From August to September, 2008, from February to March, 2009, and from November to December, 2009). The generalized estimating equation (GEE) is used to test the relationship between the domains of independent variables (baseline information, personal factors, working characteristics) and dependent variables (task performance, contextual performance).

### Results (of evaluation)

The mean age of participants is 30.1±5.1yrs. 49.5% are junior college or bachelor degrees. From the GEE model, biological protection ( $\beta=0.251$ ,  $P<0.001$ ) and safety culture ( $\beta=0.245$ ,  $P<0.001$ ) are significant related to task performance. Contextual performance is strongly affected by anxiety ( $\beta=-0.099$ ,  $P<0.001$ ), and safety culture ( $\beta=0.139$ ,  $P<0.001$ ).

### Conclusions/Lessons learned

To improve the job performance among nurses in emergency department, it should consider personal psychological and environmental factors.

**Contact: TUNG Tao-Hsin**

Cheng-Hsin General Hospital  
 No45, Cheng-Hsin st, 112, Shipai, 112 Taipei,  
[ch2876@gmail.com](mailto:ch2876@gmail.com)

Mental performances in anaesthesia residents after night work: analysis of visual and auditory reflexes with new mobile APP "SafeDrive"

**BEDNAROVA Rym, MICELI Luca**

**Background/Problem/Objective**

The alteration of sleeping schedule and the reduction of rest's hours that are normally linked to the night turn have an impact on medical personnel's performances. This consideration is particularly important for anaesthetists, who are usually asked to treat clinical conditions in fast evolution. To improve health work safety it's very important to measure the worker's abilities performances.

**Methods/Intervention**

20 voluntary anaesthetists were submitted to Literature gold standard "Vienna test system®" and to answer test to visual and auditory stimuli through APP "SafeDrive" with the goal of demonstrating the agreement between the two methods. Later the same volunteers have been submitted to "SafeDrive" test before and after night-time turn, for a total of 50 nights. Performances before and after the turn of each candidate have been compared with the test t of Student with two tails for coupled champions.

**Results (of evaluation)**

3 of the 4 tests submitted with SafeDrive have revealed significant alterations in candidate's time reaction after a night-time turn. A significant rise of the variance in milliseconds has been recorded in one of the tests. The total test performance results worsened with test t of Student very significant ( $P < 0.01$ ). The number of errors, on the contrary, did not vary in a significant way after the night-time turn.

**Conclusions/Lessons learned**

The volunteers performance answer to visual and auditory stimuli was slower in anaesthetists after a night time turn, while the quantity of execution (number of errors) and the capacity of concentration (variance in proofs) appear with no variation. Similar results have been obtained from other authors. Therefore we suggest the use of free, multilingual, portable "SafeDrive" APP

(<https://play.google.com/store/apps/details?id=it.tbgsafedrive&hl=en>) in health workers other than anaesthesiologists with the aim of improving health work safety.

**Contact: BEDNAROVA Rym**

health agency number 2, friuli venezia giulia, italy  
gorizia, [fabulle69@libero.it](mailto:fabulle69@libero.it)

## Health promotion effects of exercise intervention in nurses

**LIN Shu-Mei, WANG Ting-Yao, YANG An-Ko, TSENG Jui-Mei, LIN Wan-Zhen, HUANG Hui-Ting, LIN Kuan-Hung**

**Background/Problem/Objective**

In accordance with the report written by nurses, in regards to the environment and physical health in 2013, it indicated about 54.6% nurses were not used to do exercise. All Taiwan Adventist Hospital employees have performed their physical examination annually, and was found out the results in 2014, BMI 29.6% and 31.2% in 2016. However, if the nurses would have done exercise regularly they could have avoided the metabolic syndrome problem.

**Methods/Intervention**

This research is for improving the nurses' physical problem, two types of exercise interventions: structural and lifestyle were conducted, to help with metabolic syndrome and cardiorespiratory fitness. Thirty participants who aged 25-45, their cardio-pulmonary fitness level ↓ 50% of normal mode, body fat ↑ 25% for three-month exercise program. Participants divided to two groups: Structural group 3 times a week by team flywheel bicycle. Lifestyle group 6 times a week with the app 7 minutes workout.

**Results (of evaluation)**

In body composition, waist circumference, and hip circumference were significantly declined in both groups. Flywheel bicycle training improved maximal aerobic capacity ( $26.1 \pm 6.2$  to  $29.3 \pm 5.7$  ml/min/kg) and decreased respiratory exchange rate at sub-maximal exercise which showed more fat was burned, such as: 50W( $0.98 \pm 0.06$  to  $0.92 \pm 0.06$ ), 75W( $1.05 \pm 0.08$  to  $0.99 \pm 0.03$ ), 100W( $1.11 \pm 0.06$  to  $1.04 \pm 0.04$ )

**Conclusions/Lessons learned (of evaluation)**

High-intensity circuit exercise (lifestyle-type exercise) was more conducive to improving metabolic syndrome indicators. Flywheel bicycle exercise (structure--type exercise) could improve maximal aerobic capacity and fat metabolism. Therefore, we suggested that the hospital colleagues who have poor cardio-pulmonary fitness level, should join flywheel bicycle programs in our Fitness Center

**Contact: LIN Shu-Mei**

Taiwan Adventist Hospital

[candace@tahsda.org.tw](mailto:candace@tahsda.org.tw)

## Measures to promote the well-being of healthcare professionals at work

**MAZZA Concetta, DE ANGELIS Cinzia, DI FABBIO Daniela, GRASSILLI A. Maria, TOVOLI Daniele**

**Background/Problem/Objective**

A resilient healthcare organization, capable of sustaining the well-being, manage psychosocial risks, respond to particularly serious adverse events and apt to identify appropriate corrective actions, must be able to implement strategies to protect its operators, besides its patients. For this reason, since 2012, the UOC Sistemi per la Sicurezza (AUSL) of Bologna, as part of the Promotion of Work-Wellness Project, activated the "Wellness Promotion and Work Distress Prevention Group" made up of a team of psychologists and safety professionals, structured within the company and specifically trained. Objective is To design and implement measures which promote the well-being, overcome work discomfort in intra and inter-professional working groups and support leadership under indications of great discomfort.

**Methods/Intervention**

Group interventions are based on Bakker's and Demerouti's Question-Work Resources Model, where work demands (as a risk factor) are compared with work resources (as a risk protection factor).

**Results (of evaluation)**

Between 2012 and 31 December 2017, the Group received 45 requests for action. There were 80 interventions involving a

total of 392 health workers. The total service for each operation generally lasted no more than 12 weeks, except for specific improvement projects tailored for Complex Operative Unit applicants. The identified critical issues concern organizational conflicts, team-work difficulties, adverse event outcomes on particularly serious patients, etc. Based on experience, the group also worked and made every effort to develop and draft some service integration procedures, in order to enhance the company's network performance in terms of adverse events management.

#### Conclusions/Lessons learned

The measures taken returned positive results in 95% of the cases, obtaining a substantial reduction of the psychological discomfort in the subjects involved. Group action is one of the Company Promotion of Work-Wellness Project's activity areas

#### Contact: TOVOLI Daniele

Az. USL di Bologna  
c/o Osp. Maggiore, L.go Nigrisoli, 40133 Bologna,  
[d.tovoli@ausl.bologna.it](mailto:d.tovoli@ausl.bologna.it)

## Determining the impact of a corporate wellness program upon cardiac health for a group of employees

CHUK Peter, TSAI Albert, SIU Alan

#### Background/Problem/Objective

Corporate health screening are of concern by employers to early detect health problems and control disease with finance gain. Health education and promotion can prevent and control cardiac risks which are a number three disease killer in Hong Kong. Literature shows that reduction of low density lipoprotein cholesterol and increase of high density lipoprotein will promote a healthy heart. No local investigation has been conducted for the benefits of a wellness program on cardiac health risks for corporate employees. The objective of this study was to determine the impact of a structured corporate wellness program upon cardiac health for a group of employees one year apart between 2016 and 2017.

#### Methods/Intervention

Employees from two sites of a major company in Hong Kong were scheduled to attend an annual on-site Corporate Wellness Program with a written consent. A health screening appointment was made throughout a period of six months for a group of staff (2016, N=324) and repeated (2017, N=373). Their key physical indicators including Body Mass Index and Lipid Profile were measured with a 10-minute individual counseling provided. Moreover, a 10-hour health seminar series (1-hour each topic) focusing chronic diseases prevention and control were selected by employer for employees' attendance during lunch time between 2016 and 2017.

#### Results (of evaluation)

BMI dropped from a mean of 22.45(2016) to 22.17(2017) ( $t=1.186$   $P=0.236$ ) one year after administration of the wellness program; Body Fat% from 24.5 to 23.8( $t=1.348$   $P=0.178$ ); Total Cholesterol (TC) dropped from 4.37 to 4.25mmol/L( $t=-1.700$ ,  $P=0.090$ ); Low-density Lipoprotein (LDL) cholesterol dropped from 3.4mmol/L to 2.9; High Density Lipoprotein increased

significantly from 1.38 to 1.55 ( $t=-4.990$ ,  $p<0.001$ ); Cardiac Risk Ratio from 3.41 to 2.94 ( $t=5.990$ ,  $p<0.001$ ).

#### Conclusions/Lessons learned

Number of employees with cardiac risks in 2016(19.8%(62/313)) decreased significantly to 2017(9.6%(34/354))( $\chi^2=50.447$   $df=3$   $*P<0.001$ ). This simple and user-friendly health screening in a structured Cooperate Wellness Program is effective for health gain by employees. It will be more convincing to use a dependent t-test for data analysis in future and a recommendation to integrate this wellness program for prevention and control of other disease problems.

#### Contact: CHUK Peter

Hong Kong Adventist Hospital - Stubbs Road  
40 Stubbs Road, Hong Kong  
[pkcchuk@netvigator.com](mailto:pkcchuk@netvigator.com)

## Session O4.6: Community health promotion II

### How people living in Hiroshima value each prerequisite for health from the Ottawa Charter

EZEKIEL WONG Toh Yoon, SUGA Takako, MURAKAMI Narumi, TATEISHI Junko, MURATA Hirohiko

#### Background/Problem/Objective

The first International Conference on Health Promotion was held in Ottawa on 21st November 1986, issuing the famous Ottawa Charter for Health Promotion. In this charter, 8 prerequisites (fundamental conditions and resources) for health were identified as peace, shelter, education, food, income, a stable eco-system, sustainable resources, and social justice/equity. However, how each of these basic prerequisites are viewed and valued by the general population has not been fully investigated.

#### Methods/Intervention

We conducted a questionnaire survey to investigate how the general population in Hiroshima view and value these basic prerequisites. 250 adults from our health check-up center participated in this survey. Participants were given the list of these 8 prerequisites to view and asked to choose the three most important prerequisites to them in order of priority.

#### Results (of evaluation)

165 (66%) participants were female. 149 (60%) were aged between 40 and 59 years. 209 (84%) were married and 199 (80%) had children. The most important prerequisite for health was peace, listed by 92 (37%) participants as their 1st choice. This (1st choice listing) was followed by food (54 participants or 22%) and income (39 participants or 16%). The second and third most important prerequisites were food (58 participants or 23%) and education (46 participants or 18%) respectively.

#### Conclusions/Lessons learned

The results of our survey showed that the majority of people living in Hiroshima valued peace as the most important prerequisite.

uisite for health. It also gives us insight into the perception of the general public towards the different prerequisites for health stated in the Ottawa Charter for Health Promotion. By understanding how various communities value each prerequisite differently, we may be able to develop customized plans to optimize health promotion in distinctive settings.

**Contact: WONG Toh Yoon**

Hiroshima Kyoritsu Hospital  
Hiroshima-shi Asaminami-ku Nakasu 2-19-6, Hiroshima,  
[easybs@hotmail.com](mailto:easybs@hotmail.com)

## The more times people participate in a CVD community intervention program, the greater the decrease in mortality

**NORBERG Margareta, PADYAB Mojgan, WEINEHALL Lars**

### Background/Problem/Objective

The Swedish Västerbotten Intervention Programme (VIP), launched in 1985, is one of the world's largest ongoing population based cardiovascular disease (CVD) intervention programs, nested within primary care. VIP targets all county residents at the ages of 40, 50 and 60 years. The core component is a health dialogue based on measured CVD risk factors and comprehensive questionnaire data. We have previously reported that standardized mortality rates 1990-2006 for all-cause and CVD mortality before age 75 years were significantly reduced within all educational strata in the target population (participants and non-participants) and even more among participants. Thereby we used all Swedes of same age and sex at the same time as reference. The absolute numbers of prevented deaths were largest among those with low or intermediate education. This study evaluated if repeated exposures to the health dialogue and examination add more effect than participation once only.

### Methods/Intervention

All individuals who participated in VIP the first out of two opportunities were followed from the time point of the first survey until either age 74, end of the study Dec 31 2013, or prior death. Those who participated only in the first opportunity were compared to those who also returned for a second VIP after 10 years.

### Results (of evaluation)

Participants born 1940-1949 entered the cohort at age 50 years (17,022 individuals and 1272 deaths) and participants born 1954-1963 at age 40 years (12,284 individuals and 212 deaths). In both cohorts the risk of premature death was higher among those who participated once compared to twice, HR 1.7 (95% CI 1.53-1.92) and 1.5 (95% CI 1.11-1.94), respectively, adjusted for education, marital status, hypertension, diabetes and smoking.

### Conclusions/Lessons learned

A population based, sustainable CVD preventive program that targets the entire middle-aged population and is nested in primary care reduces premature mortality more effectively among those who participate twice compared to once only.

**Contact: NORBERG Margareta**

Umeå University, Department of public health and clinical medicine, Umeå University, SE-90187 Umeå,  
[margareta.norberg@umu.se](mailto:margareta.norberg@umu.se)

## Educating Health Guides to improve individual empowerment in a small community

**WHITE Alexandra, SCHÖLD Anna-Karin, GLAD Elin, LEIJON Matti**

### Background/Problem/Objective

The project was based on a political decision, at a local level, as a way of engaging different stakeholders in society, with the aim of reducing mental illness. The healthcare and the municipality of Boxholm, the non-profit sector and local companies met to discuss what could be done to reduce mental illness. It was found that there was a need to prevent mental illness among women and to raise citizens' awareness of how to promote and maintain their health.

### Methods/Intervention

The education for health guides is a voluntary course, free and optional, with three meetings of 3 hours each. The education focuses on healthy eating, physical activity, tobacco, recovery, stress, sleep, and attitudes to health with special focus on mental health. The intention was to invent something concrete, as increased knowledge and understanding, focusing on empowerment and what to do to avoid illness. Everyone who attends all sessions receives a diploma, sweater and bag of conversational material.

### Results (of evaluation)

Most of the health guides are women, to this date 32 health guides have been diplomaed. About 20 persons have signed up for a recess course. They are prepared to talk individually about health and are also encouraged to create health promotion efforts in the workplace or in the private networks. The guides should act as voluntary health inspirers. It is too early to see results of the project but the general health in Boxholm are continuously measured.

### Conclusions/Lessons learned

In the future the guides will be offered further lessons in health management, to maintain their interest in the assignment of being health guides. Also, young health guides will be educated to talk about health among the youth in Boxholm.

**Contact: WHITE Alexandra**

[Alexandra.lundvall.white@regionostergotland.se](mailto:Alexandra.lundvall.white@regionostergotland.se)

## A.F.A. Adapted Physical Activity

**COSOLA Alda, ODoni Rodolfo, ROSIELLO Pasquale, BORRACCINO Sabina, SAPPÈ Rossella, FASANO Paola, BORASO Flavio**

**Background/Problem/Objective**

"Adapted physical activity project" was born from the collaboration between director of the health district, health promotion service, health specialists, Mayors and Universities. The goal is to reduce pain and increase physical activity in over65. AFA is carried out in gyms, swimming pools and other suitable places, with professionals trainers. The project was launched in 2016 in Pinerolo area and it involves over 150 people; it will be extended to the whole territory served by the Local Health Service

**Methods/Intervention**

- Health specialists (physiatrist, physiotherapists, general practitioners,...) Mayors and University of motor sciences wrote a shared project
- An institutional agreement was signed between Local Health Service (ASL TO3 –Metropolitan City of Turin - Piedmont Region) Mayor of Pinerolo and gyms, swimming pools and other suitable places with low cost for people
- Physical activity takes place twice a week in groups of 10 people
- Evaluation of the results are measured with the Womac Scale

**Results (of evaluation)**

- Over 150 people are involves in the first year
- Positive feedbacks were collected by the participants
- Health determinants and health promotion take advantage of Empowerment of citizens
- Increase in the number of new istitutional agreement in ASL TO3 area

**Conclusions/Lessons learned**

People adhere to A.F.A. project if they find places close to their home and if prices are low. People increase physical activity if they have the possibility to meet in a group. Developing integrated community projects reduces public health costs.

**Contact: COSOLA Alda**

LHA TO3, Stradale Fenestrelle, 10064 PINEROLO,  
[acosola@aslto3.piemonte.it](mailto:acosola@aslto3.piemonte.it)

## "Catch your health wave on the beaches of Ashdod" – An outdoor intervention to promote sun protection among beachgoers

**BRONNER Karen****Background/Problem/Objective**

With more than 300 days of sunshine per year, it is not surprising that Israel is among the leading countries for prevalence and mortality due to melanoma. Prolonged exposure to ultraviolet radiation year round is a major contributing factor to the likelihood of developing skin cancer across the lifespan. Most skin cancer can be prevented by adopting sun protection habits, yet this recommendation is not in accordance with Israel's beach culture as well as the common view of the coast as a favorite recreational venue. Initiated by a new hospital located in a city with 8km of beaches, the main objective of this intervention was to encourage healthy sun protection habits on beaches, where the target behavior occurs.

**Methods/Intervention**

A joint collaboration between Assuta Medical Center and Ashdod City Municipality, provided the opportunity to redesign lifeguard structures adding creative infographics of the recommended behaviors e.g. frequent sunscreen usage, wearing sun

glasses/ hats, avoidance of sun exposure during middays, seeking shade, drinking water and prevention of smoking on the beach. Additionally, "Catch your health wave" jingle was automatically broadcasted hourly alongside distribution of free sunscreen samples and sun umbrellas. A cross sectional study based on a structured questionnaire was conducted among beachgoers pre-post intervention.

**Results (of evaluation)**

One thousand fifty eight questionnaires were completed in two rounds (N=753 ;N=305, respectively). Findings revealed a significant positive correlation between sun screen usage and light eye color (P<0.01) and fair skin (P<.0001). Fair skin was also associated with hat wearing (P<0.01) and avoidance of sun exposure during midday. Participants with multiple moles or family history of skin cancer were more likely to adhere to sun protection recommendations (P<0.01). A quarter of the responders recalled the jingle and one fifth of responders reported a behavioral change due to the intervention. Improved adherence was shown for sunscreen usage (p<0.001); sunglass-wearing (P<0.01) and water drinking (P<0.001) at post intervention results.

**Conclusions/Lessons learned**

By applying cues-to-action and redesigning of the environment, a beach can serve as a suitable setting for implementing an effective intervention, allowing direct access to a specific target audience at its greatest risk- during sun exposure.

**Contact: BRONNER Karen**

Assuta Medical Centers  
 20 Habarzel St., 69710 Tel Aviv,  
[karenb@assuta.co.il](mailto:karenb@assuta.co.il)

## Session O4.7: Late life and health promotion

### The effectiveness of exercise program intervention in fitness and social interaction for elderly patients with dementia.

#### HSU Ying-Ya, LEE Jia-Fu, YANG Yueh-Chuan, YU Ya-Jou

**Background/Problem/Objective**

Recently, the proportion of the elderly population has grown rapidly. Dementia is a common disease in the elderly. A large number of studies have also shown that exercise is helpful in reducing cognitive decline, the risk of dementia, confusion, agitation, and improving fitness and mood. However, few studies show that the social interaction can be improved by exercise intervention, so this study explored the effectiveness of exercise interventions for fitness and social interaction.

**Methods/Intervention**

Six participants with dementia were recruited. They engaged in 75 minutes exercise session twice a week for four weeks. The topics of the weekly exercises were muscle strengthening and



endurance training, muscle strengthening and reaction training, aerobic exercise, comprehensive exercise. Each session included balance and flexibility training. The measurements which including fitness, social interaction, and attention were performed before and after the intervention. Statistical analysis was using SPSS version 22.0. The effect of intervention examined by the Wilcoxon test.

#### Results (of evaluation)

There were significant differences between pre and post test in right foot standing ( $p = .046$ ), lower extremity muscle endurance ( $p = .027$ ), cardiopulmonary function ( $p = .028$ ), walking straight for 3 meters ( $p = .028$ ), and the Berg Balance Test scores ( $p = .043$ ). Although waist circumference, hip circumference, upper extremity muscle endurance, attention span, and social interaction were not statistically significant, but there were improvements of those factors.

#### Conclusions/Lessons learned

The results support previous literature that patients with dementia do improve fitness after exercise intervention. This study shows that exercise intervention in a short period can also improve the fitness. In addition to improving fitness, exercise intervention also improving participants' attention and social interaction. The participants' smile more than before intervention from the observation. Therefore, the exercise intervention may improve not only fitness but also attention and social interaction.

#### Contact: HSU Ying-Ya

Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation  
No.289, Jianguo Rd. Xindian Dist.  
23142 New Taipei City,  
[jean70023@hotmail.com](mailto:jean70023@hotmail.com)

## THE "NORTH COAST HERO" MEDICAL CARE ALLIANCE An Innovative Mode of Cross-sectoral Continuous Long-term Medical Care and Health Promotion

**TAN Ching-Ting, HUNG Yu-Chien, HUNG Hsiang-Lien, JHANG Jia-Jhen, LIU Hsu-Hua**

#### Background/Problem/Objective

The North Coast of Taiwan is composed of four districts, covering a vast area, with only eighty thousand inhabitants. In this area, it is rather difficult to carry out the health promotion project because of serious problems of rapid aging, chronic diseases and young people moving out. With this in view, our hospital tries to set up the "North Coast Hero" Medical Care Alliance at minimum costs by making the most of all local resources available, breaking through the frame of individual district service operation. The Alliance thus serves to integrate the demands of local residents for living, health, long-term medical care and medication, taking care of their whole lives from birth to death.

#### Methods/Intervention

The Alliance, with the hospital branch as a platform and medical backup, has contacted the local deep-rooted organizations of

administration, social affairs and health and held cross-disciplinary meetings periodically in order to create a better mutual understanding of each other. The Alliance tries to directly release messages of its health promotion project to primary educational institutions, convenience store chains and local traditional groceries, so that the residents may have easy access to the messages of the project.

#### Results (of evaluation)

Since the establishment of the Alliance, we have immediately united 20 teams of NPO and NGO, managing to obtain maximum economic results at minimum costs. The number of people involved was 156 in 2016, and there are 612 people now. During health promotion, the members of these teams themselves are also behaving in a healthy way.

#### Conclusions/Lessons learned

The Alliance has effectively integrated local teams, with low admission requirements, low costs and freedom of independent operation of the teams. The close connection of civilian and government resources has made it possible for a new mode of health promotion project in a rural area to be efficient, beneficial, long-lasting, widespread and effective in controlling resources.

#### Contact: LIU HsuHua

NATIONAL TAIWAN UNIVERSITY HOSPITAL JINSHAN BRANCH  
No.7, Yulu Rd., Jinshan Dist., 20844, New Taipei City,  
[eaglejsh@gmail.com](mailto:eaglejsh@gmail.com)

## Setting-based Health Promotion in Long-term Care Institutions

**SU Shu-Chen, CHIEN Sou-Hsin, CHEN Ching-Yuan, GAN Cai-Ru, LAI Yi-Ling**

#### Background/Problem/Objective

Long-term care institutions aim to provide high quality of healthcare service to promote quality of life and enhance health status of their residents. Context, the fundamental to promote health often been neglected during planning, implementation, and evaluation. This project conducted in a long term care institute which consists 64% public-funded, 23% self-support, 13% day-care elderly, aims to examine the implementation of setting-based health approach in a long-term care institution and hope to provide future policy direction.

#### Methods/Intervention

Since 2016, Taichung Tzu Chi Hospital, Department of Community Medicine partner with Tzu Chi Medical Association and local volunteers organize general health check services in the institute. A full-time occupational therapist was employed to assess functional status and prescribed tailored rehabilitation treatment. In addition, based on the needs assessment, institution introduced different kinds of social activities such as karaoke, healthy walking and storytelling session. Thus, they also started sport sessions with functional exercise trainer, horticultural and music therapy.

#### Results (of evaluation)

In 2017, among the 26 newly admitted residents, ADL score increased from 35 to 49, muscle strengthening average of 2.6 to 3.1., MMSE increased from 12.75 to 15.25. Result showed

significant improvement in cognitive, 56% tends to be more social, 34% muscle coordination, and 61% reported positive emotional changes. On average, elderly have progress in all aspects of cognitive, concentration, social skills, interpersonal relationship, physiological coordination and mental health.

#### Conclusions/Lessons learned

This showed a healthy and pro-active care model which provide channels and interventions for reaching the needed group. Setting-based health promotion highlights the practical opportunities for the implementation of effective strategies. By taking account health promotion agenda into institutional agenda and core business plan, this will then create effective operation model and support sustainable development.

**Contact: HSU lin-ying**

Buddhist Tzu Chi Taichung General Hospital

[wowlinying1205@gmail.com](mailto:wowlinying1205@gmail.com)

## CONTINUOUS CARE MODEL OF GRIEF COMPANIONSHIP - Change of Family Members of the Deceased from Passive Acceptance of Care to Active Dedication of Themselves

**LIU Hsu-Hua, JHANG Jia-Jhen, HUNG Hsiang-Lien, HUNG Yu-Chien, TAN Ching-Ting**

#### Background/Problem/Objective

With the current shortage of the family support mechanism and lack of social resources in Taiwan, the home-based hospice care team of the NTUHJS provides continuous care services for the patients, their death and their family members, actively following up the conditions of the grievous family members. The family members can thus change from passive acceptance of care to active dedication of themselves.

#### Methods/Intervention

When the patient first comes to us, the team evaluates the conditions of the patient, holds family meetings with the family members and reaches an agreement to take care of the patient at the final stage. As the patient is dying and needs intensive care, the team provides high-quality final care and repeatedly prepares the family for the death of their loved one. When signs of life are gone, the team helps the family to cope with their loss, look after the dead body and issue the certificate of death; all these help to do away with the sadness of the family members. The original team also forms a small cross-disciplinary care group, pays continuous care visits and hosts care activities for the family periodically.

#### Results (of evaluation)

After grief companionship provided by the original care team in a continuous care mode, we have found that 37% of the families of care recipients volunteered to donate their medical aids, 3% of them were willing to work as volunteers for the NTUHJS, and 4% of them participated in the caregiver training course offered by the NTUHJS, actively dedicating themselves to care services for local residents. Besides, 95.7% of the participants were satisfied with the care activities sponsored by our hospital.

#### Conclusions/Lessons learned

Our team believes that grief companionship is the essential part of whole hospice care. Through these modes of care, the family members are able to change from passive acceptance of care to active dedication of themselves, devoting themselves to the care of others, extending their love and care endlessly.

**Contact: LIU HsuHua**

NATIONAL TAIWAN UNIVERSITY HOSPITAL JINSHAN BRANCH

No.7, Yulu Rd., Wuhu Village, Jinshan Dist., 20844,

20844 New Taipei City, Taiwan (R.O.C.)

[eaglejsh@gmail.com](mailto:eaglejsh@gmail.com)

## Session O4.8: Migrants and vulnerable groups

### Ensuring access to health care for refugees and asylum seekers during the refugee crisis: development of a resource package for EU member states

**CHIARENZA Antonio, VERREPT Hans, DAUVIRIN Marie, BAATOUT Sonia, CHIESA Valentina**

#### Background/Problem/Objective

In 2015 the enormous influx of migrants towards Europe posed new challenges for health care providers. In this scenario the HPH-Task Force Migration Equity and Diversity developed a "resource package", as part of the EU project SH-CAPAC, aiming to support EU member states in ensuring access to health care for refugees and asylum seekers. To this end a study was conducted in order: i) to collect direct and timely information on the challenges health providers were facing related to the refugee crisis; ii) to identify evidence on the barriers and solutions related to health service access; iii) to gather preferences on how a "resource package" supporting health providers should be developed.

#### Methods/Intervention

A series of individual interviews and focus groups with care professionals working in reception centres as well as in mainstream health services were carried out in 10 EU countries between February and March 2016. Based on the findings of the interviews and focus groups, a systematic review of the literature was conducted in July 2016. The databases of Medline, CINAHL, Embase, Scopus, Cochrane Database and CAIRN and the grey literature relating to the period January 2008 to July 2016 were searched. The final number of studies included for analysis was 252.

#### Results (of evaluation)

Findings of the interviews/focus groups showed that the main challenges for health providers concerned two main areas: i) access barriers to health care services in general (legal barriers, linguistic and cultural barriers, organisational barriers, lack of information for refugees and providers and lack of coordination

between services); access barriers to specific health care services (mental health, child care, victim of violence care and sexual and reproductive care). The results of the systematic review indicated that 132 studies addressed “barriers and solutions related to health care services in general” and 120 studies addressed “barriers and solutions related to specific health care services”. Findings of both the focus groups/interviews and literature review were used to inform the development of the “resource package”.

### Conclusions/Lessons learned

This mixed-method study, conducted promptly during the 2015-2016 refugee crisis, highlighted that refugees face a number of barriers in seeking health care during their migratory trajectory. Whereas refugees experience difficulties in accessing appropriate health care in general, some barriers are particularly problematic for specific areas of care.

**Contact: CHIARENZA, PHD Antonio**

Task Force Migrant-Friendly and Culturally Compete  
HPH Regional Network of Emilia-Romagna Via Fornaciari, 5  
42100 Reggio Emilia, [antonio.chiarenza@ausl.re.it](mailto:antonio.chiarenza@ausl.re.it)

## Training programmes for health professionals that address access and quality of health care delivery for migrants and ethnic minorities in Europe: a review of existing training materials

**CHIARENZA Antonio, HORVAT Lidia, LANTING Katja, CIANNAMEO Anna, SUURMOND Jeanine**

### Background/Problem/Objective

The global phenomenon of migration has dramatically changed the European social context in which health care professionals operate. European states are facing a growing need to effectively train healthcare professionals to understand and respond appropriately to diverse needs, issues and situations and to support change in health service delivery. Many EU countries have adopted specific initiatives, which include training programmes to develop the awareness, knowledge and skills of health professionals. There is, however, considerable variation in these policies and activities and few examples of evaluation of the quality of these training courses. The aim of this paper is to describe the review that was conducted within the MEM-TP project in order to identify, select and assess existing good quality training programmes developed and delivered for training health professionals in Europe between 2004 and 2013.

### Methods/Intervention

The review and analysis of training materials comprised three main stages: (1) a review of published and unpublished literature; (2) a survey addressing national contact persons, and representatives of international organisations and NGOs; (3) an assessment of the quality of the training programmes identified. Seven key domains that describe the core components of training programmes used for data collection and analysis: training description; training development and delivery; partici-

pants' characteristics of trainees and trainers; training approach; educational content; structure of the intervention; evaluation and outcomes.

### Results

The review showed that training programmes are characterised by low levels of participant involvement in training development, delivery, and evaluation. The main professional groups addressed are health professionals; however, a general tendency appeared to address trainings to a multi-professional audience. Training programmes often lacked an explicit pedagogical approach/theoretical framework; did not systematically focus on outcomes in training design, implementation and evaluation; and, training programmes were poorly linked to key organisational and policy support mechanisms. Finally, whilst cultural competence continues as the broad conceptual approach for training programmes, alternate approaches such as intersectionality, equity and person-centred care are emergent.

### Conclusions/Lessons learned

Training programmes can be further improved in order to ensure an effective response to the diverse needs of patients, carers, health professionals and the community.

**Contact: CHIARENZA, PHD Antonio**

Task Force Migrant-Friendly and Culturally Compete  
HPH Regional Network of Emilia-Romagna Via Fornaciari, 5  
42100 Reggio Emilia, [antonio.chiarenza@ausl.re.it](mailto:antonio.chiarenza@ausl.re.it)

## Reception of “unaccompanied” minors: their and our future in Reggio Emilia

**CAPORUSSO Michela, FORNACIARI Ros-sano, BONVICINI Francesca, CASONI Carmen, GEMMI MariaCristina, MANGHI Mara, MANTOVANI Alberto, FONTANESI Teresa, NASI Emanuela**

### Background/Problem/Objective

For those who work in social services and healthcare, the phenomenon of unaccompanied minors poses the need to review the methods used for approaching and managing these situations. The current complexities regard the migration patterns: factors that drive migrants to leave their countries of origin, the transition and passing through different countries (Libya in particular). In Italy, which historically receives unaccompanied foreign minors, in the last two years the reception projects are also being accessed by girls, primarily from Gambia and Nigeria. These cases require special attention and a range of professional skills

### Methods/Intervention

Upon arrival and during the stay of these minors under the local government projects (managed by cooperatives), the most critical issue is their difficulty in evaluating their own experience, as well as the lack of ability to orient themselves in the new context, and these elements can hinder building relationships of trust with the social service, healthcare, and educational workers involved.

### Results (of evaluation)

With the aim to improve the quality of the oversight and management of complex situations, the following measures have been taken: • organising training with the reception workers • participation in the local round table meeting "Accoglienza donne" (Reception for women), promoted by the support network of adult women, • participation in the monthly team meetings by a local worker of the regional project "Oltre la strada" (Beyond the street)

### Conclusions/Lessons learned

For effective management of the reception of these underage girls, the project has set forth the following objectives: 1. To share with the local public and private institutions a common language on the issue of the protection and reception of the minors 2. To develop specific competencies of the workers, also by means of joint and high quality training initiatives 3. To foster opportunities of integration for the minors consistent with their age groups and not only by country of origin (to avoid self-exclusions)

### Contact: FORNACIARI ROSSANO

public Health Authority  
via amendola 2, Reggio Emilia,  
[rossano.fornaciari@ausl.re.it](mailto:rossano.fornaciari@ausl.re.it)

## Maintaining Equality and Rights in Medical Care: A Case Study of Patients without Household Registration in Taipei Tzu Chi Hospital

### LIN Chia Te, WU Fang Chien

#### Background/Problem/Objective

Taipei Tzu Chi Hospital is a medical center located in northern Taiwan. Since 2013 our hospital has helped ten overseas Taiwanese patients who returned to Taiwan for medical support. These patients did not have household registration in Taiwan and were not qualified for national health insurance. As a result, they experienced difficulty in obtaining medical and health care. Our hospital offered support teams that integrated social workers and health care practitioners to help them gain the right to medical care.

#### Methods/Intervention

This study uses qualitative methods to understand how Taipei Tzu Chi hospital assists patients without household registration. Data collection focuses on interviews with medical social workers who have experiences with assisting this type of patients in order to understand the intervention supports that have been provided (e.g., retrieving household registration, re-establishing family relationship, offering accommodation, connecting to government social benefits). Data were analyzed through focus group and individual case analysis methods.

#### Results (of evaluation)

The study shows that 80% of the overseas Taiwanese patients had returned to Taiwan due to serious health problems. These patients were mostly males, had left Taiwan for 15.1 years on average, and did not have household registration and health insurance. These issues caused the patients' difficulty in getting access to medical services. The social workers in our hospital helped these patients find social resources (100%), gain medical

treatments (100%), re-build family connections (80%), and return to society (70%).

### Conclusions/Lessons learned

The researcher provides the following suggestions to respond to the challenges of helping patients without household registration gain equality and rights in medical care. First, governments should provide equal access to medical services. Second, more attention need to be paid to the conflict between individual responsibilities and social responsibilities in the Asian society. Third, overseas citizens need to have heightened awareness of their responsibilities and be prepared for their medical care.

### Contact: LIN Chia te

Taipei TzuChi Hospital  
No.289, Jianguo Rd., Xindian Dist., New Taipei City 231, Taiwan (R.O.C.), [kotolin@tzuchi.com.tw](mailto:kotolin@tzuchi.com.tw)

## Evaluation of remote intercultural mediation / interpreting using video-conference technology in Belgian health care

### VERREPT Hans

#### Background/Problem/Objective

In 2014, the Federal Public Service Health started a Video Remote Intercultural Mediation Program (using video-conference technology) that has as its aim to make intercultural mediation freely available in over 20 languages in a large number of hospitals (>60), primary care centers (>40) and medical services for refugees (>20). The intercultural mediators interpret and assist the care providers in the delivery of culturally competent care. Today, remote intercultural mediation is available in over 20 languages.

#### Methods/Intervention

During our presentation, we will present the first results of our evaluation of the Video Remote Intercultural Mediation Program. The evaluation is done using quantitative and qualitative data (the last ones collected through in depth-interviews with care providers, intercultural mediators and managers involved in the implementation process of the program). Quantitative data are collected through the dedicated computer program that is used to schedule appointments with the mediators.

#### Results (of evaluation)

- most frequent users express their satisfaction with the system they esteem to be very helpful to bridge language gaps and to provide culturally competent care - the uptake of remote intercultural mediation by health care providers is slow; - some intercultural mediators state that working remotely reduces their role to that of 'a translation machine'; working remotely is generally felt to be more difficult than doing on-site interventions - remote intercultural mediation is well-accepted by patients

### Conclusions/Lessons learned

Video-remote intercultural mediation creates enormous opportunities to provide interpreting/intercultural mediation in a large number of languages at many health care institutions. Once health care providers are familiar with the system, they

tend to be (very) satisfied with it and argue that it is extremely helpful for them and that it is accepted by patients. Still, it proves to be very difficult to convince care providers to use the system.

**Contact: VERREPT Hans**  
Federal Public Service Health  
Victor Hortaplein 40 (bus 10), 4000 Brussel,  
[hans.verrept61@gmail.com](mailto:hans.verrept61@gmail.com)

## From the cattle-shed to the rooms of health: programs for the wellbeing of workers and animals

**SEVERI Carla, FABBRI Alessandra, BONVICINI Francesca, GUIDI Loredana, MONICI Lucia, MOZZANICA Stefania, CASONI Carmen, POETA Antonio, BARRUS Araceli**

### Background/Problem/Objective

The province of Reggio Emilia is marked by its high number of dairy farms for producing Parmigiano-Reggiano cheese, where a prevalence of foreign – Indian and North African – workers are employed. The strong presence of foreign workers in this sector has highlighted the need to reorganize the Health Services to move them closer to users.

### Methods/Intervention

Synergy between operators from the Public Veterinary Health, Prevention and Safety at Work, Hygiene and Public Health Services has made it possible to raise the awareness of farmers who employ foreign workers, ascertain their problems and plan and implement targeted informative meetings. During these meetings, issues have been discussed relating to good hygiene practices in milking operations and the storage and transport of milk from the cowshed to the dairy, in relation to safety standards and the protection of workers and prevention of infectious diseases (tuberculosis) and recommended vaccinations.

### Results (of evaluation)

At the end of the meetings, the workers were offered the opportunity to undergo screening for tuberculosis as well as diphtheria and tetanus prophylaxis on a voluntary basis. Interested workers were also included in diagnostic programs for latent TB infection or for the recommended vaccinations for any chronic diseases. From 2005 to 2017, 11 training courses were organized, throughout the province, run by healthcare operators from the Public Health Department with the support of cultural mediators, in which 408 foreign workers took part. During the meetings 57% of the workers took the TB test and 36% had the tetanus vaccination.

### Conclusions/Lessons learned

A check-list has been drawn up, used during the events, which made it possible to record the increase in awareness of hygiene standards in milking operations, the use of Personal Protective Equipment and the presence on the farm of a physician to perform health surveillance. Reorganizing the Services for users and creating projects that range from control/training activities to health promotion has proven to be a winning strategy for

promoting the culture of prevention and safety at work and promoting the creation of a healthy workplace in the immigrant population.

**Contact: SEVERI Carla**  
PUBLIC HEALTH DEPARTMENT - AUSL DI REGGIO EMILIA  
VIA AMENDOLA 2, REGGIO EMILIA,  
[severic@ausl.re.it](mailto:severic@ausl.re.it)

## Session O4.03: WORKSHOP: The Future of Hospital in a Changing Climate: From Useful Science to Usable Practices

### The Future of Hospital in a Changing Climate: From Useful Science to Usable Practices

**LEETZ Anja, CHEN Alex, LIN Ming-Nan, CHU Cordia**

### Background/Problem/Objective

Scientists project that climate change will amplify disasters. This will intensify existing health risks, with more frequent and severe extreme weather events, poor air and water quality, and emerging and re-emerging infectious diseases. This places enormous pressure and demand on the healthcare sector of tomorrow's world, especially hospitals. Furthermore, the healthcare sector itself is a major contributor of greenhouse gases, accelerating the vicious cycle. Hence, the healthcare sector needs to adapt to this new reality and contributes toward the mitigation of climate change. The health care sector plays a leading role in solving these problems. Since it possesses massive buying power, and its mission-driven interest in preventing disease, it is hoped that the healthcare sector can help shift their focus on management to the development of sustainable and safe practices and services.

### Methods/Intervention

Hospitals can be instrumental in communications with patients and families, working with their hospitals and health systems to reduce emissions and influencing the adoption of strategies to better prepare our healthcare facilities and our communities for the health impacts of climate change. HPH & Environment Task Force was established in 2010 aiming at increasing the awareness of healthcare institutions and showcase best examples in HPH conferences.

### Results (of evaluation)

In recent years, the HPH & Environment task force helps to tackle climate change mitigation and adaptation issues in healthcare institutions. This effectively coordinated network, in combination with the needs-assessment problem-solving process and the eco-friendly principles, present opportunities for HPHs to lead the way to channel climate science knowledge into practice.



**Conclusions/Lessons learned**

We will invite speakers to share their knowledge and experiences in this symposium "The Future of Hospital in a Changing Climate: From Useful Science to Usable Practices"

**Comments**

On behalf of the chair of HPH & Environment Taskforce, Dr. Chun-Lon Lin, We sincerely hope to get the approval to hold the symposium in HPH 2018. Ms. Anja Leetz will talk about health care carbon footprint. Alex Chen, will talk about green hospital guideline. I will talk about best practice examples. Cordia Chu, professor will talk about enforcing strategies to practice. Thanks a lot

**Contact: LIN MingNan**

Buddhist Dalin Tzuchi General Hospital  
No.2, Ming-Shen Road, 622 Chiayi County,  
[mingnan.lin@gmail.com](mailto:mingnan.lin@gmail.com)

## Session O4.9: WORKSHOP: Using the Transtheoretical Model of Change to address life-style risk factors: an interactive workshop of the Emilia-Romagna center for prevention and health promotion

Using the Transtheoretical Model of Change to address life-style risk factors: an interactive workshop of the Emilia-Romagna center for prevention and health promotion

**BOSI Sandra, CHIAMULERA Cristiano, FAGGIANO Fabrizio, GORINI Giuseppe, TAMELLI Marco, DI CLEMENTE Carlo, RONDINI Ermanno**

**Background/Problem/Objective**

"Luoghi di prevenzione" (LDP) is the Emilia-Romagna centre for health professionals' training, for planning and implementing health promotion interventions, and for developing research and best practices. LDP applies a holistic methodology, integrating cognitive, affective and relational components. LDP utilises interactive technics in order to favour behavioural change. Since many years LDP has established a fruitful partnership with the research centre "Habits Lab" of the University of Maryland led by Prof Carlo Di Clemente, in order to become a centre of excellence for training the Transtheoretical Model of Change (TMC) in Italy. The aim of this workshop is to present the TMC and to engage participants in the operational implementation of this model.

**Methods/Intervention**

The workshop will allow participants to know more on and to learn how use the TMC through lectures and experiential activities. Presentations: " Health promotion activities and utilisation of the TMC at the LDP centre- Sandra Bosi e Carlo Di Clemente "Human LAB": a contribution of the neurosciences at LDP centre - Cristiano Chiamulera "Evaluating the efficacy of health promotion activities at LDP - Fabrizio Faggiano " Experiential workshops at LDP - Marco Tamelli

**Results (of evaluation)**

In one year, LDP has reached 15.000 young people, 800 target-ed persons at risk, 1000 health workers, 500 school teachers.

**Conclusions/Lessons learned**

The LDP approach shows that training is a successful strategy to improve health professionals' ability to effectively implement the Transtheoretical Model of Change, addressing chronic diseases and risk behaviours, as well as changing living environments and group dynamics.

**Contact: BOSI Sandra**

LILT - Luoghi di Prevenzione  
Via Alfieri 1/2, 42122 REGGIO EMILIA,  
[segreteria@luoghidiprevenzione.it](mailto:segreteria@luoghidiprevenzione.it)

## Session O4.10: WORKSHOP: Towards a consensus on a revised version of Implementing health promotion in hospitals: Manual and self-assessment forms (2010)

**KRISTENSON Margareta, TØNNESEN Hanne, KRAYER VON KRAUSS Martin**

## M1.1: Integrated health care services

### Effectiveness of Integrated Care Model for Type 2 diabetes: a population-based study in Reggio Emilia (Italy)

**MANICARDI Valeria, BALLOTARI Paola, VENTURELLI Francesco, FERRARI Francesca, VICENTINI Massimo, GRECI Marina, PIGNATTI Fabio, STORANI Simone, GIORGI ROSSI Paolo**

#### Background/Problem/Objective

The Integrated care (IC) involving general practitioner (GP) is a care model addressed to low-risk profile patients with type 2 diabetes (T2D), without complications, and it has been active since 2005. The IC model is constantly monitored by Diabetes Clinic professionals (DC) and by Reggio Emilia diabetes registry. This study aims to assess the effectiveness of IC compared to DC care model in terms of mortality and hospitalization of T2D with low risk of complications over a five-year follow-up period.

#### Methods/Intervention

The cohort study included the T2D residing in the province of Reggio Emilia at 31/12/2011, followed by the same model of care (IC or DC) for at least two years. Patients were followed from 2012 to 2016, recording mortality and hospital admissions for all causes and causes due to diabetes. We performed a Poisson regression model, using the percentage of IC eligible patients actually included in the IC model for each general practitioner as instrumental variable.

#### Results (of evaluation)

Of patients eligible for IC, 1700 were treated in the IC setting with GP, and 1371 by DC. The estimated risk of death from all causes was 0.83 (95% CI 0.60-1.13) and 0.95 (95% CI 0.54-1.70) for cardiovascular disease. The risk of hospitalization for all causes was 0.90 (95% CI 0.76-1.06) and 0.91 (95% CI 0.69-1.20) for cardiovascular disease.

#### Conclusions/Lessons learned

The IC assistance model involving both GP and DC showed mortality and hospitalization risks similar to those with exclusive patient management by the DC in T2D with low-risk of complications. Thus, the implementation of the IC model for all the eligible patients should be a priority in order to reduce the burden on the specialized care setting, more appropriate for complicated patients.

#### Contact: MANICARDI Valeria

Azienda USL di Reggio Emilia IRCCS  
via Barilla, 16, 42027 Montecchio Emilia,  
[Valeria.Manicardi@ausl.re.it](mailto:Valeria.Manicardi@ausl.re.it)

## The effect of using the senior-centered health services to increase the health care quality in TMUH in 2017

**LU Chung-Ying, SHIEH Ying-Hua, CHIEN Hsiung-Fei**

#### Background/Problem/Objective

Taiwan will be the "hyper-aged society" due to the proportion of aged population by 20% in 2025. The proportion of aged population in XinYi Dist., Taipei is 16.8%. 76.8% seniors who over 58 years old are having more than one kind of diagnostic chronic disease; 37.9% are having more than three kind of diagnostic chronic disease; 17.2% had the hospitalization experience in a year. The demand for the senior medical services for take care service and cost are increasing.

#### Methods/Intervention

TMUH transfers the medical need seniors back to hospital or clinics via the health screening or preventive medical services in communities. TMUH set up the integrated geriatric outpatient services since August 2017. There is perfect transfer system between hospital and clinics to offer aged-friendly services. The cross-functional team evaluates the seniors status to offer the suitable medical services, also educate during the case studies. Using the established the geriatric care guidelines for outpatients, inpatients and emergency patients information are recorded in the electronic anamnesis. TMUH will start upgrade the friendly environment in early 2018 to provide the free access for the disabled. To evaluate all the aged-friendly care services by using the questionnaire survey and analysis 2 times per year.

#### Results (of evaluation)

There are 1,586 person-time seniors attend the health promotion communities services and 67 seniors were found their abnormal data and transfer for forward medical care. The integrated geriatric outpatient services is 52.3 person-times per week. 2,689 person-time staffs attend in the aged-friendly care educational sessions. The seniors falling rate was reduced from 48.3%(2016) to 32.2%(2017). The results of satisfied survey for aged-friendly inpatients services is increased from 82.1%(2016) to 87.3%(2017); however it is reduced from 86.3% to 85.1% from outpatients services. The duration hospitalization for 65-69 years old patients is reduced from 7.94 to 7.20 days; for 70-80 years old is reduced from 8.87 to 8.11 days.

#### Conclusions/Lessons learned

To promote the seniors and their families healthy knowledge during the preventive medical service or treatment is significant role of HPH. How to use the social resources to shorten the days hospitalization and prevent from complication is currently important issues, not only priceless for the seniors and endless for the advocates.

#### Contact: LU Chung-Ying

Taipei Medical University Hospital  
#252, WuXing St., XinYi District, 11031 Taipei,  
[145006@h.tmu.edu.tw](mailto:145006@h.tmu.edu.tw)

## M1.2: Alcohol prevention and lifestyle interventions

### Association with alcohol use disorder and health promotion practices among first-year students of university, South Korea

**KIM Young Bok**

#### Background/Problem/Objective

Life style modification reduces the health risks of young people and improves their health status. On the other hand the harmful drinking behavior has been issued for several decades as the severe health problem of university students in South Korea. Therefore, to help the achievement of their academic goal, it needs to provide the multi-dimensional approaches on campus. This study performed to analyze health promotion practices related to alcohol use disorder among first-year students of university.

#### Methods/Intervention

To examine the association with drinking behavior, mental health and health promotion practices, health survey was conducted with 3,892 students who were first-year students in an university by self-reported questionnaire from February 26 to March 10, 2015. Multiple regression analysis performed to identify the difference of promotion practices by drinking behavior.

#### Results (of evaluation)

65.7% of the survey participant was monthly drinker and 11.4% of them was high risk drinker. The 40% (n=1,558) was alcohol use disorders and the 11.9% (n=463) was current smoker. In multiple regression models, it remained significantly the difference of alcohol use disorder by gender, BMI, sleeping hours, moderate exercise, current smoking, secondhand smoking, eating habit and depression experience ( $p<0.05$ ,  $p<0.01$ ). On the other hand, it was not significant the difference by eating fruit and vegetable and stress level.

#### Conclusions/Lessons learned

To improve health status of first-year students of university, it should provide the comprehensive health promotion programs and alcohol policy to reduce harmful drinking behavior on campus. Also future efforts to make the health promoting university should be focused on information technology (IT) health and customized health service for university students.

#### Contact: KIM Young-Bok

Daegu University  
201 Daegudae-ro, Jinyang, 38453 Gyeongsan-city,  
[healthkyb@daegu.ac.kr](mailto:healthkyb@daegu.ac.kr)

### Multilevel factors on the problem drinking among the university students in South Korea: Application of ecological model.

**LEE Yeji, KIM Hyekyeong**

#### Background/Problem/Objective

The purpose of this study was to identify alcohol-related factors affecting problem drinking of university students based on ecological model.

#### Methods/Intervention

Three hundred and eighty students from 8 universities in Seoul were analyzed for this study. The research tools consisted of three areas: general characteristics, ecological characteristics (intrapersonal, interpersonal, organization and the community level), and the problem drinking behaviors. The data were analyzed using statistical techniques such as chi-square test, t-test, ANOVA, and multiple regression analysis with SPSS 22.0.

#### Results (of evaluation)

The results of this study were as follows: First, the average level of problem drinking in the students was 12.37 points, which belonged to high-risk drinking in the AUDIT-K diagnostic criteria. The level of problem drinking was high among male students, those who spend a lot of money per month, and those who are engaged in student activities. Second, each level of the ecological model had a statistically significant effect on the students' problem drinking. As a result of analyzing the relative influence of ecological characteristics, drinking frequency with friends at the interpersonal had the greatest impact, on the other hand, the organizational level factors did not affect the students' problem drinking.

#### Conclusions/Lessons learned

Ecological factors influenced university students' problem drinking. Therefore, it is necessary to clarify the direct and indirect influence of the environmental factors on the problem drinking among university students.

#### Contact: KIM Hyekyeong

Ewha Womans University  
52, Ewhayodae-gil, Seodaemun-gu, 03760 Seoul,  
[hkkim@ewha.ac.kr](mailto:hkkim@ewha.ac.kr)

### Alcohol prevention by BRENDA and case management in New Taipei City and Taipei City

**FANG Chun-Kai, SHIH Pao-Wen, YEH Tzu-Ching, LIN Chia-Hua**

#### Background/Problem/Objective

Problem drinking is a severe public health issue in Taiwan. How to reduce the amount and frequency of alcohol drinking is difficult for all health provide organization. The BRENDA model is a 6-step processes to enhance the motivation to quit or reduce alcohol. Case management is a popular model in health service. MacKay Memorial Hospital had been authorized by the governments of New Taipei City and Taipei City to practice the alcohol prevention projects. Combining BRENDA and case management, we tried to help alcoholics to quit or reduce alcohol.

**Methods/Intervention**

All participants would be transferred from outpatient clinics of different departments, inpatients of different departments, and social welfare departments. The team members included psychiatrists, nurses, counseling psychologists, clinical psychologists, and social workers. Excluding psychiatrists, all staff were as the case managers at the same time. All alcoholics were assessed with the Alcohol Use Disorders Identification Test (AUDIT) to determine the severity of alcohol consumption and followed 3 month later.

**Results (of evaluation)**

In 2017, there were 208 alcoholics in New Taipei City and 74 in Taipei City enrolled into the projects. Finally, there were 188 New Taipei citizens and 50 Taipei citizens participated. In the beginning, by the AUDIT, there were 77% severe alcoholism, 21% moderate alcoholism and 2% mild alcoholism in New Taipei projects; and 74% severe alcoholism and 26% moderate alcoholism in Taipei project. 3 months later, there were 3% severe, 21% moderate, and 77% mild alcoholism in New Taipei project; and 8% severe, 28% moderate, and 64% mild alcoholism.

**Conclusions/Lessons learned**

Combining BRENDA and case management, alcoholics reduced the severity of alcoholic behavior successfully in both projects. Via good design clinical pathway and model, it is possible to help alcoholics to make their life better.

**Contact: FANG Chun-Kai**

Mackay Memorial Hospital  
92, sec. 2, Zhongshan Rd, Zhongshan Dist., Taipei  
[chunkai.fang0415@gmail.com](mailto:chunkai.fang0415@gmail.com)

## Adaptation of a tool to improve hospital stays for people who use drugs

**STRIKE Carol, GUTA Adrian, CHAN CARUSONE Soo, STEWART Ann, HARRISON Scott, UPSHUR Ross, COBB Grant, COOPER Curtis**

**Background/Problem/Objective**

During hospital admissions, people who use illicit drugs can have difficult interactions with healthcare staff resulting in an increased risk of leaving before assessments, tests and/or care are completed compared to other populations. Our goal was to adapt for in-patient settings, AIMED (assess, investigate, mitigate, explain, and document), a recently advanced best-practice intervention designed for the emergency department to reduce instances of leaving against medical advice and improve hospital-based care for people who use drugs.

**Methods/Intervention**

Five facilitated sessions with clinical and community stakeholders were held to solicit recommendations to improve the usability and adapt AIMED for in-patient settings. Sessions were divided into 1) presentation of data about successes, challenges and failures related to providing care for people who use drugs, 2) a facilitated discussion about how to improve the therapeutic relationship with this population, and 3) how to adapt the AIMED intervention to support patients to remain in hospital.

**Results (of evaluation)**

Recommended adaptations: add ASK and DO commands to each section to improve clinician confidence to discuss/act on drug related issues. Add questions about what factors psychological, personal, interpersonal that increase likelihood of early departure. Add content to prepare patients (e.g., referral information, what to do next and when to come back) and ensure access to prescriptions for those who leave before care is completed. Formative evaluation with five patients showed the tool was helpful and needs to be shortened.

**Conclusions/Lessons learned**

Conclusions/Lessons learned: A targeted and structured tool has the potential to support clinicians to provide more client-centred care for people who use illicit drugs by improving patient/provider communication, and may result in reduced instances of leaving against medical advice, and improve outcomes for those who do. Further research is needed to evaluate the revised AIMED tool in different hospital settings.

**Contact: STRIKE Carol**

University of Toronto  
155 College Street, M5T3M7 Toronto  
[carol.strike@utoronto.ca](mailto:carol.strike@utoronto.ca)

## The perspectives of people who use drugs and health care providers about what leads to illicit drug use during hospital admissions

**STRIKE Carol, ROBINSON Samantha, GUTA Adrian, CHAN CARUSONE Soo, TAN Darrell, O'LEARY Bill, UPSHUR Ross**

**Background/Problem/Objective**

People who use drugs (PWUD) have higher rates of emergency room visits and hospital admissions, and may encounter stigma, perceive receiving substandard care, and leave hospital before discharge. This is especially concerning for PWUD with complex health needs, including those with or at risk for HIV. Few studies have examined illicit drug use in acute settings despite unmanaged withdrawal being a predictor of leaving hospital early.

**Methods/Intervention**

We conducted semi-structured interviews with adults living with HIV and/or HCV who self-identified as PWUD, and with health care providers (HCP) on in-patient hospital units in two large Canadian cities to understand what leads to on-premise use. PWUD were asked to describe their drug use during hospital stays, staff interactions and experiences leaving before discharge. HCP were asked to describe their attitudes and experiences providing care to PWUD and related hospital policies. Interviews were audio-recorded, transcribed and analyzed inductively.

**Results (of evaluation)**

24 PWUD and 26 HCP participated. PWUD used substances in hospital to manage physical and psychological withdrawal and pain. Many HCP described ignoring substance use to avoid confrontation. PWUD described how they conceal use and respond to monitoring following drug use detection. HCP concerns about overdose or breaches in trust led to terminating hospital prescriptions (i.e. opioids) and discharge. Harm reduction approaches were used by some HCP, and no institutional policies existed to guide HCP in managing on-premise use.

**Conclusions/Lessons learned**

Optimizing length of stay for all PWUD is crucial for ensuring effective and high-quality care, especially for those with complex health needs. These findings highlight the lack of consistency in approach to on-premise use and indicates institutional policies and further

**Contact: STRIKE Carol**

University of Toronto

155 College Street, M5T3M7 Toronto

[carol.strike@utoronto.ca](mailto:carol.strike@utoronto.ca)

**Are doctors the new drug dealers?**

**MULLEN, MD Jana, MULLEN Joshua**

**Background/Problem/Objective**

What are the consequences and outcomes in our present day opiate crisis in America. The effects on the maternal and infant health on addiction to opiates and other drugs of abuse. A review of one state's statistics and what measures are being used to halt the present rise of addiction in our state.

**Methods/Intervention**

One perspective on how physicians can be a part of the problem and addressing how we can reevaluate our practices to create solutions to halt the epidemic use of opioids. A review and update on what the outcomes are of infants born to mother's addicted to opioids and other drugs of abuse.

**Results (of evaluation)**

Seeds of change in a expanding problem. Elements for change including how we address pain and medicine used to treat pain, and limitations to access. Knowledge is the key to understanding the issues surrounding abuse of prescription medicine. The difficulty of teasing out the complicated issues and solutions for the future of change.

**Conclusions/Lessons learned**

The hope is in future of education and behavioral health partnerships before addiction occurs.

**Contact: MULLEN jana**

University of California ,Riverside

po box 1386

84716 Boulder,

[draquelm@gmail.com](mailto:draquelm@gmail.com)

**M1.3: Promoting the health of staff through physical activity****Exploratory Study on Three-year Effects of a Health Promotion Policy with Evidence-based Healthcare**

**LEE Shu-Chen, TSAI Li-Yun, TSAI Jung-Mei, HUANG Wei-Hsin, LIANG Li-Jen, CHEN Yu-Hua**

**Background/Problem/Objective**

The health promotion policy encourages group exercise and habit of regular exercise based on evidence-based healthcare (EBHC). To promote the concept of regular exercise, MacKay Memorial Hospital created six aerobic DVDs, "MacKay Energetic Aerobic Exercise Program", suitable for group practice and the yearly events, the "MacKay Energetic Health Star Show", from 2015 to 2017 for hospital staffs and neighboring community. The aims of this study were to explore the effects of the health promotion policy.

**Methods/Intervention**

A cross-sectional study conducted by purposive sampling in two stages: first stage instrumented aerobic DVDs designed by rehabilitation and exercise experts; second stage held team competitions in yearly events. Participants completed questionnaires of self-perception of health, exercise behavior, exercise cognition, social relationship, and daily exercise and measured body mass index (BMI), waist size, and handgrip strength at enrollment. After 2-month aerobic learning, post-test data was collected. Descriptive statistics and pair-t test were computed using SPSS 18.0.

**Results (of evaluation)**

Total participants were 356, 374 and 167 for each year. The questionnaire return rate was 97.7%-98.0%. Three-year outcomes in self-perception of health, exercise behavior, exercise cognition, social relationship, and daily exercise were improved. Two-year outcomes in BMI, wrist size, and handgrip strength were also improved for 2015 and 2016. Improvements in self-perception of health, exercise behavior, exercise cognition, and handgrip strength were significant ( $p < .05$ ). However, improvements in social relationship, daily exercise, and BMI were insignificant.

**Conclusions/Lessons learned**

The policy of using "MacKay Energetic Aerobic Exercise Program" DVDs and health promotion events "MacKay Energetic Health Star Show" were based on EBHC. The increases in self-perception of health, exercise behavior, and exercise cognition indicated that these materials and events helped participants improve their health status. The group exercise model could be pushed to other workplace and community to promote habit of regular exercise for the wellness of the population.

**Contact: CHC mmh**

Community Health Center, Mackay Memorial Hospital,  
No. 92, Sec. 2, Zhongshan N. Rd., Taipei City,

[mmh1089@ms1.mmh.org.tw](mailto:mmh1089@ms1.mmh.org.tw)



## Improving the Healthy Physical Fitness Program of Medical Center Staff in Taipei with Social Cognitive Theory

WU Li-Wei, KAO Tung-Wei, LIN Jing-Yi, HSU Pei-Jung

### Background/Problem/Objective

This study aims at investigating the effect of the healthy physical fitness program by Social Cognitive Theory on staff in medical center.

### Methods/Intervention

BMI >27 or metabolic syndrome staffs engage in the healthy physical fitness program. The program was designed with social cognitive theory that holds individual behavior is formed by the complex interaction of personal and environmental factors (ACSM, 2006). The program provide those were supportive sports environment, learning to imitate enhancement, group effectiveness, self-efficacy and other practices involved. We promoted healthy physical and physical activity and recorded physical fitness. Moreover, we had 8 courses about muscle strength for muscle strength and core muscle strength training. Questionnaires were recorded before and after the program to evaluate the physical fitness and lifestyle effects.

### Results (of evaluation)

There were 25 staff engage in the healthy physical fitness program, and their average age is 46 y/o. The average BMI score had decreased 0.28 (26.2->25.92,  $p>0.05$ ). The softness mean score was from 24.74 improved to 27.61 ( $p>0.005$ ). The mean body fat rate was from 34.16 improved to 33.36 ( $p>0.005$ ), and the mean body weight decreased by 0.83 kg (69.99->69.16,  $p>0.05$ ).

### Conclusions/Lessons learned

Through the means of social cognitive theory, the healthy physical fitness and health education courses intervention, staff fitness scores are significantly improved, and significant to develop healthy lifestyle.

### Contact: WU LIWEI

Tri-Service General Hospital; and School of Medicine, National Defense Medical C, Number 325, Section 2, Chang-gong Rd, Nei-Hu District, 114, Taipei, Taiwan  
[bigmouth0825@hotmail.com](mailto:bigmouth0825@hotmail.com)

## 10000 steps per day: An intervention of health promotion in a university hospital in France, 2017

MIHAILESCU Sorina Dana, CERASUOLO Damiano, GILLIBERT André, GRIBOUVAL Anne, MONTAIGU France-Isabelle, LADNER Joël

### Background/Problem/Objective

In 2016, the Rouen university hospital implemented a health promotion policy with the aim to develop a pragmatic intervention on physical activity promotion. The objective was to evaluate the impact of promotion of physical activity in hospital professionals.

### Methods/Intervention

A prospective cohort study was conducted using an online questionnaire in Rouen University Hospital. Physical activity was measured by electronic pedometers distributed to voluntary hospital professionals, in order to measure and improve their physical activity. Socio-demographic variables were collected as well as the number of steps and the behavior regarding the routine physical activity. Metabolic equivalents (MET) were calculated using the short version of International Physical Activity Questionnaire (IPAQ). Analyses were fitted by mixed model.

### Results (of evaluation)

A total of 905 hospital professionals were included. The mean age was 41.6 years old (SD=10.7), the sex ratio M:W was 0.16 and 53.6% did sport regularly. 41.3% were nurses, 24.1% were in the administrative section, and 9% were physicians. The mean number of steps increased during 6 months, with a significant progression from the first measure compared to the next ones ( $p<0.0001$ ). In the subgroup of administrative section workers, the mean of steps daily at the first measure was 7864 with a significant increase in comparison to the third month ( $p=0.0002$ ), the fourth month ( $p<0.0001$ ) and the sixth month ( $p=0.001$ ). The participants that did not work in the administrative section had a higher MET for intense activity ( $p=0.0008$ ), MET for moderate activity ( $p=0.02$ ) and IPAQ score ( $p=0.035$ ). The mixed model confirmed the progression of 742 steps for the non-administrative section ( $p<0.0001$ ). Additionally, different interventions of communication and sensitization on physical activity benefits were implemented.

### Conclusions/Lessons learned

This initiative was an accomplishment in promoting physical activity in hospital professionals. Physical activity is benefic and if it is encouraged at the working place contributes to the well-being of workers additionally as well as to better cope with the stress and burnout at work. It is important for healthcare providers to engage in health behaviors and meet recommendations for physical activity. Further researches are needed to evaluate effectiveness of such health promotion intervention.

### Contact: MIHAILESCU Sorina Dana

University Hospital Rouen, Departement of Epidemiology and Health Promotion, 1 rue de Germont, CHU Charles Nicolle 76000 Rouen,  
[sdmihailescu@gmail.com](mailto:sdmihailescu@gmail.com)

## Staircase utilization rate among young people

NAMBA Hiroto

### Background/Problem/Objective

Various initiatives were implemented in our hospital to promote staff members' health, one of which is the promotion of staircase utilization. In May 2017, to investigate staff members' health awareness through the staircase utilization rate, the first

questionnaire, regarding staircase use, was administered to all staff members. The results revealed a low staircase utilization rate among young people ( $\leq 30$  years). Therefore, we examined its causes, conducted a staircase use promotion program for young persons, and observed the changes.

#### Methods/Intervention

In September 2017, we administered the second questionnaire about staircase utilization and exercise to all staffs, who were classified as young persons ( $\leq 30$  years;  $n=171$ ) and non-young persons ( $\geq 31$  years;  $n=354$ ), and the relationship between the staircase utilization and exercise was examined. Furthermore, for about 1.5 months from late October to early December, music was played in the hospital stairwells. A third questionnaire was subsequently administered, and the results were compared to the second questionnaire's results.

#### Results (of evaluation)

There was no difference in the ratio of young persons and non-young persons in terms of the "feeling of lack of exercise" and exercise habits. There was no relationship between staircase utilization rate and exercise habits among young persons. After the music began to be played, poor improvement in the staircase utilization rate was observed for both non-young and young persons.

#### Conclusions/Lessons learned

Young and non-young persons felt the lack of exercise and had exercise habits. Furthermore, a relationship between young persons' exercise habits and staircase utilization rate was not observed. Therefore, it appears that the cause of the low staircase utilization rate among young persons is not related to exercise habits. It was also seen that staircase music could not change behaviors. We plan to further investigate the cause of low staircase utilization rate among young persons and implement various initiatives.

**Contact: NAMBA Hiroto**

Mimihara general hospital

[dolphin031803290318@gmail.com](mailto:dolphin031803290318@gmail.com)

## M1.4: Health literacy and communication

### Using a question prompt list as communication aid to increase patient participation during consultation in general practice

**WEI Mi-Hsiu, WANG Ying-Wei, CHANG Mei-Chuan, HSIEH Jyh-Gang**

#### Background/Problem/Objective

The provision of a question prompt list (QPL) before a consultation might help patients to overcome communication barriers; however, very few empirical studies in the field of QPL have been performed in Asia. We aimed to evaluate a QPL intervention designed to increase patient active participation and other communication-related outcomes during consultations in general practice in Taiwan.

#### Methods/Intervention

We developed a leaflet with checklists of common questions surrounding health problems in general practice. A total of 707 adult patients were recruited from the outpatient clinics of seven hospitals in Taiwan. Patients were clustered according to visiting time and randomly assigned to the intervention group (QPL intervention,  $n=357$ ) or control group (usual care,  $n=350$ ). The patients in the intervention group received the QPL before visit. Data analysis was performed using multiple linear regression and logistic regression analyses.

#### Results (of evaluation)

After controlling for gender, age, health status, and health literacy, the number of questions asked by the patients was significantly higher in the intervention group than in the control group ( $\beta=0.19, p<.001$ ). Patients in the intervention group were significantly more likely than those in the control group to report having decision-making during the consultation ( $OR=1.69, 95\% CI=[1.16, 2.48], p<.01$ ). There were no significant differences between the groups in information given by the physician, patients' perceived involvement in SDM, and satisfaction with consultation.

#### Conclusions/Lessons learned

The QPL intervention was found to be effective at increasing the number of questions asked by patients and improving making medical decision during consultations in general practice. A situation-specific QPL could be considered by healthcare organizations as a communication aid to enhance active participation of patients.

**Contact: WEI Mi-Hsiu**

Tzu Chi University, No. 701, Sec. 3, Zhongyang Rd.

970 Hualien,

[michelle@mail.tcu.edu.tw](mailto:michelle@mail.tcu.edu.tw)

## Effectiveness of a Shared Decision-Making Model in Enhancing Follow-Up Rate of Patients Tested Positive for Colorectal Cancer through Screening

**HO Hsuan, YA Tang-Yu, CHEN Sung-Yun, YU Wen-rui, TSAI Yi-Fan**

#### Background/Problem/Objective

In 2010, Taiwan was the first country in the world to include screening of these four cancers in preventive health care. Our hospital is a regional hospital in Taipei. It was found that more than 40% of patients who tested positive for colorectal cancer through screening did not undergo further colonoscopy. Studies have indicated that the evidence-based use of graphics and interactive tools can assist these positive patients to understand cancer development and resolve their doubts and expectations regarding examination. A shared decision-making model of the medical care team was constructed to encourage patients testing positive for colorectal cancer through screening to further undergo colonoscopy and enhance the follow-up referral rate.

**Methods/Intervention**

After cancer screening case managers receive positive reports from the laboratory, they immediately notify the patient by sending a registered mail on the same day and directly assist them to make online appointments for the gastroenterology department clinic. The physician uses videos to explain examination methods conducted to confirm diagnosis. The cancer manager uses shared decision making-assisted evaluation forms to confirm details. QR codes that link to videos and contact information are provided in the instruction sheet.

**Results (of evaluation)**

After the intervention of the shared decision-making model of the medical care team, in 2017, a total of 7078 people received colorectal cancer screening. A total of 412 patients were tested positive for colorectal cancer, of which 302 completed colonoscopy examination, with a follow-up rate of 73.3%. This follow-up rate exceeded the national average rate. After patients who tested positive for colorectal cancer underwent colonoscopy examination, the positive predictive value of the identification of hyperplastic polyps, adenoma, and cancer was 52.3%.

**Conclusions/Lessons learned**

The shared decision-making model of the medical care team can effectively improve the follow-up rate who those tested positive for colorectal cancer through screening. Participation in medical decision-making through medical care team workers and patients, and then enhance the patient empowerment and health autonomy, to achieve health promotion and prevention of disease of win-win effect. We expect these results to provide as a reference for all cancer medical institutions.

**Contact: TSAI YI-FAN**

Taipei City Hospital, Young Ming Branch  
No.105, Yusheng St., Shilin Dist., Taipei City 11146, Taiwan  
[b1717@tpech.gov.tw](mailto:b1717@tpech.gov.tw)

## Verbal Education of Bowel Preparation by Telephone Increases the Efficacy of Bowel Cleansing

**CHYN FENG YING, NI YI, CHIACHEN Jiann Hwa**

**Background/Problem/Objective**

The incidence of colorectal cancer is ranked the first in Taiwan. One of the cancer screening policies of Health Promotion Administration, Ministry of Health and Welfare is to provide people in Taiwan at the age of 50-74 with one free-of-charge immunochemical fecal occult blood test (iFOBT) every 2 years. The patients with a positive iFOBT result will be referred to an outpatient clinic for colonoscopy. Early stage colorectal cancer is properly treated, the 5-year survival rate can exceed 80%, which implies the importance of early diagnosis and early treatment.

**Methods/Intervention**

Precise colonoscopy is the most direct method for diagnosing colorectal cancer. Bowel preparation will affect the test result. Poor preparation may fail to fully reflect lesions. Patients usually only read health education leaflet hardcopy and misunderstand or are uncertain of correct usage of laxative, which may cause the incomplete colonoscopy. A total of 300 patients were

enrolled who receive direct Q&A manner to teach patients how to use laxative for bowel preparation via telephone 3 days before the colonoscopy and compared them with 300 patients who only read health education leaflet hardcopy. We record the bowel cleansing degree and polyps detection rate (PDR).

**Results (of evaluation)**

The cleanliness degree of bowel preparation was divided into 2 types: Good or fair. The cleanliness of bowel preparation of those who received telephone verbal education was good in 84.13% of patients, while that of 15.87% of them was fair. For patients who did not receive health education via telephone, the cleanliness was graded as Good in 52% patients, while that of 48% of them was Fair. The polyps detection rate is 46.3% in the telephone group whereas only 35% in the control group. The results showed that patients' better understanding the importance of the bowel preparation can increase their intestinal tract cleanliness.

**Conclusions/Lessons learned**

The cleanliness of bowel preparation of patients receiving health education about colonoscopy via telephone can be improved, which is believed to increase the detection rate of colorectal polyps to achieve the objectives of early diagnosis, early treatment, health promotion, and health care.

**Contact: NI YI-CHIA**

Taipei Tzuchi Hospital  
No. 289, Jiaguo Rd., Xindian Dist., 23142, 23142 New Taipei City,  
[wen640606@gmail.com](mailto:wen640606@gmail.com)

## Medication Guide on Intelligence System Helps Patients to Improve Self-care Knowledge

**FANG Yu, LEE Chi-Tai, LEE Eric Kin-Lap, CHENG Jin-Shiung**

**Background/Problem/Objective**

The national health insurance system in Taiwan makes access to medical care more approachable for patients. Due to a significant increase of the daily visit of the outpatient department, it is difficult for clinical pharmacists to know if every patient understands well what medicines he/she is taking. To facilitate the access to obtain medication information for patients, an intelligent system is set up on the official website of Kaohsiung Veteran General Hospital (VGHKS).

**Methods/Intervention**

Medication guides are uploaded to the webpages of drug information on the official website of VGHKS, which provides unlimited review and download for the public. Additionally, the quick response (QR) code of each individual drug is printed on the lower right corner of each medicine bag. When the QR code is scanned with the device, a hyperlink to the related drug information and guide is offered. With this system, people can review and even print medication information if needed.

**Results (of evaluation)**

More than 8 hundred of oral drugs are available in our hospital, and 95% of them are provided with electronic medication guides. However, the public seldom use them because of poor promotion of such friendly webpages. After the intelligent

system being widely acknowledged, a remarkable increase can be seen in the number of visitors to the webpages and medication guides are downloaded more frequently, which provides easy-to-understand information, such as indications, contraindications, administration, precautions, interactions, storage methods, and so on.

#### Conclusions/Lessons learned

The use of medication guides helps patients to improve self-care knowledge, but it only benefits those who seek resources to resolve their unmet needs. In addition, more attention should be paid to the elderly who are illiterate and/or with insufficient ability to use internet for information and to those who has multiple drugs with different administration methods.

#### Contact: FANG Yu

Kaohsiung Veterans General Hospital  
No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City 81362,  
Taiwan (R.O.C.), Kaohsiung City,  
[t65887@gmail.com](mailto:t65887@gmail.com)

### Assessing a Health literacy Environment -Walking Interview about Navigation in SNU-SMG Boramae Medical Center

**HEO Eun Young, CHOI Su Young, SEOL Dong Won, PARK Min Hyun, SON Hwan Cheol**

#### Background/Problem/Objective

Obtaining, understanding health information and services properly is one of essential elements of health literacy for making appropriate health decisions. SNU-SMG Boramae medical center is a public hospital for all citizens of Seoul, Korea. Considerable number of patients are low-literacy people in this hospital. Therefore we tried to identify barriers which inhibit navigating a facility easily for visitors.

#### Methods/Intervention

Study participants are people who have never been visited the medical center. Surveyors individually followed the participant around from the start to the end of using the hospital during December 2017. Walking interview consisted of four parts - finding a main entrance, overall environment of the main lobby, understanding signs and finding directions for the destination and transferring from the main lobby to MRI office.

#### Results (of evaluation)

Total 50 visitors were enrolled for this study. Men were 14 (28%). Fifties (32%) was the most common age group and followed by twenties (26%) and sixties (12%). 25 people (50%) answered it was hard to find the way to the hospital from near bus stops or subway station. Related to lobby environment, 25 people (50%) thought that notice or promotional materials in the main lobby were excessive and didn't give any useful information. Twenty-eight people (56%) needed to ask for directions at information desk for more detailed information. They suggested additional direction board such as each floor leader at the entrance, or a section of the hospital buildings.

#### Conclusions/Lessons learned

This survey was carried out targeting the first visitors of the hospital. So they were able to find problems which hospital staffs cannot notice due to familiarity. We shared the result with promotional team and other related departments of the hospital and are expecting improvements of navigation will make easier for patients to get around the hospital.

#### Contact: CHOI Suyoung

SMG-SNU Boramae Medical Center  
Boramaero 5gil, Dongjak-gu, 07061 Seoul,  
[1030kitty@hanmail.net](mailto:1030kitty@hanmail.net)

### M1.5: Workplace health promotion

#### Immunization of Healthcare workers against HBV, measles, rubella, mumps and varicella in Local Health Authority of Reggio Emilia

**RAGNI Pietro, MINEO Francesco, MATTEI Giovanna, CAVAZZUTI Laura, CAMERLENGO Patrizia, CHIESA Valentina, MAZZI Giorgio, PERAZZOLI Franco, MARCHESI Cristina**

#### Background/Problem/Objective

Because of their contact with many patients or infective material from patients, health-care workers (HCWs) are at risk for exposure to infectious diseases. Those who work directly with patients or handle material that could spread infection, should get appropriate vaccines, even to reduce the chance to spread vaccine-preventable diseases. In Italy, the main source of infection for measles consists of HCWs. We consider the immunization against HBV, measles, rubella, mumps and varicella in the Local Health Authority of Reggio Emilia.

#### Methods/Intervention

We have prepared a series of initiatives to promote the vaccination of susceptible HCW: information from the occupational physician, delivery of leaflets on individual vaccinations, blood tests to assess individual susceptibility for single infections, specific training for new HCWs, repeated counseling for those who refuse vaccinations at the first proposal, rapid immunization pathways, procedures for prevention of some diseases even with the vaccination of HCWs.

#### Results (of evaluation)

We achieved immunity coverage for very high HCWs for HBV, measles, rubella, mumps and chicken pox. For HBV, 99.8% of the susceptible have been vaccinated, 96.8% protected. For measles, rubella and mumps the protected ones are over 99%.

#### Conclusions/Lessons learned

Although in the absence of mandatory immunization, with a strong organization and with capillary information, we have reached very high levels of immune coverage, which allow us to

protect the operators but also to avoid infection from patients to patients.

**Contact: RAGNI Pietro**

Azienda USL Reggio Emilia  
Via Amendola 2, 42123 Reggio Emilia,  
[pietro.ragni@ausl.re.it](mailto:pietro.ragni@ausl.re.it)

## Improving influenza vaccination uptake in health-care workers through attitude and behavioural changes in the Local Health Unit of Reggio Emilia, Emilia-Romagna Region

**MARCHESI Cristina, CHIESA Valentina, MATTEI Giovanna, CAMERLENGO Patrizia, RAGNI Pietro, SONCINI Francesco, GAZZOTTI Federica, MARCELLO Irene, MAZZI Giorgio, CAVAZZUTI Laura**

### Background/Problem/Objective

Despite official recommendations for health-care workers (HCWs) to receive the influenza vaccination the uptake remains low. It is crucial to improve HCWs confidence in influenza vaccination: they may get the flu through infected patients or in the community and spread it to other patients or health-care personnel, furthermore HCWs have the potential of influencing patient vaccination uptake. The aim of this study was to improve influenza vaccination uptake in HCWs through changes attitude and communication strategies.

### Methods/Intervention

During the beginning of the influenza vaccination campaign in the 2017-2018 influenza season, several key interventions have been organised by the LHU health managers, including: i)mail reminder for vaccination uptake and recall; ii)dedicated ambulatory services in each hospital; iii)on site vaccinations in hospital wards; iv)HCWs have been informed on vaccine efficacy and safety and a Pinback Button Badge has been given to HCWs who underwent vaccination; v)a flash mob in the 6 health districts inviting HCWs to uptake influenza vaccine.

### Results (of evaluation)

The 2017-2018 influenza season is still on-going, we will provide further figures when it will be concluded. The campaign - directly supported by the General and Health Directors and by the Director of Hospital Facilities of the LHU - have been successful in terms of HCWs involvement, but the vaccination rate is still far from the goal.

### Conclusions/Lessons learned

These preliminary results suggest that combined key strategies targeting attitude changes based on communications strategies are promising tools to increase HCW influenza vaccination uptake. Unfortunately, despite these efforts to achieve voluntary compliance, vaccine uptake is still low and mandatory vaccination in HCWs - together with its policies, scientific evidence and ethical implications - should be debated.

**Contact: CHIESA valentina**

University of Parma, LHU of Reggio Emilia, London School of Hygiene and Tropical  
[valentina.chiesa@libero.it](mailto:valentina.chiesa@libero.it)

## The benefit of implementation multiple health promotion activities in hospital

**LIN Hsiu-Mei, LEE Yi-Ju, LEE Shu-Chen, HUANG Wei-Hsin, LIN Chi-Feng**

### Background/Problem/Objective

To create a friendly and healthy workplace so that employees can be physically and mentally healthy, enhance their productivity. This program analysis of workplace safety, health management and job injury to find employee health issues and needs. We design diversified physical and mental health promotion programs to help reduce sick leave and improve mental health. We are expected to enhance the health and productivity of employees in the workplace.

### Methods/Intervention

We collect workplace risk assessment, spot visits, physical fitness, employee health check questionnaire, health check analysis, satisfaction surveys, job losses statistics. And we define the main health issues, including musculoskeletal soreness, smoking, metabolic disorders, psychological distress. We design and implement physical and mental health promotion activities in 2016, include office health exercises, outdoor sports, smoking cessation classes, weight loss classes, Mindfulness activities.

### Results (of evaluation)

During the implementation, we obtained the effectiveness of seven major interventions. (1)Office health exercise: A total of 18 units to participate, and the it is ongoing.(2)Malposition correction excises: improvement rate of 56.8%.(3)Outdoor sports : A total of 25 units to participate. (4)Course of smoking cessation :The rate in 1 year of 57%.(5)Course of Weight loss : an average weight loss of 1.86 kg/person.(6)Mindfulness and relief stress : Enhance employees' mental health awareness.(7)Sculpture body weight activity : The whole weight loss of 1059 kilograms (-1.75 kg / person).

### Conclusions/Lessons learned

From our success model, the overall effectiveness is significantly enhanced through implementation of the health promotion plan, in including (1)Higher goal achievement rate,(2) The event of sick leave and occupational injury decreased ,(3)The satisfaction : health awareness, support, promotion activities increased significant.(4)Mental Health: Mental health level increased.

### Comments

We are suggestion organizational leadership support the employee participation, positive feedback and affirmation, and the overall effectiveness was significant. Our will strengthen the staff health and workplace safety, staff participation rate and the improvement of human musculoskeletal injuries, we will provide employees better health in the future.

### Contact: LIN Hsiu-Mei

MacKay Memorial Hospital  
No.92, Sec. 2, Zhongshan N. Rd., Zhongshan Dist., Taipei City 104, Taiwan (R.O.C.), 10449 Taipei city,  
[linmei@mmh.org.tw](mailto:linmei@mmh.org.tw)



## The Effects of Team Resources Management Programs in Workplace- an Investigation in Department of Nutrition in Hospital

**LIN Wei-An, FAN Wen-Lin, TSENG Chiu-Lan**

### Background/Problem/Objective

Team Resource Management (TRM) programs in hospital mostly were hold for medical care professionals. The aims are not only for medical care quality, patient safety but also for increasing the occupational resilience in health care workers. Besides medical care professionals, supporters are also important in the hospital. Members of Department of Nutrition in our hospital includes dietitians, chefs, kitchen maids. After preliminary evaluation of our members, lack of manpower, low sense of work achievement and occupational injury were found. Team Resource Management program was introduced in order to increase the occupational resilience.

### Methods/Intervention

The hospital provides a TRM program focused on leadership, mutual help and protection, communication, calling out, partner relationship etc. Through these training courses, hopefully it can reestablish a good relationship between peers. Working processes had been revised to reduce the workload of the staffs, such as delivering the meals. A second questionnaires was performed 6 months later.

### Results (of evaluation)

Among 21 staffs in this department. there were 18 valid questionnaires in the first survey. The average age is 48 years old. The overall average satisfaction is 66%. Focus on the two topics "Facilities and working environment" and "peer interaction", the satisfactions are 66.31% and 61.66% respectively. After discussing with related personnel, some strategies were performed. However, the second survey done 6 months later still showed 63.54% and 66.94% satisfaction respectively. Lack of manpower is still the key issue.

### Conclusions/Lessons learned

TRM is not effectively workable in the department of our hospital with shortage of manpower. The first priority of improving the occupational resilience is increasing the manpower

#### Contact: LIN MingNan

Buddhist Dalin Tzuchi General Hospital  
No.2, Ming-Shen Road, 622 Chiayi County,  
[mingnan.lin@gmail.com](mailto:mingnan.lin@gmail.com)

## Process Reengineering for Hospital Patient Transporters

**LIN Chin-Yi, CHEN Tzu-Ying, SHEN Szu-Ching, TSAI Wen-Chen, HUANG Kuang-Hua, KUNG Pei-Tseng**

### Background/Problem/Objective

This research explores the process flow of on-demand dispatching of patient transporters. It presents four problem scenarios. (1) The frequency of transporting the wrong patients or delivery to the wrong destinations has skyrocketed. (2) The wait time between calling for service and the arrival of patient transporters has exceeded 20 minutes. (3) The call center is overwhelmed by the volume of calls for service, stalling the dispatch of patient transporters and making the staffers on edge. (4) The workload has grown 20 percent without an increase in the staff size. Turnover for new employees during their first month of employment has been 100 percent.

### Methods/Intervention

With the goal of reengineering the process for dispatching patient transporters, this research has conducted a walk-through, collected data on, analyzed, discussed, eliminated, simplified, and consolidated the dispatching process, and consequently we have gained considerable knowledge about the process. We supplement this knowledge with slack allowance of the International Labour Organization to calculate a proposed busy rate for patient transporters. We used dynamic simulation software SIMPROCESS 4.3 to conduct system planning, perform tests, and assess the effects of the process reengineering; we then actually carried out the process to verify such effects.

### Results (of evaluation)

After implementing the three suggestions for improvement, (1) the busy rate for the crew at the call center went from 100 percent to 80.52 percent, (2) the busy rate for the stand-by crew went from 73.34 percent to 81.9 percent, which is close to the suggested busy rate of 80 percent. The average wait time went from 24 minutes to 10 minutes. The stand-by crew dropped to seven staffers from nine. The utilization of the patient examination/test work orders has dramatically cut the error rates in patient delivery. The staff turnover rate has dropped to 0.5 percent within one year of the implementation of the suggested changes.

### Conclusions/Lessons learned

The effectiveness of manual phone answering is greatly improved by systematic scheduling, which, coupling with pre-scheduled patient examination/test work orders, has allowed the stand-by crew to arrange their work in advance, greatly improving the quality of patient service, improving the satisfaction of patient transporters, and lowering their turnover rates.

#### Contact: SHEN Szu-Ching

Buddhist Dalin Tzu Chi Hospital/China Medical U.  
No.2, Minsheng Rd., 62247 Chiayi County,  
[uscshen0501@gmail.com](mailto:uscshen0501@gmail.com)

## M1.6: Promoting a healthy lifestyle in the community

**The Relationship between health risk behavior patterns and health-related quality of life among citizens in 25 regions of Seoul metropolitan area**

**KIM Hyeyun, KIM Hyekyeong****Background/Problem/Objective**

Health risk factors that threaten individual health include health behaviors such as smoking, drinking, lack of exercise, eating habits, stress, environmental factors such as social relations, organizational environment, and genetic factors. Therefore, an intervention to spread health behavior and lifestyle habits is a major task of national health promotion project. The purpose of this study was to identify the status of health behaviors among self-governing cities in Seoul and to suggest decision making alternatives for improving the health-related quality of life of similar community residents.

**Methods/Intervention**

Three health risk behavior factors were selected and typified by Seoul Metropolitan Government; smoking, high-risk drinking, and lack of exercise. The subjects of this study were 23,004 residents of Seoul residents in 25 autonomous regions of Seoul who participated in the community health survey in 2015, using secondary data. The Fs/QCA 3.0 program was used to classify the type through health risk behaviors, and data analysis was conducted through SPSS 21.0 program. Descriptive statistics, independent t-test, and multiple regression analysis were conducted.

**Results (of evaluation)**

There were 8 types according to current smoking, high risk drinking and lack of exercise, and 25 boroughs were distributed evenly. More than half of cases were included in both a single type with one health risk factor and a complex type with more than one health risk factor. The lack of exercise was found to have a greater impact on the quality of life of Seoul citizens than other health risk behaviors. Smoking did not affect the quality of life as a whole.

**Conclusions/Lessons learned**

It is necessary not to judge individual health problems or levels in a fragmentary way but also to grasp several factors in identifying priority health problems. And it is also necessary to make a decision on the health promotion programs that should be provided to the residents of the community in the first place by considering the complex factors of the urgency of what kind of health problems are urged by specific autonomous regions through typification of health risk behaviors.

**Contact: KIM Hyekyeong**

Korea Association of Health Promotion  
1111-1 Hwagok 6-dong, Gangseo-gu, 157-705 Seoul,  
[hkkim9394@gmail.com](mailto:hkkim9394@gmail.com)

## Relationship between health risk lifestyle and health promotion expenses of the elderly

**KIM Kue Sook, LEE Ji Hong, LEE Yu Jeong****Background/Problem/Objective**

Health risk behaviors, such as smoking and drinking, increase the prevalence of chronic diseases, medical expenditures, as well as enormous social costs, and shortened life expectancy and reduced productivity. The purpose of this study is to ana-

lyze the effect of health risk behavior on elderly health expenditure.

**Methods/Intervention**

Data from 2008 to 2013 were used to analyze the effects of the elderly on health risk behavior and health care expenditures, and a total of 14,252 subjects were analyzed. ANOVA was used to analyze the difference in the median cost of health care for the elderly.

**Results (of evaluation)**

Smoking, and drinking were categorized as health-related behaviors. The results were statistically significant differences between the two groups followed by 14.9% of current smoking and 46.4% of current alcoholism and past smoking (687222.50 KRW) ( $p < .001$ ). There was a statistically significant difference ( $p < .001$ ) in medical expenditure for one year depending on non-alcoholism (873246.11 KRW), former alcoholism (1137611.06 KRW) and current alcoholism (783851.50 KRW). \*KRW=Korean currency

**Conclusions/Lessons learned**

The results of this study showed that the group of health risk behaviors had more chronic disease holdings and medical expenditure than those who did not. Promotion of health lifestyle is required to promote publicity and policy to prevent smoking and drinking at the national level in order to promote public health through preventive investment.

**Contact: KIM Kue Sook**

Seoul Metropolitan DongbuHosp/Korea Institute for Health Information and Policy  
Seoul National University College of Medicine, 103 Daehak-ro, Jongno-gu Seoul 03080. SEOUL, KOREA  
[mdkimks16@gmail.com](mailto:mdkimks16@gmail.com)

## Lifestyle Factors Associated with Self-Reported Constipation among Taiwanese Youth aged 18-23 Years

**TSOU Meng-Ting, CHANG Betty Chia-Chen, CHEN Ying-Ju, HUANG Wei-Hsin****Background/Problem/Objective**

As chronic constipation is often neglected when it first occurred at young age, understanding the risk factors of constipation in this age group is particularly important. The aim of this study is to examine the association of constipation with lifestyle factors, such as physical activity, sedentary behaviors, and eating habits in Taiwanese youth.

**Methods/Intervention**

Self-rated questionnaires were collected from two colleges in northern Taiwan during 2013-2014. A total of 2650 students (38.7% male; age range 18-23 years) completed the questionnaire. Constipation was defined as fewer than three defecation per week according to the Rome III criteria. Information on the frequency of exercise, duration of sedentary behaviors, and eating habits over the previous one-month period were collected. Multiple logistic regression was used to calculate adjusted odds ratio (AOR) for constipation in relation to lifestyle factors.

**Results (of evaluation)**

Female students had higher risk of constipation. In the female group, the greater the frequency of exercise, the lower the risk of constipation (2-3 times / week: AOR = 0.73; 4 times / week, AOR = 0.60,  $p < 0.01$ ). Results showed that watching TV and using computer are associated with an increase in risk of constipation in the female group. Female students who ate less vegetable and fruit had higher constipation risk, but no statistical significance was found in males.

**Conclusions/Lessons learned**

Constipation was associated with insufficient physical activity, excessive sedentary behaviors, and lower vegetable & fruit intake among Taiwanese female youth with a dose-response relation in a dose-dependent manner. Promotion of physical activity and increase of fiber intake may be emphasized in the youth population to prevent constipation.

**Contact: CHC mmh**

Community Health Center, Mackay Memorial Hospital,  
No. 92, Sec. 2, Zhongshan N. Rd., Taipei City,  
[mmh1089@ms1.mmh.org.tw](mailto:mmh1089@ms1.mmh.org.tw)

## A clinical service dedicated to healthy lifestyles in Arcispedale Santa Maria Nuova IRCCS of Reggio Emilia and Civil Hospital of Guastalla

**TAMELLI Marco, FERRARI Annamaria, MAZZINI Elisa, SONCINI Francesco, PIFFER Anna, CERVI Elena, ACCARDO Angela, BONI Fabrizio, GENTILE Cinzia, MAZZI Giorgio, MARTUCCI Gianfranco, BOSI Sandra, RONDINI Ermanno**

**Background/Problem/Objective**

Cigarette smoking, lack of physical activity, overweight/obesity, excessive alcohol intake, according to the WHO, can be considered the main risk factors for the majority of chronic diseases. Motivational interviewing has showed to be an effective intervention in the modification of lifestyles. The role of health professionals in supporting the change of behaviors in risky lifestyles can be increased; these kind of interventions should be adopted even in the hospital environment. As a consequence the Arcispedale Santa Maria Nuova in Reggio Emilia and the Civil Hospital of Guastalla started a dedicated service for patients and professionals with a specific practice dedicated to motivational interviewing for the promotion of healthy lifestyles

**Methods/Intervention**

Structure of the project for the starting of these new services, based on the Transtheoretical Model of change of DiClemente and Prochaska: - Training sessions in Luoghi di Prevenzione (LDP), addressed to the hospital professionals, aimed at improving their knowledge and competence in motivational interviewing techniques; - Opening of the service, specifically dedicated to motivational interviewing interventions conducted by LDP psychologists, including the chance of referral to second-

level interventions (community walking groups, anti-smoking services).

**Results (of evaluation)**

Till now, three editions of the training involved 80 professionals and received high score evaluations; Starting from May 2017, the Arcispedale Santa Maria Nuova hosts one opening of the practice every week; Starting from October 2017 the Guastalla Hospital hosts two opening every month. Right now we have collected 55 motivational interventions since the practices opened.

**Conclusions/Lessons learned**

This initial results seem encouraging and suggest to go on with the intervention.

**Contact: BOSI Sandra**

LILT - Luoghi di Prevenzione  
Via Alfieri 1/2. 42122 REGGIO EMILIA,  
[segreteria@luoghidiprevenzione.it](mailto:segreteria@luoghidiprevenzione.it)

## “Outdoor gym” - Community health promotion and public health

**Anna Maria Ferrari, Elena Poppi, Massimo Milani, Evelyn Iotti, Leris Fantini, Gianni Zobbi, Laura Lisa Lorenzelli, Alberto Artioli, Bedogni Mauro, Grasselli Simona, Annalisa Rabitti, A.Munarini, Emiro Endrighi, Patrizia Fava, Cristina Bignami, Barbara Volta, Michela Compiani, Maria Livia Violi, Marcello Tedeschi, Sonia Buffagni, Christian Vergalli, Riccardo Pelli, Marco Tamelli, Greta Fontanili, Maurizio Ferrari, Ivano Prandi, Filippo Novelli, Massimo Caobelli, Damiano Razzoli, Andrea Orlan- dini, Elisabetta Boretti, Giacomina Montanari, Bedogni Valentina, Giorgio Salami Cinzia Araldi**

**Background/Problem/Objective**

More than a third of people have sedentary lifestyles, which are particularly common among those from more disadvantaged socio-economic backgrounds. This is despite the fact that suitable exercise regimes offer huge physical and mental benefits and would help to remedy the widespread problems with excess weight and chronic degenerative disease. With this in mind, an outdoor gym was built in the park in the San Lazzaro area, where the Reggio Emilia Local Healthcare Authority (AUSL RE) and the University of Modena and Reggio Emilia (UNIMORE) are based. The objective of the project was to create a genuine outdoor gym to promote physical exercise and socialization in a location that is free and accessible to everyone: children, teenagers, adults, students, senior citizens, disabled people and blind and partially sighted people.

**Methods/Intervention**

The "Outdoor Gym" is the product of a participatory design scheme involving the Reggio Emilia Local Healthcare Authority, Reggio Emilia City Council and the University of Modena and Reggio Emilia, with input from the Regional Architectural Barrier Information Centre (CRIBA), the Italian Sport for Everyone Union (UISP), the Italian Sports Centre (CSI), the Italian National Olympic Committee (CONI), FCR-Città Senza Barriere (City without Barriers scheme), vocational colleges, an art high school, social cooperatives, social centres, Reggio Emilia City Council for Young People (Consiglio Comunale dei Ragazzi), the Luoghi di Prevenzione health promotion centre and Parents for Social Inclusion (GIS) voluntary associations. In addition to a 1 km route in a pedestrianized area of the park that is also accessible to blind and partially sighted people, there are three individual workout areas in the gym. Each of them has a variety of items of equipment: some for strengthening muscles, some for gentle exercise and some that are suitable for people with disabilities.

**Results (of evaluation)**

The park and the equipment have been open to the public since July 2017. Furthermore, group sporting activities for everyone take place twice a week from the spring to the autumn. The activities are free and open to both disabled and non-disabled people. The route for blind and partially sighted people was built by prison inmates as part of a social reintegration scheme. They work alongside psychiatric patients and senior citizens from a social centre on the maintenance of the green areas.

**Conclusions/Lessons learned**

Thanks to the contributions and partnerships that stemmed from the participatory design approach taken during the project, we were able to put the plans into practice very promptly while also keeping costs down. In addition, the approach introduced us to the world of volunteering and associations, with which we can cooperate in order to provide solutions that are suitable for everyone, including those with specific needs.

**Contact:** FERRARI anna maria

AUSL RE, via terracini 5, sant'Ilario d'Enza,  
[ferrarin@ausl.re.it](mailto:ferrarin@ausl.re.it)

## M1.7: Age-friendly care for the community

### Health Promoting Services of Aged Friendly Care in a Super-Aged Society, Experiences in a Rural Community in Northeast Taiwan

**TSAI Yi-Wen, CHENG Yiu-Hua, WANG Mei-Wen, LAI Shih-Han, CHEN Yi-Chuan, CHEN Chien-Tzung**

**Background/Problem/Objective**

There was around 28-37% population aged more than 60 years old in several rural districts in northeast Taiwan, and most of them were low social economic status, multiple comorbidities and indwelt alone. However, little medical resource had been

put into these rural areas though the medical demand was usually high in this super-aged society. The main reasons causing this imbalance of medical demand and supply were the inconvenience of the rural traffics and a sparse populated territory, which led to the investment reluctance of medical service providers.

**Methods/Intervention**

The health promotion out-reached services for rural community had been provided by Chang Gung Memorial Hospital at Keelung and by the support of government policy of National Institute of Health in Taiwan with a 3-hour-visit per time intervention project in 6 villages of 3 rural districts in northeast Taiwan since 2009 until now. Medical counseling, evaluation, examination and therapeutic intervention were provided by the inter-professional team cooperation. The referring services to the emergency department or admission were also provided if needed.

**Results (of evaluation)**

There were a total of 993 person-time per year medical services in 130 sessions in 2009 with an increase to 3303 person-time per year medical services in 218 sessions in 2017. In Pin-Xi districts, the percentage of people more than 60 years old reached up to 37.3% with an average age of 53 years old. Disability, physical function preservation and early hospice care intervention persisted to be important issues. After introducing the medical supply and health education through past 9 years, the coverage of national health insurance increased and the residents received better control. The patients' satisfaction through the questionnaires for the services reached 90% of high scores for the patient-oriented community health care in the aged society.

**Conclusions/Lessons learned**

We successfully implemented the patient-centered medical services through the hospital based out-reached health promotion program in super-aged rural communities. We helped the elderly people obtained better control of chronic systemic diseases, cured from active infective diseases through referral for emergent services and moreover improve their quality of life.

**Contact:** CHEN Chien-Tzung

Chang Gung Memorial Hospital, Keelung  
 222, Maijin Road, Keelung, Taiwan, Keelung,  
[ctchenap@cgmh.org.tw](mailto:ctchenap@cgmh.org.tw)

### A Study of Experiences of Health Promotion Activities for the Elders in a Rural Area of the North Coast of Taiwan Using a Humanoid robot

**CHANG Hsiao-Yu, CHIANG Shih-Chung, CHANG Chia-Wen, TAN Ching-Ting**

**Background/Problem/Objective**

This study aims to promote health of the elders of the North Coast area with the help of a humanoid robot, Pepper, which is supposed to be designed to accompany human beings. In the activities, Pepper is used as a platform together with its apps to produce health knowledge, energetic exercise and cognitive

games. By holding community activities for the elders and educating them about health knowledge, we have thus achieved our aims of health promotion.

#### Methods/Intervention

To keep track of the results of our activities, we have conducted a survey dating from July to December 2017. The survey subjects are people aged above 65 participating in our activities. The number of valid questionnaires is 216, 89% of the questionnaires sent out.

#### Results (of evaluation)

The results of the survey shows: 1) 96% were satisfied with the health promotion activities with Pepper; 2) 90% , with educational activities; 3) 98%, with body movements; 4) 92%, with cognitive interactive games; 5) 100 % showed their willingness to take part in the activities again.

#### Conclusions/Lessons learned

If the elders in the rural area keep doing exercise and attending educational health promotion activities, they will feel more satisfied with their living status. I would suggest that we have more Pepper to help offer our elders more diversified activities and learning options. Hopefully, the elders in our area may live to be very old peacefully in their native place with continued high satisfaction.

#### Contact: LIU HsuHua

NATIONAL TAIWAN UNIVERSITY HOSPITAL JINSHAN BRANCH  
No.7, Yulu Rd., Wuhu Village, Jinshan Dist., 20844, Taiwan  
(R.O.C.), 20844 New Taipei City,  
[eaglejsh@gmail.com](mailto:eaglejsh@gmail.com)

## Reproductive, Menstrual and Dietary Factors Associated with Bone Mineral Density in Postmenopausal Chinese Women

### CHENG chih-chien

#### Background/Problem/Objective

The objective of this study was to assess the annual rate of bone loss and characterize its determinants in elderly postmenopausal Chinese women.

#### Methods/Intervention

A cohort of 397 patients aged 65 to 89 years was enrolled using community-based population with questionnaires completed and follow-up bone mineral density (BMD). The following parameters were collected for all patients: age at entry into this study, history of fractures, body mass index (BMI), menstrual history, history of hormone replacement therapy (HRT), calcium supplements or intake, smoking history, physical activity and dietary habits including coffee and milk. Baseline bone mineral density of lumbar spine and hip T-scores was measured on their first visit and two years later.

#### Results (of evaluation)

Results revealed life menstruation duration (interval from menarche to the age of menopause), duration of HRT usage and BMI were related significantly to bone density. Besides, smoking, daily coffee intake and numbers of children (childbirth)

showed statistical relationship with osteoporosis as well. However, regular exercise and daily intake of milk and calcium supplements did not show significant correlation with low bone mass. Of those potential risk factors, the most influential factors to predict BMD included BMI, duration of HRT, age from menarche to menopause and age from our study.

#### Conclusions/Lessons learned

In this study, the equations could be used to calculate BMD scores comprising age: Predicted Lumbar spine T score =  $-1.27 + (-0.01) \times \text{Age}$ ; Predicted femoral T score =  $-2.96 + (-0.06) \times \text{Age}$ . These findings give us a reference of osteoporosis management of Chinese elderly population; the declining of BMD is fast after the age of 65 and this raises our attention about health care in older age after menopause. Moreover, the annual rate decline of BMD provided us some information about different rate of proceeding osteoporosis in spine or hip joint with different age strata that is noted and summarized in our study. The current data analysis highlight the potential risk factors including BMI, aging, menstruation years and the influence of HRT that are significantly associated with bone loss in the postmenopausal Chinese women. Increased health awareness and screening programs would be mandatory for early detection regarding osteoporosis.

#### Contact: CHENG chih-chien

TAIPEI CITY HOSPITAL, #10, SECTION 4, REN-AI ROAD  
10626 TAIPEI, [DXO90@tpech.gov.tw](mailto:DXO90@tpech.gov.tw)

## M1.8: Equity in health promoting health care

### Influence factor of unmet health care in the Republic of Korea

### KIM Kue Sook, LEE Ji Hong, LEE Yu Jeong, YUN Mi Jin, RYU Heui Geun

#### Background/Problem/Objective

Unmet health care system refers when the physician judge it is necessary that the subject needs health care service but the subject cannot receive health care service. The purpose of this study is to analyze how unsatisfactory health care system influence in the Republic of Korea based on Korean health panel data.

#### Methods/Intervention

To analyze the influence factor of unsatisfactory unmet health care system, Korean health panel data from 2011 to 2013 and 34,427 participants were diagnosed. Real number and percentage is used for unsatisfactory health care system, x2-test is used for sex difference, and logistic regression analysis is used to determine the influence factor.

#### Results (of evaluation)

16.2% experienced unsatisfied unmet medical care, the reason for health care system use restriction is 32.4% for medical treatment, 30.4% for no visit time, and 23.2% for mild symptoms. The result showed that women experienced more than men in unsatisfactory health care, which was statistically significant ( $p < .001$ ): sex (OR = 1.219), education level (OR = 1.200),



economic activity (OR = 0.820). presence or absence of chronic diseases (OR = .901).

### Conclusions/Lessons learned

To reduce the rate of Korea's unsatisfactory health care system, it is necessary to approach overall in differences of sex, education, socioeconomic status, and chronic diseases. In addition, it is necessary to expand the scope of health insurance coverage so that the burden of the patient is reduced and early treatment is possible. In the case of patients who do not have time to visit the medical institution, it is necessary to implement the resilience management method.

### Contact: KIM Kue Sook

Seoul Metropolitan DongbuHosp/Korea Institute for Health Information and Policy  
Seoul National University College of Medicine, 103 Daehak-ro, Jongno-gu Seoul 03080. SEOUL, KOREA  
[mdkimks16@gmail.com](mailto:mdkimks16@gmail.com)

## The health of Migrants and Vulnerables at the heart of policy of a Local Health Authority

**GNOLFO Filippo, CONFALONI Elisabetta, LAZZARI Claudio, IANNACE Ascanio, TONETTI Stefania, GOLETTI Mauro**

### Background/Problem/Objective

The Local Health Authority Asl Roma 1 presents 1.044.715 population of users and a foreign presence of 41.5% of the total foreign population of the roman territory. In 2017 the ASL Roma 1, during its reorganization, the Management identified as a strategic project the Migrant and Vulnerable Health Plan. The promotion of an overall culture in the Asl organization, migrant friendly and equity-centered, has been assessed as a lever for the change of the ASL and a benefit for all its users.

### Methods/Intervention

The elaboration of this Health Plan involved an analytical survey and a planning. The analytical survey consisted of: • a qualitative and quantitative analysis of the demographic and social context; • an organizational analysis of the ASL focused on the quality of the assistance in a migrant friendly perspective (using the tested Migrant Friendly Quality Questionnaire) • an analysis of the procedures through semistructured questionnaires. The design phase made explicit the reference to the Migrant Friendly Hospital and Health Care Model.

### Results (of evaluation)

The Health Plan will be implemented in 2018-2019; some preliminary results are: It is an innovative process of governance of emerging needs in a systemic way. Six main critical issues were analyzed, Objectives, Actions and Instruments had been identified. The Management defined new organizational solutions, including two Units for the health of migrants and asylum seekers and an Intercultural Council, in connection with the groups and local networks. The Migrants Health Operational Unit coordinates the implementation of the main objectives.

### Conclusions/Lessons learned

The process put in place by a metropolitan ASL suggests that, despite the European crisis, it is possible to draw the attention

of decision makers on the health of the vulnerable individuals and on equity in health. The task must be supported by a systematic methodology shared among different actors. Some obstacles remain: the complexity of administrative procedures, the absence of regional lines shared by the different ASL, the lack of dedicated funds in some sectors such as cultural mediation.

### Contact: CONFALONI Elisabetta

Asl Roma 1, Via Luzzatti 8, 00185 Roma,  
[e.confaloni@gmail.com](mailto:e.confaloni@gmail.com)

## A new model of drug instruction provided to multicultural citizens in Taiwan

**MING-YI Lai, CHI-TAI Lee, ERIC KIN-LAP Lee, JIN-SHIUNG Cheng**

### Background/Problem/Objective

In last two decades, a dramatic increase in the number of foreign caregivers and spouse (we called "new citizens") in Taiwan yearly. Although it is easy and convenient for them to acquire medical knowledge by internet and the news, it might be difficult to truly realize the information because they are not familiar with the language and culture in Taiwan. Therefore, providing pharmaceutical care to them will be an urgent issue and new challenge for the pharmacists in Taiwan.

### Methods/Intervention

This study was design to provide appropriate pharmaceutical care for new citizens with proper drug instructions. After health education, each new citizen will be required to complete a satisfaction questionnaire. The instructions includes the drug appearance, dosage, administration route with pictures and the exact administration time with or without food by the different color time scale. The instructions will be available in Thai, Indonesia, Vieteram, English and Chinese versions. By friendly instructions, we hope medication error can be reduced.

### Results (of evaluation)

The project was promoted by most hospitals in Kaohsiung, in southern of Taiwan. Take the VGHKS for example, we ask fifty new citizens to fill out the satisfaction questionnaire after health education by pharmacists. The results show that nearly all new citizens were satisfied about this service and the new drug instructions also received positive feedback and praise from the new citizens.

### Conclusions/Lessons learned

It has been a critical issue to provide comprehensive pharmaceutical care to new citizens in Taiwan. Through this study, we established the model of multicultural medication information services. The drug instructions will be continually updated with the different language and icons to convey the medicine information. In the future, we believe there are more and more pharmacists and technology will participate in the development of drug instructions and promote the accessibility of correct medical information for the new citizens.

### Contact: MING YI Lai

Kaohsiung Veterans General Hospital

No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City 81362, Taiwan (R.O.C.), 81362 Kaohsiung City, [itsmine0212@gmail.com](mailto:itsmine0212@gmail.com)

## Health Check-up Support for the Beneficiaries of Basic Livelihood Act: Two Years of the Coalition Experience and Outcomes of a General Hospital with Three Districts' Self-support Centers in Seoul, Korea.

**PARK Jiyong, OH Bumjo, LEE Jaekyung**

### Background/Problem/Objective

Boramae hospital, a metropolitan government and national university conjoined municipal hospital, supported health check-up for several self-support center members. The eligibility for self-support center enrollment is either basic livelihood security recipients, the near poor, or others with economic difficulties defined as the working poor, usually medical aid recipients in a narrow sense but with occupational skills. We aimed to provide health care, tailored consultation and treatment to enhance health status of the near poor in the community basis.

### Methods/Intervention

From 2015 to 2016, 102 participants from three self-support centers in Seoul visited Boramae hospital. Welfare officers in each local self-support center selected volunteers for health check-ups and referred them to the hospital. The social welfare medical fund by the hospital's social work department supplied the Budget, about 370 USD per person, in cooperation with Seoul metropolitan government. Self-filling questionnaires, physical measurements, blood tests, imaging tests and gastroscopy were included in the check-up. More options were available with additional payment.

### Results (of evaluation)

Several serious illnesses were found through the check-up supported by the welfare fund. Colon cancer, two cervix cancers, two thyroid cancers with metastasis, and lung cancer were found. Chronic diseases such as hypertension, diabetes, dyslipidemia were found not well controlled or newly diagnosed. Others such as internal carotid artery occlusion, ascending aorta aneurysmal dilatation, and two hepatitis B antigen carriers with chronic liver diseases were newly diagnosed. All participants with abnormal result were referred to the specialist for further management.

### Conclusions/Lessons learned

Participants in the self-support center were in a low socioeconomic status and most answered that they didn't undergo any medical check-up before. Quite many of them did not even visit the center to receive their results and were informed of the results by phone counseling. After reviewing the participants referred to specialists prospectively, most became follow-up loss state. We have to think about people with low economic levels are likely to be developing illnesses because they have less health care.

### Contact: PARK ji yong

Seoul national university hospital family medicine department 2, Dongmak-ro 42-gil, Mapo-gu, Seoul, Republic of Korea 04154 Seoul, [jong21004@naver.com](mailto:jong21004@naver.com)

## Return to work in Italian cancer survivors: the innovative social-health care network

**PALTRINIERI Sara, RONDINI Ermanno, FUGAZZARO Stefania, GOZZI Cristina, COSTI Stefania, MAZZINI Elisa**

### Background/Problem/Objective

In Reggio Emilia, an Italian area with high industrialization in the Emilia-Romagna Region, 95% of Cancer Survivors (CSs) with good prognosis return to work (RTW), but almost half of them report barriers to work reintegration. Barriers could be attributed to the social environment at work, work tasks, health status and patients' perspective regarding their work ability. We planned an innovative social-health care pathway aimed at providing personalized interventions focused at addressing issues encountered by CSs in the RTW process.

### Methods/Intervention

From January 2017 to July 2017, a group of 15 authorities located in the area of Reggio Emilia have participated at 7 workshops, under the supervision of E-35 Foundation. A network was created that includes: the local Health Authority-IRCCS and the local Order of Physicians, voluntary non-profit associations (GRADE Onlus, LILT Onlus, DarVoce Onlus, Anteas Servizi, Centro Sociale Papa Giovanni XXIII), vocational and educational training bodies (ENAI D. Magnani, Società Medica Lazzaro Spallanzani), social cooperatives (Winner Mestieri, Koinè, Il Ginepro, Altra Tensione), one labor union (UST CISL Emilia centrale) and one chartered accountant enterprise (BFMR and Partners). The organizational study received the authorization by the Local Ethic Committee (2018/8410).

### Results (of evaluation)

The network designed a social-health care pathway which has been funded by the Fondazione Manodori and co-financed by Local Health Authority-IRCCS of Reggio Emilia (Italy). The project includes training events for hospital health personnel, for General Practitioners and for Occupational Physician to intercept oncological patients with work difficulties. Subsequently, a combination of useful information, occupational therapy interventions and professional retraining will be provided by the social-health network to address work issues. Public events to sensitize the community and meetings with the professional associations of Reggio Emilia will also be organized. With these actions we expect to improve patients quality of life and that the companies will adhere to the project in the prospect to improve employees well-being.

### Conclusions/Lessons learned

Through the implementation of this social-health pathway we will collect data to assess its feasibility and to estimate its cost-effectiveness in the context of application.

### Contact: PALTRINIERI Sara

AUSL-IRCCS of Reggio Emilia

Umberto I n.50, Reggio Emilia,  
[sara.paltrinieri@ausl.re.it](mailto:sara.paltrinieri@ausl.re.it)

## M1.9: Mental health of patients and staff

### The Exploration of the Stress Perceptions among New nurses at the First year

LIN Yueh-E, WU Shu-Fang Vivienne, HSIEH Hsin-Tzu HSIEH

#### Background/Problem/Objective

The stress is one of important issues for new staff at medical facilities. They are the first-line workers and provide daily nursing care for patients. It is essential to understand stress changes of during the first year of employment for those nurses.

#### Methods/Intervention

The study aimed to explore the stress changes and its related factors for those new staff at first working year. It was designed as a longitudinal study. We received IRB for this study. The samples collected were 200 new nurses. Every new nurse finishes a questionnaire with Stress Questionnaire by Tsai (1996)(score: 0-120). The data collected from the first week, 1, 2, 3, 6, 9, and 12 month.

#### Results (of evaluation)

1. There were significant differences between seven stages stress during the first year ( $39.56 \pm 18.84$ ,  $45.55 \pm 16.29$ ,  $46.90 \pm 17.16$ ,  $43.19 \pm 16.81$ ,  $38.88 \pm 16.54$ ,  $36.84 \pm 16.59$ ,  $34.34 \pm 16.06$  respectively) (Wald  $\chi^2=160.98^*$ ,  $P<.001$ , LSD 2,  $3>4>1$ ,  $5>6>7$ ). 2. The first week, the new staffs just take mandatory lecture and familiar with environment, They were no hands with less stress, but they learned patient care progressive after one week under other nurses' support, and had the largest stress when they tried to start to take care of patients independently in the secondary month, and unable to finish their work on time. They were getting to feel more stress from the stage. 3. There were many factors induce stress, ex. unable to finish their work on time, relationship with patient, colleagues or working pace etc. 4. When they become a formal staff (about 3 months), new nurses would be able to adapt the new job and reducing stress. Of course, They need to prepare for next nursing level for different role expectations after half year.

#### Conclusions/Lessons learned

The results indicated that it's an important stage of retention for new staffs during the different stage. Therefore, the administrator should understand and Immediate assistance for new staff should be provided as needed. The result is not only helped administer understand their stress change during the first year, but also provided the reference for retention of new staffs.

#### Comments

It is necessary to establish related policies for new staff at health care facilities/organizations in the future. In addition,

reducing job stress strategies, creating friendly & healthy workplace, and emphasizing health promotion activities should be considered for all new staff at different timing.

#### Contact: LIN Yueh-E

Linkou Chang Gung Memorial Hospital  
 5, Fu-Hsin Street, Kweishan 333, Taoyuan, Linkou,  
[amy436643@cgmh.org.tw](mailto:amy436643@cgmh.org.tw)

### The Effectiveness of Religious (Buddhist Tzu Chi) Music in Relieving Stress on Medical Staff

JUAN yinghsu

#### Background/Problem/Objective

This research is aimed to show religious music in relieving stress on medical staff. The researcher finds that many nurses working in the hospitals have strived for higher degree in order to promote to better positions. They have played several roles in work, study, and family at the same time. Without proper resting hour, many nurses have suffered physical disorders, such as insomnia, or irritability. In order to ease their stressful life, the researcher used religious music to help them.

#### Methods/Intervention

The research was approved by IRB to get a legal permission to have the experiments on human beings. There were 20 participants randomly divided into two groups: experimental and controlled. Participants from the experimental group had listened to religious music 1 hour a day, 5 days a week for a month; while participants from the controlled group had been told not to listen to religious music constantly.

#### Results (of evaluation)

The results of this research were measured through one detecting device and one rating scale: the Ryodoroku (MEAD) and Brief Symptom Rating Scale (BSRS-5). One, MEAD detected the sympathetic system of the human and the powerful of the human energy. The other, BSR-5 provided the status of the mood of the participants. The researcher found that the mood of the participants from the experimental groups was smoother than the participants from the controlled group.

#### Conclusions/Lessons learned

The results has supported that religious music in relieving stress on medical staff. Religious music distributed by Buddhist Tzu Chi was used to help nurses feel relaxed and smooth their stressful life. That is, religious from Buddhist Tzu Chi produced noticeable effects on nurses in relieving stress.

#### Contact: JUAN yinghsu

dalin tzuchi hospital  
 NO. 2, Min-Sheng Road. Dalin Town, chiayi,  
[ddjjaa@tcts.seed.net.tw](mailto:ddjjaa@tcts.seed.net.tw)

### Mindfulness-based cognitive group therapy for hospital staff with psycho-physiological stress : An outcome study

## LIN Yi-Chun, LIN Chun-Chun, HUANG Hui-Ting

### Background/Problem/Objective

Medical care is a highly professional and stressful job. Stress leads to depression and anxiety, declines job satisfaction and effects interpersonal relationships. There are some risks among the healthcare systems from stress, such as the impairment of attention and problem solving skills, which also decreases the quality of medical services. The purpose of this research aimed to explore the effects of MBCT group intervention on hospital staffs with psycho-physiological stress and expected to improve their mood and stress adaptability.

### Methods/Intervention

15 participants who attended 8 weeks MBCT intervention are in high risk of cardiovascular disease from physical examination, have 3 work shifts, or are interested in MBCT. All participants completed self-reported questionnaires to evaluate their mood, cognitive components, changes of metacognitive self-awareness for quantitative analysis and obtained qualitative analysis from the 8 weeks homework of mindfulness practicing records.

### Results (of evaluation)

There were 3 doctors, 4 nurses, 2 medical technicians and 6 administrative staff among 15 participants. Although the results shows that life stress index of participants did not decrease significantly, their acceptance and tolerance was expanded and the tendency of negative thinking was declined through the enhancement of self-concentration, awareness and monitoring ability from mindfulness practices. Even more, it enhances the ability of keeping calm to face stress and to take appropriate decision-making behavior.

### Conclusions/Lessons learned

To face multiple stresses, it is important for hospital staff to learn appropriate stress coping strategy. The results of this study shows that Mindfulness-based cognitive group effectively helps hospital staff increase self-awareness and monitoring ability, expand the attitude of acceptance and tolerance, face the challenges of work without judgment, regulate emotions moderately, and take appropriate actions for some moments. MBCT may be the effective intervention for health promoting hospitals applying to promote mental health of hospital staff.

### Contact: YI-CHUN Lin

Taiwan Adventist Hospital  
424, Section 2, Bade Road, Songshan District, Taipei,  
[yichun@tahsda.org.tw](mailto:yichun@tahsda.org.tw)

## An Exploration of the Application of Empowerment Perspective to a Group for Middle Aged Women Repeated Suicide Attempters

HSU FU NUNG, LIAN Yi Wen, WANG Chen Pang, LU Huei-Lan

### Background/Problem/Objective

There are many factors that can cause middle aged women to commit repeated suicide. Emotional sensitivity, low frustration tolerance, economically disadvantaged, and broken marriage. The hospital has been connect with local health authorities to work together for suicide prevention and health promotion since 2010. The full-time community caring visitor began to involve in community mental health promotion activities. The purpose of this study was to explore an application of middle aged women to a group for repeated suicide attempters.

### Methods/Intervention

The subjects were 7 middle aged women repeated suicide attempters, invited to participate a group based on the perspective of empowerment, once a week, 60 minutes a section, total of 8 weeks from May to June in 2016. Group was operated in 3 stages by using listening-dialogue-action, namely the empowerment proposed by Freire. The measurement included the Beck Depression Inventory (BDI), Suicide Attitude Questionnaire (SAQ), and the value of the statistical analysis of suicidal behavior in 6 months before and after the group.

### Results (of evaluation)

1. The result showed 3 members from Major depression ( $BDI \geq 29$ ) to Depression ( $14 \leq BDI \leq 19$ ), and 4 members from depression to normal ( $BDI \leq 13$ ). 2. In the part of SAQ, the average of protest is 45. Compared with the pretest, all decreased by 62%. 3. Only 1 member had repeated suicidal records six months after the end of the group.

### Conclusions/Lessons learned

As a method to the group. Through group dynamic of communication and interaction, guiding members to support each other, creating confidence, strengthen problem-solving skills, providing physical and psychological supports, finding the meaning and value of life, Perspective of empowerment has a significant positive effect on reducing the risk of repeated suicidal.

### Contact: HSUEH-YIN Wang

Jianan Psychiatric Center, MOHW.  
No.80, Ln.870, Zhongshan Rd., Rende Dist., Tainan,  
[berylzaki@yahoo.com.tw](mailto:berylzaki@yahoo.com.tw)

## M1.10: Implementing people-centered care

### Applying Network Analysis Method to Evaluate Outpatient Medical Service Quality: Case Study of Asia University Hospital

SHIEH Jiunn-I, WU Hsin-Hung, HUANG Kuan-Kai

### Background/Problem/Objective

Outpatient service has been tremendous increased in Taiwan during the last two decades. It also significantly affects a patient's overall impression of hospital services. On the other hand, hospitals in Taiwan have faced intensified market competition after the Background/Problem/Objective of the National

Health Insurance in Taiwan that patients are free to choose among available medical providers. To survive in the competitive environment, hospital management needs to first identify and then improve the major weaknesses existed in outpatient medical services.

#### Methods/Intervention

A case study was conducted to evaluate outpatient medical service quality of Asia University Hospital in Taichung City, Taiwan. The questionnaire with thirty questions was analyzed by derived importance-performance analysis based on network analysis method. The survey was taken on October 1- November 15, 2017 with 300 patients or their families, and a total of 244 valid questionnaires were received and validated, representing an 81.3% return rate.

#### Results (of evaluation)

The results show that "enough lighting illumination", "services provided by inspectors (blood, urine and other personnel)", "services provided by pharmacy staff", "the response and handling when there is a service demand", and "medical consulting services provided by this hospital" are the major strengths, whereas "moderate air conditioning", "free shuttle service", "waiting time for registration", and "on-time clinic by the physician" are the major weaknesses of outpatient medical services to be improved by this hospital.

#### Conclusions/Lessons learned

This case study uses derived importance-performance analysis based on network analysis method to evaluate outpatient medical service quality of Asia University Hospital. To maintain the competitive advantage, the management team needs to concentrate on these five major strengths. On the other hand, if the management team is to remove customer dissatisfaction immediately, four major weaknesses should be placed in the highest priority for continuous improvement. In doing so, the management team can significantly improve patients' satisfaction and retention.

#### Contact: SHIEH JIUNN-I

Asia University  
No.500, Lioufong Rd., Wufong Dist., 41354 Taichung,  
[jihsieh@asia.edu.tw](mailto:jihsieh@asia.edu.tw)

## Prioritizing the provision of health information to support for the ability of self management of patients at health promoting hospital

**JO Heui Sug, JUNG Su Mi**

#### Background/Problem/Objective

As the number of chronic illness is increased, it is important that health promoting hospitals provide patients with reliable health information to support for the ability of self management. The Korean government has been operating a national health information portal(NHIP) since 2011 and the NHIP has been processing proven health information based on evidence to make it easy for the general public and patients to understand. However, it is necessary to establish a future health information content delivery model that grasps consumers' needs and disease pattern because current content has limitations of disease-centered information. In this study, we try to

prioritize the provision of health information to support the ability of self management for smart and empowered patients.

#### Methods/Intervention

For the panel of NHIP, the survey was performed to identify the need for health information development. It was performed through a web-based survey monkey targeting 506 panelists. Survey items are divided into health behavior, disease pattern and patient role behavior based on consumer's behavior model related to health. So, the survey was divided into five sections: health care management, symptom management, disease treatment and healthcare utilization, health care system and services, and health information by population group. The need for information on each sub-section is measured by the 5-point Likert scale.

#### Results (of evaluation)

On the analysis of information needs, it was found that the information needs of lifestyle habits for preventing chronic diseases were the highest among health management information. On the other hand, the development of health information by population group showed high needs-an average of 4.36 points, indicating the need for information on elderly health information should be in priority (4.45 points).

#### Conclusions/Lessons learned

It is important to develop consumer-oriented customized information for providing health information. This study will be used to identify the need for health information development and reflect in the process of prioritizing contents to be developed in future.

#### Comments

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#### Contact: JO Heui Sug

[blissing-you@kangwon.ac.kr](mailto:blissing-you@kangwon.ac.kr)

## Active screening the distress among cancer inpatients

**LIU Chih-Ju, FANG Chun-Kai**

#### Background/Problem/Objective

Cancer patients always suffered from distress in physical, biological, social, and spiritual dimensions. Even the IPOS Federation announced regular screening distress as the 6th vital sign in cancer care service, it is not popular for active screening the distress regularly in clinical service. The report presents the active regular screening among cancer inpatients by nurses.

#### Methods/Intervention

The Distress Thermometer (DT) is a self-report measure developed by the NCCN to detect psychological stress in patients with cancer. It involves responding to a single question using a Likert scale in the form of a thermometer to indicate the psychological distress experienced within the past week (0 indicates no distress; 10 indicates extreme distress). The initial procedure was distress screening via the DT by nurses. If DT ≥ 5, patients would transfer to psychologists, social workers, priests, psychiatrists, and even palliative care teams according to their problems.



**Results (of evaluation)**

From July to September 2017, all new hospitalized cancer patients were screened by nurses in Taipei MacKay Memorial Hospital. The total screening amounts were 2,721 in adult cancer patients and 171 in children cancer patients. The patients serviced by psychologists from screening by nurses and consulting by doctors were 47 (1.73%) in adult cancer patients and 3 (1.75%) in children cancer patients.

**Conclusions/Lessons learned**

The detection rate of distress was not identical with the previous academic reports. It might be caused to poor understanding about how to practice the DT. The further training and continue education should be considered.

**Contact: FANG Chun-Kai**

Mackay Memorial Hospital

92, sec. 2, Zhongshan Rd, Zhongshan Dist., Taipei,

[chungkai.fang0415@gmail.com](mailto:chungkai.fang0415@gmail.com)

## Using the Case Management to Care the Breast Cancer Patient with the Side Effects of Chemotherapy

**LU Yi-Hsuan, CHANG Chia-Ning, LO Ching-Hsuan, LI Dian-Kun, CHIEN Shou-Hsin**

**Background/Problem/Objective**

In Taiwan the breast cancer is the fourth leading cause of cancer mortality, and the median age of breast cancer patients is younger than in western country. The chemotherapy plays an important role in the treatment of breast cancer. The side effects of chemotherapy result in physical and the psychological impacts on the patients.

**Methods/Intervention**

The case manager established the mutual trust with patients by interview, observation, listening, and telephone interview and provided patient instruction and disease-related medical information. The case manager helped the patient to understand and manage the side effect of chemotherapy, cope the psychosocial stress accompanied with chemotherapy. The case manager also introduce the social resources and support groups.

**Results (of evaluation)**

The case manager established the good relationship with the patient and family. The education, instruction and group work reduced the patient's anxiety and helped the patient to deal with the side effect of chemotherapy. The social resources and patient groups supported the patient to cope the psychosocial impacts. The patient completed the 8 cycles of chemotherapy smoothly.

**Conclusions/Lessons learned**

The case management provided the patient-centered care for the breast cancer patient. The case manager integrated the resources and supports to provide a comprehensive and continuous patient care.

**Contact: LO Ching-Hsuan**

Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical

No.88, Sec. 1, Fengxing Rd., Tanzi Dist., Taichung City

[tc1292001@tzuchi.com.tw](mailto:tc1292001@tzuchi.com.tw)

## Nursing Experience of Caring an Oral Cancer Patient Having Body Image Change after Surgery

**LIAO Ling-Chen, LO Ching-Hsuan, LI Dian-Kun, CHIEN Shou-Hsin**

**Background/Problem/Objective**

The major treatment of oral cancer is surgery. Patients often suffer from wound pain after the surgery but also the consequences of the body image change, including the human communication problems and depression. The primary care giver should have more care skills, and more time to accompany with the patient to overcome the stress.

**Methods/Intervention**

We used the care skills of case management at the diagnosis of oral cancer and had a good rapport with the patient and the family. First we provided the individual health education interview and nursing process. Second we introduced the recovered patient to the new patient to help to cope with the impacts and stress after the surgery. Third, we held the group psychotherapy with help from patient groups.

**Results (of evaluation)**

We used the care skills of case management and nursing care to help the patient to overcome the mental and physical stress and impact. The rate of treatment complete (the treatment including surgery, adjuvant chemotherapy and radiotherapy) was 93% in 2015 and increased to 100% in 2017.

**Conclusions/Lessons learned**

Case manager used the nursing care skills of case management to help the oral cancer patient to cope and overcome the consequences of the body image change after surgery.

**Contact: LO Ching-Hsuan**

Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical

No.88, Sec. 1, Fengxing Rd., Taichung City, 42743 Taichung,

[tc1292001@tzuchi.com.tw](mailto:tc1292001@tzuchi.com.tw)

## Home-based occupational therapy to reduce disability and enhance social reintegration in complex patients in Reggio Emilia.

**PELLEGRINI Martina, FUGAZZARO Stefania, COSTI Stefania, SCHIAVI Margherita**

**Background/Problem/Objective**

In the last 3 years, a multidisciplinary research group developed a project focusing on occupational therapy (OT) for complex patients admitted to Rehabilitation Unit of the IRCCS-ASMN. The aim was promoting recovery of the best level of independence in ADL and finding strategies to return to a satisfying social life. The study showed statistically significant improvement in COPM in patients treated with OT + standard rehabilitation

care, and allowed researchers to focus some patients unmet needs, dealing with social reintegration.

#### Methods/Intervention

The research group decided to carry out a new project focusing on OT intervention at home to meet patients issues after hospital care. The complex patients will be randomized into 2 groups: the intervention group will receive OT treatment at home, while the control group will receive the standard care. The intervention will be in collaboration with other organizations, such as: - Center for the Adaptation of Home Environment; - "In-forma salute" office of our hospital; - Inail Superabile web portal.

#### Results (of evaluation)

The project will create a network between hospital and community resources to improve access to information on financial benefits for people with disability, removal of architectural barriers, return to drive, return to work, moving around with public transport. We expect to achieve improvement in performance and satisfaction in patients treated at home by occupational therapist.

#### Conclusions/Lessons learned

Occupational therapy intervention may be a strategy to enhance patient centered care. Delivering OT in home-based sessions could reorientate health care to better meet patients needs, stimulate social inclusion and participation and also impact on the quality of life of family members.

#### Contact: PELEGRINI Martina

University of Modena e Reggio Emilia  
via tassoni, 203, 42123 Reggio Emilia,  
[martina.pellegrini@ausl.re.it](mailto:martina.pellegrini@ausl.re.it)

## M2.1: Using ICTs to promote health

### Efficacy of Cloud Health Stations - Association between Services Received Frequency and Blood Pressure Control

**HUNG Ta-Chuan, HSU Chih-Hung, HUANG Tsu-Hsueh**

#### Background/Problem/Objective

Since 2014, Mackay Memorial Hospital cooperates with community associations nearby to establish Cloud Health Stations. There are 15 stations distributed around our hospital in 4 administrative districts. Local volunteers provide services measuring BMI, blood pressure (BP), abdominal circumference and uploading data to Cloud system. Medical staff provide periodically health consulting, checking blood sugar and cholesterol. We encourage community people and their family to use APP for health management which make them reach the goal of health promotion conveniently.

#### Methods/Intervention

We divided the stations members into two groups by visiting frequency from 2016 to 2017: high frequency group ( $\geq 2$  times / 2 years), low frequency group ( $< 2$  times / 2 years).

The primary end point is BP control rate: the rate of normal BP (SBP $<140$  and DBP $<90$ ) number to the total services received number. We use T test and simple linear regression to study the association between services received number and BP control rate.

#### Results (of evaluation)

There were 754 members with 35,745 services received number. In high and low frequency groups, the number of members were 208, 546 and the average of services received number were 120.3, 19.7 times / 2 years, respectively. The result of T test showed the significant difference of BP control rate between high and low frequency groups ( $p=0.02$ ). The simple linear regression model was  $Y=0.7651+0.0004X$ , which predicts the higher services received number can improve BP control rate.

#### Conclusions/Lessons learned

There is a positive relationship between the stations members' services received number and BP control rate. Because we establish health stations for free and arrange local volunteers and medical staff to provide kinds of health consultation. We encourage community people to use the Cloud technology and health management APP, so that we can improve the efficacy of health promotion. We will make Health stations become a friendly place and link the National long term care system.

#### Contact: LIAO Lee-Hua

MacKay Memorial Hospital, Tamsui Campus  
No. 45, Minsheng Rd., Tamsui District, New Taipei City,  
[870701.6128@mmh.org.tw](mailto:870701.6128@mmh.org.tw)

## Enhance the Effectiveness of Bedside Blood Sugar Detection

**CHUANG Li-ming, SONG Truey-Yeh**

#### Background/Problem/Objective

Intelligent medicine is the development direction of current medical hospital, and Smart Hospital is present and the future trend. The face of frequent clinical bedside blood glucose detection, through interdisciplinary team collaboration, the use of High-tech wireless transmission of blood sugar detect machine, to reduce the burden of clinical care colleagues, and improve the quality and effectiveness of patient's blood sugar care.

#### Methods/Intervention

Clinical implementation of bedside blood glucose detection (referred to as One Touch), by the physician to prescribe the doctor's orders and inspection sheets, the nurse performed by hand to the blood sugar value transcribed in the test list, and then sent to the laboratory to be priced with manual login, physicians can conduct online inquiries. The process is easy to derive: manual operation time-consuming, login errors, data not timely transmission, missing account, blood sugar machine poor quality control and so on. In order to improve bedside examination of blood sugar quality, increase the real-time communication between the medical team. In March 2017 by the laboratory, nursing department, information department, medical engineering units, such as the joint composition of the improvement team, put forward the improvement Program: 1. To conduct a cross section discussion meeting confirmation

process. 2. Comprehensive use of wireless transmission function of the blood sugar machine, quality control monitoring operation is simple. 3. Review the blood sugar testing process, open a doctor's orders do not need to print a test list, the implementation of testing data directly uploaded to the system, physicians can be directly in the electronic medical records read. 4. Clinical Care Division daily blood Sugar Machine tube monitoring, about 20 seconds, quality control results from the clinical pathology of monitoring and statistics and review. 5. Fully review the wireless environment and assist the program and system links. 6. The planning of new education training also recorded E. 7. Establish a complete system of assistance.

### Results (of evaluation)

From March 1 to May 31, 2017, programming and related Information System series, and conduct ten educational courses, the whole Department of Nursing through the test, real machine training and operation. July 3, 2017 the entire hospital hospitalized patient including the emergency official use wireless to upload the blood sugar machine. Preliminary results: 1. establish a good management mechanism, the Department of nursing to assist instant messaging, each unit has management window, medical engineering class 24 hours with standby machine support, in order to achieve seamless connection. 2. the average blood glucose detection time dropped, the transmission process reduced from 10 minutes to 32 seconds, of which blood glucose detection only takes 20 seconds, the benefits for nurses and patients show. 3. test quality, the second quarter of 2017 low value product management variability is 2.81%, high value quality management variability is only 1.86%, all reached the threshold. 4. to improve the communication between doctors and nurses, and to communicate the information correctly to the medical records system of doctor's advice and nurse's order

### Conclusions/Lessons learned

Intelligent hospital is by no means just a process or job wireless, bar code is called, Bedside blood sugar detection process change is only a beginning, this year, the hospital formally established POCT (point of the Care Test) management team, members into the medical department (such as the emergency department, anesthesia department) and Quality Management Center, President of the hospital Medical vice president, future hospitals will continue to uphold the momentum of such a move, so that intelligent become concrete, life-oriented.

**Contact: LI MING CHUANG**

[r002651@ms.skh.org.tw](mailto:r002651@ms.skh.org.tw)

## Applying Telehealth to High-technology Workers to Improve Glycemic Control

**YANG YU-WEN, WU JU-HSIEN, HUANG YU-CHINWU YING-HSUN**

### Background/Problem/Objective

With life style change, the prevalence of hyperglycemia in young and middle-aged people is increasing dramatically. Hyperglycemia could progress to diabetes without appropriate control, and result in a lot of physiological, psychological and economic burdens. Life style modification would be beneficial for glycemic control, but it is difficult to practice. High-

technology workers are familiar with electronic devices. We applied telehealth services to high-technology workers, then we could more understand their health behaviors and provide individualized feedback to improve glycemic control.

### Methods/Intervention

The project started in August 2017. At beginning, workers with hyperglycemia ( $HbA1C \geq 5.7\%$ ) were identified by blood tests. They were asked to take a complete dietary diary for one week and then dietitians provided face-to-face health education to modify their eating behaviors. Following, they uploaded the data of fasting glucose at least twice per week to the telehealth platform. Real-time individualized feedback was given by medical staff if hyperglycemia was noted. After intervention for 4 months, blood tests were done again.

### Results (of evaluation)

Initially, 21 workers (16 males, 5 females) with hyperglycemia ( $HbA1C \geq 5.7\%$ ) were identified. The average age was  $46.0 \pm 1.6$  years (33~59 years). The average of  $HbA1C$  was  $6.5 \pm 0.3\%$  (5.7~11.7%). 7 (33.3%) of the 21 workers were identified as diabetes ( $HbA1C \geq 6.5\%$ ). At the end, the average of  $HbA1C$  was  $6.2 \pm 0.1\%$  (5.6~7.2%). 10 (47.6%) of 21 hyperglycemic workers got improvement, 3 (14.3%) kept the same, but 8 (38.1%) were worse. For the 7 diabetes workers, all got glycemic improvement (7.6% vs. 6.6%,  $P=0.018$ ).

### Conclusions/Lessons learned

The prevalence of hyperglycemia is increasing in young and middle-aged people. These people usually pay less attention to the health status of themselves. They also have limited time to seek medical services. However, they are frequent users of electronic devices. According to our study, hyperglycemic high-technology workers got benefits of glycemic improvement through telehealth services. The effect was particularly significant for diabetes workers. Therefore, we recommend to apply telehealth in workplace health promotion, especially for hyperglycemic and diabetes workers.

**Contact: YANG YU-WEN**

Changhua Christian Hospital  
No. 135 Nanxiao St., 500 Changhua City,  
[yuwen77@hotmail.com](mailto:yuwen77@hotmail.com)

## Quantifying the relationship between diseases and symptoms using big data

**HWANG Lee-Ching, SHAO Hsin-Hui, LIN Shih-Han**

### Background/Problem/Objective

Crises in endemic transmitted diseases affect humans worldwide, and the symptoms these diseases cause may provide firsthand information about these disorders. We suggest that massive new data sources resulting from human interaction with the Internet may offer a unique perspective on the relationship between illness and symptoms.

### Methods/Intervention

By analyzing changes in Google query volumes for search terms related to disease, we find a pattern that may define the relationship between symptoms and disorders. We first retrieved

pattern data from Google Trend using the common cold as the primary disease, and sore throat, stuffy nose, sneeze, fever, cough, and headache as symptoms. Pearson's correlation coefficient was calculated using SPSS to determine the relationship between the symptoms and the disease.

#### Results (of evaluation)

Data created since 2013/1/13 was retrieved from Google Trend on a weekly basis. A total of 261 sets of data were calculated to create a high correlation coefficient of 0.925 between the common cold and the stuffy nose symptom. The cough symptom has the second highest correlation coefficient of 0.925, sore throat has a correlation coefficient of 0.853, and fever has a correlation coefficient of 0.626.

#### Conclusions/Lessons learned

Data on the relationship between diseases and symptoms often comes from facilities such as government, hospitals, and clinics, where the data is collected through the documentation of physicians and nurses. A conventional study can be limited by the region, the number of patients and the interpretation of the specialist. However, with access to Google Trend's big data, millions or even billions of data points are accumulated directly from the patient. Another contribution of this study is that the quantified relationship between symptoms and diseases can be used to educate future physicians or even artificial intelligence.

**Contact: SHAO Hsin-Hui**

Mackay Memorial Hospital  
7F., No.28, Fuxing N. Rd., Taipei,  
[chocosophi@gmail.com](mailto:chocosophi@gmail.com)

## M2.2: Promoting physical activity of patients and community

### Physical fitness performance in adults aged 23 to 64 years in Taiwan

**WANG Cheng-Wei, TSAI Ching-Fang, WANG Jian-Yu, WU Pei-Ling, HUNG Shan-Ching, HOU Jung-Ying, CHEN Wei**

#### Background/Problem/Objective

Physical fitness is defined as the basis of all activities. It is necessary to maintain optimal physical fitness to gain a better healthy condition. Although many studies have reported the normative physical fitness performance, they mainly focus on children, teenager, or the elderly. The normative data about physical fitness performance among young adults and middle ages is rather scarce. The purpose of this study was to investigate the physical fitness performance in adults aged 23 to 64 years in Taiwan.

#### Methods/Intervention

In this cross-sectional study, we recruited 2,216 participants aged 23-64 years from 2014 to 2017. All participants were measured by using four fitness domains, which are body composition (height, weight, waist, and hip), muscular strength (60-second sit-up test), flexibility (sit and reach test), and aerobic endurance (3-min step test). Age was divided into five groups: Group1 (23-30 y); Group2 (31-40 y); Group3 (41-50 y); Group4

(51-60 y) and Group5 (61-64 y). Physical fitness performance was compared between five groups.

#### Results (of evaluation)

Of 2,216 participants adults, 1568 were females (70.8%) and the mean age was 42.9 ± 11 years. Height, weight, muscular strength, and flexibility had significant difference on different age of groups ( $p < 0.05$ ), with a trend (Group 1 to Group 5) that muscular strength (60-second sit-up test decreased from 28.6±9.1 times to 0.9±11.2 times) and flexibility (sit and reach test decreased from 26.9±11.6 cm to 21.9±11.7 cm) decreased gradually by age. There was no significantly different on aerobic endurance between groups.

#### Conclusions/Lessons learned

The performance of muscular strength and flexibility were decreased along with age, but aerobic endurance was not affected by age. To avoid rapid decline of muscle strength and flexibility, a proper training program should be recommended for different age of groups.

**Contact: HUNG Shan-Ching**

CHIA-YI CHRISTIAN HOSPITAL  
No.539,Zhongxiao Rd.,East Dist.,Chiayi City  
60002,Taiwan(R.O.C), 60002 Chiayi,  
[cych05509@gmail.com](mailto:cych05509@gmail.com)

## Association with physical activity and health promotion behaviors among university students in South Korea: Focusing on the freshman health survey in an university

**KIM Young Bok**

#### Background/Problem/Objective

Physical activity is known the effective factor to reduce health risks and health problems. On the other hand, regular practice rate of physical activity has not been increased for several years among youth and university students in South Korea. Especially, to improve health status, it needs to provide the customized health promotion services for university students. This study performed to analyze health promotion behaviors related to physical activity among first-year students of university.

#### Methods/Intervention

To examine the association with physical activity and health promotion behaviors, health survey was conducted with 3,918 students who were first-year students in an university by self-reported questionnaire from February 26 to March 10, 2015. In this study, physical activity was defined walking, strength exercise, moderate exercise and vigorous exercise. Multiple logistic regression analysis was performed to identify the difference of health promotion behaviors by physical activities.

#### Results (of evaluation)

87.9% was physical activity practitioner who exercised once and more within the last 1 week and 51.6% was regular exerciser. In multiple logistic regression models, it remained significantly the difference of physical activity practice by gender, health status, BMI, eating habit and sleeping hours ( $p < 0.05$ ,  $p < 0.01$ ). Also it remained significantly the difference of regular physical activity

by gender, health status, AUDIT, secondhand smoking, eating habit and sleeping hours ( $p < 0.05$ ,  $p < 0.01$ ).

#### Conclusions/Lessons learned

To help the achievement of academic goal, it should build physical activity policies and comprehensive health promotion programs to reduce health risk factors of university students. In future, to enhance physical activity practice, it needs to develop various tailed messages and smart healthcare service using health information technology (IT) on campus.

**Contact: KIM Young-Bok**

Daegu University

201 Daegudae-ro, Jinyang, 38453 Gyeongsan-city,  
[healthkyb@daegu.ac.kr](mailto:healthkyb@daegu.ac.kr)

## Using APP to establish supportive network to increase urban elders exercise intensity

**HUANG YUN-YU, JIAN XIONG-FEI, XIE YING-HUA, ZHANG SHI-XIN, LU ZHONG-YING, TSAI SHENG-FENG, HO HSIN-JOU, WU YIN-HUANFANG HSIU-CHUN**

#### Background/Problem/Objective

According Taipei city government's data, it has 80% elders who living in the city have exercise habit, but most of them chose walking as its exercise. The exercise intensity is not enough. In order to increase their exercise intensity, the Taipei Medical University Hospital (TMUH) invited health and sub-health elders to participant the community exercise class and fitness walking team, and arranged professional coach to guide them.

#### Methods/Intervention

The TMUH using the Ottawa charter for the community health promotion. (1)The community leaders signed the Declaration of Health when we visited and explained this project. (2)Establish the walking trails and help community to create safety indoor environment. (3)Hold exercise class and fitness walking team. Using APP connects with the trainees. They could use APP to share their exercise records. (4)Combine government resource, helping trainees to get exercise seeded teacher certificated. (5)Regularly meeting with community leaders discuss the process situation.

#### Results (of evaluation)

1. There are 55 elders joined the fitness walking team and 23 elders joined the exercise class. We also have 5 people get exercise seeded teacher certificated. 2. There are 73% of trainees feeling stronger than before and 46% of trainees increase once or twice times a week to do exercise. 3. Almost 80% of trainees use the APP to share their records and encourage others to follow coach's guide do the exercise.

#### Conclusions/Lessons learned

Most Taipei city elders have regular exercise habit but the exercise intensity is not enough. It has a significant effect to increase their exercise intensity by holding professional exercise class and using APP to establish the supportive network. The TMUH will continue to hold the class and train more people become a seeded teacher. We combine our professional teach-

er and government resource, strengthening health promotion in primary health services. Let more people know how to do exercise health and safety.

**Contact: HUANG Yun Yu**

Taipei Medical University Hospital (TMUH)

No. 252, Wuxing St, Xinyi District, Taipei City, 110, 110 Taipei,  
[andrewh3314@gmail.com](mailto:andrewh3314@gmail.com)

## M2.3: Tobacco cessation

### Making The Healthy Choice The Easy Choice

**PHILLIPS Trevor**

#### Background/Problem/Objective

Cluain Lir Care Centre is a 42 bedded Approved Centre in Mullingar (Ireland) specialising in Psychiatry of Later Life. A Tobacco Free Campus working group was established in 2016 to implement the Irish Health Service's (HSE) Tobacco Free Campus (TFC) Policy. The aim of this initiative was to implement the Health Service Executives TFC policy. The objectives were to up skill staff in brief interventions for smoking cessation, and thereby reduce, minimise and eliminate tobacco use in the long term.

#### Methods/Intervention

The ENSH-Global self-audit tool revealed a baseline score of 56/144. The ENSH audit tool helped to inform our strategy, as it deconstructed the task into smaller challenges that were less daunting. A multidisciplinary working group was developed comprised of champions of smoking cessation. Key staff undertook BISC training to develop the person's knowledge and skill in smoking cessation support. The development of smoking cessation skills of staff, helped to reduce, minimise and eliminate tobacco use in the long term

#### Results (of evaluation)

Our ENSH score is 105/144. Tobacco products are no longer stored or distributed. Service users who quit report feeling 'healthier' with staff reporting feeling happier working in a cleaner smoke-free environment. Cluain Lir was subsequently presented as a 'model of good practice' at TFC Workshops throughout Ireland, and at the 2017 Nursing & Midwifery Conference, and Health Service Excellence Awards in Dublin. In September 2017 I joined the jury of the Gold Forum, Global Network for Tobacco Free Healthcare Services.

#### Conclusions/Lessons learned

The tobacco culture in Irish mental health services is changing. It has become evident that tobacco addiction is becoming more accepted as a care issue, with service users offered treatments comparable to any other addiction. The next stage is to examine what role research could now play in consolidating this initiative so it can be leverage to progress TFC implementation elsewhere. Using research methods to answer the value/merit questions around implementation and effectiveness of the initiative undertaken at Cluain Lir.



**Contact: PHILLIPS Trevor**

HSE - Midlands Louth Meath CHO  
Cluain Lir Approved Centre Mullingar, Westmeath,  
[trevor.phillips@hse.ie](mailto:trevor.phillips@hse.ie)

## Promote Smoke-Free Family in Cambodia- An Experience of Taiwan's smoke-free hospital

**YU Shan-Sian, HSUEH Kuang-Chieh, CHEN Hong-Jhe, SHEN Yun-Ju, SHEN Fan-Yun, LEE Chia-Hua, HUAI Chieh-Chun, PAN Lee-Fei, CHENG Jin-Shiung**

### Background/Problem/Objective

Cigarette smoking is the most important preventable cause in the world. More than 7 million people died from smoking-related diseases per year including 890,000 of non-smokers (especially female and children) being exposed to second-hand smoke, the health impact is more seriously in the developing countries. There are 2 million smokers in Cambodia and more than 10,400 people dead from smoking per-year, lots of children were exposed to secondhand smoke. It is an urgent issue to provide smoking cessation service in Cambodia.

### Methods/Intervention

During Oct to Dec 2017, we (Smoking Cessation Treatment and Management Center of VGHKS) organized a smoking cessation team including three family doctors who had been well-training for smoking cessation techniques for smoke-free family plan in Takeo Province of Cambodia. A 2-months smoke-free family plan which including local volunteers and translators training, home visits for intruding smoke free family concept to smokers and providing behavior therapy. Smokers who accepted consultation will be follow up after one month.

### Results (of evaluation)

53 smokers had been recruited in smoke-free family plan (10 cases failed to complete follow up and will not be in statistic result), their average age are  $49.2 \pm 12.3$  years old and male : female ratio was 40: 3, Score of FTND was  $4.3 \pm 2.2$  points, smoke  $15.1 \pm 9.3$  cigarettes per day. At one month following up, 32 cases ( 74.4%) reduced above 50% daily cigarettes consumption and 10 cases (23.3%) hadn't smoke any cigarettes at past 7 days (with CO confirmed).

### Conclusions/Lessons learned

It is not easy to break multiple boundaries including economic, politics, man-power, language and location, to promote smoking cessation service and smoke-free environment oversea, but it is not possible. Our plan overcame lots of difficulties and found smoking cessation service including promotion smoke free family with face to face behavior therapy is effective for smokers to quit in Cambodia. In the future, Smoking cessation service in international level still need passion, aggressive action and more resource.

**Contact: HSUEH Kuang-Chieh**

Kaohsiung Veteran General Hospital  
386 Ta-Chung First Road, Kaohsiung 813, Taiwan  
[kjhsuch@gmail.com](mailto:kjhsuch@gmail.com)

## Implementation of Tobacco Cessation Program for Workplaces and Pregnant Women in Taiwan

**CHEN Chih-Hsien, YEN Chi-Hua, SHEU Kai-Lun**

### Background/Problem/Objective

Maintaining a smoke-free environment has always been the ultimate goal of fight against tobacco use, and workplace still remains one of the most important targets to execute tobacco hazard prevention (THP). Our Tobacco Cessation Program was held in central Taiwan and consisted of mainly two parts—workplace employees and pregnant women.

### Methods/Intervention

First, 588 employees from different workplaces participated in this program from 2017/06 to 2017/11. Trained medical staff provided consultation and education regarding tobacco hazards. A "Health piggy bank" was implemented to record the expense they saved from tobacco cessation and encourage smokers preserving money for other daily expenditure. We assessed the outcome one month after the intervention. For the second part of the program, 1058 pregnant women were recruited. We held two events and gave out each participant a "Baby book", which combined a series of prenatal examinations and sonography photos of the child with warnings of tobacco hazards to the unborn. The results were assessed by follow-up questionnaire.

### Results (of evaluation)

After intervention, 562 employees supported THP in workplace. Also, for employees with tobacco smoking participated in this intervention, 94.2% of them were willing to quit smoking. For pregnant women, after giving out "Baby books" and health education, 99.3% of them had second-hand smoke awareness raised, 98.1% of them agreed to assist tobacco cessation in their families. 98.5% of them agreed to follow "Baby book" instructions to quit smoking.

### Conclusions/Lessons learned

According to the results of our program, great achievements were noted in THP promotion and strengthened motivations for smoking cessation at workplaces. Moreover, by health education and giving out "Baby books", more pregnant women were aware of avoiding second-hand smoke exposure and had better understanding of the health hazards related tobacco use.

**Contact: CHEN Chih-Hsien**

Chung Shan Medical University Hospital  
No.110, Sec. 1, Jianguo N. Rd., South Dist., Taichung City 402, Taiwan (R.O.C.), 402 Taichung City,  
[holysuperjohn@gmail.com](mailto:holysuperjohn@gmail.com)

## Efficacy of a smoking cessation intervention based on transtheoretical model

**WEI FangChun, JENG Chii**

**Background/Problem/Objective**

In the context of a growing disease burden caused by smoking, identifying effective strategies to curtail tobacco consuming has become a critical public health issue. This study aimed to evaluate the impact of a tailored intervention on smoking cessation.

**Methods/Intervention**

In this quasi-experimental study, smokers (n = 244) presenting to a medical center were assigned to the group applying medication plus health education, or the group with health education only. We applied the transtheoretical model to develop a tailored health education for smoking patients. Participants were followed at one, three, and six months after the intervention to evaluate the effectiveness of the program. Generalized estimating equations (GEE) model was used to compare the cessation effects in the two groups.

**Results (of evaluation)**

After adjusting for age and the score of Fagerstrom Test for Nicotine Dependence (FTND), no significant association between intervention group and point abstinence rate at one, three, or six months was found. Comparing to those at the precontemplation stage, participants at the contemplation (odds ratio (OR) = 3.62, p = .011), preparation (OR = 4.84, p = .006), and action (OR = 13.97, p < .001) stages had significantly higher likelihood of quitting smoking.

**Conclusions/Lessons learned**

This study confirms the importance of developing a person-centered intervention program based on participants' stages of change on improving successful smoking cessation.

**Contact: WEI Fangchun**

Cathay General Hospital  
No.280, Sec. 4, Ren'ai Rd., Da'an Dist.,  
[jaa5001@cgh.org.tw](mailto:jaa5001@cgh.org.tw)

**M2.4: Salutogenic hospitals**

**Do nurses working in health promoting hospitals have better health behaviors?**

**LO Wen-Yen, CHIEN Li-Yin, CHIOU Shu-Ti, HUANG Nicole**

**Background/Problem/Objective**

Health promoting hospitals (HPH) aim to improve health gains for their stakeholders, including their staff. We hypothesized that the certified HPH would improve the environments for exercise and healthy diet leading to better support for the practice of health behaviors among employees. In this study, we examined the association between HPH status and staff satisfaction with these environments, and the association between staff satisfaction and their days of having physical activities for more than 30 minutes (sufficient physical activity) and eating 5 or more portions of fruits and vegetables (5-a-day) in a week, among clinical nurses in Taiwan.

**Methods/Intervention**

The cross-sectional survey was administered to all full-time staff working in 113 hospitals in Taiwan in 2014. Data from 19,386 clinical nurses were included in this analysis. HPH certification

status (yes/no) was a hospital-level variable. Individual-level variables included satisfaction with exercise and healthy diet environments (measured by a 5-point Likert scale with higher score indicating higher satisfaction), and days of 5-a-day and sufficient physical activity. The multilevel mixture model was used to examine the interrelationships among the study variables.

**Results (of evaluation)**

Nurses in Taiwan reported that they had 5 a day (mean=2.63, SD=1.05) and sufficient physical activity (mean=2.25, SD=1.13) for an average of less than 3 days in a week. They reported poor to moderate satisfaction with exercise environment (mean=2.10, SD=0.78) and healthy diet environment (mean=2.18, SD=0.74). Relative to nurses working in non-HPHs, those working in HPHs had higher satisfaction with exercise environment (standardized  $\beta$  =0.24, p < .05) and healthy diet environment (standardized  $\beta$  =0.23, p < .05), but working in HPH or not had no significant direct effect on exercise and 5 a day. Satisfaction with healthy diet and exercise environment had positive effects on performing more days of 5-a-day (standardized  $\beta$  = 0.1, p < .05) and sufficient physical activity (standardized  $\beta$  = 0.06, p < .05), respectively.

**Conclusions/Lessons learned**

HPH certification was associated with higher satisfaction with healthy diet and exercise environments; and higher satisfaction was associated with better 5-a-day and physical activity practices among clinical nurses. The results support the effectiveness of HPH initiative.

**Contact: LO WEN-YEN**

Taipei City Hospital  
(5D)No.309, Songde Rd., Xinyi Dist., Taipei City,  
[pocen@hotmail.com](mailto:pocen@hotmail.com)

## Health Purchasing Practices In The Workplace Health Promotion — A Case Study Of A Medical Center In Southern Taiwan.

**HUANG Wei-Ling, CHEN Ling-Sui, CHEN Ying-Chen, LIN Tzu-Yun, HUANG Xiao-Jie, WANG Chao-Ling**

**Background/Problem/Objective**

According to the report of employees' physical examination, the high risk group of metabolic syndrome is 22.8% and the out of standard in waist measurement are 27.1% in the hospital. There are many studies have shown that healthy diet and regular exercise can reduce weight and improve blood sugar. It is effective in physical fitness programs for employees by providing assistance caterers with labeling calories on healthy meals and encouraging healthy purchasing.

**Methods/Intervention**

1. Health Communication: (1)Providing the lectures of health eating like nutrition, healthy diet and healthy weight etc. (2)Promoting the importance of health purchasing to employees. (3)Providing healthy meals for employees by department of nutrition and dietetics. The staff can choose normal or less

calories meal. 2. Establish a health eating environment: (1) Survey the good restaurants certified by the Department of Health, Kaohsiung City Government near the hospital. (2) According to the survey result, we order meeting meals in the restaurants to enhance the quantity of health eating. (3) Post the health eating set suggestion at the Food Street in the hospital.

#### Results (of evaluation)

1. Department of nutrition and dietetics provided 6064 normal meals and 5248 less calories meals in 2017. 2. We offered the recommendation meals, and label nutrition ingredients and calories. 3. We made QR Code on the menu of restaurants at the Food Street and the staff can scan QR code to see the film and learn how to eat healthy and how to control the weight by health eating and purchasing.

#### Conclusions/Lessons learned

Health eating and purchasing can offer methods of control employees' weight by themselves and prevent the chronic diseases. From the perspective of both employers and the health care delivery system, the current health purchasing system need to sustain to promote in the hospital. It is very important in a good purchasing model designed to reduce the costs of health care and make managed care more acceptable to employees and their families.

**Contact: HUANG Wei-Ling**

Kaohsiung Medical University Hospital  
No.100, Tzyou 1st Road Kaohsiung 807, Taiwan, 807 Kaohsiung,  
[1040166@kmu.org.tw](mailto:1040166@kmu.org.tw)

## New perspective of hospital management under third party accreditation: patient-centered cultural construction- a case study of the improvement on emergency care process in an academic medical center in Southern Taiwan

**CHANG Chia-Fang, CHANG Yi-Hsuan, CHEN Ling-Sui, PENG Chi-Tung, KUO Fang-Li, LEE Yen-Yi, LIU Yao-Hua**

#### Background/Problem/Objective

The design of patient-centered health care services has always been a major concern for the development in global medical industry. Due to its specific characteristics, emergency care is in the dilemma of enhancing quality of care and reducing patient overcrowding simultaneously. The purpose of this study was to investigate and develop patient-centered emergency care services based on third-party accreditation.

#### Methods/Intervention

This action research was conducted from April 2015 to April 2016, and guided by the Joint Commission International Accreditation Standards. Emergency Department performed several improvements based on the "Access to Care and Continuity of Care" chapter to enhance patient care's comfort and safety, along with reducing waiting hours, including: (1) to design full-load emergency notification and bed allocation mechanism, (2)

establishment of Emergency Information Board, which enabled to share current occupied beds information with affiliate hospitals, (3) reconstruction of unused wards into emergency observation areas, (4) to strengthen patient privacy and so on.

#### Results (of evaluation)

A total of 173 regulations were established during study duration, of which 13 were related to emergency care. The key indicator of "Emergency Patient – 48 hours' retention rate" was effectively reduced from 3.69% to 2.20%. Patient waiting time for emergency beds had decreased from 17.61 hours to 13.03 hours. Such improvements had shown on satisfaction rate, of which "environmental facilitates" and "waiting time" had increased the most. Annual number of patient safety abnormal events in this medical center decreased from 1,723 to 1,584 on patient safety improvement, of which Emergency department had dropped reached to 36.4%. In addition, a survey of patient safety culture had shown more attention had been focused on patient safety than national average. An overall of 36.8% grew with an increase of 56.6% in Emergency department.

#### Conclusions/Lessons learned

In April 2016, this academic medical center was the first medical center received the Joint Commission International Accreditation in Southern Taiwan. With third-party accreditation, it revised traditional perspectives and re-established a patient-centered care model, and will continue to review regulations annually to ensure and enhance the quality and safety of patient care.

**Contact: CHANG Chia-Fang**

Kaohsiung Medical University Hospital, 4F., No.622, Dashun 1st Rd., Gushan Dist., 804 Kaohsiung, [980462@ms.kmu.org.tw](mailto:980462@ms.kmu.org.tw)

## Improvement of sleep and mood in hospital-based nursing home residents using innovative light facility change

**LAN Sheng-Hsing, YAO Yi-Chien, HU Che-Chang, LAN Lan, KUO Chiu-Ming, LI Ying-Chun**

#### Background/Problem/Objective

The prevalence of depression and insomnia is increasing in long-term care institution. The environment of institutions may play a major role. Previous studies had suggested that light therapy might improve those by providing more illumination. However, more illumination might make irritative glares. In this study, we tried innovative light facilities, including newly designed lamp featuring low glare and high illumination, lamps rearrangement to provide high homogeneity light in the room of nursing home. This study will examine the effect

#### Methods/Intervention

This study was an experimental study. The subjects were residents in the nursing home. We used Cohen-Mansfield Agitation Inventory, Cornell Scale for Depression in Dementia, Multidimensional Observation Scale of Elderly Subjects, Pittsburgh sleep quality index and ADL/IADL scale as indicators, all measurements were performed with their Chinese version by the same caregiver. The light facilities improvement lasted for 2

weeks between pre-test and post-test. STATA 12.0 was used for statistics.

#### Results (of evaluation)

Fourteen subjects were enrolled, including 8 men (Aged  $69.75 \pm 16.99$ ) and 6 women (Aged  $69.5 \pm 11.21$ ). We found that improvement of lighting facility is associated with less sleep disturbance, better self-report sleep quality, less depression score and fewer behavior problems significantly ( $P < 0.05$ ). Agitation index are improved as a trend but not significantly.

#### Conclusions/Lessons learned

The result is in line with previously study that higher illumination may be helpful. In our study we proved change of lighting facilities for less glare, more biorhythm friendly and better light homogeneity could improve depression and sleep, as well as decrease behavior problems and probably agitation. We also proved that even short duration exposure of adequate light could bring better quality of care. We suggest hospital based nursing home redesign their lighting facilities to improve quality of care.

#### Contact: LAN Sheng-Hsing

Cishan Hospital, Ministry of Health and Welfare, Taiwan  
No 60 Zhongxue Road., Qushan Dist, 84247 Kaohsiung,  
[tommy.lan@gmail.com](mailto:tommy.lan@gmail.com)

## Indoor Air Quality in inpatient wards: a monitoring activity for design and management strategies in healthcare facilities

**GOLA Marco, SETTIMO Gaetano, CAPOLONGO Stefano**

#### Background/Problem/Objective

IAQ is an issue that is obtaining great attention because the dangers due to air pollution exposition in confined environments become more evident. Several countries are carried out air quality monitoring in professional workplaces of hard areas of hospitals. Currently the main analyses are about biological and physical risks, otherwise chemical ones are less investigated, although WHO has highlighted the emerging issue suggesting the definition and adoption of specific legislation, guidelines and values for guaranteeing wellness of people.

#### Methods/Intervention

Starting from these considerations, a research group (Politecnico di Milano and Istituto Superiore di Sanità) has launched an investigation and detection of air quality in inpatient rooms. The analysis examines VOCs through the use of passive tools that register the concentrations of several pollutants, and punctually the relative influence of thermo-hygrometric parameters, ventilation ones, as well as the feature of the room and its components (finishing materials, furniture, cleaning products, etc.).

#### Results (of evaluation)

The paper reports the results obtained from the indoor air monitoring in some inpatient rooms. Each survey, done every month, lasted between 5 and 7 days in relation to the real function use of the rooms, which considers all the activities,

users and processes that influence the indoor air quality. The application on some case studies highlights that the present data are quite regular, although the air changing and cleaning activities have a strong influence on IAQ.

#### Conclusions/Lessons learned

Although the data are regular, the goal is to reduce more and more the chemical pollution in inpatient rooms. Currently, the analysis is work in progress on several inpatient rooms for controlling the indoor air values even during the year, and it is expanding to more health facilities. Those data will be useful for the definition of design guidelines for healthy inpatient wards, as well as the definition of design strategies for healthy inpatient rooms.

#### Contact: GOLA Marco

Politecnico di Milano  
via G. Ponzio 31, 20133 Milano,  
[marco.gola@polimi.it](mailto:marco.gola@polimi.it)

## Preparedness for Dementia's Care-giving Roles: A case study of Coordinated and Multi-Specialization Collaborative platform

**CHEN Ching-yuan, GAN Cai-Ru, CHIEN Sou-Hsin, LAI Yi-Ling, CHANG Pin-IHSU Lin-Ying**

#### Background/Problem/Objective

In 2015, Taiwan has more than 240,000 older people living with dementia and 85% is home-resided with family member act as the main caregiver. Challenges including the lack of care skills of dealing with problematic behaviors, disease management, disability, financial burden, stress, etc. Studies highlighted coordinated resources from multi-specialization of health care services will effectively improve health well-being of caregiver. This project aims to support health needs of caregivers by providing a sharing platform to promote mutual-help.

#### Methods/Intervention

A 8 week course was developed from need-based survey of caregivers by 7 different specialization including neurologists, psychologists, nurses, physio-occupational and language therapists, dietitians, social workers and health managers. Priority topics were identified including updated dementia diagnosis and care, social resources, stress management, rehabilitation techniques, techniques of swallowing and home-based nutrition care. Participants use social media to connect each other and with experts for further discussion. Caregiver burden scale was used and focus discussion was conducted to record the feedback.

#### Results (of evaluation)

31 caregivers enrolled in the project and majority of them are women, with an average age of 55 years. 40% experienced severe sleep disturbances and emotional distress. From qualitative interviews, participants felt the project helped enhance the relationship with patient, by increasing the acceptance of disease. Result showed participants gained more knowledge on symptoms and the utilization long-term care resources. Thus,

the opportunity for participants to share among each other helped brainstorm suitable solution for their problem.

#### Conclusions/Lessons learned

The program engaged cross-disciplinary professionals to facilitate and to prepare caregivers for their role. Apart from providing expert knowledge, caregivers also given opportunities to share their lived experience and successfully build strong peer network with each other. This will surely enhance the preparedness for their caregiving role, also greater readiness to cope with challenges in different stages of disease. Better stress management so to limit adverse caregiver outcomes and maintain the desire to continue care at home.

**Contact:** HSU lin-ying

Buddhist Tzu Chi Taichung General Hospital  
[wowlinying1205@gmail.com](mailto:wowlinying1205@gmail.com)

## M2.5: Monitoring and implementation of health promotion strategies and standards

### Developing a working group to implement HPH Standards

**SANTIÑÀ Manel, JUVINYÀ Dolors, PÉREZ Anna Carol, SIMON Rosa, ROMERO Verónica, MESTRE Helena, CARBONELL Silvia, NAVARRO Gemma, INIESTA Cristina**

#### Background/Problem/Objective

Should be a priority activity in all networks of the HPH the implementation of the health promotion standards developed by the HPH as a main part of the strategy of the WHO to develop the health promotion aims in the healthcare centers. The HPH Catalan Network has created a working group with the aims to facilitate the implementation and evaluation of these standards in the Catalan hospitals. The aim of this work is to present the experience of this working group.

#### Methods/Intervention

We ask to the coordinators of the 25 hospitals whose are part of the HPH Catalunya Network (HPH-Cat) that will designate one professional to participate in the working group of Standards (WGS). The aims of the WGS are: - disseminating the information about the alpha version of the HPH standards and the beta version in the future. - evaluating the situation of the implementation of the HPH standards in the hospitals of the HPH-Cat. - helping the hospitals to implement the HPH standards

#### Results (of evaluation)

We translated and adapted the template of the HPH standards. We have done an evaluation of the different hospitals of the HPH-Cat. We have created a template to help in the process of collect data. We discuss periodically the difficulties and the situation of the hospitals who have accepted to participate in the WGS. We have spread the principles and standards of the HPH among the hospitals of the HPH-Cat. Another we have consolidated a group of professionals that they are prepared to

work when would be necessary to implement the beta version of standards

#### Conclusions/Lessons learned

We think that the creation of a working group to work specifically in the implementation of the HPH standards help our hospitals in this process because facilitate sharing information, discussion how to resolve situations or issues and it create an environment favorable to do the changes that this implicate.

**Contact:** SANTIÑÀ Manel

Hospital Clinic of Barcelona  
 Villarroel, Barcelona,  
[msantina@clinic.cat](mailto:msantina@clinic.cat)

## Development and validation of healthy hospital recognition in Taiwan: a pilot study

**HUNG Hsi-Lung, SHIH Chen-I, YANG Hui-Fei, LEE Huei-Yu, CHEN Wei, HSU Yueh-Han**

#### Background/Problem/Objective

Health promotion is important part of health care. It also related to smoke-free, senior friendly and energy efficiency issues. In order to improve the quality of care, recognition of Health Promoting hospitals (HPH), Age-friendly hospitals (AFH), Tobacco-free hospitals (TFH), and Environment-friendly Hospitals (EFH) has risen to the occasion. However, repeatedly recognitions may compromise the efficiency of administrative operations in hospitals. Therefore, it is imperative to integrate multiple recognitions into one (Healthy Hospital, HH) which is applicable in hospital in Taiwan.

#### Methods/Intervention

Based on new version of WHO HPH standards, HH standards modulate AFH, TFH and EFH principles and incorporate the concept of health of staff, shared decision making and patient focus method. To validate HH standards, a total of 20 hospitals were included to test reliability, 8 experts were invited to test validity. Furthermore, a total of 10 hospitals including medical center, regional hospital and district hospital were recruited in pilot study.

#### Results (of evaluation)

Healthy hospital recognition establishes 7 principles and 38 items. Seven principles include policy and leadership, patient assessment, patient information and intervention, promoting a healthy workplace and ensuring capacity for CHP (Clinic Health Promotion), implementation and monitoring, age-friendly, and environment-friendly. In validity, item-level CVIs (I-CVIs) revealed 0.86 to 1 and scale-level index (S-CVI) showed 0.93. In Cronbach's Alpha reliability test, the total score was 0.9.

#### Conclusions/Lessons learned

This study revealed that the healthy hospital (HH) recognition is valid for application in hospital in Taiwan. With this simplified recognition, we hope unnecessary burden on hospital staffs would be released and health promotion quality would be further enhanced.



**Contact: LEE Pei Hsuan**

DITMANSON MEDICAL FOUNDATION CHIA-YI CHRISTIAN HOSPITAL, No.539,Zhongxiao Rd.,East Dist.,Chiayi City 60002,Taiwan(R.O.C), [cych13199@gmail.com](mailto:cych13199@gmail.com)

## Applying RE-AIM framework to access the impact of health promoting hospital on hospital employees: the Taiwan experience

**CHIA Shu Li, LUH Dih-Ling, LAI Chien-Yu, CHOU Chine-Ming, CHANG Yung-Hung**

### Background/Problem/Objective

The objective of this research is to explore the implementation of the program HPH and to study the relationship between the hospital's employees and five standards of HPH. The research framework was based on the RE-AIM model.

### Methods/Intervention

From the secondary data analysis research, the HPH promoting employees who participated The Taiwan Network of Health Promoting Hospitals & Health Services (HPH) served as the subjects of this study. And our data were collected from Taiwan Society of Health Promoting Hospital data base in 2013-2016.

### Results (of evaluation)

The result indicated that, in the aspect of Reach, we have approximately 75% coverage rate. In the aspect of Implementation, There is a significant difference between standard 1,3-5 and number of beds, which same as level of Hospitals. In the aspect of Adoption, the coverage rate go up gradually, the latest rate is approximately 30%. In the aspect of Maintenance, There is a significant difference between standard 1-4 and the maintenance rate for six years. The total of non-quit rate is 94.6%, highest rate 97.2% is located in the middle district of Taiwan.

### Conclusions/Lessons learned

Even our Adoption is only 30%, but our Reach is approximately 75%, which is because the level of hospital. HPH have lots of Medical Centers which cover more employees. And the results standard evaluation are quite good. HPH quit rate only 7%. Finally, the results of this study, which provided suggestions and recommendations, will be a great value to HPH promotion and evaluation in the future.

**Contact: HUANG Tony Yen Lin**

Health Promotion Administration  
Tacheng Street, 10341 Taipei City,  
[wxiii013@hpa.gov.tw](mailto:wxiii013@hpa.gov.tw)

## Age-friendly Recognition version 2 for Primary Health Care Centers: A Pilot Study

**YANG Hui-Fei, LEE Pei Hsuan, HUNG Hsi-Lung, HUANG Kuan-Ya, LI Tzu-Jung, SU Ya-Han, CHEN Wei**

### Background/Problem/Objective

As the growing elderly population, there are increasingly numbers of people receiving medical service or health promoting activities in the primary health care centers (PHC). Taiwan has launched the first recognition project of Age-friendly Hospitals and Health Services (AHHS), but some of the standard are not applicable for PHC. In order to meet current conditions, we develop age-friendly recognition version 2 for the PHC. The aim of the study was to explore the outcome by implementing this project.

### Methods/Intervention

This was a retrospective analysis of prospective collected dataset, which enrolled one hundred and seven PHC recognized as age-friendly centers in 2017. The recognition project comprised twenty items, which were categorized as five standard: management policies, information intervention and communication, friendly environments, health promotion, and community service and referral. Each PHC was externally reviewed by a committee for twenty items, and each item was graded as pass (score 3) or failed (score 1).

### Results (of evaluation)

The highest score items were 1) supported by top leadership (score 2.98), 2) improve the age-friendly service based on characteristics of community (score 2.87), and establish healthy environment (score 2.83). The lowest score items were 1) build up free access for the disabled (score 2.20), 2) establish a client-centered environment (score 2.36), and 3) maintain a system for quality control and improvement (score 2.37).

### Conclusions/Lessons learned

By these findings, we may understand the strength of the age-friendly care in PHC and use this advantage to link more resource from the community. In addition, we should first figure out the possible causes for the lowest score items and try to improve the quality of care in the future.

**Contact: LEE Pei Hsuan**

DITMANSON MEDICAL FOUNDATION CHIA-YI CHRISTIAN HOSPITAL, No.539,Zhongxiao Rd.,East Dist.,Chiayi City 60002,Taiwan(R.O.C), [cych13199@gmail.com](mailto:cych13199@gmail.com)

## ANTIMICROBIAL STEWARDSHIP: Infections control in nursing homes, Reggio Emilia

**FERRETTI Alessandra, GABBI Ermanno, RAGNI Pietro, ZOBOLI Daniela, LIOTTI Anna, ROMANI Sonia, BUSANI Corrado, MARCHESI Cristina, LORENZANI Marietta, CAPATTI Carlo, SORCHI INCERTI Silvia, CHIESA Valentina**

**Background/Problem/Objective**

In 2013, Emilia-Romagna region took part to HALT2 study, which remarked the prevalence of infections and antibiotic use in some elderly nursing homes. In 2017, the Committee for the correct use of antibiotics of Reggio Emilia, Local Health Authority, defined a three-year program of antimicrobial stewardship and infection control in the elderly nursing homes. The program contemplated the monitoring of antibiotic use, of alcohol gel for hand-washing and the planning of training events for health personnel.

**Methods/Intervention**

The monitoring programs have been set for 38 elderly nursing homes in Reggio Emilia province, for a total of 2,134 beds. In a sample day, the number of patients bearing urinary catheter (compressive value 186) and the use of alcohol gel for hand-washing (Liters/100 beds) were taken over. The topics chosen for the discussion in the training events are: urinary tract infections (2017), respiratory infections (2018), cutaneous and soft tissue infections (2019). A multidisciplinary team is responsible for the training events.

**Results (of evaluation)**

Data of systemic antibiotic prescription (DDD/100 beds) and of the use of alcohol gel for hand-washing (Liters/100 beds) in the elderly nursing homes have been analyzed in terms of single nursing home, of district and of Local Health Authority. Data of 2016 allow the comparison with the previous year. The data were presented in the training events; clinical cases of urinary tract infections have been discussed and also the Recommendations for the prevention of urinary tract infections prevention.

**Conclusions/Lessons learned**

The training events were appreciated by the health professionals of the elderly nursing homes.

**Contact: GABRIELLI Laura**

AUSL Reggio Emilia  
Via Carandini 10, 41043 Formigine,  
[laura.gabrielli@ausl.re.it](mailto:laura.gabrielli@ausl.re.it)

**Methods/Intervention**

Our study chose individuals from six community health service stations of MacKay Memorial Hospital and held creative classes to improve their physical fitness, mental health, satisfaction and motivation. The intervention group (n=54) included a nine-week course with a two-hour class weekly. A health education lecture was held for the control group (n=50). Our study was based on self-administered questionnaire, which contained demographic data, self-reported health status, exercise habits, life satisfaction and sleep quality, given before and after the nine-week course. Body weight, waist circumference, muscular endurance, and flexibility were tested as well.

**Results (of evaluation)**

Demographic data found only higher percentage of female participates ( $p<0.05$ ) compared with control. The intervention group was statistically superior in self-reported mental health status ( $p=0.02$ ), exercise habit ( $p=0.05$ ) and health satisfaction ( $p=0.04$ ) during pre-test. A significant higher score of 0.22 in "moderate-intensity-exercise" after hybrid courses ( $p=0.02$ ) was observed in the intervention group. Self-report physical fitness, exercise habits, duration, health satisfaction, sleep quality, BMI, waist circumference, flexibility, all demonstrated improving trend after hybrid courses. After-class questionnaire showed that each question revealed better satisfaction in the intervention group but not statistically significant.

**Conclusions/Lessons learned**

Our study found that applying "Hybrid Courses Model in Community Health Promotion Activities" not only effectively enhanced individuals' exercise intensity, but also improved other health status as well as individuals' satisfaction compared to the traditional health education lectures. We will continue to use this model in other community in order to improve individuals' acceptance towards health promotion activities and their health literacy.

**Contact: CHC mmh**

Community Health Center, Mackay Memorial Hospital,  
No. 92, Sec. 2, Zhongshan N. Rd., Taipei City,  
[mmh1089@ms1.mmh.org.tw](mailto:mmh1089@ms1.mmh.org.tw)

## M2.6: Community health promotion

### Discussion about the application of hybrid courses model in community health promotion activities

**LEE Shu-Chen, HUANG Wei-Hsin, LIANG Li-Jen, CHEN Yu-Hua, CHUANG Jui-Yun, CHANG Chia-Mei, CHEN Chiu-Chen, LEE Yu-Shan**

**Background/Problem/Objective**

In recent years, community health promotion has become an important issue. For the public to have a correct concept, rich contents, and strong motivation, we added a variety of topics into our course. Our study put aside traditional ways of lectures, and focus on forming unique and diverse classes to enrich our health promotion activities.

### ProWeB Model: Promoting well being\_The School as a social network for Health Promoting

**CHANNOUFI Lamia****Background/Problem/Objective**

School can make a substantial contribution to the health and well-being of the whole community. This will be accomplished in an environment that places health promotion at the heart of a school's activities and give to the school the social role to promote health.

**Methods/Intervention**

The ProWeB model defines the importance of having an Hygienist Physician as a Child protection Coordinator inside the school management, who can intend to work in partnership and details a number of duties with local authorities in the Public Health. This model is applied in a Bilingual pre-and primary School, in the Northeast of Italy, which introduces procedures related on the evidence based in education and medicine field,

and embed approaches as the mixed methods in the school program to encourage a proactive and inclusive development of a life style guidance.

### Results (of evaluation)

The Model features different paths to reach all the actors who are concerned in the well-being of a child, using: information to the parents and family, training and lifelong learning to the teachers, education and continuity of care as a population counselling. The contents of the promotion process take into account wider issues as Emotional Intelligence and Resiliency, cultivation of life and soft skills, internet safety through the computational thinking and Physical activities and healthy eating programs executed by specialized consultants. All those processes are defined in "Statistics Curricula" to implement an observational study and research the correlation between the health promotion activities and the academic achievement.

### Conclusions/Lessons learned

The model wants to be transferred to other schools and demonstrates that the school setting can be recognized as a social networking that plays in people's lives and not only to plan pedagogical matters. Health Promotion and well-being sit alongside literacy and numeracy and the multidisciplinary approach can be facilitated if coordinated by a Public Health figure.

#### Contact: LAMIA Channoufi

via Canvova 17/c, 33074 Fontanafredda,  
[lamloo@hotmail.com](mailto:lamloo@hotmail.com)

## Promoting Shared Decision-Making for Colorectal Cancer Screening

**TSAI Tsung Lung, WU Chun Yi, CHIANG Yi Hua, SU Po Wen, LEE Kuan Chih, FANG Ying Ju, PENG Kang Ming**

### Background/Problem/Objective

The motivation of the patient who willing to accept colorectal cancer screening, is still highly influenced by a variety of causes. Such as perceived experience, costs, knowledge, family pressure, etc. Shared decision-making (SDM) has been recommended as a strategy for those questions. Our studies to date suggest that by visualizing the decision aid, patients who accepted on colorectal cancer screening have higher satisfaction for their choices. The feelings of anxiety have significantly scaled down after using the SDM decision aid.

### Methods/Intervention

This study involved 25 volunteers with a medical background for pre-test and 37 patients in the real test. The five steps SDM Questionnaire were as follows: (a) Introducing three diagnostic tests, explain each choice for colorectal cancer screening. (b) Clarifying the options based on patients' knowledge, experience, values and preferences. (c) How do family, peers influence patients options before accepting colorectal cancer screen? (d) Do you realize all the information above? (e) What is the choice of screening options?

### Results (of evaluation)

To that end, 84.9% of patients show better understanding via decision aids (n = 37), and 65% of volunteers (n = 25) with a

medical background highly recommend that SDM could improve quality of physician-patient interactions. There are 30 of the patients were willing to evaluate the short questionnaire on anxiety. This subject shows that approximately 30% of patients have been less anxiety after using decision aids, including exploring and comparing the benefits, harms, and risks of each select option.

### Conclusions/Lessons learned

The study shows that by using Choice decision aid cards, electronic questionnaire, and visualizing knowledge with illustration can help patients clearly identify how making decision efficiently. To get out what patients think after using decision aids with their coach. We use a Sankey diagram to visualize relationship values and trends on patient's anxiety and other options as a model, then the coach can modify their implement in practice.

### Comments

Keep asking patients how comfortable with each decision they reached on health care option is a very good point in the process of shared decision making. Using visual tools (Sankey diagram) to analysis the data flow graphs are highly commended for the study of medical share decision-making process.

#### Contact: WU CHUN YI

Puzi Hospital, Ministry of Health and Welfare  
No42-50, Yung Ho Li, Potz City, Chiayi County 613, Taiwan  
(R.O.C.), Chiayi,  
[u84717307@gmail.com](mailto:u84717307@gmail.com)

## Promotion of appropriateness in antibiotic use: campaigning citizens to influence doctors?

**FORMOSO Giulio**

### Background/Problem/Objective

Information campaigns are widely employed to promote the appropriate use of antibiotics. They especially address rising antibiotic resistance and are generally designed to influence citizens' knowledge on this issue and to temper their expectations about receiving a prescription of antibiotics. While a potentially moderate effect of antibiotic campaigns is acknowledged, it could be questioned whether their effect is mainly due to decreasing patients' pressure on prescribers rather than to doctors' awareness that "a campaign is on the air".

### Methods/Intervention

A non-randomised trial was implemented from November 2011 to February 2012 in the Provinces of Modena and Parma, in northern Italy. The other 7 Provinces in the same Region were used as control group. Posters, brochures and advertisements on local media were used as materials targeted at citizens. A newsletter on local antibiotic resistance was also distributed to general practitioners and pharmacists. Before-after phone surveys were carried out to assess knowledge of the campaign messages, related attitudes and reported behaviours.

### Results (of evaluation)

Antibiotic prescribing was reduced in the intervention area compared with control area during the campaign period (-4.3%, 95% CI -7.1% to -1.5%). However knowledge, attitudes and reported behaviour on the correct use of antibiotics, assessed

before and after the campaign implementation on samples of the target population, did not show different patterns in the intervention and control areas.

#### Conclusions/Lessons learned

A local information campaign targeted at citizens, combined with a newsletter on local antibiotic resistance targeted at doctors and pharmacists, was associated with significantly decreased total rates of antibiotic prescribing but did not affect the population's knowledge and attitudes about antibiotic resistance. Our campaign could have sensitized doctors more than citizens. Campaigns can have anyway a favourable effect on doctors' prescription. This highlights once more the importance of integrating information targeted at citizens and clinicians as clinical governance tools.

**Contact: FORMOSO Giulio**

Azienda USL Reggio Emilia  
Via Amendola 2, 42122 Reggio Emilia,  
[giulio.formoso@ausl.re.it](mailto:giulio.formoso@ausl.re.it)

## The Policy Affects the Acceptance of Influenza Vaccination in Different Aged People in a Regional Hospital in Taipei

**KO Yun-Chen, HO Chin-Yu, YU Wen-Ruey, CHEN Yi-Ju**

#### Background/Problem/Objective

Influenza affects mostly in the elderly and young children. For adults, we had offered free influenza vaccines for high risk groups and those aged 65 and older for years. However, several younger adults died of severe complicated influenza in Taipei during the 2015-2016 flu season. Hence, the administration changed the policy of free influenza vaccination during 2016-2017. It loosened to the healthy people aged 50-64. We are interested in whether the policy will affect the acceptance in different aged people.

#### Methods/Intervention

We usually started flu shots on every October 1st. The policies usually extend the target group to all-aged groups in the final stage of flu seasons if extra vaccines available. Hence, we just enrolled the adult populations aged 18 and older who received the influenza vaccines during Q4 (from October 1 to December 31) 2015 and 2016. We used EXCEL to analyze the age and the gender of the populations receiving the influenza vaccines.

#### Results (of evaluation)

During Q4 2015, there were 6288 people received the free influenza vaccines, 4905 (78%) people aged 65 and older, 635 (10.10%) people aged 50-64, 748 (11.9%) aged 18-49. On the other hand, during Q4 2016 when policy changed target group from 50, there were 12316 people received the free influenza vaccines, 6161 (50.02%) people aged 65 and older, 4194 (34.05%) aged 50-64, 1961 (15.92%) aged 18-49. Interestingly, the female were always more than the male in every aged group (Table.).

#### Conclusions/Lessons learned

The policies strongly affected the population's acceptance to the influenza vaccination, especially for the people aged 50-64 during Q4 2016. It seems that female population are more willing to receive the influenza vaccination. The "free" propaganda worked well psychologically. Our administration really paid a lot effort to appeal to the public the acceptance of influenza vaccination. Despite the cost of the vaccines increased, the incidence and social costs of the influenza and its severe complications reduced a lot essentially.

**Contact: KO YUN-CHEN**

Taipei City hospital  
6F., No.309, Sec. 4, Xinyi Rd., Da'an Dist., Taipei City 106,  
[selenepanda@hotmail.com](mailto:selenepanda@hotmail.com)

## M2.7: Disease management

### Hyperglycemia and Cancer Risks- Using a Population-Based Adult Preventive Care Service Data in Taiwan

**WANG Ying-Wei, CHEN Ran-Chou, CHIA Shu-Li, LIN Yi-Ping, CHIU Shao-Wen**

#### Background/Problem/Objective

Diabetes is the leading cause of death in Taiwan in recent decades, and due to the cancer-inducing mechanism by accumulation of advanced glycation end products (AGEs), considerable concerns have arisen over Diabetes Mellitus and cancer risks in recent years. The purpose in this research was to describe the cancer risks of subjects with hyperglycemia using population-based Adult Preventive Care Service (APCS) data in Taiwan.

#### Methods/Intervention

Retrospective Cohort study was conducted to observe the primary cancer risks for the subjects with hyperglycemia. A total of 4,704,724 subjects, over 40 and participated in the APCS from 2012 to 2016 were included in the study. Chi-Square test was used to test the distributions of risk factors. Moreover, factors including cancer site-specific risk factors, sex, age, health behaviors, obesity, as well as the hyperglycemia, hyperlipidemia and hypertension were applied in Cox Proportional Hazard Model using SAS version 9.4.

#### Results (of evaluation)

The results revealed that hyperglycemia appears to be the independent cancer risk factor in liver, pancreatic and oral cancer with adjusted Hazard Ratio (95% CI) of 1.46 (1.22-1.73), 1.77 (1.52-2.06) and 1.21(1.13-1.30), respectively.

#### Conclusions/Lessons learned

Through the utilization of APCS data and Taiwan Cancer Data Base in Taiwan, this study enhances the previous studies' finding. The conclusion is that hyperglycemia played an independent role in development of liver, pancreatic and oral cancer. Our research has suggested that cancer risks could be properly estimated using population-based Adult Preventive Care Service data in Taiwan.

**Contact:** LIN Yi-Ping

No.36, Tacheng St., Datong Dist., 103 Taipei,

[apu.dkfz@gmail.com](mailto:apu.dkfz@gmail.com)

## Effect of dietary intervention to prevent recurrence of urolithiasis

**LEE Youkyoung, SON Hwanchul, JEONG Hyun, JO Minchul, JO Sungyong, PARK Juhyun, YOU Sangjun**

### Background/Problem/Objective

Urolithiasis is a highly recurrent disease that causes recurrence in 40% within 5 years after surgery and 75% within 20 years. It is important not only to treat a urolithiasis, but also to identify risk factors for stone formation and to reduce the risk of prevention and recurrence. The purpose of this study is to prevent the recurrence of urolithiasis and increase the size of urolithiasis and to know the effect of dietary intervention through eating habits that affect recurrence of urolithiasis.

### Methods/Intervention

We conducted a sex, age and body mass index (BMI) matched case-control study. In this study, we selected 50 patients who underwent endoscopic stone surgery in a hospital urology as a treatment group. We conducted dietary training using multimedia, leaflet for patients. After 2-3 months, computerized tomography (CT) follow-up were performed at the outpatient visit. And we have confirmed the increase in stone size when there is a recurrence of stones or existing stones through image reading. The results of this study are as follows: We conducted a logistic regression analysis in which 50 patients (control) who underwent endoscopic stone surgery without dietary education intervention.

### Results (of evaluation)

The recurrence rate was significantly lower in treatment group compared to those in control group (10.2 vs. 38.0%,  $p=0.001$ ). In multivariable analysis, dietary training (OR: 0.114,  $p<0.001$ ) was the only predictors for stone recurrence after surgery. If postoperative residual stones remain, increased the stone size was significantly lower in treatment group compared to those in control group (2.0 vs. 22%,  $p=0.002$ ). In multivariable analysis, the treatment group (received a dietary education) showed a smaller increase in the size of the stones than the non-educated group. (OR: 0.976,  $p<0.001$ )

### Conclusions/Lessons learned

Dietary training to prevent recurrence after stone surgery has been found to be effective. In the future, prevention of disease through patient education will improve the quality of life of the patient and help reduce medical expenses.

**Contact:** LEE Youkyoung

SMG-SNU Boramae Medical Center

Boramaero 5gil, Dongjak-gu, Seoul,

[youkyoung84@naver.com](mailto:youkyoung84@naver.com)

## Vegetarian diets are associated with less obesity, and metabolic risk fac-

## tor among Taiwanese adult: a hospital-based study in Northern Taiwan

**HSU CHING-FENLIU HAO-WEN**

### Background/Problem/Objective

Obesity and the metabolic syndrome became challenging global health problems. The prevalence of metabolic syndrome in Taiwan has been increased from 13.6% to 25.5% in past few years. The metabolic syndrome is an important risk factor for development of type 2 DM and cardiovascular disease. Diet is one of the most important modifiable factors. Vegetarian diet has been shown positive effects on metabolic characteristics in Western studies. This study aimed to compare metabolic risk factors among vegans, ovo-lacto vegetarians and omnivores in Taiwan.

### Methods/Intervention

This cross-sectional study analyzed data from subjects who were more than 40 years old and received physical checkups at Taipei Tzu Chi Hospital from September 1, 2014 to September 30, 2016. All subjects completed questionnaires that collected data about their demographics, dietary patterns, and lifestyle. Physical examinations and blood chemistry tests were collected. Diets categorized as vegan, lacto-ovo vegetarian, or omnivore. The effects of different vegetarian diets on metabolic risk factor were determined using a multivariate linear regression analysis with control for important confounders.

### Results (of evaluation)

A total of 9101 subjects were included in this study. Vegetarian groups was female predominant with higher median age, lower BMI, lower body fat percentage, smaller waist circumference and lower total cholesterol level compared to omnivorous group. After adjust for confounding factors, vegan and ovo-lacto vegetarian diets were significant with lower LDL-C levels ( $\beta=-8.39$ ,  $P=0.001$  and  $\beta=-6.86$ ,  $P=0.001$ , respectively) compared with omnivore diet. There was a significant association between low fasting glucose and vegetarian diets (vegan group:  $\beta=-3.91$ ,  $P=0.001$ ; ovo-lacto vegetarian group:  $\beta=-3.26$ ,  $P=0.001$ ).

### Conclusions/Lessons learned

Our findings showed that vegetarian were associated with lower BMI, reduced LDL-C, and fasting glucose compared omnivores. Vegetarian diet could be a non-pharmacologic method to reduce metabolic syndrome.

**Contact:** LIU Hao-wen

Taipei Tzu Chi Hospital

6F., No.21, Ln. 308, Guangfu S. Rd., Da'an Dist., Taipei

[kmichaelkkimo@gmail.com](mailto:kmichaelkkimo@gmail.com)

## Web-based education for people with COPD

**LUNDIN Margaretha, HELENIUS Clara, LUNDELL Madelene, LINDQVIST Gun-Britt**

### Background/Problem/Objective

The number of people with COPD increases, the amount of elderly is rising and the resources are limited. Therefore, it is



important to develop self-care for people with COPD. Research shows that self-care education results in profits for both the individual, the family, the healthcare and the community. However, not all people with COPD in Sweden can participate in the patient education for different reasons.

#### Methods/Intervention

The purpose is to increase accessibility to self-care by digitizing patient education. The COPD-team from Skaraborg Hospital, Skövde is a big and unique team and consists of physician, nurse, speech- language pathologist, dietician, physiotherapist, occupational therapist, health care professional, social worker, urotherapist, psychologist, sexologist, pharmacist, hospital librarian and dental hygienist. Together with a group of people with COPD, we have revised the old professorship-based education and instead created a need-oriented education on the internet.

#### Results (of evaluation)

The evaluation has been done via a web survey to selected people with COPD. An interactive patient training program where people with COPD and their close relatives get information about their illness COPD, treatment and advice that can facilitate everyday life through 35 videos, images and text.

#### Conclusions/Lessons learned

The web-based patient education value lies in the dimensions of accessibility, ownership, development of activities / individuals with COPD and their relatives, patient centering and resource use. By inviting people with COPD, the COPD team has created a patient-centered work model that may also be applicable to other chronic diseases

**Contact: LUNDIN Margaretha**  
lung clinic, Skaraborg hospital  
Lovangsvagen, 54185 Skövde,  
[margaretha.lundin@vgregion.se](mailto:margaretha.lundin@vgregion.se)

## M2.8: Mental health and health promotion in psychiatric care

### Early intervention in psychosis in the Reggio Emilia Mental Health Department: findings from a 3-year follow-up study.

**PELIZZA Lorenzo, AZZALI Silvia, PATERLINI Federica, SCAZZA Ilaria, GARLASSI Sara, BARBANTI SILVA Veronica, FONTANA Francesca, FAVAZZO Rosanna, FABIANI Michela, PENSIERI Luana, POLETTI Michele, CHIRI Luigi Rocco, CIONCOLINI Leonardo, RABALLO Andrea, SEMROV Enrico**

#### Background/Problem/Objective

Several studies had shown the effectiveness of combined interventions (pharmacotherapy+cognitive-behavioural thera-

py+family psychoeducation) in the treatment of young people with a first episode of psychosis (FEP) (NICE, 2004). More controversial are the evidence about the stability of the therapeutic outcomes in Ultra-High Risk (UHR) individuals (Raballo et al., 2014). Moreover, it is useful to add the problematic comparison between data from different clinical studies that use different assessment strategies and heterogeneous outcome measures (Pelizza et al., 2016). Aim of this 3-year follow-up study is to evaluate the efficacy of the "Reggio Emilia At Risk Mental State" project (ReARMS), an early detection infrastructure (developed under the aegis of the Regional Project on Early Detection of Psychosis) implemented in the Reggio Emilia Department of Mental Health.

#### Methods/Intervention

In addition with the "As Usual Treatment" (AUT) provided at the local Psychiatric Outpatient Services, intervention implemented within the ReARMS project disbursed by the Reggio Emilia Department of Mental Health (Raballo et al., 2014) comprises the following: (1) pharmacotherapy according to international guidelines; (2) a phase-specific Cognitive-Behavioural Therapy (CBT); (3) a psychoeducational treatment addressed to family members; and (4) a case-management recovery-oriented. Intervention strategies are preceded by the administration of a specific ReARMS Battery Checklist as a comprehensive assessment useful to define the severity and the quality of symptoms, the degree of functioning, and the perceived quality of life.

#### Results (of evaluation)

The follow-up assessment (n=55 [UHR=23; FEP=32]; aged 13-35) carried out after 24 and 36 months of continuous combined treatment showed a significant improvement in both psychotic symptoms (measured with the Positive And Negative Syndrome Scale [PANSS]) (Key et al., 1987) and the daily functioning (measured with the Social and Occupational Functioning Assessment Scale [SOFAS]) (Yung et al., 2005).

#### Conclusions/Lessons learned

Although our help-seeking sample is still relatively small to draw definitive Conclusions/Lessons learned, it is emerging the good prognosis for UHR and FEP individuals submitted on ReARMS project implemented in the Reggio Emilia Department of Mental Health.

#### Contact: PELIZZA Lorenzo

Reggio Emilia Department of Mental Health - Reggio Emilia  
Public health-Care Cen, Via Petrella n.1/A, Reggio Emilia,  
[lorenzo.pelizza@ausl.re.it](mailto:lorenzo.pelizza@ausl.re.it)

## Clinical Health Promotion: Preventing Violence with Healthy Lifestyle Modification Interventional Program in Psychiatric Patients

### HSU Mei-Chi

#### Background/Problem/Objective

Violent behaviors can be modified or eliminated with changes in exercise, nutrition and lifestyle. There is a clear need for research in this field. The repetitive nature of patient-to-family violence, in the form of verbal or physical violence committed

by the mentally ill aggressor, is the most traumatic of family violence, and often ignored in clinical management of violence. This study evaluated the feasibility and preliminary efficacy of a healthy lifestyle modification interventional program on violence management.

#### Methods/Intervention

An open-label randomized controlled trial was conducted among hospitalized patients with a confirmed diagnosis of mental illnesses, and violent behavior. The experimental group received a 6-month healthy lifestyle modification intervention program. Those in the control group received no intervention, and were asked to continue their routine lifestyle. Evaluations were performed at baseline and at the end of the study. The outcomes included positive and negative symptoms, reduced severity of violent behaviors and impulsiveness, and nutritional assessment.

#### Results (of evaluation)

A total of 40 patients aged  $\geq 20$  years, with thought or mood disorders, having violent behavior were recruited with 20 in each group, respectively. The intervention significantly reduced violence, and fostering active lifestyle changes in the experimental group as compared to the control group ( $p < 0.05$ ). The intervention has also significantly improved impulsivity in the experimental group as compared to the control group ( $p < 0.05$ ), and reduced their non-planning execution.

#### Conclusions/Lessons learned

This study demonstrated the benefit of a healthy lifestyle modification interventional program on violent adult mental patients with mental illnesses for improving violence management and managing their impulsivity, in addition to usual care. Individual-based lifestyle modification interventional program is feasible and produce positive health changes in patients with mental illnesses and violence. This study also offers concrete skills for managing violence to participants. This innovative study adds to existing knowledge, and is best practice based.

#### Contact: HSU Mei-Chi

I-Shou University, No.8, Yida Rd., Jiaosu Village Yanchao District 82445 Kaohsiung City, Taiwan, R.O.C.,  
[hsu88@isu.edu.tw](mailto:hsu88@isu.edu.tw)

## Facilitating happiness and preventing suicide by a longitudinal community-based project in New Taipei City

### FANG Chun-Kai, HSIAO Hsuch-Wen

#### Background/Problem/Objective

New Taipei City is the city of the most population (3,987,689 on December 2017) in Taiwan. The BHC-5L (being happiness catchers- looking, listening, learning, loving, and living) has been developed in New Taipei City since 2010 not only for suicide prevention but also for mental health promotion. The report wants to present the longitudinal projects.

#### Methods/Intervention

We had 3 standard 1-hour lectures of BHC-5L for community, school, and workplace. All facilitators had gotten full training and passed the examination. We added up all lectures and audiences, and compared the suicide rates longitudinally.

#### Results (of evaluation)

From September 2010 to December 2017, there were 1,318 lectures of BHC-5L including 408 in community, 416 in school, and 494 in workplace. Total audiences were 132,185, including 31,672 in community, 73,223 in school, and 27,290 in workplace. The coverage rate is 3.31% citizens of New Taipei had heard the BHC-5L. After 2011, the suicide rate of New Taipei City became lower than whole Taiwan.

#### Conclusions/Lessons learned

As an Eastern model of gatekeeper for suicide prevention, the BHC-5L provide more factor than the QPR, because the BHC-5L emphasized positive thinking and mental health promotion. All these standard lectures of the BHC-5L were designed based on community, culture, and positive psychology, but the most importance was the BHC-5L emphasizing we had to keep living and loving with who you care. It should be the important value of human society.

#### Contact: FANG Chun-Kai

Mackay Memorial Hospital  
92, sec. 2, Zhongshan Rd, Zhongshan Dist., Taipei,  
[chunkai.fang0415@gmail.com](mailto:chunkai.fang0415@gmail.com)

## The most immediate and intimate service- A rehabilitation model of people with mental illness in a medical center in southern Taiwan

### CHANG Chia-Fang, WU Po-TSE

#### Background/Problem/Objective

In large hospitals that include inpatient and outpatient settings, noon time is usually the rush hour to provide cashier, dispensary services, as well as patients' discharge and admission. Our hospital is a medical center has 3,958 staff with 161,000 outpatient visits and 37,000 inpatient days monthly. Busy work often prevents staff from eating out on time and thus affecting health. The convenience of dining becomes a problem.

#### Methods/Intervention

There is a psychiatric rehabilitation center in the hospital for the purpose of helping to bring people with mental illness back to the community. In mental rehabilitation, work-team training is the most effective and direct training model for building a sense of reality and enhancing work skills. We set up a work-team for hospital staff to provide meal delivery service. Team members perform various tasks according to their performance, major problems and training objectives, including accepting orders, confirming meals with the restaurants, purchasing and delivering meals to the staff directly.

#### Results (of evaluation)

Since 2016.01, the work-team has worked with 62 restaurants to provide 632 hospital staff meal delivery services, averaging 1,638 services per month and annual revenue of 68,564 dollars. 68 mental rehabilitation patients participated in the training. 88% of them were satisfied, agreeing that the training could enhance interpersonal interaction and establish regular life. Based on the assessment, team members improved mostly on the functions of time concept and endurance. Until now, 37 of

them were referred to higher-level work-team due to capability improvement and 11 returned to the general workforce. In 2017.12, a survey of 128 served staff showed 96.8% satisfaction rate on the dining convenience provided by the work-team. Besides, the diversity of restaurant choices, courtesy of members, punctuality and accuracy of delivery were all above 91%. Overall satisfaction reached 97.6% and 86.2% agreed that the services effectively solved the problem of staff meal irregularities.

#### Conclusions/Lessons learned

The establishment of meal delivery work-team not only provides immediate meal delivery for hospital staff but also can training people with mental illness in all aspects of working abilities. It also helps hospitals create revenue with no additional cost. This model achieves a three-way win for hospitals, staff and patients.

**Contact: CHANG Chia-Fang**

Kaohsiung Medical University Hospital  
980462@ms.kmuh.org.tw

## The Impact of Work Rehabilitation on Individuals with Chronic Mental Illness — Take Janitor Training as an Example

**LIN Kai-Han, SHIU Shau-Ping**

#### Background/Problem/Objective

Individuals with chronic mental illness suffered from repeated episodes and relapsing symptoms, resulting in associated physical and mental degeneration. People with such chronic disease also showed low self-esteem, social withdrawal and lack of physical activity. Through the establishment of janitor team, patients learned basic working skills, even enhanced building self-identification and personal image, which helped delaying degradation of the function of activities of daily living (ADL).

#### Methods/Intervention

Patients with work rehabilitation potentials were first nominated by the multidisciplinary team at the psychiatric ward. Then the occupational therapist, social worker and infection control nurse helped to educate the nominees appropriate cleaning procedures and techniques for the janitor job. During the period of three-month training, occupational therapist and social worker hold meeting once a week with janitor team members, to discuss and solve problems encountered while they were working.

#### Results (of evaluation)

Patients who took part in the three months of work rehabilitation (Aug. 2017 to Oct. 2017) presented an increase of average score of Rosenberg Self-Esteem Scale (RSE) from 27 points (Aug.2017) to 31.33 points (Oct. 2017). Furthermore the average score of Comprehensive Occupational Therapy Evaluation Scale (COTES) also increased from 50.33 (Aug 2017) points to 55.67 points (Oct. 2017).

#### Conclusions/Lessons learned

Work rehabilitation training has positive impact on personal self-esteem and occupational performance in individuals with chronic mental illness. It helps patients to maintain their func-

tion in ADL, also delaying the rate of functional deterioration, and increasing self-identity.

#### Comments

Chronic mental illness causes significant deterioration of patients' function in ADL, it not only compromise the quality of life, also leads to losing their roles in previous job. It is recommended that patients with chronic mental illness should actively participate in work rehabilitation to improve their mental and physical function, and enhance their living autonomy.

**Contact: CHERN Meei-Ling**

Chang Bing Show Chwan Memorial Hospital  
No.6,Lugong Rd.,Lugang Township, Changhua,  
kkmimi0507@hotmail.com

## M2.9: Maternal and child health promotion

### A Comparison of Factors Associated with Cessation of Exclusive Breastfeeding at 1 and 2 Months in Taiwan

**CHANG Pei-Chi, LI Sin-Fong, YANG Hsin-Yi, WANG Li-Chu, WANG Cing-Ya, CHEN Kuan-Fen, CHEN Wie, HUNG Shan-Ching**

#### Background/Problem/Objective

It is well known that breastfeeding benefits both mothers and infants. Previous studies have shown that exclusive breastfeeding (EBF) rates in Taiwan are far below than that in other developed countries. Even though exclusive breastfeeding was promoted by the national policy, the EBF rate is around 40 to 50%. The aim of this study was to investigate labor and socio-demographic factors with cessation of exclusive breastfeeding at 1 and 2 months of life.

#### Methods/Intervention

A prospective cohort study (n=1087) was performed in a community hospital between December 2016 and June 2017 in southern Taiwan. Labor and sociodemographic factors were investigated. After 1 and 2 months, telephone calls were made to determine the type of lactation. Univariate analysis was performed with the chi-square test or Fisher's exact test. Multivariable logistic regression models were developed to determine risk factors associated with cessation of breastfeeding at 1 and 2 months.

#### Results (of evaluation)

At first month, 429 participants (40.2%) maintained EBF. Factors associated with cessation were no college degree (OR 0.56; 95% CI 0.4-0.9), primiparous (OR 0.62; 95% CI 0.4-0.9), and insufficient lactation (OR 105.78; 95% CI 62-180.4). At second month, 322 participants (29.6%) maintained EBF. Factors associated with cessation were reintegration into the workplace (OR 15.2; 95% CI 4.6-50.7), no college degree (OR 0.58; 95% CI 0.4-0.9), primiparous (OR 0.45; 95% CI 0.3-0.7), and insufficient lactation (OR 286.4; 95% CI 70.5-163).

**Conclusions/Lessons learned**

Education level, primiparous, insufficient lactation, reintegration into the workplace and some personal issues were associated with the premature cessation of EBF in Taiwan. Therefore, the government of Taiwan should further propose strategies to improve modifiable factors to reach a higher success rate of EBF.

**Contact:** LEE Pei Hsuan

DITMANSON MEDICAL FOUNDATION CHIA-YI CHRISTIAN HOSPITAL, No.539,Zhongxiao Rd.,East Dist.,Chiayi City 60002,Taiwan(R.O.C)  
[cych13199@gmail.com](mailto:cych13199@gmail.com)

## The Association between Early Breastfeeding and Postpartum Depression in Taiwan

**CHIU Hsiao-Chen, HSIAO Jun-Chin, TZENG I-Shiang**

**Background/Problem/Objective**

The interaction between a mother and her new-born in the very first week is recognized as an essential period which can greatly affect the mother's mental health as well as the physical and mental development of the children. Furthermore, among all the interactions between the mother and the baby, early breastfeeding is thought to be of vital importance. Our study is to determine the association between postpartum depression and the level of breastfeeding among Taiwanese women.

**Methods/Intervention**

A cohort of 238 postpartum women who had initiated breastfeeding was recruited in the postnatal wards in Taipei Buddhist Tzu-Chi Hospital, a mother-and-baby friendly hospital. Self-report questionnaires were completed at 1 weeks postpartum, in which we used The Edinburgh Postnatal Depression Scale (EPDS) to screen for symptoms of depression.

**Results (of evaluation)**

All the 238 postpartum women had started breastfeeding initially, and after 1 week, 40.8% of the participants were keeping exclusive breast feeding their children, while 4.2% of the participants experienced lactation failure and changed into exclusive formula feeding. The mean score of EPDS of all the participants was 5.99 (SD: 4.45) and 23.5% of the participants developed postpartum depression (i.e., EPDS  $\geq$  10). The results indicates that participants who experienced lactation failure were more likely to be depressed. In univariate level of analysis, the level of breastfeeding undertook among women was associated with postpartum depression status ( $P=0.022$ ). And through multivariate level of analysis, the odd ratios for postpartum depression were significantly higher among formula feeding women than breastfeeding women (OR: 6.250 (CI: 1.624, 26.678);  $P=0.008$ ).

**Conclusions/Lessons learned**

Diminishing the challenges and difficulties with breastfeeding may help postpartum women improve their mental health and lower the risk of postpartum depression. Health care providers such as hospitals and authorities concerned should help postpartum women adjust their expectations about breastfeeding

and ensure that they have accesses to appropriate professional breastfeeding assistance during the early postpartum period.

**Contact:** CHIU Hsiao-Chen

Department of Obstetrics and Gynecology, Taipei Tzu-Chi Hospital, No. 289,Jianguo Rd., Xindian Dist., New Taipei City, Taiwan  
[97311141@gms.tcu.edu.tw](mailto:97311141@gms.tcu.edu.tw)

## An integrated project of child health surveillance through current information flows. The LINFA project

**PERTILE Riccardo, BOMBARDA Lucia, PIFFER Silvano**

**Background/Problem/Objective**

Children represent our future. Ensuring the health of children means ensuring the health of adults. The availability of an information system that follows the state of health of the child from birth to adolescence is very useful to assess the need, effectiveness and orientation of prevention and health promotion activities. This study reports on the organizational structure of an integrated information system, which, in the province of Trento (north-east Italy), is the basis of the LINFA project (Longitudinal Infant and Neonatal Follow-up towards Adolescence).

**Methods/Intervention**

The LINFA project starts referring to the 2007-2009 birth cohorts, using on the one hand the flow of CedAP (Certificate of Delivery Assistance) which collects data on pregnancy, childbirth and newborn, and on the other hand the flow of pediatric health forms, filled by the pediatrician during the visits at 12 months, 6 and 13 years. Both informative flows are made available during the year following the compilation for the Clinical and Evaluative Epidemiology Service which is in charge of monitoring activities.

**Results (of evaluation)**

The coverage of pediatric forms at 12 months, 6 and 13 years, is respectively 90%, 70% and 40%. Through the pediatric informative flow it is possible to evaluate the prevalence of specific indicators, such as the proportion of breastfeeding in the first year of life, the percentage of children with intercurrent diseases, proportion of overweight/obesity, oral health, hypertensive, pubertal development, BMI, active smoking, motor activity, feeding behavior. For 2007-2009 birth cohorts, record-linkage with birth data (CedAP) was 94.3% for 12-month forms (10,827 out of 11,480) and 94.5% for 6 years forms (8,489 out of 8,984).

**Conclusions/Lessons learned**

The availability of current information flows allows ample possibilities for monitoring the state of health in childhood, but also responding to specific questions of etiopathogenetic nature by integrating information between data at birth and data collected in the developmental age, laying the foundations for carrying out Life-Course studies, that is the goal of the LINFA project. The improvement of the coverage and the quality of the data collected by the pediatricians, remains crucial for the validity of the results of the project.

**Contact:** PERTILE Riccardo

Epidemiology Department-Center for Health Services

Viale Verona, 38123 Trento,  
[riccardo.pertile@apss.tn.it](mailto:riccardo.pertile@apss.tn.it)

## The effect of promoting child development in pre-school children in Taiwan

**TSAI Sen-Wei**

### Background/Problem/Objective

Early screening and early intervention for children with developmental delay is a national health policy in Taiwan. However, how long the intervention programs should be is not clear. And because of the national health insurance reimbursement policy, some therapeutic programs may lose government funding over time. We evaluate the progression of children who have language development delay.

### Methods/Intervention

From 2015 to 2017, children who were suspected to have developmental problems of language before 6 years old referred to the Taiwan Early Child Developmental Evaluation Program in one center serving the population of central Taiwan were enrolled. The developmental status and progression of their development was analyzed. Totally 30 children who completed initial and 2 follow-up tests within 3 years were recruited.

### Results (of evaluation)

In the first year follow-up, 6 (20%) children with developmental language improved their language development, 23 (76.7%) children were as the same development milestone as initially, while 1 child regressed the language milestone. In the second year follow-up, 11 (36.7%) children improved on the language development milestone, 19 (63.3%) children were still on delayed status.

### Conclusions/Lessons learned

Our preliminary data showed that one third of children with developmental language disorder can benefit from early intervention program to facilitate their language development. And a longer treatment duration (two-year) can help children to catch up the language development milestone.

### Contact: TSAI Sen-Wei

Department of Physical Medicine and Rehabilitation, Taichung Tzu Chi Hospital, B, 66, Section 1, Fongsing Road, Tanzi District, 427 Taichung, [tsaisenwei@gmail.com](mailto:tsaisenwei@gmail.com)

## M2.10: Patient empowerment and community involvement

The hospital and the community built a float-ball garden of health promotion and ecological art

**HUNG Hsiang-Lien, LIU Hsu-Hua, CHANG Hsiao-Yu, TAN Ching-Ting**

### Background/Problem/Objective

Our hospital, located in a rural coast area with a shortage of care resources and care providers, built a float-ball garden with the community. We united local organizations and environment artists in a cross-disciplinary and cross-sectoral collaboration. The care providers and recipients worked closely together with the colleagues of our hospital and shared the fulfillment of physical and mental health by way of a "DIY" process.

### Methods/Intervention

Our colleagues picked up waste "float balls" on the beach on Earth Day. After that, under the supervision of environment artists, we cut float balls, rubbed them and painted them into unique artificial flowers. At the same time, our hospital has voluntarily adopted a piece of neighboring land and turned it into a float-ball garden in close coordination with charity communities and public care homes. On Care Day, we made float-ball flowers with hospice care families; and together with the medical team and the community, we spent final hospice care days with the family members.

### Results (of evaluation)

Our hospital has 153 employees in total, 119 of whom joined the construction of the float-ball garden; besides, 97.4% of the family members were satisfied with the float-ball flowers care activity. By means of labor and exercise, our colleagues not only released their emotional stress but also learned to work together in closer coordination. Also the health promotion project has encouraged the local people to love our earth with environmental and artistic consciousness and to promote health together.

### Conclusions/Lessons learned

Environment protection, recycling of the waste and the garden built by our hospital and the community have helped to promote the physical and mental health of hospice family members, hospital employees and people of the community, and they have also enabled care to go out of the hospital and get into the community. It is hoped that both visible beauty and the invisible beauty of soul and life can all be seen and realized in the "float-ball garden".

### Contact: LIU HsuHua

NATIONAL TAIWAN UNIVERSITY HOSPITAL JINSHAN BRANCH  
 No.7, Yulu Rd., Wuhu Village, Jinshan Dist., 20844, Taiwan  
 (R.O.C.), 20844 New Taipei City,  
[eaglejsh@gmail.com](mailto:eaglejsh@gmail.com)

## The Efficacy of Using Animation to Promote the Memory Maintenance Club to the Public in Rural Communities

**WU Ping-Nan, WU Sin-Mei, LU Yi-Ting, LAI Chia-Min, CHEN Hung-Mei, LIU Chiu - Man, TSAO Wen-Long, LIN Ming-Nan**

### Background/Problem/Objective

According to research in Taiwan, the incidence rate of dementia among Taiwan population increased from 5.63/1,000 in 2005 to 8.17/1,000 in 2010. The incidence is even higher in rural area



with many aged and low education level people. Dalin Tzu Chi Hospital located in the most aged county, Chiayi, of Taiwan. We see a lot of advanced stage dementia patients in the hospital. In order to intervene earlier for those seniors with minimal cognition impairment (MCI), we cooperated with community to establish a project called "Memory Maintenance Club, (MMC)". The project aims to slow down people with MCI. The first step is to introduce MMC to the community, we developed an animation to introduce dementia and promoting MMC to the public.

#### Methods/Intervention

We made a health education animation with Taiwanese dialect which is more familiar to the local seniors. The animation was present in story-telling fashion. It included the content of the class activities, the benefit for seniors to step outside from home and joining social activities. The study subjects were community volunteers and patients. Questionnaires to evaluate the efficacy of the animation with pre-test and post-test to examine the subjects' retention memory after watching the animation. We also used satisfaction questionnaire to investigate the contents and teaching materials of the animation. These questionnaire data will be an important reference for further adjustment to the animation.

#### Results (of evaluation)

Totally 52 people were included in the study. 22/52 people are over 60 years old. 39/52 people education level was below high school, among them, 15 people were primary school level. The average score were 62.6 in the pre-test and 86.96 in the post-test questionnaire. The results showed that the animation could deliver a clearer message to the public and promote MMC. Up to 89.6 % subjects agree that the animation could deliver a clear message that the MMC could be helpful for the MCI seniors. As high as 92.5% people were motivated by the animation contents and willing to encourage their family members with dementia to join the MMC. The result showed a promising quality of the animation and it is suitable to display to the elderly in the community.

#### Conclusions/Lessons learned

Animation presented in story-telling fashion with local dialect was a good strategy to make the local people understand dementia and promoting the willingness to attend MMC.

#### Contact: LIN MingNan

Buddhist Dalin Tzuchi General Hospital  
No.2, Ming-Shen Road, 622 Chiayi County,  
[mingnan.lin@gmail.com](mailto:mingnan.lin@gmail.com)

### If a doctor ask, the patient changes.

**AHN. M.D. JUHEE, CHUNG. R.N.  
YUJINLEE. R.N. SUJOUNG**

#### Background/Problem/Objective

In 2017, the Korea Insurance Institute and the National University of Korea analyzed the health insurance data,. They reported it. Stop Smoking in the first year of diabetes reduced the incidence of myocardial infarction by 23 %, 34 % of mortality rate, and reduced risk of complicated death by 31 %, especially lowering the fast plasma glucose level, reduce the risk of angina and kidney disease by 31 % and 20%. In particular, if the diabetic stopped smoking, it reduced health insurance spending by about 4.5 million won for 10 years.

#### Methods/Intervention

From Jan. to June. and from July. to Nov. inclusive. We compared and observed changes of patients who visited Suwon Medical Center in follow way, 1. When a DM patient visiting, the arranged questions that are promised in the first row of the medical records are given by doctor. The question was asked and recorded in the watching of the patient. The question is whether you have exhausted all of medication during the last period and is whether you measure your blood sugar level, and whether it was hypoglycemic symptom, alcohol, tobacco, exercise, or weight change. 2. When a HT patient visiting, The question was asked and recorded in the same way. The question is whether you have exhausted all of medication during the last period and is whether you measure your blood pressure level, and whether it was headache, dizziness, chest pain, alcohol, tobacco, exercise, or weight change. 3. We informed their last answering, and we repeated the question again even though no answers before. 4. We analysed the comparison of patients self-measurement (blood sugar, blood pressure) and stop-smoking and alcohol, exercise during the first half and the latter periods. 5. We investigated, when getting a repeated question from a doctor in every visit, what is the patient's feelings and thoughts.

#### Results (of evaluation)

In the latter half period, compared to the first half of the year; 1. the number of patients measuring blood sugar and blood pressure increased by 21 percent. 2. No smoking has been caused by 8 %. 3. Who reduced the number of drinking times by half was 12 percent. 4. At 56 percent, he answered, " My interest in health and understanding has increased. " 5. The 80 percents answered that they were affected by the repeated questions and attention of the doctor.

#### Conclusions/Lessons learned

To prevent complications of diabetes and hypertension, many campaigns and broadcasting and education are of course important. However, we found evidence through this study. The more doctors asked the patient about the body, the more reliable the patient was. The question remains long in memory and leads the patient into practice. JU HEE AHN M.D. Suwon medical center Republic of KOREA cathdoc@hanmail.net +82-10-8884-3010

#### Contact: JU HEE AHN

suwon medical center  
886-9 jong ja 2dong jang an gu, 440-842 suwon,  
[cathdoc@hanmail.net](mailto:cathdoc@hanmail.net)

### Sharing decision making about PSA test for prostate cancer early detection

**RAGNI Pietro, GIORGI ROSSI Paolo,  
PINOTTI Mirco, GAZZOTTI Federica,  
BEDOGNI Valentina, COLLA Rossana,  
CHIESA Valentina, MAZZI Giorgio,  
MARCHESI Cristina**

**Background/Problem/Objective**

PSA tests an enzyme related to prostate cancer (PC). Actually, there is no recommendation for the PC screening with PSA, mainly because of overdiagnosis and overtreatment. Only 1 on 33 PC detected with PSA test followed by biopsy would have been clinically relevant in the rest of the life, and the PC treatment can have sequelae. Nevertheless, the PSA test as PC screening is widespread and probably only few men know the risk-benefit ratio of an early detection of PC.

**Methods/Intervention**

A multiprofessional team with legal doctors, epidemiologist, urologist, communication experts, has defined a project for better patients' empowerment about the PC early detection with PSA test. Current evidence indicates that the PSA test is not recommended for population screening, as the harms outweigh the benefits, so men who are concerned about prostate cancer should have specific information tools and discuss it with their doctor.

**Results (of evaluation)**

For men ages 55 to 69, we recommend that the choice to undergo screening should be an individual decision, based upon the benefits and harms of PSA-based screening. In men age 70 and older, we suggest against using the PSA test to screen for PC. We have prepared a leaflet on the benefits and damages associated with early diagnosis, that we shared with a group of citizens and General practitioners (GP). We have also planned the training of GP.

**Conclusions/Lessons learned**

GP and urologists should provide information about potential benefits and risks of PC screening, and the limitations of current evidence for screening, in order to maximize informed decision making. Individual decisions to screen should be made as a part of a shared decision-making process between the man and his physician, that should include the risks associated with biopsy and subsequent treatment, the man's general health and life expectancy, and personal preferences.

**Comments**

Among the most important cultural problems we want to tackle with this project are the fight against defensive medicine and the conception that the early diagnosis of a tumor always and in any case brings benefits.

**Contact: RAGNI Pietro**

Azienda USL Reggio Emilia  
Via Amendola 2, 42123 Reggio Emilia,  
[pietro.ragni@ausl.re.it](mailto:pietro.ragni@ausl.re.it)

**Empathy – an important concept in measures to promote health****ARLEBRINK Jan****Background/Problem/Objective**

For a long time, William Osler, one of the pioneers of his time in clinical practice, was influential in the US in his approach regarding patients. He argued that the physician should be detached and objective and, above all, avoid showing emotion. This approach has now been re-evaluated, and it is now emphasised that the carer should be prepared to show their feelings and use them as a function in their empathetic skills.

**Methods/Intervention**

Empathy relates to feelings; anything in the surroundings can induce feelings, including other people's feelings. The aim of this paper is to show that empathetic skill is an important tool in the carer's relationship to the patient, and this can also be positive for the placebo effect. Another aim is to identify closely-related concepts that are important for a positive relationship between carer and patient.

**Results (of evaluation)**

A concept very close to empathy, and that can be said to be an effect of it, is a professional attitude. The carer with a professional attitude must be aware of two things: they must accept that the relationship to the patient is not equal and mutual, and the carer must be conscious of their own needs and feelings. When the carer applies an empathetic approach, the patient feels seen and acknowledged, which generates trust between patient and carer.

**Conclusions/Lessons learned**

Empathy is the basis for all meaningful relationships between people. In healthcare, an empathetic approach from the carer is an important factor in the patient's recovery. Empathy means more than listening; it also involves asking questions whose answers require listening to. Many studies have shown the importance of the doctor's ability to empathise. Showing encouragement and a willingness to talk about the patient's feelings has been shown, for example, to increase patient satisfaction and reduce their anxiety.

**Contact: ARLEBRINK Jan**

Clinical Health Promotion Centre, Lund University  
Malmö University Hospital, SE-205 02 Malmö,  
[jan.arlebrink@med.lu.se](mailto:jan.arlebrink@med.lu.se)

## Session P1.1: Age-friendly care in the community and at home

### Research on Promoting Age-Friendly City Eight Domains and Falls Prevention for the Elderly in Community

**TSENG CHUN-HAN, HSIEH HUNG-YU, WENG CHUNG-FENG, HUNG YU-SHAN CHEN HSIN-CHUN**

#### Background/Problem/Objective

The percentage of Taiwan's elderly people falling is approximately 20%. The injuries caused after the falls impair the self-care ability of the elderly, result in the increased consumption of medical resources and even the cause of deaths. In 2007, the WHO had promoted the age-friendly city eight domains and its content to be compatible with the risk-reduction prevention strategies for the elderly. This study explores the effectiveness of the age-friendly city eight domains to promote falls prevention for the elderly.

#### Methods/Intervention

Multifactorial interventions improve risk factors for falls in the elderly. Outdoor spaces and buildings: to improve outdoor environment. Transportation: safety posters in the community buses. Housing: Home environment assessment and improvement. Respect and social inclusion: hold activities to experience the difficulties caused by ageing. Social participation: To promote fall prevention programs. Civic participation and information: To train fall-prevention volunteers. Communication and information: To enlarge text sizes and titles of activities. Community support and health services: To measure blood pressure regular.

#### Results (of evaluation)

Six communities participated in this research. They improved outdoor facilities in 9 areas; including on-the-road signage, anti-slippery stickers on stairs. The community buses posted safety propaganda posters in 5 places. Home safety improvement in 10 households and 23 places. Fall prevention classes consist of 2 series, each series comprises of 8 lessons. The questionnaire surveys were conducted to measure self-reasoning and efficacy, and the use of paired -t tests for statistical analysis. The statistics show significant increase on self-efficacy.

#### Conclusions/Lessons learned

The risk factors for falls in the elderly include the internal and external environmental factors. To effectively prevent the frequency of falls, the intervention of families, communities, social support and the elderly themselves play important roles. This bottom up approach and to establish a falls-prevention network in the future, which includes the establishment of a notification system and the investigation of the effectiveness of environmental improvement to ensure an age-friendly city.

#### Contact: TSENG ChunHan

Cardinal Tien Hospital, No.362, Zhongzheng Rd., Xindian Dist.  
23148 New Taipei City,  
[karentseng1121@gmail.com](mailto:karentseng1121@gmail.com)

## A Study of Using Multiple Health Promotion Strategies to Prevent Dementia among Community-dwelling Elderly

**HSIAO TONG-YUN, HSIEH HUNG-YU, HUNG YU-SHAN, WENG CHUNG-FENG TSENG CHUN-HAN**

#### Background/Problem/Objective

Epidemiological studies showed that 1 in 13 Taiwanese elders over 65 year-old had dementia, indicated the importance of prevention and delay of dementia. The risk factors for dementia include hypertension, hyperglycemia, hyperlipidemia, lack of exercise and depression. On the contrary, physical activities, cognitive behaviors and healthy diet are the protective factors for dementia. Therefore, the present study used multiple strategies included improved health-enhancing behaviors and living environment to prevent dementia in community elderly.

#### Methods/Intervention

We conducted 2-year dementia prevention project using multiple health promotion strategies which based on the Ottawa Charter: 1.Cooperated with borough chief to achieve age-friendly community and build health promotion public policy. 2.Arranged home safety inspection and improved living conditions to create supportive environment. 3.Organized physical fitness test for community-dwelling elderly. 4.Provided series of 8-week education programs to develop personal skills. 5.Transferred the potential dementia elder to a specialist by using AD-8 dementia screening scale.

#### Results (of evaluation)

48 residents of Xindian District Guofeng community were participated in this study (14 males, 34 females, with mean age: 71.13). The living condition of 8 participants were improved thorough falls prevention program after home safety inspection. Participants were asked to fill the health behavior questionnaire before and after dementia prevention programs, included self-assessments of physical activities, diet, cognitive behaviors and mental condition. Results showed that after prevention programs, the participants were significantly increased cognitive and physical activities in paired t-test.

#### Conclusions/Lessons learned

Dementia is a serious situation in aging society, therefore, prevention, intervention and care for dementia are necessary. However, there is no single cause or cure for dementia. It's better to use multicomponent perspective in intervention and prevention, such as diet, environment, physical and cognitive activities. Our studies demonstrated that using multiple health promotion strategies can improve health-enhancing behaviors and cognition of elderly, which potentially prevent elderly from dementia. Moreover, it's better to execute the program from local communities.

#### Contact: HSIAO Tong Yun

Cardinal Tien Hospital, No.362, Zhongzheng Rd., Xindian Dist.  
23148 New Taipei City,  
[tongyunhsiao@gmail.com](mailto:tongyunhsiao@gmail.com)

## Combining cognitive elements into routine group physical activities to improve motivation and participation of elderly with mild to moderate dementia: a dementia day care center experience in southern Taiwan.

**CHEN Po-Yen, LU Huei-Lan**

### Background/Problem/Objective

Prevent quick deterioration of elderly with mild to moderate dementia is urgent and essential. However, depression and decline of cognitive function may lead to low motivation and participation. Therefore, to attract elderly's interest by making routine activities more interesting and challenging is important to keep them involving in the therapeutic program. The purpose of this study is to define whether the combination of various cognitive elements within the routine group physical activities can improve their motivation and participation.

### Methods/Intervention

The routine group physical activities were held twice a week, 1 hour per time by an occupational therapist in a dementia day care center. In the recent 5 weeks, Instead of original activities like stretch, massage and weight lifting, the physical activities were combined with different cognitive elements like: (1) following different postures, (2) reacting movements according to different cues of instruments, (3) passing and building bricks into specified shape, and (4) tapping balloons into color-matched baskets, etc.

### Results (of evaluation)

There were 45 elderly presence to the center every day on average. The attendance of the routine physical activities was more than 90%. Mean age of the elderly is 78 years old. Above 80% of them were mild to moderate dementia. According to a simple questionnaire, 93% of elderly liked recent activities more than past style and would like to keep it. There were also more laughter, body movement and interaction observed by the therapist in the recent 5 weeks.

### Conclusions/Lessons learned

Although routine activities had been suggested to assist elderly with dementia to get life regulation, some adjustment and challenge in the activities were recommended to provide different stimulation to the elderly. In this pilot study, through combining cognitive elements into physical activities, it seems to facilitate their involvement and participation in routine tasks. Further standardized assessments of cognition and behavior change and are required to reinforce the outcome. Also the long-term effectiveness and comprehensive program design and are expected.

### Contact: CHEN Po-Yen

Jianan Psychiatric Center  
No.539, Yuzhong Rd., Rende Dist., Tainan City 717, Taiwan  
(R.O.C.), 71742 Tainan,  
[yan03051990@gmail.com](mailto:yan03051990@gmail.com)

## Constructing community comprehensive long-term care services system for older people with disability

**LO YU-TAI, KONG CHUN-WEI, YANG SHU-HAN, LIOU WEN-CHINYANG YI-HUA**

### Background/Problem/Objective

Taiwan is aging rapidly; the percentage of people aged 65 and above will reached 20% by 2025. Older Taiwanese people prefer home and community care; therefore, the government is promoting "Aging in place" and helping frail elderly to receive the care they need within a 30-minute drive from home by constructing the community comprehensive care services system since year 2017. St Joseph hospital is the first hospital that in charge of constructing the long-term care (LTC) network in Kaohsiung.

### Methods/Intervention

From May, 2017, St. Joseph hospital started to construct the first community comprehensive care services system in Linya district, Kaohsiung city. As the community integrated service center (A), we looked for partners who are willing to take up the position of combined service center (B) and LTC station around the block(C). A team with 1A3B6C was then formed and regular team-meeting were held every other weeks to discuss steps of case managing and service provision.

### Results (of evaluation)

Our team started to provide services in the community from September, 2017. At the end of 2017, ninety-eight cases with the average age of 78.8 received our case management and LTC services. Among them 57.2% were female, 67.5% of them used home living care services, 9% used home based rehabilitation services, 5% used nursing services. Their average Barthel index was 63.1, with average impaired 5.3 items of IADL, and the average SOF of frailty was 1.68.

### Conclusions/Lessons learned

Establishing an accessible, affordable and community-based LTC services system with continuum of care is pivotal to a supra-aged society. Our experience showed that key elements of constructing community comprehensive care services system were teamwork, good case management procedures, and proper services linkage. In addition, the most frequently use LTC services in the community is home living care. However, in the long run, regular reviews of needs assessment, audit and patient outcomes should be monitored to ensure good quality of care.

### Contact: LO YuTai

St. Joseph Hospital  
No.352, Jianguo 1st Rd., Lingya Dist., 802 Kaohsiung,  
[loyutai@outlook.com](mailto:loyutai@outlook.com)

## Culinary activities help improve the eating and meal preparation behaviors of dementia elders in Day Care Center

## HUANG Hui-Fang, LO Yu-Tai, YE Chin-Chi, LIOU Wen-Chin, YANG Yi-Hua

### Background/Problem/Objective

Research suggests the behavior and psychological symptoms of dementia patients (BPSD) can be improved through brain stimulating activities, especially work they used to master. Eating is the basic needs of human beings and an important factor in maintaining life and making life satisfying. The staff of Dementia Day Care Center in St. Joseph Hospital designed a series of culinary activities as stimulations. We hope it would stir their memories, foster emotional connections and maintain their daily activity functions.

### Methods/Intervention

Culinary activities were held weekly from April to December 2017. Patients' food preference was investigated with photos and dietician designed menu according to their preferences. Every Friday patients and staff started from cleaning, cutting the ingredients to cooking lunch together. Patients were encouraged to set table, take proper portion of food, wash dishes and clean the tables after meals. The six items of eating and meal preparation in Disability Assessment for Dementia (DAD) scale were measured as pre-and post-test evaluation.

### Results (of evaluation)

Eight participated (2 mild, 5 moderate, 1 severe dementia). The average scoring of eating and meal preparation DAD scale improved from 3 to 4.13. Undertake to prepare a light meal for oneself improved significantly (8 scored 0 pre-test and 4 scored 1 post-test, 50% improvement) and one patient improved (12.50%) in preparing light meal safely. One improved in choosing appropriate utensils and seasonings while eating. No patients had regress in post-test but two of them had a 3 points improvement.

### Conclusions/Lessons learned

Continuous and regular culinary activities stimulated patients' sensory, trained them to follow the instructor's steps, and helped them learn to work with others; therefore, which can ameliorate the mental symptoms of eating and preparing meals in dementia patients. The completions of the food also gave the elders a sense of accomplishment, and increased their self-confidence. BPSD was observed to lessen and daily activity function was maintained during the activities. We believe the program has a positive impact on dementia patients.

### Contact: LO YuTai

St. Joseph Hospital  
No.352, Jianguo 1st Rd., Lingya Dist., 802 Kaohsiung,  
[loyutai@outlook.com](mailto:loyutai@outlook.com)

## Can the project of oral health promotion improve oral health in elderly?

## CHOU Yen-Fang , HSIEH Suh-Ing , CHANG Yi-Ling, LIN Wen-Ming, HUANG Tzu-Hsin

### Background/Problem/Objective

Taiwan has entered the aging society and raising the holistic care for the elderly is a very important task. In 1994, the WHO

has raised the slogan "Oral Health for Health life ", which means that oral health is the basis of whole body health. The objective of this project used the steps of evidence-based practice to explore whether oral health promotion can improve the oral health in elderly people , preventing and delaying aging, promoting quality of life.

### Methods/Intervention

This project used the steps of evidence-based practice to conduct literature search and critically appraise 2 articles with higher level of evidence for validating the effect of oral health promotion: Gil-Montoya et al. (2015) and Nakre & Hariiran (2013). We designed care team implementation plan and the exploration of this project. This project began to execute oral health promotion plan, including health education propaganda and oral muscular movement instruction. A teeth numbers chart was used to evaluate the outcome.

### Results (of evaluation)

This community investigated and found that the elderly has a 0-tooth rate of 10.0% and a 24-tooth rate of 40.8% in 2015. After the implementing the improvement strategies, a total of 512 health examinees from January to December in 2016 has a 0-tooth rate of 8.2% and a 24-tooth rate of 48.0%.

### Conclusions/Lessons learned

The project applying empirical data in community's decision making showed that oral health promotion project can improve the oral health of the elderly, can help enhance the oral health knowledge and skills of the elderly, and is a project of maintaining health, safety, and comfort. This outcome of the project could be a reference of health service personnel in communities.

### Contact: CHOU Yen-Fang

Taoyuan Chang Gung Memorial Hospital in Taiwan  
NO.123, DINGHU RD., GUISHAN TOWNSHIP, TAOYUAN COUNTY  
333, TAIWAN, R.O.C.  
[yenfc@cgmh.org.tw](mailto:yenfc@cgmh.org.tw)

## The effect of exercise on physical fitness and quality of life in patients with osteoarthritis of the knee.

## MEI-HSUEH Kuo, SHUN-JEN Chang, CHIEN-HUNG Lin, CHIA-CHI Yen, MING-FEN Cheng

### Background/Problem/Objective

Osteoarthritis of the knee is the most common joint's chronic disease. Although patients' state of health can be improved by taking exercise therapy according to literatures, there is still no single exercise therapy can be unanimously approved and adopted now. This study developed a simple and practical exercise prescription that can be easily achieved at home for those who suffer from osteoarthritis of the knee. Hoping to find out a way to improve their physical fitness and quality of life.

### Methods/Intervention

We included 57 patients, who had mild to moderate osteoarthritis of the knee and the ages were older than 45, and divided them into two groups randomly. Experimental group took the



exercise therapy 3 days a week for 12 weeks, including stretching exercises, aerobic exercise, balance training, agility training, etc. While the control group maintained their general lifestyle. The results of Western Ontario and McMaster Universities Arthritis Index and 36-item short form general health survey measures (SF-36) estimated from experimental subjects.

#### Results (of evaluation)

After taking 12 weeks of exercise therapy, there were significant differences in aspects like systolic blood pressure, diastolic blood pressure, pulse, Body Mass index, muscle endurance and cardiovascular endurance and dynamic and agility of the experimental group. Great improvements were also found in knee joint pain, stiffness and physical activity of the patients according to WOMAC. Furthermore, the result of SF-36 showed that, the patients' physiological function and general health between experimental group and control group were significantly different ( $P < 0.05$ ).

#### Conclusions/Lessons learned

By taking 12 weeks of exercise prescription that can help the patients who have osteoarthritis of the knee to improve their symptoms of the disease, muscle endurance, cardiopulmonary endurance, dynamic balance and agility and quality of life.

#### Contact: MING-FEN Cheng

Kaohsiung Municipal Min-Sheng Hospital  
No.134, Kaixuan 2nd Rd., Lingya Dist., Kaohsiung City 802,  
Taiwan (R.O.C.), Kaohsiung,  
[a0917516850@gmail.com](mailto:a0917516850@gmail.com)

## The Efficacy of Reminiscence Therapy on the Elderly in the Community

**LU MEI-JOU, CHOU LI-SHIU, LIN LUAN-CHEN, LIU HSIU-CHU**

#### Background/Problem/Objective

The study aimed to evaluate the effectiveness of a reminiscence group therapy on the elderly in the community by looking at how such therapy affected their affective, cognitive, and verbal functions. The hypothesis of the study was that reminiscence group therapy connecting people with the memory of past events would lead to a positive effect on depression, cognition and verbal expression among elderly community dwellers.

#### Methods/Intervention

The study was a 12-week, single-arm, and quasi-experimental trial. The Mini-Mental State Examination (MMSE) and the Geriatric Depression Scale (GDS) were administered biweekly as pre-tests and post-tests to evaluate the changes in cognitive function and affective function in 20 elderly participants from the community.

#### Results (of evaluation)

The results showed that reminiscence group therapy significantly reduced GDS score ( $p < .05$ ), suggesting the efficacy of the therapy on mitigating depression. However, there were no significant improvements in MMSE score.

#### Conclusions/Lessons learned

The study's findings suggest a potential benefit of reminiscence group therapy on mood but not on cognition in elderly commu-

nity dwellers. Accordingly, reminiscence group therapy might be served as a community intervention in the health promotion for elderly people.

#### Contact: LIN LUAN-CHEN

KAOSHIUNG MUNICIPAL KAI-SYUAN PSYCHIATRIC HOSPITAL  
130 KAI-SYUAN 2ND ROAD, LINYARD DISTRICT, 80276  
KAOHSIUNG, [luanjeankimo@yahoo.com.tw](mailto:luanjeankimo@yahoo.com.tw)

## A Preliminary Study of Age-friendly Priority Services on Outpatient Waiting Time and Satisfaction in a Regional Hospital

**HSU SHAO YU, WANG SHIH JU, LIN HSIU YU, CHOU CHIH SHENG, TSAI PEI FANG, LU YUEH SHUNLIU CHIH KUANG**

#### Background/Problem/Objective

The population projections report released by the National Development Council, Taiwan is defined as aged society under the delimitation of WHO, which the percentage of old-age ( $\geq 65$  years) population will be predicted to be 14% in 2018. Moreover, the super-aged society will arrive in 2026 that the old-age population hit 20%. Life expectancy at birth in 2016 exceeds 80 years in Taiwan. In response to aging population, this study aims to explore the efficiency and satisfaction toward providing age-friendly priority services on outpatient.

#### Methods/Intervention

The study adjusted outpatient service processes through establishing a continuous priority line service from registration, visit the doctor, general testing/examination, dispensary, to the cashier with interdisciplinary cooperation to shorten the outpatient waiting time of elderly ( $\geq 80$  years). A structured questionnaire was used to investigate elderly ( $\geq 80$  years) and non-elderly ( $< 80$  years) outpatient waiting time and satisfaction for the procedures based on simple random sampling.

#### Results (of evaluation)

A total of 387 patients were investigated between May and June 2017, they were divided into non-elderly ( $n=270$ ) and elderly ( $n=117$ ) groups. This study revealed that the elderly group had shorter waiting time before seeing doctor by 14.35 minutes ( $p < 0.001$ ); examination by 7.9 minutes ( $p < 0.001$ ); dispensary by 4.08 minutes ( $p < 0.001$ ) and cashier by 1.22 minutes ( $p = 0.117$ ) compared to the non-elderly group. The overall satisfaction for the outpatient procedures of the elderly group was 87.9% and non-elderly group was 84.64%, there was no statistically significant difference between two groups.

#### Conclusions/Lessons learned

To provide age-friendly services and environment, the implementation of age-friendly priority services on outpatient have positive impact on hospital, it can shorten the waiting time of elderly outpatient visits effectively but it doesn't influence the overall satisfaction. The age-friendly priority services on outpatient can be considered to extend target group, not only broaden the age to over 80 years old or less but to the special populations, like the disability as well, in order to create a patient-centered healthcare organization.

**Contact: HSU SHAOYU**

Taipei City Hospital  
No.145 Zhengzhou Rd, Datong Dist, 110 Taipei City,  
[happyleanna@gmail.com](mailto:happyleanna@gmail.com)

## Modification of the Home Environment-A Research for Yanchao District community-Dwelling Elderly in Kaohsiung

**LIN Pei-Ching, WANG Ching-Wen, TANG Rui-Yi, CHENG Ya-Ai**

**Background/Problem/Objective**

The risks for elderly fall may be intrinsic and extrinsic. Intrinsic factors are related to the subject, who may have impaired function with age. Extrinsic factors are related to the environment such as uneven floor, bathroom without handrail and anti-skid facilities, inappropriate stair steps. The aim of this research is to prevent fall, prepares a more safety environment for the elderly.

**Methods/Intervention**

Home safety checklist was applied in the research to evaluate the subjects' environment hazards such as the safety of floor, lighting, stair steps, bathroom, shower, kitchen, living room and bedroom. Field visits were performed to analyze the environmental conditions for elderly such as housing types, internal space specifications, space utilization, then to suggest advice on home safety, accessibility and environmental improvement. After the assessment, the home environment was renovated based on the original scale.

**Results (of evaluation)**

A total of 54 elderly participants were recruited in the investigation. After statistical analysis, it is illustrated that many environment hazards for elderly fall. First, foot pad is not equipped with anti-slip mat (71%). Then, the edge of the ladder is not equipped with anti-slip bar (64.15%). Then, there are no mat placed in the bathroom (66.04%). Finally, there are no handrails beside the bathroom or toilet (86.79%). After the assessment, totally 25 of elderly participants' environment were modified.

**Conclusions/Lessons learned**

The main reasons for the elderly fall are physical condition, home environment and family situation. The elderly suffering from the muscle weakness, poor balance and inconvenient mobility for whom the assistance and visual impairment are needed. If the material of the bathroom floor is a smooth and no armrests equipped, the risk for fall may be increased. After assessing through the Checklist and field visits for the elderly, the environment were modified to ensure their safety.

**Comments**

As long as barrier-free spaces can be implemented, the chances of accidents for the elderly can be reduced. Not only to improving national health and the quality of life, but the expenditure on medical expenses can be even more reduced. It is expected that people will pay more attention to the home safety for the elderly and to create a safe and comfortable home environment combined with the government's policies.

**Contact: CHENG Yaai**

I-Shou university, Yanchao Campus, No.8, Yida Rd, Jiasou Village, Yachao District, 82445 Kaohsiung,  
[yaai@isu.edu.tw](mailto:yaai@isu.edu.tw)

## Community-Based Physical Activity Programs for Older Adults to Establish a Positive Cultural Attitudes toward Health and Exercise

**LIN Yi Hui, YANG Chiao Yu, TSENG Chun Han, HSIEN Hung Yu, WENG Chung Feng, HUNG Yu Shan, CHEN Hsin Chun**

**Background/Problem/Objective**

People in Taiwan entered the workforce early, after retirement, spent most of time in the neighborhood of their homes. Few elderly are willing to get out home, interacting with people, lead to potentially harmful effects of long-term loneliness on health. Inviting the senior to join a series of exercise classes in collaboration with borough chief, could enhance the social participation, decrease the feeling of loneliness, increase physical fitness, and promoting positive physical activity environments of the elderly in the community.

**Methods/Intervention**

This study encouraged the elderly to join the "Healthy Exercise Plan". The strategies are the following: 1 Making policy: supported and participated the activities by the borough chief. 2 Creating supportive environment: make a community exercise map. 3 Developing personal skills: designed some missions for healthy behaviors, including exercising with family. 4 Strengthen executive function: earn points to get rewards if they do exercise. 5 Modifying the object group: ask to invite their family and friends to hike together.

**Results (of evaluation)**

Exercising course was once a week and eight weeks in total. A total of 23 participants were included (mean age: 69.08). They invited 133 family members/neighbors to join together. 13 participants completed the pretest, post-test for strength and flexibility of lower extremities, revealed the flexibility increased from 3.84 to 6.84 cm, the strength increased from 17.46 to 25 times. The change of strength and flexibility of lower extremities between pretest and post-test with paired-t test showed significant improvement ( $p < 0.05$ ).

**Conclusions/Lessons learned**

Used the Ottawa Charter's framework of five action areas as principle and applied the theory separately, encourage the senior go outdoor and enhance social participation. The exercising course had designed homework every week, which can increase the motivation to exercise but also the interaction with each other. Additionally, the trainer instructs besides, is essential to understand these benefits of health and socialization in person and take advantage of them. By doing these, we can establish the community healthy culture.

**Comments**

Since decreased physical performance and muscle strength, the elderly are unwilling to go outside, interacting with people, has negative consequences on health. Enhance the social participa-

tion of the senior as well as the exercising confidence through attractiveness of activities and the powerful rallying point by the key person, which in term will increased regularity and reach a win-win situation of promoting community health and culture.

**Contact: YI-HUI Lin**

Cardinal Tien Hospital

No.362, Zhongzheng Rd., Xindian Dist., New Taipei City 23148

[yih835086@gmail.com](mailto:yih835086@gmail.com)

## Exploring the Effect of Supportive Group for Nursing Home

**LIANG Shiow-Ching, LIN Tzu-Chuan, PAI Chion-fang, YEN Chia-Chi**

### Background/Problem/Objective

The elderly feel depressed due to chronic diseases and changes in the family role, especially less-educated women suffering from a disease and never or seldom joining leisure activities in long-term care institutions. The hospital works with the Lifeline Association to form a supportive group, hoping to enhance the seniors' meaning of life, interpersonal interaction and adaptation. A senior will be supported by a catalyst in addition to the group leader.

### Methods/Intervention

A total of 21 residents in the nursing home who could communicate and sit for 1~2 hour(s) were selected, 7 of whom participated in the interview, where their conditions were assessed. Six interviews were conducted, with each lasting 90 minutes, to cover emotional identification, family tree, life review, and expressions with the support of catalysts. The Geriatric Depression Scale (GDS-15) was adopted to conduct pre-test and post-test. Catalysts kept a record of group observation.

### Results (of evaluation)

Among six participants (3 males and 3 females) aged 83.83 on average, all suffered from more than 2 diseases. According to the result of GDS-15, 3 adapted well while 3 had moderate emotional distress in pre-test; all adapted well in post-test. The record of group observation showed that interaction and oral expression of the participants increased relatively with the support of catalysts.

### Conclusions/Lessons learned

There was a large difference in the participation of the elderly. The results of the study found that one-on-one catalysts benefited interaction between the elderly. According to the result of GDS-15, participants having moderate emotional distress in pre-test adapted well in post-test probably due to group interaction or sharing of life stories and the positive atmosphere of the group.

**Contact: LIN Tzu-Chuan**

kaohsiung Municipal Min-Sheng Hospital

No.134 Kaixuan 2nd Rd, kaohsiung,

[cinci08@yahoo.com.tw](mailto:cinci08@yahoo.com.tw)

## Learning effectiveness of foreign caregiver by using communicated tool (finger cards) at home care service

**YANG Chiao-Chi, SHEN Chia-Lin, HU Wen-Hsin, YEH Hsueh-Ping, CHEN Sung-Yun, TSAI Yi-Fan**

### Background/Problem/Objective

According to interior ministry in Taiwan the proportion of elderly people over the age of 65 is 13.33% in November 2017. The aging index is 92.18%. Long term care need is increasing by years in aging society. Foreign caregiver was employed to service for disabilities had been 237,291 until 2016. Foreign caregivers had already become one of the most important alternative manpower for family care in Taiwan. We found language gap existed between caregiver and family. It could lead delay medical service and increase admission to the hospital. The aim of this study was to explore the learning effectiveness of foreign caregiver by using communicated tool (The Picture Exchange Communication Systems, PECS).

### Methods/Intervention

The study unit is a community nursing section of regional hospital in northern Taiwan. The multidisciplinary professionals (Doctor, Nurse, social worker, physical therapist, psychologist, and pharmacist) designed this communicated tool-PECS (also call the "finger cards") in June, 2017. These cards were be laminated to protection and easy to wipe, can be reused, not expensive, portable easily. Colorful figure of titles, include of daily and common communicated message, alarm symptoms of patients and were translated to multiple language (Indonesian, Philippine and Vietnam). The back sides of the cards also add wrote the alarm sign and emergency telephone number to help caregivers how to do the correct response at initial.

### Results (of evaluation)

10 home care patients cared by foreign caregiver were enrolled in this study from August to September in 2017. We investigated questionnaire of satisfaction after using communicated tool (finger cards). 92.4% of all foreign caregiver presented satisfied with this tool and that could deliver correct message. Satisfaction of home care patients and caregivers were 94%.

### Conclusions/Lessons learned

This communicated tool improves the correct communication with foreign caregivers and help home care patients get better care. This tool will be used in other nursing institute to promote communication effect between patient and foreign caregiver, thus ensuring the patient safety and enhancing the quality of care, ultimately creating a healthy supportive environment.

**Contact: TSAI YI-FAN**

Taipei City Hospital, Young Ming Branch

No.105, Yusheng St., Shilin Dist., Taipei City 11146, Taiwan

10453 Taipei, [b1717@tpech.gov.tw](mailto:b1717@tpech.gov.tw)

## A Study of Behavior in the Residential Bathroom Environment from the Perspective of the Elderly

**CHEN Ming-Shih, LIAO Hui-Yen, LEE Pei-Hsuan**

### Background/Problem/Objective

To bath and to toilet are the essential to human being. Bathroom is the most dangerous place for the elderly in the house. Bathrooms in Taiwan are almost using the same place with toilet, and this lead the elderly to unexpected danger.

### Methods/Intervention

This research bases on the users' behavior to discuss the relationships between the elderly, bathroom, and the equipment in the bathroom. Through the interview and observation on the scene and the questionnaires to understand the problems the elders have faced while they are using the bathrooms.

### Results (of evaluation)

According to investigation, different living styles have conspicuous influence on the size of bathrooms and also the equipment inside. Current bathroom space does not meet the expectations of most elderly. Inappropriate arrangement of the equipment influences the activities and moving path inside the bathroom.

### Conclusions/Lessons learned

From the viewpoints of the elderly, bathrooms should enhance more safety plans, adjustable space and assistant design. The elderly will feel safer when they are already used to something, so as the points of design, we can provide a more adjustable using style from evaluating the differences between real surroundings and users' needs by users' consciousness.

### Contact: CHEN Ming Shih

Tunghai University  
No.1727, Sec.4, Taiwan Boulevard, Xitun District, Taichung  
40704, Taiwan R.O.C., 40704 Taichung,  
[msc@go.thu.edu.tw](mailto:msc@go.thu.edu.tw)

## Relationship between body mass index and quality of life among older people in a rural area of Taiwan

**WU Pei-Ling, YANG Hsin-Yi, CHEN Kuan-Fen, YANG Ching-Yi, AN Hsin-Yu, HOU Jung-Ying, CHEN Wei**

### Background/Problem/Objective

Obesity has become a major public health problem in the elderly in most developed and developing countries. Evidence has shown that obesity is not only the risk factor for a variety of chronic diseases, such as cardiovascular disease and diabetes, but also related to a poor quality of life. Life style is different between rural and urban area; however, relationship between body mass index (BMI) and quality of life (QOL) among older people in a rural area is limited.

### Methods/Intervention

This was a cross-sectional study, which recruited 193 free-living people whose age  $\geq 55$  years from a rural area (Ali mountain) in Taiwan between 2012 and 2014. We collected the demographic data, comorbidity, and quality of life, which were measured by The World Health Organization Quality of Life (WHOQOL), Social Support Questionnaire (SSQ), and EQ5D instruments. All participants were classified into two groups, which was BMI<24 and BMI $\geq 24$ , and all the variables were compared between the two groups.

### Results (of evaluation)

Of 193 participants, 86 were male (44.5%) and the mean age was 68 years. People with BMI $\geq 24$  (n=131) has significant higher rates of diabetes (29% vs. 13%), hypertension (59% vs. 42%), and hyperlipidemia (16% vs. 5%) than people with BMI<24 (n=62). Comparing the quality of life between two groups, only total WHOQOL score reached statistical significance, which showed that people with BMI $\geq 24$  had lower WHOQOL score ( $57.8 \pm 7$  vs.  $60.7 \pm 7$ ,  $p<0.05$ ) than people with BMI<24.

### Conclusions/Lessons learned

Older obese people not only had higher incidence of diabetes, hypertension and hyperlipidemia than people with normal weight in rural area, but also had poor quality of life. Further interventions should be considered for those obese elderly in the rural area in Taiwan. Keywords : body mass index, older people, quality of life

### Contact: WU PEILING

Ditmanson Medical Foundation Chia-Yi Christian Hos  
No.539,Zhongxiao Rd.,East Dist.,Chiayi City 60002,Taiwan(R.O  
Chiayi City ,Taiwan(R.O.C), [cych11487@gmail.com](mailto:cych11487@gmail.com)

## Improve home care quality and reduce hospitalization in an aged society-an experience of a community based hospital home care project in Northern Taiwan

**CHENG Yiu-Hua, TSAI Yi-Wen, WANG Mei-Wen, LAI Shih-Han, CHEN Yi-Chuan, CHEN Chien-Tzung**

### Background/Problem/Objective

As the aging population increased worldwide, the demand and quality of home care is of importance for the disabled and chronically ill patients. It is also true for Keelung, a northern county and aged society in Taiwan, of which the elderly composite of 14% dweller. In order to improve the quality of home care, we analyzed the factors affecting the readmission rates through integrated home care project via inter-professional cooperation with physician, dietician, pharmacist, and nursing staff.

### Methods/Intervention

The objective is to analyze factors affecting the readmission rate of home care patients during 2016 January to June through chart review. We supposed readmission was related to nutritional and immune status. Malnutrition was defined as

BMI<20kg/m<sup>2</sup> or body weight loss  $\geq 7\%$  in three months. Primary outcome was the proportion of hospitalization. The integrated interventions included instant communication, multidisciplinary meeting with dietician, pharmacist, and nurse periodically; health education with family members and review achievement rates every two month.

#### Results (of evaluation)

The admission rate was 10% before integrated plan, and the main diagnosis of admission were pneumonia (25.3%), and urinary tract infection (UTI) (21.3%). Initially, vaccination rate were 16.9% (pneumococcus)/74.5% (flu); whereas the malnutrition rate was 48%. After intervention of integrated plan, the pneumonia patient admission rate decreased to 10%, all malnourished patients' body weight increased or maintained, and vaccine injection rate improved to 27%(pneumococcus)/75%(flu).

#### Conclusions/Lessons learned

We successfully implemented an integrated home care plan to reduce unnecessary hospitalizations through better nutrition status and vaccination rate.

#### Contact: CHENG Yiu-Hua

Department of Family Medicine, Chang Gung Memorial  
222, Maijin Road, 20401 Keelung,  
[ninibow0208@gmail.com](mailto:ninibow0208@gmail.com)

## Outcomes assessment of a multidisciplinary intervention programme for family caregivers of people with dementia in Taiwan

### CHAN,YING-JYUN LiChu

#### Background/Problem/Objective

Interventions have been approved to be effective in improving knowledge and attitudes towards dementia, reducing depression and burden on family caregivers. This study aimed to assess the effectiveness of a multidisciplinary intervention programme designed for family caregivers that were referred from healthcare institutions and social organizations during the period from 2009 to 2011.

#### Methods/Intervention

Caregivers' knowledge, attitude, depression and burden were assessed before and after the intervention programme by using designed instruments. The outcomes of intervention programme and participants' satisfaction were evaluated immediately after the programme.

#### Results (of evaluation)

Apart from the responses to some questions showed significant improvement from post-test, no difference in the overall knowledge of dementia was observed. Significant differences were detected between pre-test and post-test scores in overall attitudes and burden. Statistically significant correlations were found between knowledge and burden in the post-test ( $r = 0.178$ ,  $P < 0.05$ ), and between burden and depression in the results of pre-test ( $r = 0.341$ ,  $P < 0.001$ ) and post-test ( $r = 0.570$ ,  $P < 0.001$ ).

#### Conclusions/Lessons learned

To integrate multidisciplinary professionals into an intervention team is particularly important for approaching positive caregiving. Future research with step-by-step interventions tailored to support family caregivers for specific needs to yield outcomes return is warranted.

#### Contact: LICHU Chan

A Skin-Graft With Love Foundation  
No.85, Ln. 53, Bo'ai St., Changhua City, Changhua County 500,  
Taiwan (R.O.C.), Changhua, [392563@cch.org.tw](mailto:392563@cch.org.tw)

## The Experience of Health Promotion Services for Community Elderly by Medical Center

### LEE Shu-Chen, TSAI Jung-Mei, HUANG Wei-Hsin, CHUANG Jui-Yun, LIANG Li-Jen, CHEN Yu-Hua, CHANG Chia-Mei, CHEN Chiu-Chen

#### Background/Problem/Objective

Aging population in Taiwan grew rapidly and estimated an aged society in 2018. In responding to governmental policy of Long-Term Care 2.0 (LTC 2.0), MacKay Memorial Hospital with its core values "to live the virtues of Christ and to love others as ourselves" is dedicated to social relationship and wellness of elders in community and has deployed multifacet health promotion services, which combined disciplines of healthcare profession, to eight elderly community activity centers within two districts of Taipei City.

#### Methods/Intervention

The aims of the services were to encourage elderly in community involvement, socialization, and health promotion behavior. By collaborating with the elderly meal service of the city government in Zhongshan District and Datong District, one-hour health promotion activities were conducted by hospital staffs in formats of either of health talk, checkup, or consult. Elderly questions related to physiological or psychological problems, screen test, and infectious diseases prevention and protection were answered by health professionals.

#### Results (of evaluation)

A total of 123 health promotion activities were conducted with 3,252 participants: mean age (71.34); 14 of 200 (7%) found Geriatric Depression Scale (GDS) abnormal; 19 of 153 (12.4%) were Ascertain Dementia 8-item Informant (AD-8) abnormal; 28 of 168 (16.6%) were arrhythmia abnormal. Health instructions and referral information were given to abnormal cases by healthcare staffs for tracking and monitoring. For flu vaccination, 193 shoots were given. Overall, elderly were satisfied (99.2%) with the health promotion activities.

#### Conclusions/Lessons learned

The health promotion activities collaborating with meal services of city government not only enhanced community involvement and social relationship among community elderly and encouraged their health promotion behavior but also served as an opportunity to perform screen test for early detection and treatment of diseases or illness. The model provides a reference for future studies in community medicines and the construction



of comprehensive health promotion network for community elderly.

**Contact: CHC mmh**

Community Health Center, Mackay Memorial Hospital,  
No. 92, Sec. 2, Zhongshan N. Rd., Taipei City,  
[mmh1089@ms1.mmh.org.tw](mailto:mmh1089@ms1.mmh.org.tw)

## The Effect of a Nutrition Education Workshop on the Frailty of Seniors Living Alone

**CHANG Huang-Yu, TSENG I-Hsin, LI Lin-Hui, HSU Chiu-Ping, CHENG Hsueh-Chien, TSAI Sheng-Hua, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

### Background/Problem/Objective

Since 1993 Taiwan has become an aging society. 2017 Health Promotion Administration MOHW statistics show that the prevalence of senior frailty is 5.4%, and 41.5% of the elderly are in the pre-stages of weakness. Senior frailty occurs mainly in the elderly ( $\geq 75$  years). Malnutrition, reduced activity and weak grip are the main determinants of weakness. Therefore, this study is intended to explore the possibility of intervention in the prevention of elderly frailty diets to prevent the elderly from weakening and to achieve health promotion.

### Methods/Intervention

23 participants over 65 years old were recruited and arranged by the Huashan Foundation and social workers in Keelung Hospital. They were arranged to participate in a nutrition education workshop (from January to November 2017) designed monthly by dietitians and chefs. The workshop was combined with a DIY electric cooker cooking workshop, and covered topics including: nutrition assessment, dementia, swallowing, muscle gain, hypertension and so on. Anthropometric data and hand-grip strength were obtained before and after intervention. The comparison of BMI and hand-grip strength before and after intervention with the paired Student's T test was studied.

### Results (of evaluation)

Data of 23 participants: The average age was  $80.3 \pm 6.2$  years. Before and after intervention, hand grip strength was  $20.1 \pm 5.6$  and  $19.6 \pm 4.7$  kg ( $p = 0.38$ ). Taking 75-years as the grouping cut-off point and contrasting hand grip strength before and after intervention showed that compared to the elderly ( $\leq 75$  years) ( $-3.25 \pm 2.09$  kg), the elderly ( $\geq 75$  years) ( $0.08 \pm 2.44$  kg) had advanced hand grip strength significantly ( $p = 0.02$ ).

### Conclusions/Lessons learned

In the study, intervention through a nutrition education workshop alleviated the weakness of the elderly, and significantly improved their hand-grip strength compared with the elderly under 75 years old.

**Contact: LIN Ching-feng**

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Evaluation of fall prevalence and risk factors on community-dwelling middle-age and elderly using a multifactorial questionnaire in Taiwan

**WU Hsun-Pai, LIN Chia-Chen**

### Background/Problem/Objective

Taiwan has a rapidly aging population, in which the number of elderly (over 65 years-old) is expected to reach 14% of the total population in 2018, and 20% in 2025. Falls and related injuries are prevalent amongst older people, thus further investigation is required to better understand the associated risk factors. Our study aimed to explore the prevalence and risks of falling amongst community-dwelling middle-age and elderly in the central district of Taichung City in Taiwan.

### Methods/Intervention

This community-based survey was conducted among adults at our community health stations. A structured multifactorial questionnaire was used which includes inquiries related to drug use, hearing or vision impairment, osteoarthritis, balance and muscle power, environment of daily living, exercise habit, solitary elderly status, fear of falling, and fall history in the past year. Logistic regression was performed using R version 3.4.3 for statistical analysis.

### Results (of evaluation)

There were 191 participants with a medium age of 69, and the results indicated a concentration of fall incidences between the ages 60 and 80 years-old. The prevalence of fall in the past year was 27.22% (female 26.48%, male 29.24%). We identified the following risk factors with significant correlation with falling: poor balance and muscle power ( $P=0.013$ ,  $OR=6.99$ ), solitary elderly status ( $P=0.033$ ,  $OR=3.15$ ), and fear of falling ( $P=0.001$ ,  $OR=5.70$ ).

### Conclusions/Lessons learned

The cause of falling and related injuries is multifactorial. Concerning middle-age and elderly at risk of falling, it is important for primary care professionals to encourage exercise training programs to improve muscle power and balance, to provide community care to elderly living in solitude, and to give counselling to those in fear of falling.

**Contact: WU Hsun-Pai**

Cheng Ching Hospital  
No.139, Pingdeng St., Central Dist., Taichung City 400, Taiwan  
(R.O.C.), 400 Taichung City,  
[haydenwu0406@gmail.com](mailto:haydenwu0406@gmail.com)

## To evaluate the effectiveness of Diversified, Nutritionally Balanced, "Ready-to-Eat" Texture-Modified Meals in helping to improve the nutritional intake of institutionalized residents with dysphagia.

## CHEONG Magdalin, CHONG Hui-Hsien, HUANG Ying-Xiao, TAN Jessica

### Background/Problem/Objective

Dysphagia is a prevalent medical issue among older adults and has been associated with nutritional deficits resulting in increased risk of adverse clinical outcomes. One of the treatments for dysphagia is through modification of food texture to reduce aspiration risks. The objectives of this study is to evaluate the effectiveness of nutritionally balanced, culturally appropriate 'ready-to-eat' texture-modified meals on the dietary intake of older institutionalized residents with dysphagia and also to investigate the impact of the meals on their nutritional status.

### Methods/Intervention

Thirty-seven subjects recruited from two nursing homes were randomised into two groups. The control group was served routine nursing home diet while the intervention group was served study diet for three months. The study meals were 'ready-to-eat' and each meal was designed to meet 25% of the Recommended Daily Allowance (RDA) for Singapore adults >60 years old. Anthropometric, biochemistry and nutritional status were analysed. Comparisons of data were made at baseline and at the third month and between the both groups.

### Results (of evaluation)

Improvements in weight, mid-upper arm circumference measurements and arm muscle area has been found in the intervention group after three months. Subjects in the intervention group have greater change in weight (3.57% vs 1.99%), mid-upper arm circumference measurements (1.20% vs 0.0%) and arm muscle area (242.72% vs 27.0%) as compared to the control group. Malnutrition risk scoring also improved in the intervention group. Greater change in albumin level has been observed in the intervention group (6.0% vs 3.13%).

### Conclusions/Lessons learned

Nutritionally balanced, culturally appropriate 'ready-to-eat' texture-modified meals seem to be effective and has positive impact on the nutritional status of the older institutionalized residents with dysphagia. This will help reduce the risk of aspiration pneumonia and associated hospitalization. Availability of these meals will also help encourage the older adults to be independent and reduce caregiver stress. However, further testing is required to develop innovative ways of commercializing the meals and a larger sample size is needed to conclude the findings.

### Contact: CHEONG Magdalin

Changi General Hospital, Singapore  
2 Simei Street 3, 529889 Singapore,  
[magdalin\\_cheong@cgh.com.sg](mailto:magdalin_cheong@cgh.com.sg)

## The Influence of Elderly Age on Metabolic Syndrome and Muscle Strength

ZHUANG Po-Yu, CHIN Ching-Fen, HONG Jin-Jiun, WU Meng-Tien, HUNG Ling-Yu

### Background/Problem/Objective

As getting older, aging symptoms appear gradually. The prevalence of chronic disease such as hypertension and diabetes increased and elderly muscle strength also declined. Lack of upper extremity grip will influence the daily life function. Lack of lower extremity muscle strength will lead to fall down, walk slowly and decrease the willing to go outside to join social activities. Therefore, we would like to know the influence of elderly age on metabolic syndrome and muscle strength.

### Methods/Intervention

In 2017, New Taipei City Health Bureau held elder health examination, not only including basic exam but also including muscle strength test, such as grip and 6-meter walk test. The participants are New Taipei City residents over the age of 65. To understand the impact of age, all subjects were divided into four groups of 65-74, 75-84, 85-89 and over 90 according to age. One-way ANOVA and chi-square test were used to analyze all subjects, male and female subjects.

### Results (of evaluation)

Total of 923 persons joined the health exam. Regardless of gender, significant factors such as body height and 6-meter walk velocity decreased, but others such as systolic blood pressure and serum creatinine increased. Among female, other significant factors included cholesterol, low density lipoprotein cholesterol and metabolic syndrome. The first two factors decreased gradually by age, but female between 75 to 89 years old had higher prevalence of metabolic syndrome. Among male, weight and diastolic blood pressure decreased gradually by age significantly.

### Conclusions/Lessons learned

Our study showed that, except age, gender was also an important innate factor affecting elderly health. Based on our result, with increasing age, elevated blood pressure, decreased renal function and muscle weakness in the upper and lower extremities were found. Other findings included that cholesterol decreased by age in female, but in male, weight decreased gradually without lipid profile change. The further investigation should be done.

### Comments

The limitation of our study was selection bias, because weak person was failure to our hospital for the health exam. In spite of this, we still found the prevalence of muscle weakness increased. Therefore, to do early screening, give exercise prescriptions and encourage exercise are important to maintain daily and social function in elderly.

### Contact: CHUANG CHIN-RU

Yonghe Cardinal Tien Hospital  
No.80, Zhongxing St., Yonghe Dist., New Taipei City, Taipei,  
[jinrue80@gmail.com](mailto:jinrue80@gmail.com)

## Impact of Physical Fitness and Balance Training on Frailty among Community-Dwelling Elderly with Frailty

HSIU Liou-i, LI Min-Hui, HUANG Wan-Yun, JHONG Sin-Ying, CHENG Jin-Shiung

**Background/Problem/Objective**

Frailty is the most problematic expression of population ageing. Fitness training for community-dwelling elderly is a very important issue. To establish an evidence based physical fitness and balance training program for the elderly can promote their health. The aim of this study was to investigate the impact of physical fitness and balance training on frailty among community-dwelling elderly. After intervention, we explored the effect on healthy status, cognitive function, activity of daily living, balance, and muscle strength of lower extremity.

**Methods/Intervention**

This study included people with ages 65 and above in Kaohsiung city, Taiwan. All subjects were evaluated by Screen of Frailty scale (SOF) to determine elderly with frailty. The elderly with frailty was arranged fitness training 3 times per week and received totally 24 times of training within 8 weeks. The fitness training included: cardiopulmonary training, muscle endurance training, flexibility training, and balance training. At baseline before intervention and 8 weeks later, evaluation of cognitive function via Montreal cognitive assessment-Taiwan version, Timed Up and Go test (TUG), 30-second sit-to-stand test, Berg balance test, Barthel index, and instrumental activities of daily living scale (IADL) were performed.

**Results (of evaluation)**

This study include 19 elderly with frailty from June to October in 2017. 10 elderly with frailty complete 24 times fitness interventions. After intervention, significant improvement was revealed in 30-second sit-to-stand test and TUG ( $p$  value  $< 0.05$ ). Other outcome of cognitive function, Berg balance test, ADL, and IADL showed improvement and no statistically significant difference.

**Conclusions/Lessons learned**

Fitness training for community-dwelling elderly with frailty can improve their motor performance. Regular screen and intervention of fitness programs is very important to enhance motor performance to reduce further fall risk.

**Contact: HUANG WAN YUN**

Kaohsiung Veterans General Hospital, Department of Physical Medicine and Rehabil, No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City 81362, Taiwan (R.O.C.), [ballan666888@gmail.com](mailto:ballan666888@gmail.com)

## The effect of physical fitness training on balance ability in community elders in Taiwan

**LI Min-Hui, HSIU Liou-i, HUANG Wan-Yun, JHONG Sin-Ying, CHENG Jin-Shiung**

**Background/Problem/Objective**

Fitness training can prevent disease related comorbidity and Complication. To establish an evidence based fitness training program in community was very important but not available now in Taiwan. The aim of this study was to investigate the effect of physical fitness training on balance ability in community elders in Taiwan.

**Methods/Intervention**

This study included people ages 65 and above in Kaohsiung city, Taiwan. All subjects was evaluated by Screen of Frailty scale (SOF) and assigned to three groups according to scores: no frailty, pre-frailty, and frailty group. The elderly was arranged fitness training 3 times per week and received totally 12 times of training within 4 weeks. The fitness training included: cardiopulmonary training, muscle endurance training, flexibility training, and balance training. At baseline before intervention and 4 weeks later, we evaluate cognitive function via Montreal cognitive assessment-Taiwan version, Timed Up and Go test (TUG), 30-second sit-to-stand test, Berg balance test, Barthel index, and instrumental activities of daily living scale (IADL).

**Results (of evaluation)**

This study screened 298 people, and 190 people(63.8%) were classified as no frailty, 69 people (23.1%) as pre-frailty, and 39 people (13.1%) as frailty. There were 31 included participants in no frailty group, 30 ones in pre-frailty group, and 19 ones in frailty group. Most of the three group participants lived with their family, and the most chronic disease was hypertension, and cancer was the second. Episodes of fall within this year was upmost in frailty group (47%). After 12 times intervention, significant improvement was noted in TUG ( $P<0.05$ ) among no frailty group. Among pre-frailty group, significant improvement was noted in TUG, Montreal cognitive assessment, and Berg balance test ( $P<0.05$ ). Among frailty group, significant improvement was noted in 30-second sit-to-stand test ( $P<0.01$ ).

**Conclusions/Lessons learned**

Taiwan has shifted into an aging society, and we have to face more frailty related symptoms and signs. This study showed fitness training among community elders can improve motor performance and cognitive function, which may further prevent frailty and fall risk. Fitness training has more benefit for elders with pre-frailty than elders with frailty. Regular screen and intervention of fitness programs is very important to prevent frailty and fall risk.

**Contact: HUANG WAN YUN**

Kaohsiung Veterans General Hospital, Department of Physical Medicine and Rehabil, No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City 81362, Taiwan (R.O.C.), 81362 Kaohsiung City, [ballan666888@gmail.com](mailto:ballan666888@gmail.com)

## Horticultural Therapy Project for Elder with Mild Dementia

**LIU Huoy-in, TSAI Wen-ling, CHUNG Yu-Chu**

**Background/Problem/Objective**

Taiwan's elder population hits 3.21 million, about 13.6% of the total population in 2017. On average, one out of every ten people belongs to the aging group. There're about 8.5% of the dementia elderly in Taoyuan. Dementia Prevention is the important issue in community.

**Methods/Intervention**

The purpose of this study is to application of a horticultural therapy for mild dementia elderly to increase the communication function. Running started from 05/01 /2017 and be fin-

ished at 11/30/2017. Main target: those aged over 65 interested in Horticultural Therapy in the elderly (AD-8 > 2). We are expected to hold a total of 10-week training session on Horticultural Therapy. 15 mild dementia elders were included. Before and after the class, we conducted checkup on their body functions, observe attendance rate, the number of communication & do the pretest and posttest on their ADL, IADL & AD-8 to evaluate their physical & psychological function.

#### Results (of evaluation)

After intervention, attendance rate: 90%. Compared with other courses to increase the number of times in communication with other people. 5 of temperature, pulse, respiration & blood pressure for the elderly has declined significantly. All participants were no significant differences in Activities of Daily Living (ADL) & Instrumental Activities of Daily Living (IADL), also psychological and cognitive function (AD-8) before and after treatment with no significant difference.

#### Conclusions/Lessons learned

Research reveals the following (1) Progress in Horticultural Therapy program on mild dementia elderly is helpful on improving the communication function of dementia. (2) The operation programs of Horticultural Therapy on mild dementia are developed from the research are contributory on promoting of dementia education into Taiwan's elder educations.

#### Comments

Recommends the community of elder Horticultural program to develop and practice the programs of dementia education, encourages to set up autonomy learning group for elderly to implement the programs on elder dementia's preventing between general elders with mild dementia elders.

#### Contact: LIOU Huoy-in

Taiwan Landseed Hospital, 77, Kuan-tai Road, Ping-jen, Taoyuan,  
[hil7667@gmail.com](mailto:hil7667@gmail.com)

## Session P1.2: Age-friendly hospitals

### Hospital Discharge Planning integrated with Longterm Care Service

**CHEN Ying Hui, LIU Yi-Lien, YANG Pei Chun, LU Yi Chen**

#### Background/Problem/Objective

According to the Taiwan Ministry of Health and Welfare report 2014 to 2016, about 30% of elderly patients needed long-term care after hospital discharge, indicating that long-term care and medical needs can not be separated. The hospital discharge planning assists patients in assessing their needs for continuous care after they leave the hospital, so that patients and their families can arrange for post-discharge care.

#### Methods/Intervention

Six elderly nurses were selected to provide guidance to 65 front-line nurses who provided long term care related information to patients and their families in the ward. Patients with long term care service needs are recruited in the study for

screening and service referral mechanism when admitted to the hospital. Three to seven days before discharge, an assessment of the patient's physical, economic, psychological or emotional status is completed.

#### Results (of evaluation)

Between September and December 2017, a total of 40 patients were assisted by longterm care service, 17 using home services, 13 respite services, 6 home nursing care, 12 home rehabilitation services, and 19 assistive devices services. After service intervention, the readmission rate for patients with infection decreased by 20%.

#### Conclusions/Lessons learned

Hospital discharge planning integrated with longterm care service will allow people to get the longterm care services before they leave the hospital, so that patients receive continuous care.

#### Contact: EVE Chiu

Min-Sheng General Hospital,  
168 Ching-Kuo Rd., 33044 Taoyuan City,  
[a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## The Effects of Citizens' Medical Care-taker Program in Taoyuan City

**CHEN Wan-ling, YANG Pei Chen, LIU Yi-Lien, CHEN Mei-Chen, CHANG Wei-Shan**

#### Background/Problem/Objective

In December 2016, the population of Taoyuan City stood at 2.12 million. People aged 65 or more accounted for 9.9% of the total population, with about 210,000. Most of the current medical services and care modes are focusing on the treatment of acute and chronic diseases. In line with the local government-related programs, and to import information management systems to control public health information and provide public health care advice with medical care service.

#### Methods/Intervention

People over 65 who live in Taoyuan will be assessed for their long-term needs through the assessment scale (Elderly Elderly Assessment, AD-8 Dementia Screening, GDS-15 Mental Health Assessment Form, etc.) and the information will be imported into the information Management system to track cases. A 24-hour call center will be set up to provide public health care advice and management, so that people will receive more comprehensive care services.

#### Results (of evaluation)

A total of 1,110 including 572 home visits and 538 hospital discharge planning were interviewed. Demands of 157 (9.2%) domestic users were introduced in the information management systems, and abnormal cases were imported through the information system: 38 were home visits of the frail elderly assessment sheets, and 102 were discharged from the hospitals (44 males and 58 females). The above data show that high-risk public health management of abnormal tracking occurs mainly in women.

**Conclusions/Lessons learned**

The study showed that more emphasis should be placed on integrated care so as to take the initiative to care and to provide people with customized and sophisticated medical care.

**Contact: EVE Chiu**

Min-Sheng General Hospital  
168 Ching-Kuo Rd., 33044 Taoyuan City,  
[a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## Establish the strategy of referral program from Hospital discharge planning to Long Term Care Center

**CHEN Ying O, LIN Shu Chao, WU Chun Yi, FANG Miao Ju, Hsieh Su E, LIU Hsiu Chen, TSAI Tsung Lung**

**Background/Problem/Objective**

Demographic statistics show that low birth rates and higher life expectancy is transforming the age distribution on population structure in Taiwan. The policy of the long term care system in health care institution has been gradually developed to home care based in the residential area. Patients who discharge from the hospital can obtain high-quality and safe care at home with the regular visiting of professional medical teams.

**Methods/Intervention**

The hospital discharge planning program provides as follows: (1) Supporting the Hospital discharge planning for patients who need long term care. (2) Discusses the care planning for discharge patients with Health Bureau and Social Council long term care team. (3) Post an announcement about discharge planning guidance for patient to hospital conferences or meeting. (4) Training medical team member to acquire professional medical coach certificate. (5) Establish a hospital discharge planning center connect to long term care service. (6) Providing multidisciplinary care to a discharge plan for patients.

**Results (of evaluation)**

Patients who admitted in Pozih hospital and run to a standard discharge planning procedure within 3-5 days, and then refer to long term care center for evaluation. In general, There are nearly 25% of Medicare patients readmitted within 14 days after release. This study shows that discharge patients can be reduced 14% of the 14 days readmitted rate from 25.3% to 11.0% in Pozih hospital. And admit patient who obtain care service go up to 50 (original is 38) after connection long term care service center of local government.

**Conclusions/Lessons learned**

In conclusion, a discharge plan can help older who suffer from dementia or disability to continuously assist with basic care (physiological and physical). With the corporation from the hospital and care center of local government, medical teams can improve the care quality on discharge patient to reduce the unplanned readmission rate to 11%. Therefore, the local government has set its top priorities from those cases to cooperate with hospitals to reduce the unplanned readmission expends also improve the care quality on patients' life.

**Contact: WU CHUN YI**

Puzi Hospital, Ministry of Health and Welfare  
No42-50, Yung Ho Li, Potz City, Chiayi County 613, Taiwan  
[u84717307@gmail.com](mailto:u84717307@gmail.com)

## Construction of Silver-Haired Friendly Working Environment Model (Based on Taipei Tzu Chi Hospital)

**CHEN Ming-Hsiang, HOU Yi-Cheng, HsIEH Yu-Ling**

**Background/Problem/Objective**

Taiwan will enter the advanced age group in 2018. In fact, the effect of a declining birth rate has become a global trend in the aging population structure. Both factors make it even more important to develop a systematic model that meets the needs of the silver-haired ethnic groups in the job market. The health hospitals serve as the center for designing the service implementations and analyzing related parameters for silver-haired employment environment models. The goal is to enable the elderly to obtain better job security and care.

**Methods/Intervention**

In this paper, the service design of the SEE approach is used as the research framework and the weight analysis tools were published by PRAEP (2017). Studies of various trends, environment, industry, healthcare professionals, and senior staff were conducted before designing models. The research team combined the inputs from the experts and brainstormed to generate appropriate facets and weight analysis, which were used in the Google1 form questionnaire. There are five major facets with a total of 20 indicators. The questionnaire survey were conducted to the hospital meal staff members over the age of 55. The model for a silver-haired friendly working environment designed in order to achieve customer satisfaction guarantee needs to be based on the results interpreted by experts.

**Results (of evaluation)**

The table below shows the results of the questionnaire, including the weights and rankings for each item. According to PR AHP v1.3 geometric average results, the weights and order of all activities are as follows.

**Conclusions/Lessons learned**

According to the weighted order, environmental aspects and equipment operations are the two most important facets for the model. This is closely related to the elderly people's desire for independence and safe environments. Although this research's subjects are healthcare workers, if any agency or government department wants to establish a silver-haired friendly employment environment, we can start from the above aspects. We suggest that the follow-up research be focused on the environmental and equipment operational aspects. The main contributions of this study can be summarized as two points: (1) to find out the key aspects of the silver-haired employment environment. (2) the PR AHP software was introduced in this study, which is a friendly and easy-to-use tool for researchers.

**Contact: YI CHENG Hou**

Taipei Tzu Chi hospital, No.289, Jianguo Rd., Xindian Dist., New Taipei City 23142,  
[anny321@tmu.edu.tw](mailto:anny321@tmu.edu.tw)



## Relevance between Self-evaluation and Movements of Osteoporosis and Locomotive Syndrome

**YEH CHIACHIA**

### Background/Problem/Objective

According to the Japanese statistics, long-term care shall be given to cerebrovascular diseases, aging, dementia, falls and fractures, joint diseases and other diseases, 21.5% of which were relevant to musculoskeletal disability. In view of this Japanese Orthopaedic Association (JOA) proposed the concept of locomotive syndrome (LS) and its 7 self-evaluation items. Musculoskeletal disorders that can cause LS in the future are divided into osteoporosis, spondylosis and degenerative arthritis. Because there is no special clinical manifestations, osteoporosis is often noticed until fractures occur. The relatively most common type is the hip fracture caused by falls. After fractures, reduced activity in bed would lead to the decrease in physical strength and other possible diseases, making the health status of the elderly decline rapidly.

### Methods/Intervention

The study screened 50 subjects aged 50 or more who have undergone the DXA examination and were diagnosed by the radiologist as osteoporosis (T score  $\leq -1$ ) and had no cerebrovascular incident, brain injury, spinal cord injury, dementia, cancer, acute infection, kidney failure, serious cardiopulmonary disease, lumbar surgery, lower limb surgery, or hip/knee prosthesis, or aid. In addition to the loco-check questionnaire, the test of three movements, namely Timed Up and Go (TUG), Five-times-sit-to-stand test (FTSTS), and one-leg standing time with eyes open (OLST), was adopted as evaluation tools.

### Results (of evaluation)

The degree of osteoporosis positively correlated with the score in the loco-check questionnaire and the movements. In the future, the study may serve as the reference to early screening and health education regarding the prevention of falls to achieve the goal that prevention is better than cure.

### Conclusions/Lessons learned

The study is to explore the basic information of patients with osteoporosis, the loco-check questionnaire, and the relevance between movements, including lower limb endurance and static and dynamic balance, and LS.

**Contact: YEH chiachia**

[chiachia1027@gmail.com](mailto:chiachia1027@gmail.com)

## The Effects on Environment Improvement of Age-Friendly Hospital —Taking One Regional Teaching Hospital in Taiwan as an Example

**HSEIN Yen-Chen, CHEN Li-Chun**

### Background/Problem/Objective

"Aging population" has become a social issue concerned by many developed countries. As of 2014, the percentage of elderly population reached 12% in Taiwan. The rate of popula-

tion aging in the world is only slower than Korea and Singapore. Even the aging rate in Japan, famous for longevity, is slower than in Taiwan. Therefore, the inconvenience of medical treatment has been the common problem for many elders who are in need of higher-quality medical service than others.

### Methods/Intervention

This study integrated random sample surveys which collected from conscious outpatients. The questionnaire was divided into three parts: medical background, satisfaction scale and overall satisfaction. The satisfaction scale, consisted of 16 questions, was divided into six dimensions: physician care, nursing care, medical treatment procedures, service attitude, waiting time and hospital environment. We analyzed by IBM SPSS Statistics 18.0 and stepwise decomposition regression analysis. The result will become the focal point for improving the casework.

### Results (of evaluation)

After analyzed, questions which relevant with overall satisfaction, "Various guidance signs in hospital are clearly identifiable", "Nurses respond to your question clearly in a way you understand," "Your question receives clear explanations," "Waiting time for a doctor is reasonable," "You satisfied with the convenience in the hospital," play the important role of the elderly. All of them have statistical significance ( $P < 0.05$ ). Accordingly, we conceived 11 strategies to improve, and the overall satisfaction increased from 83.89% to 86.56%.

### Conclusions/Lessons learned

The improvement of hospital environment and age-friendly procedures will become one of the inevitable challenges in the future. The case hospital conducted satisfaction surveys twice-yearly to improve the significant items. After that, the outpatient satisfaction degree has ascended year by year since 2014. The countermeasures include guidance sign, medical communication, convenience of medical services and environmental safety. For creating a safe and professional medical treatment environment, hospitals are obliged to pay more attention to the issue of advanced age.

**Contact: HSEIN Yen-Chen**

National Taiwan University Hospital Yun-Lin Branch

No. 579, Sec. 2, YunLin Rd., Dou-Liu City,

[Y00250@ms1.ylh.gov.tw](mailto:Y00250@ms1.ylh.gov.tw)

## The Experience of Implementation Inpatient Discharge Link Up Long-term Care in the District Hospital in Southern Taiwan

**WU Chiou-Yu, HONG Yi-Jing, QIU Jing-Wen, CHANG Jer-Ming**

### Background/Problem/Objective

Taiwan society is aging fast, and will likely meet the criteria for an "aged society" in 2018 when 14.5 percent of the population is age 65 or over, and a "super-aged society" in 2026 when that figure reaches 20.6 percent. The rapid growth in this segment of the population will create a greater need for long-term care and home-based care services, placing a heavier burden on families. Therefore, the long-term care derived from the elderly population has gradually gained the attention. The Cijin District

is located in the southwestern edge of Kaohsiung in southern Taiwan. Traffic mainly depends on ferries and cross-harbor tunnels. At the end of September in 2017, the population of Cijin District was 28,792, accounting for 14.57% of the population over 65 years of age and 13.67% of the population over 65 years of age in Kaohsiung City being high. Residents aging and chronic diseases are relatively serious, the resulting disability and follow-up care population will also increase significantly.

#### Methods/Intervention

At present, Taiwan's inpatient discharge preparation planning is linked up the long-term care program. The main reason for the inability of inpatients to face incapacity to take care of elderly caregivers due to aging, degeneracy and socio-economic problems at hospital discharge or young care givers are unable to provide full-time care. Therefore, the medical team that is linked up the discharge preparation service of the hospital by the county government care center should jointly assess the patient's physical, economic, psychological or emotional needs, such as long-serving needs Subjects (eg, people over 65 years of age; Aboriginal people over 55 years of age; people over the age of 50 with mental and physical disabilities and so on). Patients who meet the long-term needs will be assisted in referring follow-up care units such as home nursing, home services, day care, home rehabilitation, respite care, transportation and transfer to other institutions. To provide continuous long-term care service after discharge, to shorten the waiting time and to improve the quality of life.

#### Results (of evaluation)

According to the total number of patients with high difficulty receiving medical services for discharge preparation service of 17 persons in 2016, the number of cases in the full year assessing the willingness to accept long-serving medical services was 0. The long-care 2.0 program started from August to December in 2017. The number of referrals for the case was 13 and the number of referrals was 10. The reason for the referral was physical labor, complicated wounds and stroke-induced physical activity disorder and traffic inconvenience. Refused to accept referrals 3 due to additional charges; failed to provide 24-hour care, poor family support and refused to patients or their families.

#### Conclusions/Lessons learned

According to long term care 2.0 program, expect to be able to complete the patient evaluation data upload 5 days before discharge, discharge 3 days after returning home can serve their home. However, due to the lack of manpower in hospitals and long-term care centers, patients are not entitled to immediate services after returning home and even have their consent turned over to giving up their plans. Therefore, it should be able to recruit manpower in time so that the implementation of the project can be implemented.

#### Contact: WU Chiou Yu

Kaohsiung Municipal Cijin Hospital  
33, Cigang Rd., Cijin Dist., Kaohsiung City 805, Taiwan (R.O.C.)  
[yuh3850@gmail.com](mailto:yuh3850@gmail.com)

**An integrated program of geriatric comprehensive care reduces the 1-year mortality rate of hospitalized fragile fracture patients**

**TSAI Tsung-Yu, CHEN Chung-Hwan, CHEN Chia-Hsin, LIN Yu-Chih, CHAO Kuan-Yun, FANG Tzu-Jung**

#### Background/Problem/Objective

Hip fracture, with a high incidence among the elderly, is an orthopedic disease which often leads to post-operative comorbidity and mortality simultaneously. Collaborative team care by orthopedic surgeons, geriatricians as well as physical therapists has been proved to provide better outcomes in several countries. However, collaborative team care program has yet to be developed in Taiwan.

#### Methods/Intervention

An integrated orthopedic-geriatric cocare program was developed to provide patients over 65 with hip fractures since January 2015 in one medical center. Post-operative daily living training with therapeutic exercise programs were carried out though by physical therapists. The medical records of 1325 cases prior to this program from 2013 to 2014 were compared to 806 cases receiving team care programs from 2015 to 2016.

#### Results (of evaluation)

Patients received the comprehensive care compared with those with regular care had statistically decreased by 0.58 times in one-year mortality ( $p=0.026$ ). In addition, the length of hospital stay was significantly ( $p=0.02$ ) shorter in the comprehensive care group (8.01 days) compared to the regular care group (8.86 days). After discharge in one month, the emergency room (ER) visits also showed significant in two groups, 0.08 vs. 0.16, respectively ( $p<0.001$ ) and it was 0.14 vs. 0.28 after discharge in three months ( $p<0.001$ ).

#### Conclusions/Lessons learned

The integrated cocare program reduced mortality and the length of hospital stay in hip fracture patients in elderly population. Patients would maintain a better condition from underlying illness and have better tolerance for early rehabilitation and capability for off-bed activities in the following 3 months before the fracture is healed. While hip fracture becomes a major health problem worldwide, the remarkable advantage of comprehensive evaluation and daily care from co-care program to offer an optimal postoperative care is evident.

#### Contact: TSAI Tsung-Yu

Kaohsiung medical university hospital  
No.100, Tzyou 1st Road, 807 Kaohsiung,  
[tsungyut@gmail.com](mailto:tsungyut@gmail.com)

**Screening Tools to Assess Nutritional Status among Elderly Inpatients**

**LIN LUAN-CHEN, CHOU LI-SHIU, LIN PEI-I, WU CHIU-HSIANG, LIU HSIU-CHULU MEI-JOU**

#### Background/Problem/Objective

Malnutrition is one of the most common problems for the elderly. To help medical professionals early detect potentially high-risk cases in malnutrition, the special designed nutritional care can be intervened early to enhance the overall quality in the elderly care. But not only one questionnaires can assess-

ment elderly population with chronic mental illness. Therefore, the purpose of this study was to investigate whether nutritional assessment questionnaires can predict the effectiveness of malnutrition among psychiatric elders. The three questionnaires: Malnutrition Universal screening, Mini Nutrition Assessment And Geriatric Nutritional Risk Index ; the common nutritional assessment tools were compared with the serum albumin values and body mass index of the clients.

#### Methods/Intervention

Screening new psychiatric patients who meet the age of  $\geq 60$  and exclude other physical disorders which caused malnutrition, such as receiving intravenous nutrition, receiving chemotherapy / radiotherapy, surgery and high / low serum sodium, diabetes or severe liver and kidney deficiency. The three different evaluation questionnaires: MUST, MNA-SF and GNRI were used to evaluate the clients. Meanwhile, the biochemical value of albumin was tested to compare with the evaluation results.

#### Results (of evaluation)

According to the statistics, GNRI and serum albumin were found to be moderately related and significantly different ( $p < 0.05$ ) among the three evaluation forms. The result show that GNRI was more representative of the nutritional status of this population. It is hoped that in the future, the simple assessment tool can be used to detect early malnutrition among elders to reduce the incidence of malnutrition and mortality in the psychogeriatric department.

#### Conclusions/Lessons learned

According to the results of the research, the screening results of the Geriatric Nutritional Risk Index (GNRI) are more representative for the nutrition screening tools for elderly people suffering from chronic mental diseases. This tool would be used as a reference for early nutritional intervention. The adequate nutrition care may be given as early as possible to reduce the incidence and its complications or infections related to malnutrition among psychiatric elders. Elderly mental patients can find resilience as early as possible without any worries.

#### Contact: LIN LUAN-CHEN

KAOSHIUNG MUNICIPAL KAI-SYUAN PSYCHIATRIC HOSPITAL  
130 KAI-SYUAN 2ND ROAD, 80276 KAOHSIUNG,  
[luanjeankimo@yahoo.com.tw](mailto:luanjeankimo@yahoo.com.tw)

## Ursing Tuka Education Model to Improve The Correct Rate of Wound Dressing For Elder Patients and Caregivers

**CHIANG Shu-Chuan, CHEN Hui-Shan, LAI Ssu-Yu, CHANG Ya-Mei, WU Mei-Chuan**

#### Background/Problem/Objective

Wound dressing is an important care in surgical wards. As the population ages, the elderly take care of the elderly gradually increased. Using Tuka education model to provide elder patients and caregivers to read through photographs to obtain complete information on self-care of wounds and increase their ability to take care of their wounds before discharge, follow our teachings after discharge and perform proper wound care and

self-care skills and reduce the incidence of repeated hospital infection wounds.

#### Methods/Intervention

Follow guideline to educate nursing staff to implement Wound Care Guidance Consistency. Carry out the assessment of the integrity of the wound after surgery, using Tuka Education Model to increase the patient's memory of the wound care, including: materials preparation, wound care guidance and reply teaching, and read the tuka to increase memory and practical steps for wound dressing, increase awareness of wound care.

#### Results (of evaluation)

After Using of Tuka Education model, the proportion of elderly patients and caregivers who were able to properly prepare their wound dressing products before discharge from 68% to 94% correctly explained that the proportion of Wound Care Health Education content was improved from 66% to 90% Step by step from 56% to 90%.

#### Conclusions/Lessons learned

Build a sense of self-confidence and accomplishment through the process of playing games on the Tuka. The nursing interventions included not only relieving the patient's pain and controlling the incision's infection but also developing a patient education sheet and demonstrating wound care to enhance the patient's awareness of and participation in wound care with the expectation of a healthy recovery.

#### Comments

Explore the initial learning motivation and changes in the learning process of the elderly through the Tuka to provide senior patients and their families participation in the wound care process and adaptive learning to increase self-learning, fertility and interaction, which can lead to enhanced learning motivation And can effectively overcome the obstacles to learning. We hope that this experience can serve as a reference for other nurses taking care of similar patients.

#### Contact: CHERN Meei-Ling

Chang Bing Show Chwan Memorial Hospital  
No.6, Lugong Rd., Lugang Township, Changhua,  
[kkmimi0507@hotmail.com](mailto:kkmimi0507@hotmail.com)

## A Quantitative Research Study of World Health Organization 10-Minute Simple Screening Tool and Study of Osteoporotic Fractures (SOF)

**HUNG Hsi-Lung, PAI Hui-Wen, YANG Hui-Fei, LEE Huei-Yu**

#### Background/Problem/Objective

With the rapid increase in the elderly population, the high-risk disease problems have cropped up. Department of Health and Welfare of the National Health Agency in Taiwan has developed an assessment "10-Minute Simple Screening Tool and Study of Osteoporotic Fractures (SOF)" for primary health care centers (PHC). This study was approved by the IRB (Institutional

review board) and intended to explore the applicability of the assessment to primary health care centers for elders.

#### Methods/Intervention

100 patients over 65 years old in the elderly medical department of a community Hospital in southern Taiwan were assessed. Sensitivity and specificity tests were then performed with the diagnosis. Finally, we conducted a paper investigation with six primary health care centers on the track and referral of unusual cases to understand their situation.

#### Results (of evaluation)

In validity, item-level CVIs (I-CVIs) revealed 0.83 to 1 and scale-level index (S-CVI) showed 0.98. In addition, the sensitivity and specificity, test results of "memory", "urinary incontinence", "depression", "physical function", "fall", "nutrition", "hearing", "eyesight" was that the urinary incontinence had a sensitivity of 66%, a "physical function" of 24%, and a "fall" of 44%, and other items have good sensitivity and specificity for this study.

#### Conclusions/Lessons learned

The 10-Minute Simple Screening Tool and Study of Osteoporotic Fractures (SOF) can be used in primary health care institutions. We suggested that in future studies should explore the intervention and referral of primary health care institutions and set up a standard so that primary health care centers have some reference to follow. Improve assessment, intervention, referral and track procedures to provide continuity of care for the elderly and enhance the quality of care and health of the elderly.

**Contact: LEE Pei Hsuan**

DITMANSON MEDICAL FOUNDATION CHIA-YI CHRISTIAN HOSPITAL

No.539,Zhongxiao Rd.,East Dist.,Chiayi City

60002,Taiwan(R.O.C), 60002 Chiayi City,

[cych13199@gmail.com](mailto:cych13199@gmail.com)

## The practice of Age-friendly care embody the architectural Accessible design of the hospital building : An Example of a Health Promoting Hospital in Taiwan

**LIN Kuo-Hsing, CHAO Wen-Ke, LEE Ching-Chieh, HOU Ming-Feng, TSAI\* Tien-Sheng**

#### Background/Problem/Objective

Based on design principles for Friendly Hospital; following the concept of Healthy City; promoting self-care ability of the elderly and their families. It is necessary to urge the community health care institutions to provide friendly, respectful and accessible healing environment for the elderly. Preventing and delaying the occurrence of elderly disability. Elderly people get the maximum chance of being healthy during the aging process.

#### Methods/Intervention

Following the principle of Accessible design, Using the following method: 1. To provide caring and convenient service. Setting up a volunteer close to the service bell at the gate, to provide wheelchairs services. 2. To Provide elderly friendly space in the

2nd floor, regular art exhibitions were Scheduled. 3. Building accessible toilets, Setting emergency bell, Setting accessible elevator, To set up safety handrail in the walkway, to facilitate elderly people to be safe.

#### Results (of evaluation)

For the premise of Green Earth, Kaohsiung Municipal Hsiao-Kang hospital following our core values (C:Cooperation A:Accountability R:Reverence E:Effectiveness) since 2011. 1. Certified "Age-friendly Hospital" by Bureau of Health Promotion, 2013. 2. Certified "Age-friendly Hospital" excellence award by Bureau of Health Promotion, 2014. 3. Certified "TCSA (Taiwan Corporate Sustainability Awards)" gold award by Taiwan Institute for Sustainable Energy, 2016. 4. Certified "TCSA (Taiwan Corporate Sustainability Awards)" gold award by Taiwan Institute for Sustainable Energy, 2017.

#### Conclusions/Lessons learned

Following the principle of Accessible design, From the point of view for the elderly, supplying more appropriate services to meet their needs. Preventing and delaying the occurrence of elderly disability, to reduce the occurrence of accidents effectively. To Get the health chance in the aging process, aiming the dignity of life through health and autonomy. Following our core values (C.A.R.E.), We will still take the social responsibility of a professional medical provider by offering community services and creating a good environment with holistic care in future 50 years.

**Contact: TSAI Tien-Sheng**

Kaohsiung Municipal Hsiao-Kang Hospital

No.482, San-Ming Rd., Hsiao-Kang Dist, 812 Kaohsiung City,

[h9471303@gmail.com](mailto:h9471303@gmail.com)

## Effectiveness of using acupressure on elderly patients with chronic constipation

**SU Wen-Hsuan, WU Jia-Ling, DING Shean-Jen, CHEN Sung-Yun, TSAI Yi-Fan**

#### Background/Problem/Objective

More than 40% of elderly patients had constipation. The most common way to solve chronic constipation is laxative agent. However, use of laxative agent could lead to intestinal cramp, bloating, dehydration and incontinence. An internal medicine ward of regional hospital with 43.5% old people and 80.2% constipation among them. Our study intended to examine the effectiveness of acupressure in elderly, bed ridden patients with chronic constipation.

#### Methods/Intervention

Our clinical trials according to the number of defecation were randomized into 2 groups of elder hospitalized patients. Nursing care and laxative agents were all given as usual in 2 groups. We only directed family and caregiver to do acupressure of Zhōngwǎn (CV12), TianShu (ST25) and ChǐHǎi (CV6) on elderly inpatients in experimental group. The duration of acupressure was 8 minutes, followed with 2 minutes abdomen massage, twice daily and continued for 10 days. We also recorded the frequency of defecation and shapes of stool.

**Results (of evaluation)**

A total of 20 bed ridden patients, age more than 65, with chronic constipation were enrolled from June to August in 2017. 10 patients were in experimental group and the other 10 were in control group respectively. After acupressure the frequency of defecation in experimental group was increased significantly ( $F=98.183$ ,  $P<0.001$ ). And we also found both the shapes of stool and enteric peristalsis were increased and reduced abdominal bloating.

**Conclusions/Lessons learned**

Our result showed the effectiveness of acupressure of Zhōngwǎn (CV12), TianShu (ST25) and ChiHai (CV6) may improve spontaneous bowel movements of elder bed ridden patients with chronic constipation. In conclusion, acupressure is a non-invasive intervention that nursing staff and caregiver could practice independently. Not only promote the participate rate of caregiver but improve the quality care of patients.

**Contact: TSAI YI-FAN**

Taipei City Hospital, Young Ming Branch  
No.105, Yusheng St., Shilin Dist., Taipei City 11146, Taiwan  
[b1717@tpech.gov.tw](mailto:b1717@tpech.gov.tw)

## Elderly Experience for All Staff- Creating Organizational Culture

**CHANG Fang-Lun, WU Pei-Shuang****Background/Problem/Objective**

From 2016 to 2017, we have conducted several educational training courses. The implementation of these training courses, including fundamental educational training (mandatory for all hospital staff), core educational training (mandatory for medical staff), and elderly experience educational training (mandatory for all hospital staff), has not only raised the staff's awareness about the hospital's age-friendly service policies, but also increased the staff's involvement in educational training courses, further strengthening their understanding of the decline in biological function for elderly people.

**Methods/Intervention**

For two consecutive years, we have conducted the elderly experiencing activity, which allowed our staff to simulate the movement of elderly people by wearing specially designed equipment, such as a weighted vest, leg sandbags (weight), joint restriction, blurred glasses, and windproof gloves, etc. By passing an activity involving three challenges, participants can feel what it is like to be an elderly person visiting a hospital. In addition, questionnaires were designed to analyze our staff's awareness about the hospital's age-friendly policies. The rate of completion for the educational training courses as well as the experiencing courses was then calculated.

**Results (of evaluation)**

Our staff's awareness of the hospital's age-friendly policies has gradually increased from 2015 to 2017. In 2016 and 2017, over 90% of our total staff recognized that we are an age-friendly certified hospital. As for the participation of age-friendly educational courses, the rate of completion for elderly fundamental and core educational training courses in 2016 was 85.9% and 88.1%, respectively. The rate of completion for elderly experiencing courses in 2016 was 92.2%.

**Conclusions/Lessons learned**

Since the organization of the elderly experiencing activities in 2016, more than 2500 people have participated in the events and a lot of great feedback has been received, which further improves the bonding within our community and the atmosphere for respecting elders. The hospital's staff applied their empathy to clinical caring and community education, bringing equipment to share the experience with young people in the community.

**Contact: CHANG Fanglun**

Tungs' Taichung MetroHarbor Hospital  
No.699, Sec. 8, Taiwan Blvd., 435 Taichung,  
[t10926@ms.sltung.com.tw](mailto:t10926@ms.sltung.com.tw)

## Achievement of oral care activities by the dental hygienists at the general hospital

### SAITO Miyuki, KATO Rika, SAITO Takao, YAMADA Ayumi, SHINOBI Tetsuya, FUKUBA Isao

**Background/Problem/Objective**

Oral function affects health of the whole body. Therefore, recently, the importance of oral care at medical sites is increasing. Although we do not advocate dentistry at our hospital, we have assigned two dental hygienists from April 2015 and have instructed intervention of oral care of ward patients for ward staff. I would like to look back on the activities of dental hygienists during 3 years after assignment, and would like to lead to better oral care in the future.

**Methods/Intervention**

OHAT (oral assessment tool) was used to measure the condition of the oral cavity in 8 categories, such as dryness in the oral cavity, bad breath, adhesion of dental calculus and dental plaque, gingival swelling etc. The score was evaluated in three stages. Furthermore, after intervention of professional oral care, the situation in the oral cavity was reevaluated and the improvement degree was evaluated. We compared the incidence of aspiration pneumonia occurring in the hospital for 3 years.

**Results (of evaluation)**

From January to November 2016, 239 people (8.7%) were continued to perform professional oral care. The OHAT score of 219 patients continuing intervention improved. By underlying disease, the OHAT score improved in all diseases. Especially in diabetic patients, improvement degree was high. In addition, comparing with the incidence of aspiration pneumonia occurring in-hospital in 2014 before assignment and in 2015 and 2016 after assignment, there is no significant difference, but the incidence rate gradually decreases.

**Conclusions/Lessons learned**

Continued intervention of professional oral care achieved improvements in OHAT score in all patients regardless of need of care status, nutrition method, and underlying disease. And, the incidence of aspiration pneumonia occurring in-hospital gradually decreases. Within two years of efforts, nursing staff began to recognize the importance of oral care. Oral care



techniques by nursing staff are also improving. We will continue oral care at the ward. Especially we would like to strengthen teaching oral care to nursing staff.

**Contact: KATSUYUKI Togashi**  
Saitama-kyoudou Hospital  
1317.kizoro, 333-0831 kawaguchi,  
[k-togashi@mcp-saitama.or.jp](mailto:k-togashi@mcp-saitama.or.jp)

## Session P1.3: Chronic disease management I

### Weight gain and risk of cardiometabolic diseases among middle-aged women: using a reversible multistate Markov model

**HWANG Lee-Ching, BAI Chyi-Huey, YOU San-Lin**

#### Background/Problem/Objective

Women menopause poses a major life transition and is considered to increase the risk of cardiometabolic diseases. Our goal was to describe the projected prevalence of cardiometabolic diseases using simulation models in middle-aged women according to weight change condition. These findings may help counsel middle-aged women regarding the risks of weight gain.

#### Methods/Intervention

A cohort study enrolled 1,012 middle-aged women in Taiwan. Incidence rates and yearly transitional probabilities by weight change group were calculated to estimate the projected prevalence of cardiometabolic diseases. Each Markov chain consisted of 5 states (non-disease, isolated diabetes mellitus (DM), isolated hypertension (HT), combined DM and HT, non-DM/HT metabolic syndrome (MetS) state). To capture all these possible changes over time, we adopted a reversible multistate Markov model that allowed transitions to and from any state.

#### Results (of evaluation)

The median of weight change during the 5-year-follow-up was +0.5 kg (interquartile range -2 ~ +3). Participants were divided into 2 groups according to weight change condition: weight gain more than 3 kg group (n=268) and weight stationary or loss group (n=744). The incidence of HT and MetS (per 1000 person-years) were 47.14 and 62.64 respectively in weight gain group, which was significantly greater than weight stationary or loss group (29.14 and 32.57 per 1000 person-years). Among weight gain subjects with non DM/HT MetS, the progress of cardiometabolic diseases was likely to be initiated by isolated BP or directly occurred combined DM/HT. The projective prevalence of HT and non-DM/HT MetS were estimated to be 38.99% and 16.74% of weight gain group at 15 years, which were significant higher than weight stationary or loss group (22.41% and 14.26%). The incidence of DM was not different between two groups at the initial 5-year-follow-up period, however, the projective prevalence of DM after 10 years estimated to be higher in weight gain group. Participants with weight gain posed double risk in the development of combined DM and HT.

#### Conclusions/Lessons learned

This modeling study allows estimation of the projected development of cardiometabolic diseases. The 5 to 15 year projected prevalences estimate for DM, HT and MetS showed an increasing monotonic function of time and significantly aggravate in weight gain group.

#### Contact: CHC mmh

Community Health Center, Mackay Memorial Hospital,  
No. 92, Sec. 2, Zhongshan N. Rd., Taipei City,  
[mmh1089@ms1.mmh.org.tw](mailto:mmh1089@ms1.mmh.org.tw)

### The Prevalence of Dyslipidemia and Development of a Health Promotion Plan in 8798 Taiwanese elderly Citizens

**LEE Meng-Szu, YEH Ming-Lun, LIN Shu-Ching, KUO Hsiang-Ju, HSU Yu-Kuei, YANG Jeng-Fu, DAI\* Chia-Yen**

#### Background/Problem/Objective

Dyslipidemia is related to atherosclerosis, and the development of cardiovascular diseases. The health promotion plan helps maintain diet control and appropriate exercise, thus reducing dyslipidemia related health hazards. We aimed to investigate the prevalence of dyslipidemia in Taiwanese people aged over 65 years. According to the statistical results, the corresponding healthy promotion plan of controlling dyslipidemia was established as a reference for elderly health care services.

#### Methods/Intervention

This study enrolled 8798 Taiwanese elderly citizens possessing the healthy examination during 2014 to 2016. Serum total cholesterol, triglyceride, high density lipoprotein cholesterol and low density lipoprotein cholesterol levels were measured. Dyslipidemia was defined as one of the three detected values of total cholesterol, triglyceride and high density lipoprotein cholesterol was over the standard index. The prevalence of dyslipidemia and associated factors were analyzed using the Minitab v.17 software, further the corresponding healthy promotion plan of controlling dyslipidemia was established.

#### Results (of evaluation)

The mean age of the 8798 Taiwanese elderly citizens was 72.7 ± 0.1 years. Dyslipidemia was identified in 4266 (48.5%) of the 8798 elderly citizens, in which 46.3%, 9.0%, 10.3% and 34.4% had total cholesterol, triglyceride, high density lipoprotein cholesterol and low density lipoprotein cholesterol abnormality, respectively. Hyperlipidemia was identified abnormality, which account for 48.1% of the samples. Further ANOVA analysis also demonstrated that the factors such as blood glucose, GOT, GPT, and serum creatinine were significantly associated with dyslipidemia.

#### Conclusions/Lessons learned

Near half of the elderly citizens in Taiwan are at risk of dyslipidemia. Developing a proper health promotion plan for elderly citizens is necessary to control the risk of dyslipidemia and reduce the related health hazards. The result of this study can be using as a reference for elderly health care services.

**Contact: LEE Meng-Szu**

Kaohsiung Medical University Hospital, Kaohsiung Medical University, No.100, Tzyou 1st Road, 807 Kaohsiung, [vvvykimo@gmail.com](mailto:vvvykimo@gmail.com)

## Factors associated with pre-hospital delay in Korean patients with ST-elevation myocardial infarction

**KIM Hee-Sook, EUN Sang Jun, LEE Kun-Sei**

### Background/Problem/Objective

Pre-hospital delay (time interval between symptom onset and hospital arrival; PHD) is still long among patients with acute myocardial infarction (AMI) and remains a major public health problem in Korea. PHD is consisted of patient delay (decision time) and transport delay, which are affected by many factors. For example, among patient factors, awareness of AMI symptoms is known to be a minimum necessary condition for a patient's decision to seek care. This study aimed to examine factors influencing the time delay to develop strategies to reduce the PHD in Korea.

### Methods/Intervention

The subjects were patients hospitalized with ST-elevation myocardial infarction (STEMI) at 6 percutaneous coronary intervention (PCI)-capable tertiary hospitals from July 2014 to June 2015 (total of 350 patients). Data were collected using structured face-to-face interviews and from medical records.

### Results (of evaluation)

Decision time was significantly shorter in patients with college/higher education than in those with primary school education. As for symptom onset-to-door time, middle school and college/higher education graduates had significantly shorter delay. Non-transfer patients had significantly shorter delay than transfer patients, and using a private vehicle showed significantly longer delay than using 119 (a national emergency telephone number and emergency medical services [EMS] in Korea). Awareness of AMI symptoms was not a significant factor affecting these delays.

### Conclusions/Lessons learned

Transport-related factors (whether or not transfer, a mode of transport) rather than whether being aware of AMI symptoms or not were associated with PHD. This suggests that knowledge of AMI symptoms alone cannot reduce PHD. Therefore, further patient education should emphasize EMS use as well as awareness of symptoms, and a more coordinated EMS-related delivery system in pre-hospital phase is necessary, to increase 119 use soon after the onset of AMI and to directly transport AMI patients to a PCI-capable hospital.

**Contact: KIM Hee-Sook**

Korea Centers for Disease Control & Prevention  
187, Osongsaengmyeong 2-ro, Osong-eup, Heungdeok-gu  
28159 Cheongju-si, [nikita1025@korea.kr](mailto:nikita1025@korea.kr)

## Dose Heart Rate Variability Predict Incident Cardiometabolic Risk in the Longitudinal Study

**KAO Tung-Wei, CHEN Yuan-Yuei, WU Li-Wie, CHEN Wei-Liang**

### Background/Problem/Objective

Heart rate variability (HRV) was a useful tool to present the condition of autonomic nervous system. In several studies, reduced HRV was reported to be associated with cardiovascular disease, diabetes mellitus and metabolic syndrome. We hypothesized that HRV could predict the incident hypertension (HTN), metabolic syndrome (MetS), and diabetes mellitus (DM).

### Methods/Intervention

The present study enrolled 1119 eligible participants aged above 20 years old from regular health examinations of Tri-Service General Hospital, National Defense Medical Center in Taiwan since 2012 to 2015. After excluding missing data of MetS components or HRV, and history of MetS, HTN, and DM in 2012, Cox proportional hazard model was investigated incident MetS, HTN, and DM at 3-year follow-up.

### Results (of evaluation)

Multivariate analysis by Cox proportional hazard model demonstrated that HRV alteration had significant association with all future metabolic components. Furthermore, altered HRV had increased risks for developing of future MetS, HTN and DM. Notably, higher low frequency power (LF) was significantly associated with incident MetS (HR=1.001, 95% confidence interval= 1.001, 1.002), HTN (HR=1.001, 95% confidence interval=1.000, 1.001) and DM (HR=1.001, 95% confidence interval=1.001, 1.002) in all adjusted models.

### Conclusions/Lessons learned

Our study highlighted increased LF, which reflected the imbalanced activity of autonomic nervous activity, had increased risks to progress future MetS, HTN and DM.

**Contact: KAO Tung-Wei**

Tri-Service General Hospital  
Number 325, Section 2, Chang-gong Rd, Nei-Hu District, 114, [ktw61916@yahoo.com.tw](mailto:ktw61916@yahoo.com.tw)

## Implementation of guidelines for treatment of osteoarthritis in the south of Sweden

**ÅKESSON Karin**

### Background/Problem/Objective

Osteoarthritis (OA) is a common joint disease globally. Prevalence is expected to increase. Common symptoms are pain, stiffness and loss of function. Today, there is no cure for OA, and treatment is focused at relieving symptoms. According to international, national and regional guidelines core treatment for OA is information, exercise and weight reduction. The guidelines are being implemented in the south of Sweden during 2016-2018. All patients with OA should see a physio-

therapist early to get diagnosed and participate in a supported OA self-management programme (SOASP) that provides information about OA, an exercise programme and weight reduction. The participants fill in questionnaires that are reported in a national quality register, Better management of patients with OsteoArthritis (BOA).

#### Methods/Intervention

Two physiotherapists, coordinators, visit primary health care centres to inform about the guidelines at workplace meetings where all categories of health care providers are present. Individual support, education in how to organize a SOASP and a network of information are some of the activities that are provided to support the implementation. Strategies targeting the public are being planned.

#### Results (of evaluation)

There are 150 primary health care centres in total. Today, 51 % of the primary health care centres have had a visit by a coordinator. Before the implementation started 49 primary health care centres reported to the BOA quality register. Today, 78 report to the register. How many patients participate in the SOASP, how many patients are diagnosed by a physiotherapist and how many PHC's report to a national quality register will be monitored continuously. A qualitative follow-up, interviewing physiotherapists about their experiences of the implementation, is planned.

#### Conclusions/Lessons learned

Implementation takes time. Even though there is evidence to support the guidelines it takes time to change work procedure on both individual, workplace and organisational level. Barriers to follow the guidelines are lack of resources, lack of time and constant employee turnover in primary health care that makes it difficult to follow the guidelines.

**Contact:** STURES DOTTER ÅKESSON Karin

Department of Health Sciences at Lund University  
Baravägen 3, +46 Lund,  
[Karin.sturesdotter\\_akeesson@med.lu.se](mailto:Karin.sturesdotter_akeesson@med.lu.se)

## Implementation of Fracture Liaison Service for Closing the Osteoporosis Treatment Gap

**HUNG Wei-Chieh, CHIN Wei-Lin, CHIU Tzu-Jung, LIOU May-Fan, LIN Chih-Yin, HONG Wei-Wei, TSAI Hsiu-Hui, LIN Chi-Wei**

#### Background/Problem/Objective

Osteoporotic fracture may cause permanent disability, difficulties with activities of daily living and high mortality rate in hip fractures. Previous fracture was also one of the important risk factors of re-fracture. However recent researches showed the treatment rates remain low for those patients. Fracture liaison services (FLS), which focused on improving the treatment rate of osteoporosis patients to prevent the negative effect of osteoporotic fracture and re-fracture on healthy status. Thus we aimed to implement FLS to close the treatment gap.

#### Methods/Intervention

Following the standards which were established by International Osteoporosis Foundation, FLS was implemented in E-Da hospital since 1st May, 2016. We set the FLS, including primary and secondary prevention of fragile fracture, as routine work and hired the full-time coordinators for this project. Under the strong cooperation from information technicians, our comprehensive case manage system can help the clinicians, nurse and coordinators easy to reach 3 "I" (identification, investigation, and initiation of appropriate treatment). Contacting the patients from phone interview to increased adherence to the osteoporosis treatment was done by the coordinators. We also held lots of activities for osteoporosis screening in the communities to find out the patients with higher risk of fragile fracture.

#### Results (of evaluation)

Before applying FLS, the treatment rate of suspected osteoporotic patients was 18.7% (1,728/9,217) from May 2015 to April 2016. After implementing FLS, The treatment rate became 33.9% (3,197/9,422) from May 2016 to April 2017. The change of treatment rates were 81.2% increased before and after FLS.

#### Conclusions/Lessons learned

After Implementing FLS, the treatment rates for osteoporotic fracture patients were significant increased. Although the treatment rates were successfully increased, we need to keep monitor more indicators in this FLS program, including re-fracture rate, adverse effect of anti-osteoporosis medications, and cost-effectiveness.

**Contact:** HUNG Wei-Chieh

[sydebat921@gmail.com](mailto:sydebat921@gmail.com)

## A nationwide strategy in preventing cardiovascular disease

**CHANG Hsing-Yi, WANG Ying-Wei, CHIA Shu-Li**

#### Background/Problem/Objective

The WHO Global NCD Action Plan 2013-2020 stressed that to achieve the goal of reducing NCD requires cooperation from different health sectors. Death due to cardiovascular diseases is still rising in 2016 in Taiwan. Heart disease increased 8.4% and cerebrovascular diseases increased 6.1%. Thus, we embark a nationwide plan to prevent cardiovascular diseases. We would like to present our multisector strategy in preventing cardiovascular diseases.

#### Methods/Intervention

A team composes three major groups was formed. One group searches for literatures on primary and secondary prevention, then consolidate into suggestions to the government. Another group works on existing data to provide consistent estimates on prevalence and incidence of cardiovascular diseases for the government. The other team uses existing data to establish the risk prediction models for the nation.

#### Results (of evaluation)

The group for literature review has conducted four sessions of lectures to public health workers sharing the information. This is to get the local public health workers ready for the upcoming prevention programs. The group working on risk prediction models has completed building models. At the same time, part

of the models will be implemented to the nationwide health check-up system. This is to bring the awareness of the probability of risk to the public, so that the public can take action to avoid the risk. The group working on utilizing current data to estimate the national prevalence and incidence of the diseases has provided solid data to the government.

#### Conclusions/Lessons learned

The collaboration is promising. Once the risk prediction model and the primary and secondary prevention guideline are ready, they will be implemented nationwide. The public health workers will motivate individuals to care for their cardiovascular health. The rest will be to identify the hazard for self-care in general population. Ultimately, we hope to improve the cardiovascular health for the general population of Taiwan.

**Contact: CHANG Hsing-Yi**

NHRI, 35, Keyan Road, A3223, 350 Zhunan town,  
[hsingyi@nhri.org.tw](mailto:hsingyi@nhri.org.tw)

## Quality of Life and Associated Factors Among Stroke Patients in Korea: From 1 Year Outpatient Follow up after Attack

**LEE HeyJean, MOON Jiyoun, PARK YoungKwon, KIM Seongheon, KIM Keonyeop, SHIN Min-Ho, SONG JungGook, AHN Soon-Ki, KANG Gil-Won, LEE Young-Hoon, KIM Byoung-Gwon, LEE Heeyoung, LEE Won Kyung, PARK Ki-Soo, LEE Kun Sei**

#### Background/Problem/Objective

Stroke patients show diverse status at the end of acute care in hospital. Improving function and quality of life are important for daily life of stroke patients. Professionals usually recommend continued medication and prolonged rehabilitation. But, less is known about quality of life and associated factors after acute care. We try to identify the level of quality of life among stroke patients 1 year after attack. We also analyze associated factors including socioeconomic characteristics and compliance.

#### Methods/Intervention

We asked socioeconomic characteristics, modified Rankin Scale as physical status, Modified Morisky Scale(MMS) as compliance, and WHO Disability Assessment Schedule 2.0(WHODAS) as quality of life. Education nurses asked questionnaire through one to one interview at outpatient department. We conducted cross-sectional questionnaire survey at 11 university hospitals in Korea from October 2015 till march 2016. We selected patients who had served acute care for ischemic stroke and kept follow up for 12-15 months after attack. We analyzed data from 382 patients.

#### Results (of evaluation)

In the univariate Analysis, WHODAS score tended to be higher among patients who were older, not married, educated as or less than middle school, income as or less than 1,000,000 won, with severe mRS. In multivariate analysis, association with marital status and education diminished and compliance

turned up as higher MMS was associated with lower WHODAS. Both of knowledge and motivation showed negative relationship with WHODAS score.

#### Conclusions/Lessons learned

We identified older age, severe physical status were associated with low quality of life. We also found out better compliance was associated with high quality of life. It's consistent in both of knowledge and motivation. Interventions increasing compliance like education, phone call, etc. can be helpful to enhance quality of life among stroke patients.

**Contact: LEE HeyJean**

Kangwon National University Hospital  
Baegnyeongro 156, 200-722 Chuncheon,  
[vishue@gmail.com](mailto:vishue@gmail.com)

## A Study on Self-Management Behaviors and Related Factors in Patients with Chronic Obstructive Pulmonary Disease

**CHANG YI-YA**

#### Background/Problem/Objective

The self-management behaviors of patients with chronic obstructive pulmonary disease represent the most important part of their healthcare. However, few studies have investigated the affecting factors of self-management behaviors in patients with chronic obstructive pulmonary disease. The purposes of this study were to explore self-management behaviors and the factors that affect self-management in patients with chronic obstructive pulmonary disease.

#### Methods/Intervention

A qualitative approach was designed. The Research Ethics Committee at the National Taiwan University Hospital approved this study (201112134RIC). The self-management program was implemented in 30 participants for 3 months. The case manager conducted follow-up phone interviews with the subjects to track the progress of their self-management behaviors over a 3-month period for data collection during January 2015 to May 2016. A content analysis was performed on the interview data to identify participants' self-management behaviors and factors affecting their self-management.

#### Results (of evaluation)

Three participants withdrew from the study because of time constraints, 27 completed. Pursed-lip breathing was the most adopted strategy (n = 27; 100%), followed by regular exercise (n = 25; 92.59%), regular taking of medications (n = 12; 44.44%), prevention of respiratory tract infections (n = 10; 37.03%), smoking cessation (n = 10; 37.03%), and the adoption of environmental control measures (n = 3; 11.11%). The factors that affect self-management are environment, time, physical discomfort, and goals of action plans.

#### Conclusions/Lessons learned

The results provide some evidences to help health professionals further understand the self-management behaviors and the factors that affect self-management in patients with chronic obstructive pulmonary disease. Health professionals should pay attention to factors that affect the self-management behaviors

in patients with chronic obstructive pulmonary disease to develop better healthcare and suggests further research.

**Contact: YI-YA CHANG**

CHANG GUNG UNIVERSITY OF SCIENCE AND TECHNOLOGY  
N222, No.261, Wenhua 1st Rd., Guishan Dist  
33303 Tao-Yuan ,  
[yychang@mail.cgu.edu.tw](mailto:yychang@mail.cgu.edu.tw)

## Using Information System Support Decision Making to Promote Emergency Medical Quality for Stroke Patients

**LU Yen-Wen, LIEN Chi-Hsun, TSENG Pei-Shan, WU Choa-Hsin, CHEN Ya-Hui, LI Jung-Ching**

### Background/Problem/Objective

According to top 10 causes of death by Ministry of Health and Welfare Taiwan in 2016, Cerebrovascular disease ranks fourth among the top 10 cause of death. According to the U.S. AHA Guidelines, an additional 33% recovery in acute stroke patients received intra venous t-PA within 60 minutes. Between 2016 and 2017, 85 patients with cerebrovascular infarction admitted to our hospital within three hours. In this article, we used information system support decision making to promote emergency medical quality for stroke patients.

### Methods/Intervention

We have constructed an information system including "Emergency System Stroke Package" and "Emergency Card" that integrates medical services and quality management to transform the workflow of team care and also made "Thrombolytic Agent rt-PA Manual of Interpretation" to brief the clinical frequently asked questions. In order to give the public a diversified and internationalized concept of stroke, case manager designed the Poster "FAST" and English version for publication in the out-patient areas, health education centers and related clinical units.

### Results (of evaluation)

After intervention, 1, in line with thrombolytic therapy and the actual application of the patient from 50% to 98.2%. 2. The rate of Door to Needle Time (D-N) treatment for acute ischemic stroke patients increased from 60% to 69.2% when receiving intravenous thrombolytic agents. 3, patients and their families consider the application of thrombosis time from an average of 20 minutes to 14 minutes.

### Conclusions/Lessons learned

System Import Strategy for the medical team, Emergency physicians face stroke patients within three hours can more effectively assess whether the application of thrombolytic agents, and for patients and their families, it is easier to understand and decrease the time taken to administer thrombolytic agents (rt-PA), which in turn captures the gold treatment schedule and further increases the recovery rate. Looking forward to grasp the golden period of treatment, but also can effectively limit the disability of patients.

**Contact: TSENG Pei-Shan**

Tungs' Taichung MetroHarbor Hospital  
No.699, Sec. 8, Taiwan Blvd., 435 Taichung,  
[ellen02052000@gmail.com](mailto:ellen02052000@gmail.com)

## To improve the rate of rehabilitation care of stroke patients through the case management model: a 3-year experience

**HUANG MU-SHENG, WU HUI-CHUANHUANG PEI-JU**

### Background/Problem/Objective

Discharge planning, the accessibility and availability of social resources play an important role in the psychological wellbeing of stroke survivors. The discharge process may also involve rehabilitation case managers and social workers who can assess socioeconomics issues that may influence the transition. Our discharge plan for stroke survivors coordinated by the case manager to increase the rate of rehabilitation care can be provided.

### Methods/Intervention

Rehabilitation services are the primary mechanism by which functional recovery and the achievement of independence are promoted in stroke survivors. All patients underwent a formal assessment of rehabilitation needs before discharge. The case manager provides the accessibility to inpatient rehabilitation services of Changhua Christian healthcare system for who wants to re-admit, and provides social resources for who could only stay at home.

### Results (of evaluation)

The rate of rehabilitation care can be provided to stroke survivors is 59.4% in 2014 (without the case manager), 61.6% in 2015 (the case manager served 1st year), 67.6% in 2016 (the case manager served 2nd year), and 64.8% in 2017 (the case manager served 3rd year). Our physician hands over stroke survivors to next inpatient rehabilitation facility for transferring consistently, so the rate of rehabilitation care increases 5.4% from 2014 to 2017.

### Conclusions/Lessons learned

In this study, 2016's and 2017's main factors such as family support (60.6% and 67.3%), living circumstances (14.5% and 7.7%), and transfers to nursing home (9.2% and 3.8%) have been shown to affect the rate of rehabilitation care. Case management model for stroke survivors will promote the increase of activity ability and reduce the medical cost during hospitalization as well as to upgrade the rate of rehabilitation care.

**Contact: HUANG Mu-Sheng**

Lugang Christian Hospital  
480 Zhongzheng Rd., Lugang Town, 505 Changhua,  
[700873@cch.org.tw](mailto:700873@cch.org.tw)

## Health Cognitive, Attitude and Health Behavior in Patients with



## Chronic Obstructive Pulmonary Disease: A Cross-sectional Analysis

**PIN-YUN Chang, HUNG-JU Chen, YIN-YING Wang, YI-CHEN Lee, TUAN-JUNG Hsu, JONG-RUNG Tsai, SUNG-SHAN Chang**

### Background/Problem/Objective

According to the Global Initiative for Chronic Obstructive Lung Disease Guidelines recommendation, patients with COPD significant effective after pulmonary rehabilitation therapy, alleviate the symptoms of dyspnea, anxiety, and activity tolerance. However, only 25% of patients with COPD regular with sustained exercise per week and patients lack of relevant knowledge of pulmonary rehabilitation program. This study intended to assess outpatients with COPD Involvement pulmonary rehabilitation therapy program on health cognitive, attitude, health behaviors, and quality of life state related factors.

### Methods/Intervention

All patients accept pulmonary rehabilitation one to twice per week, include respiratory control training, high-frequency chest wall oscillation, inhaled drug teaching, and nutrition counseling. We distributed a questionnaire among 177 cases. The structured questionnaires collected regarding the effect of after intervention pulmonary rehabilitation treatment on health cognitive, attitude and health behavior scales; quality of life state, including the severity of subjective diseases; the implementation of weekly pulmonary rehabilitation frequency, outpatient frequency, and other related variables.

### Results (of evaluation)

After more than 8 weeks of pulmonary rehabilitation therapy, patients with COPD had positive health cognitive, willing to sustained pulmonary rehabilitation attitude. Further analysis patients had higher cognitive, attitude had a significant positive impact on health behavior. after treatment, patients' quality of life state, including the severity of the disease was 3.24 points (normal), regular pulmonary rehabilitation exercise was performed 2.78 times/weekly, outpatient department frequency was 1.16 times/ month. Notably, females reported a better self-care behavior than males, will help in enhancing the importance of autonomous health management.

### Conclusions/Lessons learned

This study confirms patients with COPD after pulmonary rehabilitation program demonstrated health cognitive, attitude, which is conducive to the positive impact on health behavior, which is also patients with sustained pulmonary rehabilitation key factor. The empirical results of this study are highlights than the epidemiological research literature can contribute, Patients through learning respiratory control skills, inhalation drug correctness, balanced diet consultation, Patients consider these initiatives effective in improving the severity of subjective disease, enhancing the respiratory muscle strength and exercise tolerance to prevent disability, the quality of life state.

### Contact: PIN-YUN Chang

Kaohsiung Medical University Hospital, Kaohsiung Medical University, Kaohsiung R, 100, Ziyou 1st Road, Sanmin District  
Word Kaohsiung City,  
[pinyun.tw@gmail.com](mailto:pinyun.tw@gmail.com)

## Supporting the daily work to promote a healthy lifestyle in patients with chronic rheumatic diseases – development and implementation of a structured model for specialist care

**CALANDER Ann-Marie, BJÖRK Mathilda, BRODIN Nina, LILJEQVIST Caroline, NYLANDER Maria, ROTH Alexandra, SUNDSTRÖM Björn, SWÄRD Emma, PETTERSSON Susanne**

### Background/Problem/Objective

Several rheumatic diseases are triggered and/or aggravated by lifestyle factors and the disease per se commonly entails an increased risk for comorbidity, especially cardiovascular disease. In Sweden, healthcare providers are obliged to assess unhealthy lifestyle and promote healthy habits but guidance in specialized care is often lacking. The objective of the project was to develop a model, which supports healthcare professionals and doctors at rheumatology units in the country to adequately address lifestyle issues in patients with rheumatic disease.

### Methods/Intervention

The model was formed using a bottom-up-approach within a multi-professional working group in 4 steps. 1. Investigation and summarizing of on-going projects and scientific papers in the field. 2. A questionnaire to Swedish rheumatology units mapping current resources. 3. An expert workshop including patient representatives discussing results from 1 and 2 in combination with their experiences and reflections. 4. Summarizing and processing results from previous steps in the working group and development of the model.

### Results (of evaluation)

The first cornerstone of the model is an educational material giving all co-workers the same basal knowledge about unhealthy lifestyle as well as knowledge about how lifestyle specifically affects rheumatic diseases enabling them to identify unhealthy habits and give standardized advices. The second is a key map with national guidelines/referrals, partly made as a template to allow the addition of local guidelines and referrals. The third is a local coordinator for whom a work description is composed defining the responsibilities.

### Conclusions/Lessons learned

The model has been launched, been well received, and is currently being implemented by the majority of the Swedish rheumatology units. We plan to create a network for the local coordinators to facilitate the maintenance of the model. No longer leaving lifestyle factors to the primary care alone, but taking these questions into the specialized care and treatment for chronic rheumatic diseases may constitute the additional opportunity for better outcome that this patient group is in need of.

### Contact: CALANDER Ann-Marie

Sahlgrenska University Hospital  
Gröna Stråket 12, 413 45 Göteborg,  
[ann-marie.calander@vgregion.se](mailto:ann-marie.calander@vgregion.se)

## Association of Peptic Ulcer Disease with Metabolic Syndrome in Taiwan

**YANG Pei-Yu, SHEN Jung-Yu, HSIEH Yao-Hsuan, LIN I-Ching**

### Background/Problem/Objective

Higher body mass index (BMI) is a risk factor of asymptomatic peptic ulcer disease in previous studies. BMI is also the main risk factor of metabolic syndrome. However, the association of peptic ulcer disease with metabolic syndrome is still unknown. This study aimed to evaluate the correlation between peptic ulcer disease and metabolic syndrome.

### Methods/Intervention

The study is a cross-sectional retrospective study. All patients who received panendoscopy were enrolled in a hospital from 2013/1/1 to 2014/12/31. The clinical characteristics were analyzed by a student's t-test for continuous variables and a chi-square test for categorical variables. The association of peptic ulcer and sex, age, smoking, alcohol drinking, betel nut chewing, abdominal circumference, BP, fasting blood glucose, HDL-C, TG, metabolic syndrome were analyzed by Pearson's correlation coefficient model. Statistical analyses were performed using SPSS 18.0

### Results (of evaluation)

4895 participants (mean age  $50.01 \pm 11.2$  years) were recruited for analysis. Age, male, smoking, alcohol drinking, and betel nut chewing were associated with peptic ulcer disease ( $P < 0.001$ ). Peptic ulcer disease was associated with increased abdominal circumference ( $P < 0.001$ ), increased TG ( $P = 0.022$ ), elevated blood pressure ( $P < 0.001$ ), elevated fasting blood glucose ( $P < 0.001$ ) and metabolic syndrome ( $P < 0.001$ ). All P values are two-tailed and statistically significant as  $P < 0.05$ .

### Conclusions/Lessons learned

Our study revealed positive association of peptic ulcer disease with metabolic syndrome. Thus, we should educate patient with metabolic syndrome to have healthier lifestyle for metabolic syndrome in order to prevent peptic ulcer disease.

### Contact: CHAI WEN Lai

Show Chwan Memorial Hospital, No.6 Lane 61, Nanping St.1, Nanyao Village Changhua, Taiwan 500, CHANGHUA, [chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Using mobile nursing model to improve Asthma control status by teaching using inhaler device correctly

**KUO Ya-Ling, HUANG Yu-Huey, CHEN Hui-Fei, KUO Tsung-Huai, SHIH Ai-Wei**

### Background/Problem/Objective

Asthma is one of the most common chronic diseases in the world. Civilization and industrialization increase the incidence year by year. Approximately 30 million people are involved globally. Inhaler therapy was the main choice according to GINA guideline. In Taiwan, 95% of patients are still poor controlled or

partially controlled because of non-adherence or poor compliance. Incorrect inhaler technique will aggravate asthma control, increase emergency visits and hospitalization rate, even more at risk of death.

### Methods/Intervention

101 of participants (male:54, female:47) included from Jan 2017 to Oct 2017, naïve with first diagnosed, including the basic data age, gender, inhaler, dose. Divided into three groups by age: (1) >65 Y/O (40, 39.6%) (2) 45~65 Y/O (31, 30.7%) (3) <45 Y/O (30, 29.7%). Mobile nursing educated patient by face-to-face feedback system and scored according to our inhaler scale at one month post education. Intervention by using placebo device, multi-media video, Apps, and device-specific instruction pamphlet again for incorrect inhaler technique. Telephone inquires monthly for correct technique after 3 months.

### Results (of evaluation)

The average evaluation score for inhaler technique increase from 67.1 to 88.4 after education. Average Peak expiratory flow rate (PEF) increase from 309.9 L/min to 372.4 L/min ( $P < 0.001$ ). Overall Asthmatic severity improvement were 58.4%, Severe to moderate (8/14, 57.1%) moderate to mild (53/87, 56.3%). Day time frequency decrease 68% and night time frequency decrease 88%. Average Asthma control test (ACT) increase 5.1 with significant change, there are no admission or emergency visits.

### Conclusions/Lessons learned

One month later after education, our study revealed approximately 80% patients are still using inhaler incorrectly. After mobile nursing manager who teach the correct inhaler technique by using diverse health education. They can perform it correctly. Persistent assessment and reinforcement of the correct inhaler technique can help asthma patients to get better and improved treatment outcome. Even the older patient (>65 y/o) with poor device technique, after the diverse teaching system, they can use the device more correctly.

### Comments

Device-specific instruction pamphlet would correct any specific errors identified, decrease exacerbation rate, improve quality of life, enhance physician-patient relationships.

### Contact: CHAI WEN Lai

Show Chwan Memorial Hospital, No.6 Lane 61, Nanping St.1, Nanyao Village Changhua, Taiwan 500, CHANGHUA, [chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## The Atherosclerosis Risk in Metabolically Healthy Obese Pre-Diabetes

**KIM Suyoung, NAH Eun-Hee, CHO Seon, CHAI Jong-Yil**

### Background/Problem/Objective

Obesity and metabolic components are related to the increase of the risk for cardiovascular disease (CVD) or type 2 diabetes (T2DM). In past studies with long-term follow-up, the metabolically healthy obesity has been found to increase the risk of CVD. Pre-diabetes is the risk factor for CVD as well as metabolic syndrome, and is closely related to obesity. The aim of this study is to investigate the risk of atherosclerosis according to

the presence of obesity or metabolic components in pre-diabetes individuals.

#### Methods/Intervention

This study included 26,499 prediabetes (fasting blood sugar(FBS) 100~125mg/dL or hemoglobinA1c 5.7~6.4%) that underwent carotid ultrasonography to 16 centers in KAHP in 13 cities Korea, between January 2014 to December 2015. The atherosclerosis was defined as carotid-plaque(CP), abnormal carotid intima-media thickness(CIMT). Participants were divided into four groups based on the obesity status(using BMI and waist circumference(WC)) and metabolic health status using the modified NCEP ATP-III except WC and FBS.

#### Results (of evaluation)

The metabolically unhealthy(M) normal weight(NW) and M Obesity(O) groups had the higher risk for CP and CIMT, compared to metabolically healthy(MH) NW group(all P for odds-ratios(OR)<0.05). Specifically, ORs of CIMT were increased according to obese level(normal<over-weight<obesity) within metabolically unhealthy subjects(all P<0.05). When defining obesity as the combination of BMI and WC, ORs of CP were significantly high at metabolically unhealthy individuals either with or without obesity. In comparison, the risk of CIMT was increased in sequential order from MH-O<M-NW<M-O groups.

#### Conclusions/Lessons learned

Metabolically unhealthy status (MNW, MO phenotypes) is related to CP and CIMT as atherosclerosis index. Additionally, obesity(MHO phenotype) only defined as the combination of BMI and WC is associated with CIMT. It's meaningful to manage only obesity(MHO) as well as only metabolically unhealthy status(MNW) in the prevention of CVD among pre-diabetes. Therefore, lifestyle intervention to maintain a healthy body weight is necessary to pre-diabetic individuals for preventing CVD.

#### Contact: KIM Suyoung

Korea Association of Health Promotion  
350 Hwagokro, Gangseo-gu, 157-705 Seoul,  
[sy.kahp@gmail.com](mailto:sy.kahp@gmail.com)

## Prediction of Probability of the Elderly Osteoporotic Fracture and exploration of correlation factors - A regional teaching hospital in East Taiwan

LIU Tse-Tsung, WANG Jia-Jie, LIAO Su-Jung

#### Background/Problem/Objective

Osteoporosis is a silent disease and it becomes an important medical and public health issue as the population gets older. This study aimed to explore the probability risk for major osteoporotic fracture and hip fracture in our geriatric outpatients and its correlation factors.

#### Methods/Intervention

This is a cross-sectional study and recruited of a totally 224 elderly geriatric outpatients by geriatrician and osteoporosis case manager at a regional teaching hospital from July 2014 to

June 2017. Inclusion criteria: More than 65 year-old with fracture history, elderly more than 80 year-old, post-menopausal with multiple chronic diseases, DM with polypharmacy, previous osteoporosis. Exclusion criteria: Severe dementia, drugs abuse, severe disability, can't communication and severe illness.

#### Results (of evaluation)

Out of 224 geriatric outpatients (mean age of  $78.0 \pm 9.1$  years). Age <65y/o (7.1%), 65~74:(26.8%), 75~84:(42.0%), >85y/o (24.1%). Gender: Female 191(85.3%), mean BMI of  $23.9 \pm 3.5$  kg/m<sup>2</sup>, and 43.8% overweight (BMI  $\geq 24$ kg/m<sup>2</sup>). High prevalence of osteoporosis in the group of overweight and obesity elderly patients 104(46.5%) in our osteoporosis case management (OCM). Other clinical risk factors of previous fracture: 81 (36.2%), secondary osteoporosis: 44 (19.6%)...etc. We found of high major osteoporotic fracture risk > 10% in geriatric outpatients: 193 (86.2%). Probability risk of the hip fracture as follow, <3% (2.2%), 3-10% (53.1%), 11-20% (29.5%), > 21 (15.2%), the mean HF is 12.6%. We found of high hip fracture risk more than 3% in our geriatric outpatients: 219 (97.8%). The positive correlation coefficient between BMD and BMI was  $r=0.254$ , Weight  $r=0.345$ , Height  $r=0.237$ ,  $p<0.01$ . and negative correlation coefficient between BMD and Osteoporotic fracture  $r=-0.605$ , hip fracture  $r=-0.691$ ,  $p<0.01$ . Previous fracture  $r=-0.170$ ,  $p<0.05$ .

#### Conclusions/Lessons learned

High prediction probability of major osteoporotic fracture and hip fracture were noted in our study because of aging in East Taiwan. The mainly correlation factors of BMD including BMI, weight, height, probability of osteoporotic fracture and hip fracture. Assessment of fracture probability that is based solely on clinical risk factors could early detection of high fracture risk patients and we also found of high prevalence of osteoporosis even in overweight and obesity geriatric outpatients.

#### Contact: LIU TSE-TSUNG

Mennonite Christian Hospital, Mincyuan Rd. No.44,  
970 Hualien City,  
[shepherd@mch.org.tw](mailto:shepherd@mch.org.tw)

## Relationship between Helicobacter pylori infection and bone mineral density

PAN Bo-lin, LOKE Song-Seng, HUANG Chih-Fang, CHIANG Jui-Chin

#### Background/Problem/Objective

H. pylori infection can induce individual inflammatory and immune reactions which associated with extra-digestive disorders. Our aim is to investigate the association between Helicobacter pylori (H. pylori) infection and bone mineral density.

#### Methods/Intervention

This retrospective cross-sectional study was performed by using the data from the health examination database in southern Taiwan in 2013. We investigated the relationship between sex, age, body mass index, lipid profile, H. pylori infection and bone mineral density. Because of nonrandomized assignment and strong confounding effect of age on BMD, the 1:1 propensity score match was applied for age adjustment. The simple and

multiple stepwise logistic regression analysis were performed to assess the risk factors of decreased bone mineral density.

#### Results (of evaluation)

Of the 867 subjects with the mean age of  $55.9 \pm 11.3$  years, 381 subjects had *H. pylori* infection, and 556 subjects had decreased BMD. The prevalence of *H. pylori* infection was 39.9% and 46.2% in the normal BMD group and the decreased BMD group respectively. In the propensity score-matched participants, the multivariate analysis revealed *H. pylori* infection (OR 1.62, 95% CI 1.12-2.35,  $P = 0.011$ ) and low BMI (OR 0.92, 95% CI 0.87-0.97,  $P = 0.001$ ) were independently significantly associated with decreased BMD.

#### Conclusions/Lessons learned

*H. pylori* infection and low BMI were independently significantly associated with decreased BMD in selected propensity score-matched populations after age adjustment. Further prospective cohort studies including the potential important factors are required to confirm this association in the Taiwan population.

**Contact:** PAN Bo-Lin

Kaohsiung,  
[samohhte@gmail.com](mailto:samohhte@gmail.com)

## Pharmaceutical Department Data: potentialities in the management of chronic obstructive pulmonary disease

**PANCIROLI Annamaria, BENEVENTI Elisa, CODELUPPI Marco, RINALDI Debora, MARCONI Bettina, FERRARI Onorato, CIONI Anna, BONI Fabrizio, GABRIELLI Laura**

#### Background/Problem/Objective

The chronic obstructive pulmonary disease (COPD) is a type of obstructive lung disease characterized by long-term breathing problems and poor airflow. It represents the fourth death cause and its frequent flares lead to several hospitalizations. The costs for the management of this illness are very high. An increase is expected, given the continuous exposition to harmful particles, gas and progressive aging of the population. Instrumental diagnosis and therapy adherence represent 2 crucial points for the correct treatment of this disease.

#### Methods/Intervention

The Pharmaceutical Department, in cooperation with the Internal-Medicine- Department and the Primary-Health-Care-Department of Reggio Emilia Local-Health-Authority realized for physicians and for general practitioners a survey regarding diagnosis and staging of COPD in patients treated with the medicines R03AK and R03AL. To the survey was added the report with the number of packs dispensed to each patient in direct and territorial distribution during 2016. Patients that have retired a minimum of 8 packs were considered adherent, following international literature.

#### Results (of evaluation)

Three districts of Reggio Emilia were involved; only the data of Scandiano are already available. In Scandiano district, patients treated with the interested medicines were 828: of these, the 51% had COPD diagnosis and the 49% had asthma diagnosis. Among the patients with COPD, spirometry was performed in the 73% of cases. Adherent patients were the 46.5% and, of these, the most serious ones (GOLD 3-4 stadium) were adherent in the 58.9% of cases.

#### Conclusions/Lessons learned

The data elaborated by the Pharmaceutical Department have been crucial in the study of patients with COPD from a diagnostic-therapeutic point of view. The remarked low adherence could represent a basis for the definition of targeted assistance paths. Therapy adherence, with reduction of flares and hospitalizations, represents the primary endpoint to improve the quality of life of patients. Inappropriateness in health field implies risks and high costs. The results encourage the transfer of the method also to other chronic diseases.

**Contact:** GABRIELLI Laura

AUSL Reggio Emilia, Via Carandini 10, 41043 Formigine ,  
[laura.gabrielli@ausl.re.it](mailto:laura.gabrielli@ausl.re.it)

## Session P1.4: Disease management programs for NCDs

### Effectiveness of Yoga Intervention in Breast Cancer-related Lymphoedema: A Systematic Review

**WEI Ching-Wen , CHI Ching-Chi, TUNG Tao-Hsin**

#### Background/Problem/Objective

Breast cancer surgery with axillary lymph node biopsy of the affect arm presents with an irreversible lymphatic accumulation, pain and progressive limitation of arm movement. This systematic review is conducted to evaluate the effect of yoga programme intervention in patients with breast cancer-related lymphedema (BCRL).

#### Methods/Intervention

We searched PubMed, EMBASE, CEPS, and Cochrane Central Register of Controlled Trials for relevant randomized controlled trials (RCTs) and conducted a systematic review from inception to 31 October 2017. The search strategy was composed of "breast neoplasms or breast cancer" and "lymphedema" and "yoga".

#### Results (of evaluation)

Three randomized controlled trials (54 participants) and two quasi-randomized controlled trials (50 participants) were included in this review. Two trials evaluated yoga intervention as an addition to usual care. One trial compared continued regular yoga practice after completed yoga intervention six months with discontinued. Two trials examined efficacy of pre- and after-yoga intervention. Significant difference in shoulder range of motion (ROM), shoulder-related muscles, spinal mobility outcomes were noted group with yoga programme interven-

tion. The outcomes of shoulder strength, grip strength and quality of life were inconsistent with these trials. No significant difference in lymphedema status with extracellular fluid and tissue resistance outcomes were noted between the groups with and without continued regular yoga practice after completed yoga intervention.

#### Conclusions/Lessons learned

The current findings can not be clearly demonstrated that yoga programme intervention as an addition to usual care is superior to along usual care, and keep yoga exercise does not provide significant added benefits. Need more researches or participates to provide evidence of yoga exercise for patients of breast cancer-related lymphedema.

**Contact: TUNG Tao-Hsin**

Cheng-Hsin General Hospital

No45, Cheng-Hsin st, 112, Shipai, 112 Taipei,

[ch2876@gmail.com](mailto:ch2876@gmail.com)

## Stroke patients' Quality of life before and after active rehabilitation treatment: A Prospective Study

**LEE Su, YEH Yu-Jo, TSAI Tsung-Yu, SHI Hon-Yi**

#### Background/Problem/Objective

According to the statistics in 2015 from the World Health Organization (WHO) and in 2016 from Taiwan Ministry of Health and Welfare, Stroke is the second killers all over the world and in Taiwan. Moreover, stroke is also a leading cause of disabilities. Therefore, active rehabilitation treatment is critical for patients who occurred by stroke in order to enhance the overall functional status, reduce disabilities, return to independent living.

#### Methods/Intervention

A total of 120 stroke patients were prospectively evaluated quality of life by using the Modified Rankin Scale (MRS), Barthel index (BI), Functional Oral Intake Scale (FOIS), EuroQol-5D (EQ-5D), Instrumental Activities of Daily Living (IADL), Berg Balance Scale (BBS), Mini-mental state examination (MMSE), Beck Anxiety Inventory (BAI) and Beck Depression Inventory (BDI) at the baseline, the 6th week and the 12th week after admission. The generalized estimation equation model was employed to analyze the changes and the predictors of QoL.

#### Results (of evaluation)

The average age was 70.89 (SD=12.56) years old. On the total, 62.5% were male and 95.8% were diagnosed with ischemic stroke. Before admission, 72.5% had hypertension and 27.5% had attacked by stroke. It also showed that pre-admission functional status was the best predictors of the 12th week quality of life after admission (the latest examination) ( $P<0.001$ ). Additionally, it showed a dramatic improvement from the baseline to the 6th week and the 12th week throughout the study period ( $P<0.01$ ).

#### Conclusions/Lessons learned

The study can further our understanding of stroke patients' quality of life at different follow-up time points. Patients' overall functional status had improved at both the 6th week and the

12th week after admission. We can realize that active rehabilitation treatment may influence patient's follow-up situation.

**Contact: LEE Su**

[novia0829@gmail.com](mailto:novia0829@gmail.com)

## Combination of Shared decision making and Share model of truth telling in cancer care

**TZU PIN Chang, FANG MING Chen, SUI YU Tai, TZU HUA Chen**

#### Background/Problem/Objective

Patient-centered communication skills training and practice (CSTP) based on the SHARE model of truth telling has been adopted in cancer care in Taiwan. However, the consistency between patients' or families' versus physician' perception has not been verified. Shared decision making (SDM) requires tailoring information provision to the individual patients' information needs and can be an optimal approach to help cancer patient making decisions. Here we report the effectiveness of SHARE model in cancer patients before and after combination of SDM.

#### Methods/Intervention

We developed the compatible questionnaire each for patients or their families and for physician to measure the consistency of perceptions after truth telling with SHARE model. For each dimension, there are 2-5 questions to test if the truth telling content provided by physician is recognized by patient or patient's families. For SDM, we follow the SHARE protocol and based on the evidence of medicine, patient's preferences and feedbacks, we also developed the specific patient decision aids (PDA) tool.

#### Results (of evaluation)

Before SDM, of the 208 questionnaires from 104 cancer patients and their physicians, 22% of inconsistency exists for supportive environment, 16.3% for how to deliver bad news, and 81.7% for additional information. After combination of SDM. of the 284 questionnaires from 142 patients, 18.3% of inconsistency exists for supportive environment, 8.4% for how to deliver bad news, and 48% for additional information. Among 13 HER2 positive breast cancer patients receiving neoadjuvant therapy based on SDM, 100% of consistency was achieved.

#### Conclusions/Lessons learned

Though after adequate communication skill training, there is significant discrepancy between patients' or families' perception and physicians' on dimension of addition information when truth telling. Shared decision making is the process of physician and patient jointly participating in a decision after discussing the options, the benefits and harms, and considering the patient's values, preferences, and circumstances. Our results support the combination of SHARE model when truth telling and SDM will be more effective on patient's satisfaction of gaining additional information.

**Contact: TZUPIN Chang**

[me901133@yahoo.com.tw](mailto:me901133@yahoo.com.tw)



## Study of Affecting Factors About Acceptance of Mammography Among Women in a Hospital in Southern Taiwan

**WANG Yuh-Wei, HUNG Kuo-Chi, LEE Hua-Kuei**

### Background/Problem/Objective

To investigate current situation of accepting mammography and focus on affecting factors about receiving breast cancer screening among middle-aged women at outpatient departments.

### Methods/Intervention

Patients randomly enrolled were all women aged 45-56 visiting outpatient departments (OPD) in a hospital, Southern Taiwan from 11th Mar, 2017 to 31st November, 2017. The questionnaire comprising of total 45 questions focused on three structures: self-cognition about breast cancer screening, attitudes toward breast cancer screening, and affecting factors about visiting OPD. The Content Validity Index of sensitivity and specificity were both reliable (CVI : 0.90~1; Cronbach's  $\alpha$  : 0.65~0.94). There were a total of 320 patients with 100% recycling rate of questionnaires. The collected data were analyzed with chi square and independent-sample T test by using SPSS 21.

### Results (of evaluation)

There were no statistical significances among self-cognition about breast cancer screening and affecting factors about visiting OPD. On attitudes toward breast cancer screening, the result was negative correlation with "mental concern" being the only statistical significant factor among women no matter accepting mammography or not. Rates of mammography screening are lower in women with more mental concerns. The reasons included having less understanding about processes, fearing of pain, and shyness.

### Conclusions/Lessons learned

Our results suggested that the authority concerned should inform patients about detailed processes, increase understanding of mammography, and decrease worries and concerns among patients. With that, we can increase screening rates of mammography and exclude patients' mental issues in order to achieve final goal of "Early Detection, Early Treatment."

### Contact: HUNG Kuo-Chi

Sinying hospital, Minister of Health and Welfare, Tainan, Taiwan No.73, Xinyi St., Xinying Dist., Tainan City 730, Taiwan (R.O.C.) 73042 Tainan City,  
[b101092013@tmu.edu.tw](mailto:b101092013@tmu.edu.tw)

## Tackling Obesity by Developing Evidence-based Guideline on Adult Obesity Prevention and Management in Taiwan

**YANG Kuen-Cheh, HUANG Kuo-Chin, YANG Yi-Ching, WANG Ying-Wei, LIN Li-Ju, LIN Chen-Su, CHANG Chiung-Dan, TSENG Wie, YU Li-Hui**

### Background/Problem/Objective

The extent of obesity has risen over the past few decades in Taiwan. It is responsible for a significant proportion of non-communicable diseases (NCDs). In order to achieve the 2025 targets set by the WHO, a 25% relative reduction in mortality from NCDs, it is important for the government to invest in management of obesity. Therefore, it is essential to develop the state-of-the art and evidence-based guideline to tackle the obesity.

### Methods/Intervention

The Health Promotion Administration of Ministry of Health and Welfare in Taiwan launched the guideline for prevention and management of obesity in 2017. The writing committee developed the guideline according to Grading of Recommendations Assessment, Development and Evaluation (GRADE) II method to grade the quality of evidence and the strength of recommendations. It was also evaluated by independent inner and outer experts from different academic organizations. Finally, the representatives from the stakeholder groups were invited for the approval of the guideline.

### Results (of evaluation)

The framework of the evidence-based clinical guideline comprises the diagnosis of overweight and obesity, epidemiology, clinical evaluation and treatment, recommendations for dietary intervention, recommendations for exercise intervention, the applications of psychological assessment and intervention, pharmacotherapy and surgical intervention. Obesity in the elderly and the obesity costs for policy maker were also discussed. A small pocket guideline was also offered for clinical experts. We also published the health education materials of obesity (for dummies version) health literacy friendly for all population.

### Conclusions/Lessons learned

World Obesity Federation calls all government to recognize obesity as a disease, which needs appropriate professional supports. Taiwan government tackles the obesity by developing a national guideline based on the evidence-based medicine. Implementation of this guideline in different clinical fields would be the next important step.

### Contact: YANG Kuen Cheh

Taiwan University Hospital, Hsin-Chu Branch  
No.25 Ln.442, Sec.1, Jingguo Road, North District. 300 Hsin-Chu,  
[quintino.yang@gmail.com](mailto:quintino.yang@gmail.com)

## Interventions to Improve Follow-up After Abnormal Breast Cancer Screening - A Case Study of the Hospital in South Taiwan

YI-YUN Chen, TZU-CHEN Pai, YI-TING Lin, YU-PEI Lin

### Background/Problem/Objective

The incidence of breast cancer is the highest for women in Taiwan. Mammography is a very important screening test for breast cancer. Evidence shows that screening and treatment can reduce the mortality of women aged 50~69 from breast cancer by 21%~34%. The study aims to develop strategies to increase the follow-up rate after screening mammography for breast cancer in the hospital in South Taiwan.

### Methods/Intervention

A total of 1,247 asymptomatic women aged 45~70 were eligible for mammography in 2015. For positive cases defined as BI-RADS Category 0, 4, and 5 according to the BI-RADS (Breast Image Reporting and Data-analyzing System) developed by American College of Radiology (ACR). Each positive case were recall to further evaluation within two months from the date of examination.

### Results (of evaluation)

In 2015, the number of positive cases was 155 and 137 cases complete the confirmatory examination with the completion follow-up rate of 88.4%. The reasons for refuse follow-up were identified: 1. Unable to endure the discomfort caused by mammography 2. The elderly considered confirmatory diagnosis is not necessary due to age 3. No subjective symptoms 4. Patients were not reachable due to incorrect telephone numbers or no response. 5. Patients felt annoyed after multiple calls

### Conclusions/Lessons learned

First, the application form was modified. In addition to the telephone number and the address of the patient, the information of the second contact person was added. Before examination, the staff would inform patients the protocol, the meaning of being positive and the purpose of follow-up. A pamphlet was given to the patients which included the contact information of the case managers. Case managers would contact positive mammographic cases by phone within 7 days after the examination to arrange the follow-up clinic. If the patients miss appointment the case managers will contact the patients again. If the patients still have no intention to follow-up, case managers will refer them to the local health center and perform a home visit if necessary. After intervention, the follow-up complete rate increased from 88.4% in 2015 to 92.4%(145/157) in 2016. Only by collaborative teamwork can improve follow-up after abnormal cancer screening.

### Contact: YI-YUN Chen

Kaohsiung Municipal Mins-heng Hospital  
(80276) Triumph Lingya District Kaohsiung City Road No. 134  
Kaohsiung, [london95132@gmail.com](mailto:london95132@gmail.com)

## To develop inpatient caring recovery process for Post-acute Care - Cerebrovascular Diseases

WU Tung-Yun, WU Yi-Jen, YU Pei-Shan, LIAO Pei-Lin, HUANG Hsiao-Wen, CHUANG Shu-Ting, CHIEN Sou-Hsin

### Background/Problem/Objective

Taiwan NHI had been tried PAC plan out since 2014. Through cross-hospitals vertical coordinating, we provide a positive and coherent caring system to those post-acute cerebrovascular patients. This project try to built up a mutual feedback mechanism through team-work mode to assist improve the self-caring abilities of the patients to make them back to normal life more efficiently.

### Methods/Intervention

We focus on the following improvement, including 1. To raise the self-caring abilities of the patients and to make simple recovery activities for patients along with QR code sheets. 2. To practice separately and to ask nursing staffs to enforce simple rehabilitation according to the advices of therapists and to make adjustment accordingly. 3.To build mutual feedback communication mechanism: through professional teaching, self-produce video, accompany to patients to do the rehabilitation for real in order to improve the gap cross-occupation.

### Results (of evaluation)

The cases were collected from 2017 January to March to make analysis according to acute inpatients caring evaluations. To compare the three items of PAC core assessment checking list the results of 2015 cases, we found out there are obvious improvement in indexes, including MRS40%, ADL40% and IADL78%.

### Conclusions/Lessons learned

This project not only develops PAC caring process, and make the objectives of recovery more easy to check up, but to promote the self-training opportunity for each case to improve the treatment effects. Through improving the professional knowledge of staffs for their caring of recovery patients at the same time so that they can break through the communication difficulties due to cross-occupations. We hope that there are more communication channels to enable the patients can acquire more proper caring.

### Comments

In order to improve the qualities of caring for those patients who had participated PAC, we have set-up an add hoc group. Through team-work, mutual communication, QR code medical education sheets and develop recovery practice mechanism of wards. From evaluation result we found out that those patients who participate PAC have great improvement in MRS, ADL and IADL.

### Contact: WU Tung-yun

Buddhist Tzu Chi Medication Foundation  
No.88, Sec. 1, Fengxing Rd., Tanzi Dist., Taichung city,  
[tc150149@tzuchi.com.tw](mailto:tc150149@tzuchi.com.tw)

## Study on hot water foot bath to terminal cancer patients' sleep quality and effect to family caregiver

**CHEN Meihui**

### Background/Problem/Objective

In study of hot water foot bath to terminal cancer patients' sleep quality found that family caregivers facing the burden of their love ones are in the end of their life affect caregiver's health. With understanding of family caregiver's burden provide proper care to family caregivers improve interactions between patients and caregivers, improve patients and family caregivers' physical, psychological and spiritual needs increase quality of medical care.

### Methods/Intervention

In this study, we used purposive sampling, exploratory qualitative design. Select the main family caregiver of the palliative terminal inpatients. Total 8 patients were interviewed; In order to present the authenticity of patients' sleep disturbance and burden of caregivers, a 30-45 minutes interview were conducted twice: before and after the execution of hot water foot bath.

### Results (of evaluation)

The result indicated that the burdens of terminal cancer patients' caregivers are in 4 aspects: physical, psychological, spiritual and financial. The long term torment and burden also affect the family caregivers' health. It could be a reference for medical care team.

### Conclusions/Lessons learned

In clinical care of the whole person, whole family, needs more experience sharing for medical personnel to provide terminal cancer patients physical comfort, understanding of mental state, and care for family caregiver's physical and mental burden, timely psychological support or referral to psychiatrist, social workers, religious professional ... and other common grief counseling, as the terminal cancer patients' caregivers support health and quality of life important empirical basis in the future.

### Contact: MEI-HUI CHEN

Taipei Tzuchi Hospital,  
No.289, Jianguo Rd., Xindian Dist., 23142 New Taipei City,  
[xd611261@tzuchi.com.tw](mailto:xd611261@tzuchi.com.tw)

## Analysis of association between the physical and psychological resilience and the physical symptom distress occurs during the chemotherapy in patients with breast cancer

**SHUYI kao**

### Background/Problem/Objective

In Taiwan, Breast cancer has ranked number one in incidence. Diagnosed with breast cancer, there is a sequence of different and complicated treatment waiting for these women. About

64.53 percent undergo chemotherapy. Depending on the stage and type of breast cancer, several different types treatment plans might be taken. Although chemotherapy has the benefit of increasing survival rate and decreasing recurrence rate. But side effects impaired activities of daily living.

### Methods/Intervention

This study's data was collected by questionnaires, using distress thermometer and resilience scale as research tools from patients with breast cancer at surgical ward and outpatient department. After the agreement was reached, patients' basic data, distress thermometer, resilience scale were recorded. We recorded the pre-test of the heart rate variability at the first chemotherapy, and post-test of the heart rate variability as well as the second questionnaire at the last chemotherapy.

### Results (of evaluation)

The research results are as follows. With more times of chemotherapy, breast cancer patients had more intensive and increased symptom distress. Physical resilience with symptom distress was improved significantly. Psychological resilience was improved significantly in a chemotherapy treatment. The progress showed the sprout and the forming of patients' psychological resilience.

### Conclusions/Lessons learned

This study might provide healthcare professionals to understand the various symptoms of cancer patients during chemotherapy, and aware to pay attention to the psychological and social support needs of these cancer patients. Hope this study can help nursing staff assist patient with breast cancer undergo aggressive and complete treatment.

### Contact: KAO Shu-Yi

Shin Kon Wu Ho-Su Memorial Hospital  
No.95, Wenchang Rd., Shilin Dist., Taipei City 111, Taiwan  
[goshuyi@gmail.com](mailto:goshuyi@gmail.com)

## Integrate the resources of the public and the private company to provide real hair wigs for the patients with breast cancer

**LIN LING-YU, CHANG CHIA-NING, LI DIAN-KUN, HUNG CHAO-CHEN, LO CHING-HSUANCHIEN SHOU-HSIN**

### Background/Problem/Objective

In 2014 the incidence of breast cancer is the highest of all cancer types in Taiwan. For the patient with high risk of recurrence, adjuvant therapy with chemotherapy, hormone therapy, target therapy and radiotherapy is indicated. The anthracycline and taxane are the backbone of adjuvant chemotherapy and result in the side effect of alopecia inevitably. We integrated the resources of the public (donation of long hair) and private company to support the real hair wigs for the breast cancer patient freely.

### Methods/Intervention

We contacted the companies of real hair wigs and negotiated that how many bunches of long hairs could exchange a real hair

wig. We set up the process of hair donation, including the criteria and conditions of hairs, using the mass media to spread the information, and feedback for donors. We had a great deal with the wig company. After the return of the free wig from the company, we set up the protocol of lending, including the display of wigs and the clean and maintain of the wigs.

#### Results (of evaluation)

From Apr. 2016 to Nov. 2017, we raised 10500 bunches of long hair from Taiwan, Hong Kong, China, Vietnam, Philippines, United Kingdom, Australia, and Canada. We got 205 real hair wigs from the private company as the exchange of the donated hairs. There were 350 breast cancer patients who borrowed the wigs. The conditions of the returned wigs were good and could be reused. This act saved 4100000 New Taiwan Dollars for the breast cancer patients.

#### Conclusions/Lessons learned

Raising money to charities and nonprofits is a popular and direct way for the public to show the kindness and generous. But in this activity, through the creativity and the cooperation of the public and the private company we raised the long hairs in exchange for the real hair wigs. It provided the free lending wigs for breast cancer patients who underwent the adjuvant chemotherapy.

#### Contact: LO Ching-Hsuan

Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical  
No.88, Sec. 1, Fengxing Rd., Tanzi Dist., Taichung City  
[tc1292001@tzuchi.com.tw](mailto:tc1292001@tzuchi.com.tw)

## Strategies to Enhance Cardiac Rehabilitation Rate in Patients with Coronary Artery Disease

**CHENG Cheng-Chang, CHEN Yi-Jen,  
HUANG Qiao-Ying, TSAI Tsung-Yu, LIN  
Tsung-Hsien**

#### Background/Problem/Objective

Researches show cardiac pulmonary rehabilitation improves cardiopulmonary fitness and quality of life, and reduces the recurrence rate of coronary events in patients with coronary artery disease (CAD). The percentage of population receiving cardiac rehabilitation after CAD events remains low in our hospital, particularly those in the out-patient setting. The aim of this study is to increase the percentage of population receiving cardiac rehabilitation after CAD through interdisciplinary and inter-professional approaches.

#### Methods/Intervention

In the monthly interdisciplinary and inter-professional conference, the consensus on in-patient cardiac rehabilitation referral has been discussed. The root cause analysis (RCA) process was used to assist in solving the low referral rate of post-CAD cardiac rehabilitation. A questionnaire was designed and given to patients with CAD to clarify the possible reasons for not receiving further cardiac rehabilitation after discharge home.

#### Results (of evaluation)

The consensus on in-patient cardiac rehabilitation referral has been made in the interdisciplinary conference, and the referral

rate of post-CAD in-hospital phase I cardiac rehabilitation increased from 57.4% to 81.2%. Strategies including exercise education, emphasizing the importance of cardiac rehabilitation through education videos, arranging rehabilitation out-patient department follow-up before discharge, and simplifying the procedure of out-patient rehabilitation arrangement were done. The numbers of out-patient phase II cardiac rehabilitation also increased from 26.33 per month to 132 per month.

#### Conclusions/Lessons learned

With the promotion of cardiac rehabilitation and healthy behaviors through interdisciplinary and inter-professional approaches, the referral rates for post-CAD in-patient and out-patient cardiac rehabilitation were significantly increased, facilitating health promotion in patients with CAD.

#### Contact: CHENG CHANG CHENG

Kaohsiung Medical University Hospital  
No.100, Tzyou 1st Road Kaohsiung 807, Taiwan, 807 Kaohsiung,  
[jjj1970@ms32.hinet.net](mailto:jjj1970@ms32.hinet.net)

## Clinical Outcome of Pap smear Screening in Outpatient Medical Treatment – An Example of a District Teaching Hospital

**CHEN Mei Chun, CHEN Li Yang**

#### Background/Problem/Objective

Cervical cancer is one of the most common malignant tumors that threaten women in the world. Pap smear is currently considered as the most effective method for screening cervical cancer. Cervical precancerous lesion cancer patients are often asymptomatic, pap tests can detect these abnormal cells effectively. Taiwan is a country with a good incidence of cervical cancer. Women should be screened at least once every 3 years. If they can be detected early, they will have an excellent cure rate.

#### Methods/Intervention

In this paper, retrospective analysis of a specialized teaching hospital in a district during the period of 106/01/01 ~ 106/05/31 for outpatient treatment of patients as the object, assisted by medical staff to screen in line with 30 years of age did not accept the Pap test, Health care providers to provide education to promote the patient to receive cervical smear screening.

#### Results (of evaluation)

5,526 female out-patients over 30 years old were admitted to the hospital during the period from 106/02/01 to 05/31. Paramedical staff encouraged them to receive Pap smear examination. 30 of the 5,526 female patients were willing to undergo an examination. The age distribution were 2 in age 30-39, 3 in age 40-49, 8 in age 50-59, 13 in age 60-69 and 4 above 70. None of the above identified positive cases.

#### Conclusions/Lessons learned

As a result, we found that our hospital was not as effective as expected in promoting its effectiveness. Women who regularly undergo Pap smear screening can not only help women find early treatment early but also save on social medical costs. It is

hoped that through the cooperation of medical teams, Cancer screening rate, reduce the incidence of cervical cancer and mortality, thereby reducing the consumption of medical resources, to achieve "prevention is better than cure."

**Contact: CHAO YANG Fu**

Chest Hospital, Department of Health, Executive Yuan  
No.864, Zhongshan Rd., Rende Dist., Tainan City, Tainan,  
[tn50276@ccd.mohw.gov.tw](mailto:tn50276@ccd.mohw.gov.tw)

## Analyzing Colorectal Cancer Screening Effect in a Taiwanese Regional Hospital

**JUI-LAN Fang, CHIN-JU Li, YU-PEI Lin,  
CHENG-NAN Hsieh, MING-FEN Cheng**

### Background/Problem/Objective

In Taiwan, according to the regulations of the Health Promotion Administration, each hospital shall organize a FOBT every two years for citizens aged 50~69 to reduce the incidence and mortality of colorectal cancer. Our hospital works with the Health Promotion Administration to promote the cancer prevention plan through fecal occult blood test (FOBT) and follow-up. A cancer screening team consisting of physicians, nurses, medical examiners, and case managers.

### Methods/Intervention

To increase the screening rate, the following intervention measures were taken: 1. we call qualified citizens to undergo a FOBT; 2. provide self-addressed envelopes for stool samples; 3. set up a 24-hour window at the information desk to collect stool samples. Case managers will follow up positive cases and refer them to colonoscopy. Polyp or colorectal cancer can be removed and treated in the hospital once diagnosed. Referral service is also offered.

### Results (of evaluation)

From 2014 to 2016, the number of patients aged 50~69 and undergoing a FOBT was 3682, 3088, and 2566 with 226, 232, and 148 positive cases and the positive rate of 6.15%, 7.52%, and 5.77% respectively. Through follow-up, there were 88, 86, and 61 precancerous positive cases and 8, 4, and 3 diagnosed positive cases with the positive predictive value of 42.48%, 38.79%, and 43.24% respectively. 173, 168, and 100 positive cases were referred to other medical institutions respectively.

### Conclusions/Lessons learned

The hospital actively supported health promotion activities by following up patients' needs and providing appropriate resources to avoid any delay of medical treatment. A service center was set up by the Community Medicine Department to provide consultation services by phone and set up the records of telephone interviews and follow-up standards, which effectively provided constant care and increased the success rate of colorectal cancer screening.

**Contact: MING-FEN Cheng**

Kaohsiung Municipal Min-Sheng Hospital  
No.134, Kaixuan 2nd Rd., Lingya Dist., Kaohsiung City 802,  
Taiwan (R.O.C.), Kaohsiung,  
[a0917516850@gmail.com](mailto:a0917516850@gmail.com)

## Influencing factors of using mammography among women in southern Taiwan

**WANG Yuh-Wei, HUNG Kuo-Chi, LEE Hua-Kuei**

### Background/Problem/Objective

Background: Mortality rate of breast cancer was high in Taiwan. The screening rate for breast cancer however was low. Understanding and managing factors relate to using mammography may be able to early diagnose and manage breast cancer to decrease its mortality. Objectives: Investigate current mammography using rate and factors related to using mammography in Taiwan.

### Methods/Intervention

Methods: We recruited 320 women aged 45-56 years who qualified for reimbursement from the National Health Insurance Program and visited the clinic in a local hospital in southern Taiwan from March to November, 2017. They completed a 45-item survey consisting of 3 domains: knowledge (risks and cause of breast cancer), attitude toward breast cancer screening (influence of breast cancer on health, mental barriers, acceptance by friends and family), and concerns of getting medical management (professionalism of physicians, attitudes of professionals, settings). Reliability and validity of the survey was supported (Cronbach's alphas ranged .65-.94, CVIs ranged .90-1.00). Chi-square, independent t test, ANOVA, and regression were used to examine factors of women using or not using mammography.

### Results (of evaluation)

Results: Personal attributes of those who used and unused mammography did not differ. Only scores on mental barriers in the attitude toward breast cancer screening domain showed difference between those who used and unused mammography. Mental barriers had negative predictive effects on whether using mammography. Those who had more mental barriers had lower willingness to use mammography.

### Conclusions/Lessons learned

Conclusion: Not understanding the process of mammography, fearing of pain and shy might be reasons of women not using mammography. More information about mammography needs to be provided to women to increase their understanding about the process of mammography and decrease doubts and anxious about mammography. In this way, mental barriers caused by lack of knowledge may increase rate of early detection and management of breast cancer.

**Contact: HUNG Kuo-Chi**

Sinying hospital, Minister of Health and Welfare, Tainan, Taiwan  
No.73, Xinyi St., Xinying Dist., Tainan City 730, Taiwan (R.O.C.)  
73042 Tainan City,  
[b101092013@tmu.edu.tw](mailto:b101092013@tmu.edu.tw)



## Cooperative Management For Radiation Dermatitis

**TSAI Chia-Fen, HUANG CHUN-MING, SHIH HSIAO-PINGTANG Jen-Yang**

### Background/Problem/Objective

Radiation dermatitis is a common side effect of cancer patients receiving radiation therapy and the grade of severity depends on the irradiation techniques and the tumour location. During acute episodes, proper skin wound caring can prevent the situation from getting worse. This can be a challenging job for outpatient nurses who have complicated work shifts. It is therefore of upper most importance to have an error-proofing co-operated management scheme in a radiation oncology department with a heavy patient loading.

### Methods/Intervention

The medical charts of patients receiving radiation therapy with radiation dermatitis during July 2016 to March 2017 were reviewed. Skin status and patients' mood changes by different staffs were analyzed. After analysis, strategies for improvement included: A) Enrollment of patient education videos B) Development a medical management records based on clouds on dermatitis C) Upload updated wound pictures to a private web-based community group for team members to monitor the healing progress. D) Setting up a comfortable wound caring room.

### Results (of evaluation)

Inconsistency to the dermatitis management by different staffs was found to be the main reason leading to patients' unsatisfaction and anxiety. After the new management scheme, issues with wound care dropped from 10-15 to 6-8 events/week, wound infection rates decreased from 3 to 0 people/month, care inconsistency among staffs was down from 5 to 0/Week, and patient satisfaction increased from 80% to 100%. Stress for nurses who rotate to the department in a weekly bases decreased dramatically.

### Conclusions/Lessons learned

High grade dermatitis from radiation therapy can lead to treatment interruption and decreased tumour response. Wound infection from immune compromised patients can cause sepsis and even death. Implementation of the cooperative management programme not only reduces stress of the caring staffs, but also make the radiotherapy course smoother by dramatically reduce the severity of acute skin reactions. Feedback from the patients are very positive.

**Contact: TSAI CHIA-FEN**  
e000998538@gmail.com

## Analysis of Self-recorded chemotherapy induced peripheral neuropathy by Ovarian Cancer Patients

**HSU Hui-Chun, HO Mei-Yao, JEANG Shiow-Rong, WU Shang-Liang, TSAI Su-Yu, LU Tzu-Chan, CHENG Jin-Shiung**

### Background/Problem/Objective

Surgery is the primary treatment in ovarian cancer and supplemented by chemotherapy. CP intravenously (Carboplatin combine with Paclitaxel) is the first regimen. Neurotoxic drugs are widely used, caused peripheral neuropathy. Peripheral limb numbness, burning and tingling are major signs, even affected balance to falls, moreover, it interfered with patient's emotions, sleep, mobility and life quality.

### Methods/Intervention

This study aimed to realize the peripheral neuropathy as the chemotherapy side effects in ovarian cancer patients. This prospective longitudinal design has purposive samplings from the ovarian cancer patients who had chemotherapy from a medical center in southern Taiwan. The study samples are 129, six chemotherapy courses were collected. From Day 1 to Day 10 of every chemotherapy course, the situations of peripheral neuropathy were recorded daily such as extremity numbness and pain.

### Results (of evaluation)

CP intravenously treatment is the major regimen (50.4%), followed by CLD (Carboplatin +Liposomal Doxorubicin) regimen (20.9%). extremity numbness and pain incidence is 65.3%, the peak occurred in the 3<sup>rd</sup> course and continued until the 6<sup>th</sup> course of treatment. In the 10 observation days, the limb pain incidence increased from 5 days in the first course to 8 days in the sixth course, which increased significantly by therapy course. The incidence of CIPN from chemotherapy was in order of CP>CLD.

### Conclusions/Lessons learned

CP (Carboplatin combine with Paclitaxel) regimen caused the highest incidence of CIPN, the severity of symptoms are related by the dose and duration of chemotherapy. It also affects patients' mobility and life quality; therefore the medical staff should assess side effects duly in order to adjustment drug doses.

**Contact: HSU Hui-Chun**  
Kaohsiung Veterans General Hospital  
Greater Zuoying District No. 386, Kaohsiung,  
[hchsu@vghks.gov.tw](mailto:hchsu@vghks.gov.tw)

## Reducing Urine Leakage After Radical Retropubic Prostatectomy: Pelvic Floor Exercises or Magnetic Innervation?

**FENG Shu-Hui, LAI Yen-Ho, LIN Chia-Chiba, CHEN Yun-Ya, LUO Wen-Hui, CHUA Fu-Lien, CHENG Jin-Shiung**

### Background/Problem/Objective

Prostate cancer is incidence in the 65-80 years old, the risk of occurring in yellow is far lower than black and white. Prostate cancer is currently ranked No. 6 in China for mortality. There are currently no tests that can be used to predict whether the resulting prostate cancer is a rapidly progressive or slow tumor. Through the early diagnosis and a variety of effective treatment

methods, prostate cancer five-year survival rate of up to 77%, we can see its importance.

#### Methods/Intervention

All searches in the Pub Med, Cochrane Library, Trip, PubMed, and CEPIS databases, there is only one document that meets our requirements, A quasi-experimental study- Reducing urine leakage after radical retropubic prostatectomy: pelvic floor exercises, magnetic innervation or no treatment?

#### Results (of evaluation)

A total of 87 patients, 23 with ExMI; 22 refused rehabilitation (control group), but after 6 months, no significant differences between the treatments were found ( $p = .8346$ ). Three months after RRP, both interventions reduced the International Prostate Symptom Score, when compared to control group. After a complete ExMI treatment (6 weeks), 63.88% lost less than 10 grams of urine per day (32.73% in the PFMEs group,  $p < .0001$ ), PFMEs are useful up to the 3rd month after surgery.

#### Conclusions/Lessons learned

A total of 30 patients we were collected for observation and comparison, and it was found that ExMI treatment (IPSS:23.1) did improve urinary incontinence more than pelvic floor exercises (IPSS:26.2). Results that are consistent with the Literature (RCL) describe findings that corroborate and support results from previous studies. Patients agree that using a ExMI treatment more clearly than urinary incontinence can improve urinary incontinence, not only can improve the quality of life, but also allow patients to be more confident.

#### Contact: SHU HUI Feng

Kaohsiung Veterans General Hospital  
No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City 81362,  
Taiwan (R.O.C.), Kaohsiung City,  
[fshui@vghks.gov.tw](mailto:fshui@vghks.gov.tw)

## Session P1.5: Environment-friendly (sustainable) health care

### Building a Green Hospital at a Health Hospital in Taiwan: A Case Study by Energy Saving Project by ISO50001 Standards

HO Tsung-Ming, CHAO Wen-Ke, YANG Shuang-Ning, LIN Kuo-Hsing, HOU Ming-Feng, TSAI Tien-Sheng

#### Background/Problem/Objective

Through the method of ISO 50001 to survey energy consumptions in the hospital, the result can be divided into three categories as oil, gas, electricity. Electricity is the largest energy using, therefore electricity saving will be a priority target. Energy saving oriented from the electricity consumption statistics, according to: 1. the average electricity, 2. holidays and weekdays, 3. night and day cross comparison. In order to understand whether energy management and then reduce the reduced space to improve energy use in order to achieve energy-saving purposes.

#### Methods/Intervention

After combining the total electricity usage since January 2015, and using ISO 50001 as tool to thoroughly investigate the using habit and power consuming status from all departments of the hospital, establishing energy baseline, and regularly track and analyze the electricity usage to increase the power consuming efficiency. At the same time, it is effective to track and improve the abnormal consuming in time.

#### Results (of evaluation)

Following are the energy management methods: Lighting schedule management : Adjusting lighting schedule, reducing decorative lightings and keeping lights off at places where exposed to natural lighting during daytime based on different areas and different times of power usage. Adjusting A/C supply schedule : Based on outdoor and indoor airflow conditions to adjust A/C schedule, and to reduce A/C supply during nighttime while it is cooler. A/C management control : Adjusting A/C supply schedule of cafeteria and conference rooms, and shorten pre-cooling time. Implementing solar panel in front of the boiler to preheat water and save energy. etc...

#### Conclusions/Lessons learned

After implementing a series of methods and energy saving adjustments, the electricity consumption has significantly decreased on a monthly basis, especially during the peak of summer time from June to August. By analyzing survey data, power usage can be effectively controlled. In addition, to cultivate energy saving concept towards hospital staff and to establish correct habits of using electricity will initially achieve the goal of reducing unnecessary waste and energy cost. Through the method of ISO 50001, companies and enterprises can effectively reduce energy consumption and reduce unnecessary energy waste; thus, to achieve the goal of accurate energy management.

#### Contact: TSAI Tien-Sheng

Kaohsiung Municipal Hsiao-Kang Hospital  
No.482, San-Ming Rd., Hsiao-Kang Dist, 812 Kaohsiung City,  
[h9471303@gmail.com](mailto:h9471303@gmail.com)

### Building an Environment-Friendly Hospital by "Standards of Friendly-Building System" : A Best Practice of Health Hospital in Taiwan.

CHAO Wen-Ke, HO Tsung-Ming, LIU Yung-Cheng, LIN Kuo-Hsing, HOU Ming-Feng TSAI\* Tien-Sheng

#### Background/Problem/Objective

For the premise of Environment-friendly healthcare system, Kaohsiung Municipal Hsiao-Kang hospital following our new core values (C:Cooperation A:Accountability R:Reverence E:Effectiveness) since 2011. It is also the goal and vision of our hospital to strive for a friendly and quality medical environment. After several field visits and exchanges of expert discussions and feedback from anonymous visitors, I found that in fact, no matter what type of friendly certification, the starting point is nothing more than hope that patients can have a better medical environment.

**Methods/Intervention**

The renovation project was completed according to the building accessibility design specification in 2011.( the protocol of Friendly-Building System, Environment Symbiosis, Building Safety System...etc) The purpose of hospital assessment is to create a medical environment that meets the needs of patients. Explore the details, the proposed standard writing content may vary, but the nature of most of the normative projects are similar, but nothing more than emphasis on medical convenience, medical privacy, environmental comfort, service cordiality.

**Results (of evaluation)**

1. Certified "Friendly Building" (Hospital) by Architecture and Building Research Institute, 2013. 2. Certified "Friendly Building" (Hospital) by Architecture and Building Research Institute, 2015. 3. Certified "Employee-friendly Workplace" excellence award of Bureau of Health Promotion, 2013. 4. Certified "Health Hospital" best practice award of Bureau of Health Promotion, 2017.

**Conclusions/Lessons learned**

To sum up, the concept of friendly hospital management can achieve higher level quality medical service through the consolidation of relevant spaces. In the pursuit of excellence but also by the outside world affirmed. It is also our long-term goal to provide a better medical environment for our patients. Following our core values (C:Cooperation A:Accountability R:Reverence E:Effectiveness), We will still build up Environment-friendly healthcare system around Kaohsiung Area in future 50 years.

**Contact: TSAI Tien-Sheng**

Kaohsiung Municipal Hsiao-Kang Hospital  
No.482, San-Ming Rd., Hsiao-Kang Dist, 812 Kaohsiung City,  
[h9471303@gmail.com](mailto:h9471303@gmail.com)

## Towards an energy saving, money saving and environmental friendly hospital.

**YANG Chih Cheng, MING Jen, KONG Chi-Woon, HUANG Winston**

**Background/Problem/Objective**

General hospital provides healthcare service to a considerably large number of patients. Energy plays a crucial role for equipments and instruments used in hospital buildings, particularly central air conditioning system and heating system. In order to be an energy saving and environmentally friendly hospital, hospital should analyse the current status of energy consumption and introduce new plan to reduce energy usage and to improve quality of service. This project wishes to make hospital an energy saving and environmental friendly place.

**Methods/Intervention**

1. Old equipment was replaced with new one that has higher coefficient of performance (COP) and environmental friendly refrigerant. 2. Lighting was advanced to LED. 3. Total heat exchanger was introduced to improve the ventilation and energy efficiency. 4. Inverter device was adopted in air handling unit motor to adjust output, in order to reduce energy consuming. 5. Oil-fired boilers were replaced either with the boilers

fired by gas or heat pumps generated by electricity, as environmental friendly attempts.

**Results (of evaluation)**

1. The annual electricity consumption of air conditioning system was reduced from 1959660 KWh in 2016 to 1223225 KWh in 2017, due to the inverter adopted in the chiller system. 2. The Background/Problem/Objective of LED in public lighting saved 200000 KWh of electricity consumption a year. 3. The Background/Problem/Objective of total heat exchanger in Cardiology OPD help saved 50000 KWh of electricity consumption a year and carbon dioxide concentration improved significantly to meet the regulatory standard of 1000 ppm.

**Conclusions/Lessons learned**

1. The experience of introducing new chiller system gave the confidence in the management team. All 15 chiller systems in the hospital will be improved with inverters to be more energy saving. 2. The successful case of using total heat exchanger might be a solution of improving the air quality throughout the hospital by the reduction of carbon dioxide concentration. 3. Energy saving, money saving and environmental friendly could happen at the same time.

**Contact: HUANG Winston**

University of Manchester, UK  
10F, No. 183, Section 1, Bin-Hai Road, 25172 Tamsui District,  
[brillianttrees@gmail.com](mailto:brillianttrees@gmail.com)

## Session P1.6: Equity in health promoting health care

### Concerned about the front-line service - full-time service does not fight

**KO Chen-Ni, YANG Pei Chen, CHEN Wan-ling, CHEN Yi -Tin, LIU Yi-Lien**

**Background/Problem/Objective**

The "National Health Insurance family doctor integrated care system pilot program" was implemented on March 10, 2003. Since the implementation of the plan, community care providers have been encouraged to select members for effective care. The payment plan and the 24-hour consultation line are just some of the first results. Apart from increasing the patient's satisfaction with primary care clinics, it also makes the project budget more cost-effective.

**Methods/Intervention**

Min-sheng General Hospital set up a 24-hour emergency telephone call center. After the user dials the Help Line number, the responsible on duty answers the demand, and performs a preliminary processing. On the one hand, feedback is given to the clinic for the other medical staff to grasp the current status of member diseases, the next day staff on duty check-in patients and their families for the initial receiver. Put forward suggestions, while concerned about the situation to improve and record.

**Results (of evaluation)**

Looking at service from January to November, 2017, we calculated the total number of incoming calls (A total of 135), 40%

(54) of callers are mainly emergency medical consultations, followed by 28% (38) of chronic medical problems (involving medical treatment but no immediate medical treatment). It was found that many of the callers made hotline calls during the period between 4 pm and midnight. Resulting in relief and reduction of emergency visits does help.

#### Conclusions/Lessons learned

The 24-hour hotline and its dedicated staff are always available to provide online counseling. For those without family support, it brings peace of mind to be able to discuss the problem with a medical professional and often prevent a visit to the emergency room for a minor illness.

**Contact: EVE Chiu**

Min-Sheng General Hospital  
168 Ching-Kuo Rd., 33044 Taoyuan City,  
[a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## Emergency medical care services of an aboriginal area in eastern Taiwan

**CHEN Peng-Sheng, CHANG Hsiu-Nien**

#### Background/Problem/Objective

Fongbing is an aboriginal township of the Amis in eastern Taiwan. It takes about 1.5 hours to reach the nearest medical facilities in the city. In response to the need of healthcare services in this area, Fongbing aboriginal hospital has been established since 1997. Here, we provide 24-hour emergency medical care services. If the status of a patient is unstable, the hospital provides a free ambulance team for transfer. The purpose of this report is to show the effectiveness.

#### Methods/Intervention

All patients receiving emergency medical care services in Fongbing aboriginal hospital in 2015 were eligible. The data including sex, age, the status of the patient after emergency care (leaving hospital with appropriate treatment, inpatient care, transfer for advanced care, death) were collected. If the patients are transferred, the outcomes of these patients are followed.

#### Results (of evaluation)

A total of 2628 patients have received emergency medical care services in Fongbing aboriginal hospital in 2015. Most patients (2314 of 2628, 88%) leaved hospital after appropriate treatment; 162 (6.2%) received further inpatient care; 8 (0.3%) were dead in the emergency room; and 144 (5.5%) were transferred for advanced care. Among 144 patients transferred, one was dead in the ambulance before reaching the hospital in the city, six leaved hospital after appropriate treatment, and 137 received inpatient hospital care.

#### Conclusions/Lessons learned

Fongbing aboriginal hospital was established to take good care of remote aboriginal people. Besides 24-hour emergency medical care services, the hospital provides transfer free of charge if the condition of a patient is unstable. This policy has increased the utilization and resulted in better medical outcomes, because most aborigines could not afford ambulance fees. The experience of Fongbing aboriginal hospital can be a good model of medical care services delivery and be duplicated in other remote aboriginal areas in Taiwan.

**Contact: CHERN JIMMY**

TAOYUAN GENERAL HOSPITAL, DOH, TAIWAN  
NO. 1492, CHUNG SHAN RD., 330 TAOYUAN CITY,  
[chern@mail.tygh.gov.tw](mailto:chern@mail.tygh.gov.tw)

## Sex differences in the effect of Type 2 Diabetes on Major Cardiovascular Diseases: results from a population-based study in Italy.

**MANICARDI Valeria, BALOTTARI Paola, VENTURELLI Francesco, FERRARI Francesca, VICENTINI Massimo, GRECI Marina, GIORGI ROSSI Paolo**

#### Background/Problem/Objective

Diabetes increases the prevalence of most of the main risk factors for CVDs, leading to an increased risk of related morbidity and mortality. However, accruing evidence highlights that women and men experience the disease differently. The aim of the study is to assess sex difference in association between type 2 diabetes (T2D) and incidence of major cardiovascular events (MACE), i.e. myocardial infarction, stroke, and heart failure, using information retrieved by diabetes register.

#### Methods/Intervention

The inhabitants of Reggio Emilia (Italy) aged 30-84 were followed during 2012-2014. Incidence rate ratios and 95% confidence intervals were calculated using multivariate Poisson model and testing the effect modification of sex. Moreover, the age and sex-specific event rates were graphed.

#### Results (of evaluation)

Despite women maintain the advantage respect to men found in population without diabetes, women with T2D had 1.8 times the probability of a stroke compared with women without diabetes (95%CI 1.60-2.04), 2.6 times of having a myocardial infarction and heart failure (95%CI 2.22-2.99 and 2.27-2.97, respectively). Men with T2D have similar excess risk for stroke and heart failure (P of interaction 0.9197 and 0.9245, respectively), but the excess risk for myocardial infarction is lower than in women (IRR 1.78; 95%CI 1.60-1.98; P of interaction <0.0001).

#### Conclusions/Lessons learned

The overall incidence of myocardial infarction, stroke and heart failure is about 2-fold in T2D compared with people without diabetes. The diabetes-related excess risk of myocardial infarction is much higher for women than for men, while for the other CVDs people with T2D of the two sexes have a similar excess risk. In women with T2D, the risk of MACE is anticipated by 20-30 years compared with population without diabetes, while in men the incidence is anticipated by 15-20.

**Contact: MANICARDI Valeria**

Azienda USL di Reggio Emilia IRCCS  
via Barilla, 16, 42027 Montecchio Emilia,  
[Valeria.Manicardi@ausl.re.it](mailto:Valeria.Manicardi@ausl.re.it)

## Strengthen the healthcare in Indigenous areas around Kaohsiung, Taiwan

**WANG Pei-Shih, CHEN Chia-Yu, OU Tsan-Teng, HUANG Wei-Ling**

### Background/Problem/Objective

Taiwan is a tropical island with unique geography which established not only a rich landscape, but also lead to urban and rural difference. Despite the fact that Taiwan have a reputation for excellence National Health Insurance program and from our advanced health care systems, rural areas are often isolated by the geographical location of their communities. Therefore, access to adequate health care remains one of the most challenging problem. Rural areas around Kaohsiung are mostly indigenous communities, the population structure contains 95% of indigenous people. Satellite clinics are set up to provide primary health care, local residents still need to travel to the city for advanced treatment. Kaohsiung Medical University Hospital is dedicated to making better health of people. Our mission is to promote the availability and accessibility of healthcare at rural areas around Kaohsiung by providing outstanding care, conducting remote specialty clinics and offering vital education programs.

### Methods/Intervention

Over the past two decades, efforts have been made by KMH since 1997 to improve the rights of indigenous people, to bring awareness to their issues, including several health programs in order to improve their livelihoods. •KMH set up remote specialty clinics at the region to provide easy access to health care. •KMH provided 24-hour health care. •KMH established Disease Management Care Model towards TB, Diabetes and Gout subjects to provide customized treatment. •Clinical checkups are constantly held to discover diseases at early stage. •Advanced health trainings are provided to local medical professionals, to enhance local medical resource and improve urgent care. •Special Indigenous Clinic is set up at KMH to treat patients with referral need and offered exempted rates.

### Results (of evaluation)

KMH provided an average of 20 specialty clinics yearly, with over 800 services towards 10, 920 patients. As a result, we spared 1,121,520 kilometers and 28,120 hours in travel time for the rural area residents. Our satisfactory rate for our service is 97.6%.

### Conclusions/Lessons learned

As an academic medical center, KMH strives to provide the best in health care and continues to be a pioneer of development of rural area and underprivileged healthcare and remains committed to its tradition of exceptional care for patients, families and communities in Taiwan.

### Contact: WANG Pei-Shih

Kaohsiung Medical University Hospital  
No.100, Tzyou 1st Road Kaohsiung 807, Taiwan  
[930612@ms.kmu.edu.tw](mailto:930612@ms.kmu.edu.tw)

## Creation of an organizational model (research-action) for an integrated community intervention on health promotion in an urban area of Rome (Bastogi)

**BRANDIMARTE Maria Alessandra, IORIO Silvia, LANDI Adelaide, PAGLIONE Lorenzo, BAGLIO Giovanni, CACCIANI Laura, BARGAGLI Anna Maria, RINALDI Alessandro, CONFALONI Elisabetta, MARCHETTI Paolo, LAZZARI Claudio, MARCECA Maurizio, SESTI Flavia, DI ROSA Enrico**

### Background/Problem/Objective

In the Bastogi of Rome, there are six 80's buildings, never inhabited; from the 90's, they were hijacked by citizens with housing problems. Currently around 2,000 people live there. The context is increasingly complex with widespread social vulnerability. The study aims to research new poverty and health inequalities in a global city context, in order to create health promotion interventions in a population target with a high risk of exclusion, also due to obstacles to access to the health services services.

### Methods/Intervention

The project has three main goals: 1) the creation of interdisciplinary working group within the territory (University, Hospital, Municipality, organization); 2) creation of an organizational model for an integrated community intervention on health promotion; 3) inclusion and orientation to services. A community based methodology was adopted, combined with a rigorous analytical approach, through quantitative-qualitative methodologies (cross-sectional, retrospective study) with focus groups, consultations of the population and questionnaires (Population surveillance, etc.)

### Results (of evaluation)

A main first goal achieved concerned the creation of inter-institutional relations among the subjects of the working group. The study permitted to project a research in order to investigate the diversity of social health obstacles among the population of Bastogi area and the population of surroundings urban context through the questionnaires to explore risk factors, perception and access to social and health services of the population.

### Conclusions/Lessons learned

The creation of a Health Promotion intervention in order to reduce health inequalities requires an inter-sectoral action that includes the participation of several subjects, both institutional and non-institutional, and the population itself. The interventions have to be capable of acting in extremely difficult contexts through the implementation of participatory decision-making processes. The development of participatory and inclusive methodologies therefore appears to be a fundamental strategy for improving the health status of vulnerable populations in urban settings.



**Contact: LAZZARI claudio**

asl roma 1, borgo santo spirito 3, 00193 roma,  
[claudio.lazzari@aslroma1.it](mailto:claudio.lazzari@aslroma1.it)

## What can be seen from free Medical Check-up & Consultation services for foreign immigrants?

**KONO Tomoe, TAKEMOTO Kozo, FUKUBA Isao, SHINOBI tetsuya, TAKAHASHI Keiko, INAMURA Mayumi**

### Background/Problem/Objective

From 1997, Non-profit organization "The medical check up counselor for the North Kantou Area (AMIGOS)" has held total of 43 free Medical Check-up & Consultation services in Gunma, Tochigi, Ibaragi and Tokyo area. The free Medical Check-up & Consultation services began to be held in Saitama Cooperative Hospital in Saitama 2 years ago. We would like to announce the summary of free Medical Check-up & Consultation services and clarify the problem of foreign immigrants.

### Methods/Intervention

(1) Outline of free Medical Check-up & Consultation services  
 Contents of medical examination: Doctor's consultation, blood pressure measurement, physical measurement, chest X-ray, blood test, urinalysis (2) Cervical cancer screening  
 Number of participants: 30-70 people each time  
 Volunteers: 70-100 people, medical interpreters volunteer (corresponding to 7 languages) (3) Free legal counsel by lawyer (4) Medical social worker promptly collaborates with medical institutions (5) Living support: Provide food items in cooperation with food bank

### Results (of evaluation)

59 foreign immigrants from 15 countries participated in free Medical Check-up & Consultation services at Saitama Cooperative Hospital in 2017. Of that, 46 people stayed in Saitama prefecture. The average age is 38 years old. The judgment result was 28 persons required precision examination, 4 persons required treatment, 1 person under treatment. Many people who have mental problems with backgrounds of stressful living abroad and people losing physical condition in the accommodation facilities of the Immigration Bureau were also seen.

### Conclusions/Lessons learned

Many foreign immigrants apply for refugee status, but they are not accepted easily. Once accommodated in the immigration detention facility, it will be temporarily released. Their lives are unstable because temporary-relievers cannot work or join medical insurance. When foreign patients cannot pay medical expenses, government and municipalities supplement some of them, but it is limited. In order to improve health condition of foreign immigrants, it is necessary for temporary-relievers to be permitted to work and join social insurance.

**Contact: KATSUYUKI Togashi**

Saitama-kyoudou Hospital, 1317.kizoro., 333-0831 kawaguchi,  
[k-togashi@mcp-saitama.or.jp](mailto:k-togashi@mcp-saitama.or.jp)

## Equal opportunity to access a Cath lab facility in a timely fashion for patients with acute coronary syndromes admitted to Spoke and Hub center: Reggio Emilia province experience

**MANTOVANI Francesca, GUIDUCCI Vincenzo, NAVAIO Alessandro**

### Background/Problem/Objective

In patients with acute coronary syndromes presenting without persistent ST-segment elevation (NSTEMI-ACS) coronary angiography (CA) should be performed within a time window of 72 h in order to prevent recurrent ischaemia and improve short- and long-term outcomes. The service strategy (same-day transfer between spoke hospital and hub centre with cath-lab facility to perform invasive procedures) has been suggested to guarantee access to CA in a timely fashion even in patients admitted to spoke hospitals. From 2012, a network between the Hub centre (with cath-lab facility) and 5 spoke hospitals was created in Reggio Emilia province in 2012. We aim to describe application, performance and outcome of the service strategy in the daily clinical practice of this organization network.

### Methods/Intervention

Observational retrospective study of all consecutive NSTEMI-ACS patients admitted to spoke non-invasive hospitals of the Reggio Emilia province network and receiving coronary artery angiography (CA) ± percutaneous coronary intervention (PCI).

### Results (of evaluation)

From January 2012-December 2016, 2986 NSTEMI-ACS consecutive patients received CAA in the Hub centre, of which, 1663 patients were admitted directly to the Hub centre, while 1323 were admitted to the spoke hospitals. 1080 (81.6%) of the patients admitted to the spoke hospitals were managed with a service strategy. Mean time to access to the cath lab was 20.5 hours for patients admitted to the Hub centre and 50.3 hours for patients from spoke centers. Both patients from the spoke centres managed with and without a service strategy underwent CA in less than 72 h (50.3 vs. 62.2 hours). Before 2012 mean time to access the Cath lab from spoke hospitals was >60 hours. Within the same day patients were returned back to the referring non-invasive spoke centre accompanied by an basic life support (BLS) certified crew. Thirty-day occurrence of adverse events did not differ between patients managed with or without a service strategy.

### Conclusions/Lessons learned

In Reggio Emilia province, a service strategy seems to be an effective approach to optimize the invasive management of NSTEMI-ACS patients admitted to spoke hospitals.

**Contact: MANTOVANI francesca**

Arcispedale Santa Maria Nuova, IRCCS, Reggio Emilia,  
[francy\\_manto@hotmail.com](mailto:francy_manto@hotmail.com)

## Session P1.7: Healthy nutrition

'MUST' nutrition screening system with dietitians single visit health education can effectively improve nutritional status

CAI Wan-Ruei, HOU Yi-Cheng, TSAO Hsin-Yi, WU Jing-Huei, HSIEH Yu-Ling

### Background/Problem/Objective

An important goal for all dietitians is to effectively and continuously enhance the nutritional status of hospital inpatients. However, due to limited resources such as time and manpower, dietitians need to rely on nurses to conduct initial nutritional screenings. The Malnutrition Universal Screening Tool (MUST) is one of the nutritional screening tools for hospitalized patients. The aim of this study is to explore whether the 'MUST' screening system and dietitians' single visit health education can effectively and continuously improve the nutritional status of hospitalized patients.

### Methods/Intervention

The 'MUST' screening system were used to screen the inpatients in the chest medical and neurology ward of Taipei Tzu Chi Hospital from August 2014 to August 2015. Nutritional screening parameters for the 'MUST' screening system includes body mass index (BMI) (kg/m<sup>2</sup>) percentage weight loss (%), and acute disease effect. Nutritional risk is assessed via 'MUST' by assigning scores between 0 and 3 to each parameter. A total score of 2 or more is considered high risk, 1 is considered medium risk, and 0 is considered low risk. Dietitians will visit the highest risk (total score greater than 2) malnutrition patients.

### Results (of evaluation)

68 inpatients in the chest medical and neurology ward of Taipei Tzu Chi Hospital were screened by the 'MUST' screening system. Comparing the initial nutritional status and the status one month after the dietitian's visit, patients who had an impaired nutritional status increase in bodyweight (kg) with mean (SD) scores of  $43 \pm 6.3$  vs.  $45 \pm 6.9$ , in albumin (mg/dL) with mean (SD) scores of  $2.5 \pm 0.7$  vs.  $2.7 \pm 0.6$  and decrease in CRP (C reactive protein) (mg/dL) with mean (SD) scores of  $6.5 \pm 7.1$  vs.  $5.4 \pm 4.9$ . Comparing the nutritional status between one and two months after the dietitian's visit, patients who had an impaired nutritional status decrease in bodyweight (kg) with mean (SD) scores of  $45 \pm 6.9$  vs.  $43 \pm 5.7$ , in albumin (mg/dL) with mean (SD) scores of  $2.7 \pm 0.6$  vs.  $1.7 \pm 0.6$  (Table1).

### Conclusions/Lessons learned

The 'MUST' screening system and dietitians' single visit health education can effectively and continuously improve the nutritional status of hospitalized patients during the first month.

### Contact: CAI Wan Ruei

Taipei Tzu-Chi Hospital  
4F., No.58-2, Sec. 3, Xiulang Rd., Zhonghe Dist., New Taipei City 235, Taiwan (R.O.C.), 23582 New Taipei City,  
[rachel43072@gmail.com](mailto:rachel43072@gmail.com)

The prognostic importance of objective nutritional index in patients with respiratory failure

LEE MING-CHIEH Li Chi-Ting

### Background/Problem/Objective

Early identification of undernourished respiratory failure patients is essential because the harmful effects of poor nourishment should be avoided. Although malnutrition indicates an unfavorable prognosis in some clinical settings, the association between nutritional indexes and outcomes for patients with respiratory failure is still unclear.

### Methods/Intervention

The previously established objective nutritional index are evaluated. The controlling nutritional status (CONUT), prognostic nutritional index (PNI), and geriatric nutritional risk index (GNRI) are determined for 77 patients with respiratory failure. Cox proportional hazard regression and Kaplan-Meier method were used for the statistics.

### Results (of evaluation)

77 patients are evaluated. There are 27 successful extubation, 29 deaths and 21 prolonged mechanical ventilation, Mortality of patients showed impaired nutritional status, higher CONUT scores, lower PNI scores, and lower GNRI scores, compared with those who successful extubation patients. Moderate GNRI score (hazard ratio 3.5, 95% CI 1.3–10.8,  $p=0.030$ ) were independently associated with mortality events. Kaplan-Meier analysis showed that there is a significantly higher incidence of mortality events in patients with GNRI point lower than 78.

### Conclusions/Lessons learned

Malnutrition is a complex state. Further research is required to determine whether nutritional supplementation can slow the progression of respiratory failure and reduce mortality among these patients. Evaluation of nutritional status may provide additional prognostic information in patients with respiratory failure to improve their outcome of treatment.

### Contact: LI chi-ting

Pingtung Christian Hospital, No.60, Dalian Rd., Pingtung City,  
[ccchiting@gmail.com](mailto:ccchiting@gmail.com)

Comparing community clients of different dietary pattern on their health indicators at a vegetarian festival in Hong Kong

CHUK Peter, TSAI Albert, SIU Alan

### Background/Problem/Objective

Dietary pattern should not be overlooked to prevent and control chronic diseases. Excessive fats may lead to a cluster of common signs "Three Highs" and Central Obesity. Body Mass Index and Total Cholesterol are key indicators to alert early precaution for health eating. This study was to compare focusing indicators of health seekers' with Vegetarian and Non-vegetarian dietary pattern.

**Methods/Intervention**

A cross-sectional design was used for this study taking place at the 1st Vegetarian Festival of Hong Kong in October 2013. Survey method and physical measurement was used to collect data. A response rate of 94.8% (237/250) from participants attending three health booths was obtained. Dietary pattern were generally categorized as into four types which were readjusted into Vegetarians and Non-vegetarians for analysis. Objective: This study was to compare focusing indicators of health seekers' with Vegetarian and Non-vegetarian dietary pattern. Methods: A cross-sectional design was used for this study taking place at the 1st Vegetarian Festival of Hong Kong in October 2013. Survey method and physical measurement was used to collect data. A response rate of 94.8% (237/250) from participants attending three health booths was obtained. Dietary pattern were generally categorized as into four types which were readjusted into Vegetarians and Non-vegetarians for analysis.

**Results (of evaluation)**

The results showed that the Vegetarian group (N=79) has significantly less number of chronic diseases than the Non-vegetarian groups' (N=158) (likelihood Ratio  $\chi^2=4.294$ ,  $df=1$ ,  $P<0.05$ , OR 0.33 (95% CI 0.10-1.10)). A t-test indicated that Body Mass Index ( $t=-2.706$ ,  $P<0.001$ ) and Total Cholesterol ( $t=0.076$ ,  $P<0.01$ ) of the two groups differed significantly. The results support that eating vegetarian diets tend to reduce biomedical risks from nutritional intervention. The collected data can also be measured conveniently to detect increasing trend of health risks at an early stage.

**Conclusions/Lessons learned**

Vegetarian diets may be beneficial as a supplementary intervention and prescription for health seekers or patients. Simple health screening on focused indicators and education of dietary pattern play a pivotal role to promote health and to manage common chronic diseases in the community as well as the hospital setting.

**Contact: CHUK Peter**

Hong Kong Adventist Hospital - Stubbs Road  
40 Stubbs Road, Hong Kong, xxxx Hong Kong,  
[pkcchuk@netvigator.com](mailto:pkcchuk@netvigator.com)

## Individualized nutrition intervention can effectively improve the nutritional status of psychiatric patients

**HSIEH Yu-Ling, HOU Yi-Cheng, CHEN Ming-Hsiang, FANG Yi-Ting, ZHANG Xin-Yan, WU Jing-Huei**

**Background/Problem/Objective**

Because of the psychological state, psychiatric patients are different from ordinary patients. Psychological factors often affect the eating status which in turn leads to malnutrition. The aim of this study is to explore whether Individualized nutrition intervention can effectively improve the nutritional status of psychiatric patients

**Methods/Intervention**

We used the 'MUST' screening system to screen the inpatients in the psychiatric ward of Taipei Tzu Chi Hospital from September 2017 to December 2017. Nutritional screening parameters for the 'MUST' screening system include body mass index (BMI) (weight (kg)/height(m)<sup>2</sup>), percentage weight loss (%), and acute disease effect. Nutritional risk is assessed via 'MUST' by assigning scores between 0 and 3 to each parameter: (1) current weight status using BMI, which is scored as 0 if  $>20 \text{ kg/m}^2$ , 1 if between 18.5 and 20  $\text{kg/m}^2$  and 2 if  $<18.5 \text{ kg/m}^2$ ; (2) percentage weight loss over the previous 3–6 months is scored as 0 if  $<5\%$ , 1 if between 5 and 10% and 2 if  $>10\%$ ; and (3) the acute disease effect is scored with 2 points if there has been, or if it is likely to be, no nutritional intake for  $>5 \text{ d}$ . A total score of 2 or more is considered high risk, 1 is considered medium risk, and 0 is considered low risk. Dietitians will visit the highest risk (total score greater than 2) malnutrition patients

**Results (of evaluation)**

21 inpatients in the Psychiatric ward of Taipei Tzu Chi Hospital were screened by the 'MUST' screening system. Age (years) were  $50 \pm 14$ . Duration of psychiatric (years) were  $1.1 \pm 0.3$ . Gender (male%) were 23.8. Education below high school (%) 47.4. Comparing the initial nutritional status and after the dietitian's visit, patients who had an impaired nutritional status increase in bodyweight (kg) with mean (SD) scores of  $43.6 \pm 7.5$  vs.  $46.5 \pm 8.2$  ( $P<0.001$ ), in BMI ( $\text{kg/m}^2$ ) with mean (SD) scores of  $16.8 \pm 2.0$  vs.  $17.9 \pm 2.1$  ( $P<0.001$ ), in total calorie intake (Kcal) with mean (SD) scores of  $1128 \pm 230$  vs.  $1378 \pm 320$  ( $P<0.001$ ), in albumin (mg/dL) with mean (SD) scores of  $3.26 \pm 0.3$  vs.  $3.8 \pm 0.7$  and decrease in Lym (%) with mean (SD) scores of  $26.5 \pm 10.2$  vs.  $22.1 \pm 13.1$ , TLC (cells/mm<sup>3</sup>) with mean(SD) scores of  $1560 \pm 820$  vs.  $1444 \pm 1459$  (Table1).

**Conclusions/Lessons learned**

Individualized nutrition intervention can effectively improve the nutritional status of psychiatric patients.

**Contact: HSIEH Yu-Ling**

Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation  
Jianguo Rd., Xindian Dist., New Taipei City, Taiwan(R.O.C)  
23142 New Taipei City,  
[cristy2316@gmail.com](mailto:cristy2316@gmail.com)

## Effects of Health Management Program-Healthy Diet Change My Life

**LIN LUAN-CHEN, WANG SHU-HUI, LIN PEI-I, HUANG CHI-CHUNCHEN CHENG-CHUNG**

**Background/Problem/Objective**

Medical institutions are one of the very busy institutions, and the health of the hospital staff is closely related to the quality of patient care. Under compact and strict working conditions, the most difficult hurdle for manager to overcome is to empower the employees to take good care of their own health spontaneously. Therefore, we designed a diversified nutrition intervention model, from opening a weight-loss class, teaching individualized healthy meal design, catering services and practicum courses. After participating this program, the employees can provide better quality of care and to improve interpersonal relationships by maintaining family harmony and their body-mind health.

**Methods/Intervention**

According to the results of the previous year's physical examinations, those who is willing to undergo skills training with abnormal BMI, suffering from DM and hypertension and hyperlipidemia are referral to the dietitian by the occupational nurse. The dietitian provided individual nutrition counseling and employee nutrition plan. The program included a series of weight loss classes so that employees can accept physical training courses as well as the diet courses. The central kitchen also produced individualized low-calorie and high-fiber meal boxes, and delivered to the staff's office under the supervision of the dietitian.

**Results (of evaluation)**

Five staff members referred to dietitians and were followed up by DM and hypertension and hyperlipidemia. Three of them were adjusted their daily lifestyle. The other two continued to monitor their blood glucose, blood lipids, blood pressure and other indicators. A total of 35 participants participated in a 7-week weight loss classes. After program, a total reduction of 62.7kg. In the ordering section of low-calorie lunch boxes, on average 45 employees each day are scheduled to have a low-calorie and high-fiber lunch box that meets the caloric requirements of the employee.

**Conclusions/Lessons learned**

Working in a hospital is very busy. Only nutrition knowledge and regular physical examination cannot persuade the staff to change their life styles. The diversified designing program lets employees have multiple choices and flexible schedule to achieve the balance between busy work and healthy life style. By the individualized guidance and health management program, the impact of the employee life styles will be deeper and permanent.

**Contact: LIN LUAN-CHEN**

KAOSHIUNG MUNICIPAL KAI-SYUAN PSYCHIATRIC HOSPITAL  
130 KAI-SYUAN 2ND ROAD, LINYARD DISTRICT  
80276 KAOHSIUNG, [luanjeankimo@yahoo.com.tw](mailto:luanjeankimo@yahoo.com.tw)

## The effective of online social media on weight management program in obese adult

**LING Yuen-yuen, TIEN Wan-jung, HUNG Ke-chen, HUANG Kuei-ying**

**Background/Problem/Objective**

In 2016, the World Health Organization (WHO) indicated that over 2.5 billion people are overweight and obese in worldwide. Obesity is known to increase the risk of cardiovascular disease, stroke, type 2 diabetes mellitus and some cancers. According to the Global Digital snapshots 2017, over 2.8 billion people worldwide use the online community, and the Online community has the advantages of convenience and immediacy. Therefore, we evaluated the effectiveness of online social media involvement in weight management program.

**Methods/Intervention**

We recruited obese adults with BMI > 27kg / m<sup>2</sup>, divided into intervention group and control group. Both groups accepted a six-week course, which included nutrition knowledge and physical activity. Participants in the intervention group can

upload photos of diet content to Facebook group at any time, diet suggestion and assign tasks by dietitians, members can use online community to discuss each other, and control group only accept classes. Body weight was measured at weeks 6, 10 and 14.

**Results (of evaluation)**

Both groups included 16 Participants. There is no significant difference in gender, age, height, original weight, BMI between the two groups ( $p > 0.05$ ). Outcome measures : After 6 weeks of course, the average weight loss in the intervention group was 3.5kg, and in the control group was 1.1kg; at the 14th week, the average weight loss of intervention group was 8.2 kg, and in the control group was 6.9 kg. The intervention group lost more weight than the control group ( $p < 0.05$ ).

**Conclusions/Lessons learned**

One of the core principles of health promotion is to create a supportive environment conducive to changing health behaviors. The results of this trial show that providing instant diet instruction from a professional dietitian and social support from peers, through online social media alone, helps to increase the relationship among members and increase information sharing, improve trust among members and creating a supportive environment for obese people have a positive effect on weight management programs.

**Contact: LING yuen-yuen**

Nutrition and Health Sciences, No.280, Sec. 4, Ren'ai Rd., Da'an Dist., Taipei City 106, 10630 Taipei, [dong0508@hotmail.com](mailto:dong0508@hotmail.com)

## Application of online videos combining QR codes to promote nutrition education for hospital staffs

**CHEN Tzu-Yi, CHIANG Chih-Fan, LIN Jing-Mei, CHEN Pey-Rong**

**Background/Problem/Objective**

The approach of a healthy diet is very important for promoting hospital staffs' health. Face-to-face model is one of the common traditional methods in nutrition education. Since the development of the internet, people can easily get the nutritional information via the website or cell phone. For increasing the efficacy of nutrition education, this study is designed to deliver proper nutritional information and healthy eating habits through online videos with QR codes.

**Methods/Intervention**

There were participants (n=181) scanned QR codes on posters posted at NTUH staff hiking event to visit one of 7 online videos, including "the six groups of the food pyramid", "food exchange lists", "how to cook a low salted meal", "choosing the best cooking oil" and "making a low sugar cake". We collected the nutrition knowledge and satisfaction of program responded from the website, and also analyzed the proportion of each topic visited.

**Results (of evaluation)**

According to the results, there were 195 clicks to the QR codes; 54% of participants viewed the topic "the six groups of the food pyramid" and "food exchange lists", 12% viewed "choosing the best cooking oil", and 11% viewed "making a low sugar cake"

topic. The rate of answering correctly on nutrition knowledge tests ranged from 50% to 94%. Overall satisfaction revealed that more than 97% of participants claimed that they were satisfied or very satisfied.

#### Conclusions/Lessons learned

According to the research, online videos combining QR codes provided an efficient and good satisfaction model for nutrition education in hospital staff activity.

**Contact:** CHEN Tzu-Yi

[sandyc7977@gmail.com](mailto:sandyc7977@gmail.com)

## Knowledge, attitudes and practices (KAP) related to dietary sodium among Taipei residents

**HO Yi-Jhen, SHIH Wan-Pei, CHAO Shan, WU Chun-Chieh, LIU Chih-Kuang, CHEN Pey-Rong**

#### Background/Problem/Objective

Background: Excessive consumption of dietary sodium is an important public health issue. A few Taiwanese understand the KAP related to sodium consumption. Aim: To investigate the KAP for dietary sodium intake among adult residents of Taipei.

#### Methods/Intervention

Methods: We conducted a cross-sectional survey. During June 1, 2015 and January 31, 2016, a questionnaire describing knowledge, attitudes and practices was obtained from adults aged over 20 years in community nutrition lecture of Taipei.

#### Results (of evaluation)

Results: A total of 1091 participants (76% female) completed the questionnaire. Most participants (90%) were aware of the relationship of sodium with hypertension, only 32.4% of subjects knew the recommendation of daily salt intake less than 6 grams; and 30.4% of subjects knew the relationship between salt and sodium. Participants ages above 75 years were more likely to avoid eating outside, reducing the soup, prevent add sauces when eating and check the nutrition information from food packaging.

#### Conclusions/Lessons learned

Conclusion: Only about one third of the participants knows the correct dietary sodium knowledge. The findings of the present study suggest that in addition to promote the knowledge of dietary salt intake reduce, there is a need to reduce the sodium content of foods by working with food and beverage companies in order to reduce salt intake.

**Contact:** HO YiJhen

No.145, Zhengzhou Rd., Datong Dist., Taipei City 103, Taiwan (R.O.C.), 10341 Taipei,

[apriljane0417@gmail.com](mailto:apriljane0417@gmail.com)

## Correlation between nutrition flow chart and improving nutrition intake of cancer inpatients

**CHIN LIEN lai, CHIA I ko**

#### Background/Problem/Objective

Cancer patients tend to have malnutrition, Studies have shown that 50% of cancer patients will suffer cachexia and symptoms such as weight loss, fatigue, anorexia, easy to feel full, drowsiness, anemia, emaciation and electrolyte imbalance, in addition to the patients metabolic changes. The treatment process may have different side effects, reduce food intake and aggravate malnutrition. Another study pointed out that malnutrition increased cancer mortality and weight loss will increase the incidence of cancer patients and mortality, reduce treatment tolerance and quality of life. For cancer treatment patients, the earlier nutrition care plan and actively supplement nutrition is the key to maintaining good quality of life. For cancer treatment patients, the earlier nutrition care plan and actively supplementing nutrition is the key to maintaining good quality of life. Enhance patient care in hospitalized patients with nutritional care quality, establish standard operating procedures to provide more complete medical care for cancer patients undergoing chemoradiation or surgical treatment.

#### Methods/Intervention

Identify the reasons for the low quality of nutritional care in inpatients with cancer by using quality control methods based on human, material and information systems, formulate countermeasures. Active nutrition care and revise the cancer consultation conditions in the Daily Nutrition Watch list in the information system, Introduce cancer patients with C and Z at the beginning of the cancer diagnosis code into the "Daily Nutrition Visiting List". Nutritionists take nutritional care according to the daily nutrition visit list and establish a cancer supervisor Referral to cancer patients. Nutritional Advisory Pipeline. Cancer regulators can reorganize the list of new cases of cancer patients. Nutritional care for nutritionists and referrals for nutritional care. Demand inpatient cancer patients and outpatient cancer patients for nutritional care. New cancer nutrition care information system. After the completion of the nursing care of cancer patients, this system allows you to log in content such as cancer, subjective data, objective data, diet history, nutrition assessment, nutrition diagnosis, nutrition intervention, diet plan, goal and monitoring, tracking Results and other information. Increase after discharge of the hospital to visit the new set of cancer nutrition counseling clinic.

#### Results (of evaluation)

Improve the nutritional care rate of cancer patients before and after Data comparison. Cancer care nutrition care rate increased from 26.7% to 76.7%. Improve the heat of patients with cancer before and after the comparison of protein data. The total number of cancer nutrition care cases totaled 33, of which 22 were caloric intake up to 75% of recommendations, accounting for 66.6% of total cancer nutrition care cases. Cancer patients achieved a higher rate of caloric intake from 43.3% to 66.6%. The total number of cancer nutrition care cases totaled 33 and the recommended intake of protein was 75%, accounting for 63.6% of total cancer nutrition care cases. The rate of uptake of protein in cancer patients increased from 47.7% to 63.6%. TV Caring Care Tracking Cancer Nutrition Care Effectiveness Phone



Tracking Malnutrition (n = 33) The number of people who tracked before decreased from 60.6% to 6, 18.2%

### Conclusions/Lessons learned

Through quality control measures, we can find out the true application of the proposed strategy in clinical care operations process by early intervention in case nutrition care assessment and appropriate health food and education guidance we can increase the patient's correct nutrition intake knowledge, thereby improving nutrition intake. Strengthen When the patient was discharged from hospital and was unable to visit, he would like to improve his nurse care quality by changing his caretakers' visits or attending a cancer nutrition clinic to increase their cancer nutrition care. (Therefore, improving the nutrition note process to increase nutrition care case nutrition and health education and then to enhance the nutritional intake of cancer inpatients are related.)

**Contact: CHIN LIEN lai**

cheng ching hospital, no.139, ping-tien street, taichung,  
[lien4329@gmail.com](mailto:lien4329@gmail.com)

## "Sukoshio" survey in staff vs community members.

### KAKIUCHI Sanae, SAITOH Fumihiko, NEGISHI Kyota, IN OIZUMI HEALTH COOP HOSPITAL HPH Committee IN NERIMA Health Promoting Committee

#### Background/Problem/Objective

Japanese food "Washoku" has been registered as UNESCO's Intangible Cultural Heritage and it is worldwide attention as a healthy diet. But the amount of salt intakes in Japanese is high and is over 5g/day. WHO recommends taking salt lower than that. "Sukoshio" is the symbol of low-salt habits in Japanese Health and Welfare Co-operative Federation. "Sukoshio" is the synthetic language of "Sukosi = a small amount" and "Shio = salt".

#### Methods/Intervention

We surveyed the amount of salt intake among our hospital staffs and community members of our coop and intended to spread the "Sukoshio" habits. 170 of our staffs and 143 of community members who were eager in health promotion were eligible. We evaluated all of them using the checklists for salt intake and analyzed their eating habits and the frequency of salt-rich food intakes. Furthermore, staffs measured the amount of salt in their own urine with the salt paper test.

#### Results (of evaluation)

-On the checklists assessments, the community members were better results than staffs. -More of staffs had to have an excessive salt intake. -90% of staffs were used to eat out frequently, and the number of them was more than the mean number of The National Health and Nutrition A survey in Japan. -The community members eat pickles, pickled plums, and dried fishes more frequently than staffs.

#### Conclusions/Lessons learned

We revealed that there is a difference in "Sukoshio" habit between generations. It needs that we have to work on the

problem of concerning with salt content in working generation. In a senior generation, it seems effective to know the amount of salt in pickles and others. For the extension of healthy longevity, we have an idea to have a dinner party etc. with reduced salt.

**Contact: SAITOH Fumihiko**

Oizumi Health Cooperative Hospital  
Higashi-Oizumi, 178-0063 Nerima, Tokyo,  
[fumisaitoh@gmail.com](mailto:fumisaitoh@gmail.com)

## Why are patients indifferent to the hospital's treatment diet?

### HA Hyun Young, LEE Moo Young, LEE Dong Won

#### Background/Problem/Objective

Eating is a must for your health and meals at the hospital are emphasized as a method of treatment and recovery. Wonju Medical Center in Gangwon Province has many long-term inpatients, with 64 percent of them asking for regular meals, 30.8 percent for treatment, and 5.2 percent requesting individual food. After the survey was conducted on patients, most of the causes of it were cooking and delivering, and hospitals learned of the indifference of treatment menus and the risk of income loss that would grow further at around \$ 48500 a year.

#### Methods/Intervention

A major cause of low satisfaction with hospital meals was a lack of education and nutrition counseling on diet. We analyzed the reality of hospital meals from four perspectives : 1) A kitchen staff (workload, manpower, salary, responsibility) 2) Patients (Food Temperatures Clean) 3) Environment (Service postures, explanation of treatment diet) 4) Other (distance from the patient's home, diet, and digestive functions) And the goal selected was 1) to increase patient satisfaction by 15 % 2) to improve the cooking staff's awareness and behavior by 50 % 3) to reduce individual food intake by 2.2 %. Activities to improve the goal were carried out from May to November 2017, as explained in 1) Training of the periodical treatment menu, 2) Enhancement of measurement tools such as salinity temperature, 3) Enhanced dishwashing, 4) weekly cooking service education, 5) improvement in the preparation method, and 6) reinforcing the real-name and rewards of cooking center.

#### Results (of evaluation)

Achieving the goals of the six improvement activities exceeded the goals set by 1) Patient satisfaction 2) Cookhouse awareness and nourishment 3)% of individual food intake of patients. In addition, studies have shown increased patient and cooking staff awareness, and sense of kindness and pride in their diets. The hospital was able to avoid a loss of \$ 44,500.

#### Conclusions/Lessons learned

This activity has helped patients and their families understand the importance of eating in hospitals. It has resulted in a change. Cooks and deliverymen were proud to deal with patients and gave hospitals hope that their management could improve. However, these activities require budget spending and require It has become very clear that better education and diet should be developed and connected to consistent satisfaction

**Contact: LEE Mooyoung**  
 Wonju Medical Center, [openland@hanmail.net](mailto:openland@hanmail.net)

## Critical patients suffering chronic renal failure supplied with short-term high or normal protein diet does not affect liver and kidney function status

**SU Yan Chen, LIN Chia-heng, HOU Yi Cheng**

### Background/Problem/Objective

Nutritional support for critically ill patients suffering chronic renal failure is very important. In addition to the difference in calories support, there is also a significant difference in the level of protein intake depending on disease progression. Given the appropriate protein, the nutritional support not only reduces the body protein disintegration but also lowers the liver and kidney loads, which will be beneficial for the disease progression. However, there are few studies conducted on the precise amount of protein administered. The short-term (7-day) disease progression reflects the effect of different quantity of protein on critical patients suffering chronic renal failure.

### Methods/Intervention

This is a retrospective study with cases from June 2015 to October 2017 in Taipei Xinguang Wu Huoshi Memorial Hospital Medical Intensive Care Unit. Inclusion criteria are the diagnosis of chronic kidney disease history excluding the cases of 7-day exports, deaths, or dialysis treatments. Creatinine, eGFR, GOT, GPT and CRP were analyzed for short-term high-protein (1.2-1.5 g / kg / day) and normal-protein (0.8-1.0 g / kg / day) administration for 7 days.

### Results (of evaluation)

A total of 47 patients with severe chronic renal failure, 30 with high-protein diet and 17 with normal-protein diet, were enrolled in this study. After exclusion due to dialysis, 2 (6.7%) and 2 (12.8%) respectively, 28 in the high-protein diet group and 15 in the general protein diet group were enrolled. The result of the study is as follows: mean age 75 years old ( $77 \pm 10$ ), 20 males and 23 females, body weight ( $62.574 \pm 14.8924$  kg), BMI ( $24.55 \pm 6.625$ ), calorie intake ( $1463.03 \pm 429.912$ ), eGFR ( $28.93 \pm 15.21$  ml/min/1.73m<sup>2</sup>), Pre-BUN ( $48.51 \pm 23.19$  mg/dl), Pre-creatinine ( $2.53 \pm 1.28$  mg/dl), Pre-GOT ( $160.57 \pm 723.41$  mg/dl), Pre-GPT ( $101.67 \pm 334.23$  mg/dl), Pre-CRP ( $9.27 \pm 9.70$  mg/dl), Post-BUN ( $60.79 \pm 30.60$  mg/dl), Post-creatinine ( $2.75 \pm 2.02$  mg/dl), Post-eGFR ( $33.68 \pm 22.06$  ml/min/1.73m<sup>2</sup>), Post-GOT ( $42.74 \pm 48.54$  mg/dl), Post-GPT ( $33.41 \pm 53.66$  mg/dl), Post-CRP ( $6.65 \pm 6.35$  mg/dl). There was no significant difference in BUN, Creatinine, eGFR, GOT, GPT and CRP between the high-protein and the normal-protein diet groups.

### Conclusions/Lessons learned

Critical patients suffering chronic renal failure administered with short-term high-protein or normal-protein diet does not affect liver and kidney function status

**Contact: YI CHENG Hou**  
 Taipei Tzu Chi hospital

No.289, Jianguo Rd., Xindian Dist., New Taipei City 23142  
[anny321@tmu.edu.tw](mailto:anny321@tmu.edu.tw)

## Improvement Project Reduce of Omission Rate Between the Recovery Room and the Ward Shift Change

**TSAI Huei-Ling, CHUANG Shu-Chuan, LI Jing-Fen, CHEN Feng-Ling, CHENG Jin-Shiung**

### Background/Problem/Objective

Nursing shift is a vital text in the process of nursing. By the process of nursing shift, the nurse will pass the nursing plan thoroughly to the next shift which enable the patients have a continued and complete attendance. When the nurse from the recovery room transfer the patient back to the ward, it is quite often that the nurses of the ward called and inquired about the medical treatment and personal belongings of the patients'.

### Methods/Intervention

Statistically, there are 371 cases, about 66.25% of missing cases when the content of the shift is inconsistent and in a messy order. Therefore, by constituting the standard of procedure and the guiding content between the recovery room and the ward shift change, we are looking forward seeing it being helpful when it comes to the correctness and the integrity of the content and messages passing through the shift of the recovery room and the ward.

### Results (of evaluation)

We've collected 560 nursing records individually and checked on 17 different categories. In which we found 371 cases of the content missing through the nursing shift. By the revision of the procedure and carrying it out to the nursing shift, we found there to be only 105 cases of the content missing which are of the rate of 18.75%, decreasing 47.5% in total.

### Conclusions/Lessons learned

By applying the method of the commune between recovery room and the ward, it enable the complicated shift between the recovery room and the ward to be standard, easy and it can easily reduce the circumstances of being inquired. Repeatedly. By this can the nurses have more time to focus on the patients and taking care of them. Also, it can enhance the safety of the patients being taken care of and so the customers would be pleased.

**Contact: CHENG Feng-Ling**  
[flchen58@gmail.com](mailto:flchen58@gmail.com)

## Health promotion, Mediterranean diet and environmental sustainability. Empowering citizens through the foundation for food education

**GIBERTONI Chiara, PANDOLFI Paolo, KREGEL John Martin, PRETE Luciana**

**Background/Problem/Objective**

Cataract is the leading cause for blindness and is currently an important public health problem, particularly among developing countries. Smoking is an established risk factor for cataract and the damages seem to persist long after quitting smoking. As cataract is caused by oxidative damage to the lens, a healthy diet high in antioxidants from plant foods may protect against cataract.

**Methods/Intervention**

The Tzu Chi Health Study is a prospective cohort study of 6002 participants recruited in 2007 – 2009. Diet was assessed through a validated food frequency questionnaire. Participants' baseline data were linked to the National Health Insurance Database and the Death Registry in Taiwan and followed-up until December 2014. Cataract incidences were identified using ICD-9 code: 366. Hazard Ratio and 95% Confidence Intervals were estimated using Cox Regression.

**Results (of evaluation)**

The association between the vegetarian dietary pattern and cataract incidence is modified by smoking status. Among past smokers, adopting a vegetarian diet is associated with 76% (HR = 0.24, 95% CI: 0.07 – 0.78) lower risk for cataract, while the association for never smokers was statistically insignificant (HR = 0.90, 95% CI: 0.72, 1.12).

**Conclusions/Lessons learned**

Vegetarian diet may protect against cataract and may be an additional lifestyle change to be encouraged after quitting smoking.

**Contact: CHIU Tina Hsueh-Ting**

Tzu Chi Medical Foundation  
No 289, Jianguo Rd., Xindian Dist  
231 New Taipei City,  
[tina@twvns.org](mailto:tina@twvns.org)

## A vegetarian diet may protect against cataract in past smokers

**CHIU Tina H. T., CHANG Chia-Chen, LIN Ming-Nan, LIN Chin-Lon**

**Background/Problem/Objective**

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**Contact: CHIU Tina Hsueh-Ting**

Tzu Chi Medical Foundation  
No 289, Jianguo Rd., Xindian Dist  
231 New Taipei City,  
[tina@twvns.org](mailto:tina@twvns.org)

## Session P1.8: Improving the mental health of staff

### Staff self service mobile care-mended health

**LEE Yi-Lien, HU Ya-Han**

**Background/Problem/Objective**

Staff is an enterprise critical asset, and the health heightens the enterprise competition. Thus, inspiring staff self service mobile care is a sustainable solution. In the traditional health promotion, staff passively participated. Hence, how to mend the health motivation is a big test. Staff self service mobile care of popularity amazingly aids to achieve the self care with health activity promoting and learning motivation stimulating.

**Methods/Intervention**

The 125 employees of three hypers (hyperglycemia, hypertension, hyperlipidemia) were classified, respectively, from February 6 to July 30, 2017, totally 30 weeks: 65 with the mobile care; 60 with the arranged classes and activities. Concomitantly, the difference was in the progress rate of: weight loss; health promotion perception; three-hyper reduction.

**Results (of evaluation)**

In the former vs latter group, the weight loss was averagely about 3.2 vs about 2.2 kilograms; health promotion perception score, about 92 vs 75; the progress rate of three-hyper reduction, over 65% vs only 35%. Subsequently, the staff self service mobile care sustained the health.

**Conclusions/Lessons learned**

The mobile care was very popular, and the effects were: health knowledge downloading anytime; self-monitoring exercise effect-achieved care promotion; self-management; message acquiring; active learning. Accompanyingly, the self-monitoring care was attained.

**Contact: LEE Yi-Lien**

Chi Mei Medical Center, No. 901 Zhonghua Road, Tainan,  
[su67015@gmail.com](mailto:su67015@gmail.com)

## A Discussion on Correlation Coefficient of Health Promotion Behavior of Nursing Practitioners

**LAI HSUEH-CHEN**

### Background/Problem/Objective

The Hospital is affiliated with the WHO Collaborating Centre for Health Promotion in Hospitals and Health Care, and actively promotes the hospital-wide health promotion concepts and values. Nursing practitioners are one of the important human resource assets of the Hospital and they are successful leaders in health promotion with actual practice and provision of high quality health care services.

### Methods/Intervention

This study uses structured questionnaires to collect data related to the dimensions including "daily work situation," "workplace conditions," "occupational safety," "health promotion knowledge," "health promotion attitude," and "health promotion behavior," and conducts analyses using Pearson's correlation coefficient.

### Results (of evaluation)

According to Pearson's correlation coefficient, among the "seven dimensions of evaluation," five are shown with positive correlation ( $p < \alpha = .05$ ) and only "daily work situation at workplace" is identified to have negative correlation indicating that there is correlation among the "seven dimensions of evaluation."

### Conclusions/Lessons learned

The "seven dimensions of evaluation" help to discuss, evaluate, and explain the high correlation of nursing practitioners towards workplace environment in the Hospital, self-aware health conditions and health promotion behavior.

### Contact: LAI Hsueh-Chen

Kaohsiung Municipal United Hospital  
Jhonghua 1st Rd., Gushan Dist., 80457 Kaohsiung,  
[hsueh2013@gmail.com](mailto:hsueh2013@gmail.com)

## Support groups help employees relieve stress as novice parents

**CHOU Hsiu-Yu, LO Yu-Tai, LIOU Wen-Chin, YANG Yi-Hua**

### Background/Problem/Objective

Factors such as workplace pressure, lack of support, are found to relate with postpartum depression. Therefore, St. Joseph Hospital held a novice parents support group since 2017. By sharing various resources and getting together regularly, it provides professional knowledge of caring infants, and different types of stress relieving skills. Experienced senior mothers shared their stories in the support group brought substantive assistance to hospital staff. We believe this support group reduced the stress for postpartum reinstatement.

### Methods/Intervention

From May to July 2017, the novice parents support group was held every two weeks, each session last for 1.5 hours. Classes were planned for the program: Postpartum depression, infant food preparation, shoulder and neck exercise, weight control skills, and parent-child relationship. Besides lectures, video, activities were also used in the group. Staffs who are experienced mothers were invited to share personal stories. There are times for members to ask questions, did brainstorming, and discuss solutions.

### Results (of evaluation)

Six sessions were held, with 15 members join the group (14 female, 1 male with an average age of 35 y/o). The satisfaction survey was 91.12% averagely, and lessons which got 100% satisfaction were the Background/Problem/Objective of postpartum depression, weight control, and infant food preparation, indicating that novice parents emphasized on personal psychological health and physical appearance as well as parenting issues. All members wish the group to continue and provide feedback on the content of topics in the future.

### Conclusions/Lessons learned

In Asian countries, there are few systematic studies on the prevalence and mitigation of depression during pregnancy and postpartum, due to the complexity of cultural background, environmental and workplace stress. Our experience showed being novice parents is a considerable source of pressure for employees, while support group helps employees relieve stress as novice parents. To reduce the pressure of postpartum reinstatement and maintain business manpower, it is worth to promote similar support group.

### Contact: LO YuTai

St. Joseph Hospital  
No.352, Jianguo 1st Rd., Lingya Dist., 802 Kaohsiung,  
[loyutai@outlook.com](mailto:loyutai@outlook.com)

## Explore the happiness feelings of nurses before and after participating in health promotion activities

**CHUANG Su-wan, CHEN Kang-pan, LIN chiu -Yu, CHENG Jin-Shiung**

### Background/Problem/Objective

Nursing workplace is a high-pressure work environment, easily lead to negative emotions to affect quality of patient care. Scholars suggested that implementation health promotion activities of nursing staff will help enhance the sense of happiness and indirectly increase their work productivity. The aim of this study is to understand whether happiness of nursing staff's is enhanced after their participation in health activities.

### Methods/Intervention

In our study, we included 158 nurses in a public hospital in the South of Taiwan. Our research tool is the Oxford Happiness Questionnaire (OHQ), which include 29 items' (12 positive questions and 17 negative questions). The higher the score means the higher happiness (For negative problems, the scores are reversed). Subjects completed the pre-test questionnaire one week prior to participation in health promotion activities.

and completed the post-test questionnaire after participating in the health promotion activities.

#### Results (of evaluation)

Form baseline characteristics ,most of our subjects is 20-30years old(39.9%),secondary is 41-50 years old (33.5%),for work place ward (38.3%),ICU (25.1%).After analysis of pair-T test by SPSS ,the mean score of post-test is 135.53,higher than pre-test 116.17 (P <0.001). The results of the single-item analysis, which scored the highest were "I am particularly satisfied with what I am now," "I think this world is a good place." "I feel my life is full of returns." Post-test scores were higher than pre-Test. There were significant differences (P < 0.001).

#### Conclusions/Lessons learned

Our study shows that participation of nurses in health promotion activities enhances their happiness. The results of our study provide reference for administrators. That can regularly plan and organize health promotion activities to encourage nursing staff to participate in leisure activities and enhance the positive emotions of nursing staff so as to enhance the quality of patient care.

**Contact: CHUANG suwan**

[swchuang@vghks.gov.tw](mailto:swchuang@vghks.gov.tw)

## Research on Hospital Promoting Workplace Health Promotion Activities and Employee Job Burnout

**HUANG Hui-Lan, HSU Yu-Chun**

#### Background/Problem/Objective

In the hospital staff, especially the health care workers because of long-term shifts and work stress, physically and mentally easily tense, long-term down to a variety of health problems, in the production of these problems, "burnout" is the work stress pathogenesis of an early, more easily. In promoting workplace health promotion, it also helps to raise the workers' sensitivity to workplace health problems and further enhances the importance that hospital administrators attach to employee burnout.

#### Methods/Intervention

In 2015 and 2017 respectively, 688 employees at St. Joseph's Hospital are surveyed each year for data collection, by means of questionnaires. Based on the survey results, develop and implement a health promotion improvement program.

#### Results (of evaluation)

Since the Background/Problem/Objective of workplace health promotion activities, job burnout in the comparative hospitals in 2015 and 2017 has improved. The 2015: 11.8% never before, 12.5% two or three times a year, and 28.2% once a month, 10.6% twice a month, once a week 20%, twice a week 6.7%, 8.6% every day; more than two or three times a month accounted 45.9%. In 2017, 14.9% were never, 14.6% were found once or twice a year, 33.1% once a month, 15.5% once a week, and 3.3% twice or three times a week, 4.8% per day. Compared with 2015, 37.5% of those who have had more than two or more trips per month have been reduced.

#### Conclusions/Lessons learned

Hospitals promote workplace health promotion activities, such as health exercises, group climbing, cycling, snooker and other community activities, which can increase employees' exercise habits and provide care and support for employees' body, mind and spirit, and help employees to work stress and burnout improved. In particular, the majority of female employees in hospitals have more significant influence on female employees.

#### Comments

Emphasizing employees burnout, with the promotion of workplace health promotion measures, the turnover rate of decreased from 14.68% in 2015 to 9% in 2017 and employee satisfaction increased from 68.3% to 71.9%.

**Contact: HUANG Hui-Lan**

St. Joseph's Hospital

No.22-3, Beisi, Huwei Township, 632 Yunlin County,

[a0958841234@gmail.com](mailto:a0958841234@gmail.com)

## An examination on the relations between nursing personnel's workplace environment and workplace health promotion

**LAI HSUEH-CHEN**

#### Background/Problem/Objective

In 2001, the Department of Health, Executive Yuan, Taiwan, R.O.C. endeavored to implement the worksite health promotion program. About one third of a person's life is spent in the workplace. Therefore, the workplace environment exerts tremendous influence on a person's life. Likewise, employers are responsible to provide employees with a healthy work environment.

#### Methods/Intervention

To understand the three perspectives of nursing the personnel's workplace environment: "daily routine work", "workplace" and "occupational safety" and their relationship in the promotion of health. This research employs "cross-sectional study" as design, structural questionnaire as the evaluation tool and Pearson's product-moment correlation coefficient testing as the method.

#### Results (of evaluation)

There is significant and positive correlation ( $p < \alpha = 0.01$ ) between the perspectives of "daily routine work", "workplace" and "occupational safety" in a workplace environment. All the coefficients of the above items are greater than 0.30(0.346~0.901). It is applicable in evaluating and explaining the relationship between the variables in health promotion.

#### Conclusions/Lessons learned

The issues of workplace health include: a healthy workplace environment, non-smoking workplace, healthy food, psychological hygiene, Breastfeeding, cancer prevention screening and related educational courses. This research proposes that the framework of "evidence-based management" is able to constitute a quality workplace for the promotion of health.

**Contact: LAI Hsueh-Chen**

Kaohsiung Municipal United Hospital



Jhonghua 1st Rd., Gushan Dist., 80457 Kaohsiung,  
[hsueh2013@gmail.com](mailto:hsueh2013@gmail.com)

## Quality of Life and Health Promoting Lifestyle among Mental Hospital Staffs

**SUN Hsiao-Ju, CHUANG Ying-Chi, LIAO Su-Jung**

### Background/Problem/Objective

Staffs and nurses in the hospitals have the obligation to take care of their patients throughout the day and night. Heavy workloads and irregular shifts have serious effects on both their quality of life and health condition. Researches in general hospitals have shown that the employees' quality of life and health promoting lifestyle is worse than that of general population. This study was aimed to explore these conditions and the correlation between them of staffs in a mental hospital.

### Methods/Intervention

This cross-sectional study analyzed data from 477 questionnaires collected out of total over 500 employees of a mental hospital in eastern Taiwan about their quality of life and health lifestyle using Scale for Quality of Life and Health Promoting Lifestyle in Taiwanese Concise Version which were designed by World Health Organization. Data about demographic characteristics, job description, habits of exercise and smoking are also included into the analysis to find out the most influential and predict factors to each scale.

### Results (of evaluation)

The score of Quality of Life is 60.9 out of 140 with the highest in the category of physical health, followed by social relationship and the psychological category. The score of Health Promoting Lifestyle is 73.2 out of 135. The higher subscales are about the interpersonal relations, spiritual growth, and stress management while the lower subscales physical activity, nutritional and health responsibility. A positive correlation ( $r=.617$ ,  $p<.001$ ) between total score of Quality of Life and Health Promoting Lifestyle is noted.

### Conclusions/Lessons learned

Demographic characteristics, job description and habits of exercise are highly co-related to employees' quality of life and health lifestyle; among them the nursing staffs have the worst ones. The overall health promoting lifestyle and job condition are good predictors of overall quality of life. The mental hospital should actively create a better environment to help staffs implementing the health promotion lifestyles especially the regular physical activity, healthy nutrition, body weight management and smoking cessation to achieve better quality of life.

### Contact: SUN Hsiao-Ju

Yuli Hospital, MOHW, Taiwan  
 No.448, ChungHwa road, Yuli Township, 981 Hualian County,  
[sunhj20@gmail.com](mailto:sunhj20@gmail.com)

## The Maternal Health Protection Project for health care workers

**CHEN Yin Chen, LIN Tzu-Yun, HUANG Xiao-Jie, WANG Chao-Ling, HUANG Wei-Ling**

### Background/Problem/Objective

The issue of employee maternity protection has become more scientifically. Hospitals are the providers of health services. Only health professionals can provide high-quality medical services. This is the main objective of this research to create a work environment where it is conducive to the safety of employees.

### Methods/Intervention

In our hospital, the establishment of maternal health hazard identification and risk assessment of the management mechanism use questionnaires to identify risks, and then use the PDCA cycle (Plan-Do-Check-Act Cycle) to conduct case management. Through on-site visits and interviews, it discovered the hazards in the work environment so as to provide more thorough protection for mothers who are pregnant and giving birth one year after their birth.

### Results (of evaluation)

From 2016 to 2017, using "Questionnaire on Maternal Labor Health Risk Assessment" to investigate general hazard, physical hazard, chemical hazard, biological hazard, a total of 101 were surveyed in terms of stress, stress at work and well-being. Among them, 38% of pregnant women think that exposure to biological hazards is a greater risk at work, and secondly they are mentally or physically burdened with work conditions and fatigue part of the work pressure with 35%. In addition, the most frequently asked question during interviews was place of work and lactation. Visits by occupational medical specialists and occupational hygienists on the spot, evaluation and planning of possible harm and nursery environment for employee conscious working environment, giving feedback satisfaction of more than 90%.

### Conclusions/Lessons learned

We will keep continuously using the "Maternal Labor Health Risk Assessment Questionnaire" to investigate the risks in the working environment of employees, and actively arranging occupational specialists and occupational hygienists to visit the scene and learning about staff needs and assistance through case management. Related gifts could be used (such as diapers, bibs, etc.) to enhance employee willingness to take the initiative to inform

### Comments

For the part of the work pressure may be invited to psychological and other professional fields to join the discussion of maternal protection issues. 2. Professionals involved in the case management approach does have a significant help to employees, suggesting that the hospital should continue to promote.

### Contact: LIN Tzu Yun

Kaohsiung Medical University Hospital(KMUH)  
 No.100, Tzyou 1st Road, Kaohsiung,  
[1000797@ms.kmu.org.tw](mailto:1000797@ms.kmu.org.tw)

## Factors increasing health care providers burden in Geriatric Acute Ward at a tertiary Hospital

**HUANG CHUN-HSIUNG Wu Ju-Hsien,  
CHANG YU-JUN Sun Hung-Yu Chen Ciao-Cyue**

### Background/Problem/Objective

In 2016, Taiwanese Ministry of Labor reported among the ranking of occupational fatigue, health care provider was the second high risk [1]. In 2008, Wan-Yu Yeh et al. revealed that prolonged working time, gender female, young adult, high working load, poor working authority, and job-hopper were associated with severe fatigue [2].

### Methods/Intervention

The aim of this study was to recognize what factors influencing on the burdening of health providers in the Geriatric acute ward of a tertiary hospital. We conducted WHO-HPH recognition employee questionnaire, collected thirty participants and results analyzed by Chi-square test.

### Results (of evaluation)

The result showed working burdening associated with physical and mental health status ( $p=0.002$ ), pain severity ( $p=0.001$ ), and working environment perception ( $p=0.002$ ), but not related to gender.

### Conclusions/Lessons learned

In conclusion, working burden was not significantly related to personal condition but also negatively to social life.

### Contact: JU-HSIEN wu

Changhua Christian Hospital  
135 Nan Hsiao Street, 500 Changhua,  
[79159@cch.org.tw](mailto:79159@cch.org.tw)

## Evaluation the efficacy of health promotion hospital that promoted by the comprehensive workplace health promotion (CWHP) model.

**LIN Yu-Wen, SU Li-Ling, HSIEN Ming-Lun,  
YANG Nan-Ping, LIN Ching-Feng**

### Background/Problem/Objective

The average working-hour in the hospital is at least 8 hrs a day. Because of the high pressure environment, health promotion of workplace becomes an important issue in recent years. Using WHO comprehensive workplace health promotion (CWHP) model to propose different levels of health requirement of employees is not only creating a positive working environment in health promotion hospital, but also keeps its sustainable development.

### Methods/Intervention

Based on WHO CWHP model, we promote the hospital in 5 category, including policy planning, physical environment, social psychology environment, individual health resources and corporate social participation. Director of the hospital integrate the factors of organization, individual, environment, policy and culture to lead cross-border corporation of the employees by providing efficient tools and resources to support the workplace health promotion project.

### Results (of evaluation)

Achievements in 2017: 1. Policy and project: achieve rate in 7 evaluation factors is 101.6%. The rate of employees' realization (about the workplace health promotion) is 96%. 2. Individual health resources: 53 employees' health report is abnormal and keep following. Design 21 activities for health and diet issue. 3. Social psychology environment: Conduct psychological health lectures and projects. The rate of the employees who felt corruption in morale decreased from 31%(2016) to 16%(2017). 4. Physical environment: We provide employee restaurant, fitness equipment, breastfeeding room, project in diet and physical intervention. The satisfaction is reaching 89%. 5. Corporate social participation: Develop vulnerable care and social services for 27 times to elevate the concentric of employees. Demission rate is decreased from 18.86%(2016) to 17.81(2017).

### Conclusions/Lessons learned

Develop CWHP integrally must meet the requirement of employees. We can get full participation in workplace through cross-border cooperation. The most important is the commitment and support of the director to provide manpower, materials, actual powers and responsibilities. In Taiwan, there are fewer workplaces can take corporate social responsibility. Using this model, our hospital can elevate the concentric of employees, implement charitable activities, and fulfill the culture of social responsibility.

### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Impact of the Center for Postpartum Health on Workplace Health Promotion

**CHEN Mei-Ling, CHEN Hsiu-Hua, LEE Ming-Tsung, LIN Chang-Sheng, SHIH Ai-wei**

### Background/Problem/Objective

Experiencing the periods of pregnancy and labor with fatigue and pain, postpartum women are in need of adequate rest and nutrition to recover their physical status. This period is so-called puerperium, generally six weeks. Our hospital offers a comfortable environment with postpartum services to female staff to recover their physical functions as well as mental status after delivery, in order to further promote workplace health.

**Methods/Intervention**

We report the number and rate of the women who used this service. With this spacious and comfortable center for postpartum health, our hospital equips the center with obstetrics and gynecology physicians, pediatricians, and nursing staff to provide professional services. Meals are prepared by nutritionist with well-selected fresh and various foods as the nutritional supplements for postpartum women. Exercises, infant cares and traditional Chinese medicine were provided to recover the physical functions of the postpartum women back to normal.

**Results (of evaluation)**

The hospital is a large teaching hospital in central Taiwan with a total of 1600 staff members, of which 1376 members are females with a proportion of 86%. From January to December 2017, a total of 71 females were pregnant, and 31 female staff adopted the services from the center for postpartum health, with a utility rate of 43%.

**Conclusions/Lessons learned**

Asian people give emphasis to postpartum recovery and health, especially Taiwanese people. Our hospital pays much attention to the issue of postpartum health. We take patients as our own families and this philosophy applies to our staff members. At the same time of taking care of the patients, we help female members with the recovery and health after delivery in order to return to work with good health status. High quality of cares is based on healthy staff members.

**Comments**

In recent years, women health is one of the important issues in workplace health promotion. Females count half of the human beings. However, for different cultures and different ethnic groups, the issue on helping females to recover to normal physical functions postpartum is an important topic.

**Contact: CHAI WEN Lai**

Show Chwan Memorial Hospital, No.6 Lane 61, Nanping St.1, Nanyao Village Changhua, Taiwan 500, CHANGHUA, [chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## The effect of introducing mindfulness courses to enhance employee mental health at hospital

**CHEN Hui-Tzu, FANG Chun-Kai, LIN Hsiu-Mei, LO Li-Chun, LEE Shu-Chen, HUANG Wei-Hsin**

**Background/Problem/Objective**

The World Federation for Mental Health (WFMH) encourages to concernment the mental health issues in workplaces. Because the work environment of the hospital is a patient care and stress, therefore it more important how to care for and promote. Hospital staff satisfaction result findings common psychological disturbances include irritability, nervousness and depression, which are expected to enhance employees' mental health awareness through handling mindfulness and relieving stress courses, providing learning and relaxation skills and expressing emotions appropriately.

**Methods/Intervention**

We offer comprehensive courses and evaluate the effect of the program. Our course focuses on the concept of "mindfulness", and through cognitive and decompression and exercises to strengthen staff to deal with stress and emotional ability. (1) Project implementation: January to October 2016. (2) Implementation method and evaluation: A series of courses explanations by senior professional physicians, course topics include "with myself," "Wisdom Heart", "Interpersonal effectiveness." (3) Results of evaluation: Using questionnaires to assess the effectiveness of course

**Results (of evaluation)**

1. We held 5 courses during the period, a total of 225 participants. 2. Participating: 44% administrators, 28% nurses, 23% medical technicians and 5% doctors. 3. Mental health: After the implementation of the six major facets increased by 7.9%. 4. After the implementation, the most improvement was "I feel pressured in time to relieve pressure in the face of difficulties", "I think I can overcome the problems I have encountered", "I can uphold myself based on my own opinion." (12.1%), "I think we can positively face the job evaluation" (11.8%)

**Conclusions/Lessons learned**

The performance of mindfulness courses shows that all participating staffs feel that they can reduce stress and improve their mental health, enhance their mobility, and respond positively to the questionnaire responses. The hospital is expected to continue to handle relevant courses.

**Comments**

According to staff needs, the hospital will continue to plan psychological relief activities such as "Mindfulness" and "Art Therapy" courses in the coming year. Expect employees to promote mental health activities, adapt to the pressure of life to enhance the body, mind, spiritual health, and create a good-quality and friendly working environment.

**Contact: LIN Hsiu-Mei**

MacKay Memorial Hospital, No.92, Sec. 2, Zhongshan N. Rd., Zhongshan Dist., Taipei City 104, Taiwan (R.O.C.) [linmei@mmh.org.tw](mailto:linmei@mmh.org.tw)

## Exploring the Effectiveness of Applying Mindfulness Skills to Promoting Workplace Health Promotion

**GONG Su-Fen, LU Huei-Lan**

**Background/Problem/Objective**

Epidemiological empirical studies have shown that shift work, night shift and working long hours are associated with the risk of developing many diseases such as hypertension, sleep disorders, fatigue and other physical and psychological conditions. The purpose of this study was to explore the effectiveness of applying mindfulness skill in workplace health promotion. Through the mindfulness group activity of employees to relieve the work pressure and burden.

**Methods/Intervention**

In this study, a quantitative research approach, the study selected a total of 336 workplace staff in a psychiatric center in southern Taiwan. Chinese Burnout Inventory (CBI) self-assessment questionnaire was used to investigate and screen

the employees with moderate degree of overload, employees were invited to participate in five lessons mindfulness group activities, home assignment was recommended and fill in the "practice log." Questionnaires applied to explore the effectiveness after the group activity.

#### Results (of evaluation)

The result showed that employees felt very satisfied was 56.3%, satisfied was 43.8%, the overload scale show moderate fatigue index decreased from 8.3% to 5.9 %, the index of fatigue has significant decline. Employee expressed that after a complete mindfulness course and self-awareness exercises, they were able to bring more peace of mind, good to sleep and found began to slowly aware to relax the effect. The findings show that the use of "mindfulness stress reduction skills" to aids workplace health promotion is fruitful.

#### Conclusions/Lessons learned

In this study, mindfulness skills improve self awareness ability by listening to their own physical and mental reactions, to relieve the mind, body and soul, and to reduce fatigue so as to achieve health promotion in the workplace. In addition to providing alternative ways to relieve stress, this program expects employees to continue their practice after they have studied. When faced with difficult pressures, they will be able to flex their skills in every aspect of their lives.

#### Contact: LU Huei-Lan

Jianan Psychiatric Center, MOHW, No.80,Lane870, Jhong-shan Road , Rende District, Tainan, [csha731@mail.cnpc.gov.tw](mailto:csha731@mail.cnpc.gov.tw)

## The Exploration of Job Engagement and Related Factor among Operating Room Nurses

CHIN Ming-Ying, SHIH Whie-Mei, TUNG Tao-Hsin

#### Background/Problem/Objective

In the past, most of the research among operating room nurses focuses on team communication, technical environment maintenance, job burnout, job stress, job satisfaction, and occupational hazards. Rarely research explores the impact of operating room nursing staff work involvement. The purpose of this study was to explore the relevance of the work input and its related factors in the operating room. Hopefully, the results of the study can provide the reference of the nursing executive in personnel management.

#### Methods/Intervention

This was a correlational study based on a cross-sectional survey using a convenience sample. Nurses in the operating room from a regional teaching hospital in Taipei who have worked for more than three months were included in this study. Survey instruments included 9 items Utrecht Work Engagement Scale (UWES-9), the Organization Constraints Scale (OCS), Interpersonal Conflict At Work Scale (ICAWS), Quantitative Workload Inventory (QWI) and Physical Symptoms Inventory (PSI). Data were analyzed by descriptive and inference statistical analysis and correlation.

#### Results (of evaluation)

The result revealed: (1) The work engagement scores were significant differences; (2) There were significant differences between the work engagement and its three domains "Vigor, Dedication, Absorption" in the personal attribute such as years  $\geq 41$  group, married, with children, working years for more than 10 years, and N2 rank; (3) The "incorrect instructions" in organizational constraints had a significant difference in working vigor. The item regarding "how often does your job require you to work very fast" in the workload had a significant difference in work absorption. The item "how often does your job leave you with little time to get things done?" had a significant difference in working vigor. The item "how often do you have to do more work than you can do well?" had a significant difference in work engagement and its three domains "Vigor, Dedication, Absorption"; (4) There was a significant negative correlation between work engagement and physical symptoms, and the work vigor was negatively correlated with workload and physical symptoms; (5) organizational constraints and interpersonal conflict at work, workload, physical symptoms were significantly negative correlated. There was a significant negative correlation between workload and physical symptoms; (6) The predictors of work engagement were marriage, working years, and "How often does your job require you to work very fast" ; The predictor of work vigor were marriage and "How often do you have to do more work than you can do well ?" ; The predictor of work dedication was marriage. The predictors of work absorption were marriage and "How often does your job require you to work very fast".

#### Conclusions/Lessons learned

According to the results, it is an important to provide operating room environment which can promote nursing staff working engagement as well as the safety of patients. The premise of work input is to create a good organizational relationship, well-equipped and human work environment. This study provides a way for hospital operators and caregivers to drive work in the operating room.

#### Contact: TUNG Tao-Hsin

Cheng-Hsin General Hospital  
No45, Cheng-Hsin st, 112, Shipai, 112 Taipei,  
[ch2876@gmail.com](mailto:ch2876@gmail.com)

## A comparison of job stress, practice environment, occupational burnout, and organizational commitment among nurses in three different levels of hospitals in Taiwan

LIAO Ru-Wen , WU Chen-Han, CHEN Yi-Chyan, YEH Mei-Ling

#### Background/Problem/Objective

There are many different levels of hospitals since executed universal health insurance system in Taiwan. Nurses served in different levels of hospitals may display different emotional feelings and affect the nursing cares were our concern.

**Methods/Intervention**

A cross-sectional study developed in three different levels of hospitals: two medical centers (MCs), two regional hospitals (RHs), and two specialty hospitals (SHs), with 2731 nurses, who filled the Chinese version of Nursing Work Index Revised, Nurse Stress Checklist, Maslach Occupational Burnout Inventory, and Organizational Commitment Assessment.

**Results (of evaluation)**

(1) Nurses from MCs presented significantly higher education level, working performance, age, salary, numbers of clinical nursing preceptor, and high nursing clinical ladder level than those from SHs and RHs. (2) Nurses from RHs presented significantly higher working hours per week than those from SHs and MCs. (3) Nurses from RHs presented significantly higher scores of job stress and burnout than those from MCs and SHs. (4) Nurses from MCs presented significantly higher organizational commitment than those from RHs and SHs. (5) Nurses from SHs presented significantly lower average scores in practice environment than those from MCs and RHs.

**Conclusions/Lessons learned**

Hospital managers can use the findings of this study to formulate a new policy that can improve the competence (salary) of nurses and improve their commitment, and offer autonomous control over the practice setting. All these changes may enhance the feeling of commitment among nurses, which can in turn contribute to improve the service offered by the hospitals, as well as to the well-being of both medical professionals and patients.

**Contact: LIAO Ru-Wen**

Taipei Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation  
No. 289, Jianguo Rd., Xindian Dist., New Taipei City 23142,  
Taiwan(R.O.C.), 23142 New Taipei City,  
[ruwen@tzuchi.com.tw](mailto:ruwen@tzuchi.com.tw)

## Studies of health status with employees who long night work and induce disease by abnormal workload

### HUNG-AN Hsieh, HSING-YU Liu, MENG-TSUNG Cheng

**Background/Problem/Objective**

The health of long-term night workers can identify harmful diseases or risk factors through physical examination. Therefore, these data are important message. It can tell us the employees' health conditions, cardiovascular and cerebrovascular health risks and other physical or mental symptoms. So that we could know when the employee should take rest, exchange work or reduce working hours. Therefore, we should take attention about these issues, and at the same time could reduce the number of occupational accident. In summary, the employee health examination must be implemented and taken seriously.

**Methods/Intervention**

Collect information by the health examination report and abnormal workload questionnaire of hospital employees on duty of the shift. Using the "Overwork Risk Assessment and Personal Health Management System" by the Occupational Safety and Health Administration and Business Intelligence (BI)

tools to organize and statistical the employees health trends over the years.

**Results (of evaluation)**

In 2017, among employees who had health examination information and need on duty of the shift. Because of work lead to cardiovascular and cerebrovascular diseases, the number of low-risk are 19, the medium risk are 9. Individuals with low risk of cardiovascular and cerebrovascular diseases are 26, the number of medium risk and high risk are 1. 10 years to get cardiovascular disease are 28 with low risk. Abnormal rate of health examination, waist circumference (28.21%), cholesterol (30.77%), triglyceride (17.95%), LDL-C (15.38%).

**Conclusions/Lessons learned**

In nurses and medical staff, the average personal fatigue score was 70 point and the average work fatigue score was 60 point. It means nursing staff are more prone to myocardial infarction, hypertension, diabetes, obesity and other physical and mental symptoms and other diseases, and have more workload and mental stress lead to accumulate the stress and fatigue. About half of nurse staff, the risk of cause work lead to cardiovascular and cerebrovascular diseases are belong to moderate risk, and one individual has a high risk of developing cerebrovascular diseases in the medical staff. We can show the individual health change and workload as a trend by collect the health examination and abnormal workload questionnaire of employees in every year, and find disease and abnormal workload by monitors the health status and work fatigue.

**Contact: HSIEH Hung-An**

[jah2410@mail.jah.org.tw](mailto:jah2410@mail.jah.org.tw)

## Mobile Application Software (LINE@) Is Useful to Promote Staff Willingness to Participate Health Promotion Activities

### CHUANG Chin-Ru, LING Mei-Wei, YU Shu-Chuan, WU Meng-Tien, HUNG Ling-Yu

**Background/Problem/Objective**

Since 2012, the "Health Promotion and Win" program was held by the Health Promotion Hospital Committee to promote staff willingness to participate health promotion activities. After the activities, staff would get 1 point. A lottery ticket for the prizes at Year-End Party will be given if points were more than 8. In 2017, mobile application software, LINE@, was first used with the advantages of interesting and fairness - everyone can get reward after reaching the criteria to promote staff willingness.

**Methods/Intervention**

We set up a LINE@ official account "Super Star of HPH" for staff to collect points in 2017. When staff participated in the health promotion activities, they could get points by scanning QR code. Everyone can get reward after reaching the criteria. Besides, our staff could receive messages and communicate with program manager on time and on line. Through line@ system, the manager could know the number of persons involved in this project and the condition of exchange rewards easily.



**Results (of evaluation)**

In 2017, a total of 296 staff joined the official LINE@ account. We held various health promotion activities, including walking, weight reduction, physical fitness test and health seminars. 127 staff exchanged the rewards and 13 staff got the greatest one when reaching 20 points. In 2016, 7 staffs had the lottery chance and only 3 of them won the prize. Compared with 2016 program, the staff number of participation raised significantly and the satisfaction rate was also increased (From 17.7% to 71.2%).

**Conclusions/Lessons learned**

Mobile application software, LINE@ is useful and effective. LINE@ not only helped us to save time and manpower than previous paperwork, but also enhanced the staff willingness to participate health promotion activities by on-time information announcement and the model that everyone had prize. In the future, we will keep using LINE@ to let more staff to participate in health promotion activities and make our staff healthier.

**Contact: CHUANG CHIN-RU**

Yonghe Cardinal Tien Hospital  
No.80, Zhongxing St., Yonghe Dist., New Taipei City  
Taipei, [jinrue80@gmail.com](mailto:jinrue80@gmail.com)

## Increasing Resilience among Nurses in Intensive Care Units

**YUEH-WEN KAO****Background/Problem/Objective**

Nurses in intensive care units (ICUs) experience stress due to rotating three-shift schedules, rapid changes in patients' disease progressions, intensive care teams' failures to communicate effectively with patients, family grief, and the requirements of maintaining patience and compassion on the job. In prolonged periods under such stress, ICU nurses tend to suffer from mental and physical fatigue, emotional dissonance, and a negative mindset. These negative effects often result in nurses resigning from their posts because of having lost their passion for their work. In the ICU investigated in this study (a medical ICU in a hospital in Taiwan), the turnover rates for full-time and newly employed nurses were 19.1% and 28.5%, respectively. Full-time nurses tended to resign because of a lack of professional confidence, whereas newly employed nurses tended to resign because of excessive levels of stress resulting in physical and mental health problems (e.g., depression, panic disorder), causing nurses to lose the ability to perform their duties effectively. Because the stress phenomenon has caused losses of excellent staff members and has depleted team morale in the investigated ICU, this study aimed to develop a more positive work atmosphere and reduce the turnover rate therein by implementing a series of interventions designed to increase resilience among ICU nurses.

**Methods/Intervention**

At the time of study, the studied ICU had 45 beds, an average bed occupancy rate of 92.2%, and 108 staff members (average length of service: 7 years). A survey was conducted on the current state of nurses, including a nurse competency inventory and feedback from clinical nurse preceptors. The survey results revealed that newly employed nurses resigned mainly because of failure to provide interventions within clinical scenarios and inability to control patients' disease progressions, leading to

frustration, whereas full-time nurses resigned mainly because they lacked professional confidence, were not recognized as competent, and had rotating shift schedules, making it difficult to find a balance between family life and working life. In this study, high-fidelity patient simulation was employed as a nursing education tool to increase the ability of nurses to respond to emergency scenarios. Hospice training, bereavement counseling, and experience camps were organized as intervention programs. When necessary, the participants were referred to a psychological counsellor, who guided them to stay positive and remain aware of their merits and specialties. The participant's shift schedules were adjusted to enable each to select a schedule to suit his or her needs, and each participant was designated an annual number of holidays according to his or her length of service. Group recreational activities such as a barbecue at a creek and group shooting games were held regularly to relieve physical and mental stress. On special holidays (e.g., International Nurses Day), the participants were invited to gatherings with the ICU director and "yi te moms" (guidance counsellors from Tzu Chi Foundation) or charity events (e.g., free clinics) to assist the participants in increasing their levels of interaction and exchange with the public, enhance interpersonal relationships and social skills, and ultimately increase resilience. The objectives of these interventions were to create a high-quality and positive work environment and reduce the turnover rate.

**Results (of evaluation)**

In this study, a series of interventions (i.e., nursing education through high-fidelity patient simulation, psychological counseling, flexible shift schedules, and group activities) was conducted to increase resilience among ICU nurses. After the interventions, the participants' overall score for satisfaction with the simulation increased from 2 to 4. The interventions and requests from the participants to engage in various competitions (e.g., service quality competitions inside or outside the hospital) not only enhanced team cohesion and team communication but also increased professional confidence and competence. After the interventions, the turnover rates had reduced from 28.5% to 15.4% among newly employed nurses and from 19.1% to 9.2% among full-time nurses.

**Conclusions/Lessons learned**

During the interventions, the lowest observed level of engagement and identification among all studied ICU nurses was that of the nurses who had been employed for 2–5 years; these nurses also exhibited the lowest levels of self-perceived competence and motivation to improve their professional competence. Based on the outcomes of this study, altering these nurses' mindsets and behaviors and enhancing team cohesion and trust have become future goals of the supervisors of the studied ICU.

**Contact: YUEH-WEN KAO**

Taipei Tzu Chi Hospital  
16F., No.1, Ln.610, Wujia 1st Rd., Fengshan Dist., Kaohsiung City  
830, Taiwan (R.O.C), Taipei,  
[scorpio621014@gmail.com](mailto:scorpio621014@gmail.com)

## Violence Prevention Program for Emergency Rooms

**LIAO WAN LING, LI MAY SHUCHEN JEN YI**

**Background/Problem/Objective**

Emergency rooms are complicated and diversified workplace. This can lead to conflicts arising between the medical staff and patients. According to statistics from the Ministry of Health and Welfare(MOH), violence against medical staff has been increasing. In 2016, 294 cases of emergency room violence were reported in Taiwan. Once violence happens, medical staff face threats against their personal safety. Violence also affects their enthusiasm for their work and can also lead to medical and administrative waste.

**Methods/Intervention**

To establish a safe and high-quality working environment, the key components of security programs are surveillance equipment, police connection and clinic safety access. NTUH Yunlin Branch also in 2014 established the SOP process for reporting violence with a violence response team, which include medical executives, Rapid Response Team and social workers. When there is a sign of violence, the emergency room will call for a Code White. The violence response team will respond to help deal with the situation.

**Results (of evaluation)**

NTUH Yunlin Branch statistics show an increase in the use of the violence response team between 2015-2017 (6 vs. 26 incidences), however during the same time the number of actual violence cases decreased from 4 (2015) to 1 (2017).

**Conclusions/Lessons learned**

In conclusion, besides appropriate hardware and personnel training, the key to decrease emergency room violence is "to alarm in time, and intervene early".

**Contact: LIAO WAN LING**

National Taiwan University Hospital Yunlin Branch  
No.579, sec2, Yunlin Rd., Douliu City Yunlin,  
[y00156156@gmail.com](mailto:y00156156@gmail.com)

## Using Maslow Theory of Needs to Explore Relevant Factors of Nursing Staff 's Wish to Leave

**CHIU-FENG Wu, LI-HUA Chiao, TSAI-TSU Su, LI-YING YU, CHIN-MIN Huang, AN-NA Teng**

**Background/Problem/Objective**

According to the experts the main reason for the high mobility of nursing staff is related to their physiological and psychological needs. Many scholars pointed out that if infusing the occupational spirit to the workplace would bring up some spiritual power for colleagues. In the case study hospital clinical units conducted a questionnaire survey and in-depth interview. To understand the nursing staff's satisfaction of the work in the different levels of demand and medical humanities education in the retention of nursing staff are relevant.

**Methods/Intervention**

1.questionnaire survey :Based on Maslow Demand theory of the six levels to design the questionnaire, in a religious hospital issued 759 questionnaires, recovery of 741 copies, recovery rate of 97.6%. 2.in-depth interview : With the conception of sampling to interviewed physicians , and nursing staff and nursing staff who were ready to leave

**Results (of evaluation)**

The questionnaire survey showed that the satisfaction rate of the physiological needs was significantly lower (the salary and the burden of work), the satisfaction rate of "the love and the affiliated demand" was the highest (the cooperation in the units and the cooperation across the units); in the nursing staff demographic attributes and Maslow's relationship with the needs of the level regardless of the seniority and the years worked at the case study hospital, the satisfaction of nursing staff worked less than 1 year and more than 10 years higher than 3-5 years and 5-10 years. The relationship between the demographic attributes of nurses and medical humanities education, or the relationship between the demographic attributes of nurses and the willingness to stay, regardless of the seniority and the years worked at the case study hospital, the satisfaction of nursing staff worked less than 1 year and more than 10 years higher than 3-5 years and 5-10 years as well. In the Pearson correlation analysis, the correlation between Maslow's demand level, medical humanities education and retention intention is expressed. The willingness to stay is moderate positively correlated with physiological needs, safety requirements, "love and affiliated needs" and self-esteem demand. The needs of Self-actualization, the needs of Over-self-actualization and medical humanities education showed a high degree of positive correlation.

**Conclusions/Lessons learned**

This study found that Maslow's demand hierarchy theory, the physiological needs is not the first reason for leaving the job, the needs of Self-actualization and the needs of Over-self-actualization such as: a sense of accomplishment and working environment is the most important factor. The study also found that the case study hospital in the medical humanities education promoted the relevant activities, the subtle effects of Newcomer's Love camp, Rural area medical care, Volunteer services, the Full person medical care and the Outreach medical care, etc. might activated nurse staff's spiritual power.

**Comments**

This study suggests that, in the case of nursing staff retention measures, provide some of the regular day shift system, provide a solid new basic education and training, to cultivate a working environment for lifelong learning; tailored a promotion path; to strengthen the communication skills of clinical instructors and head nurse; fund a further study loans are to improve the retention of nursing staff. In the area of medical humanities education, it is recommended to adjust the training as the necessary teaching activities under the official leave, the appropriate hours of medical humanities education, tailor different educational programs for different groups (especially for the groups of 3-5 years and 5 - 10 years worked in the case study hospital) would be easier accepted by nursing staff.

**Contact: CHIU-FENG wu**

Taipei Tzu Chi Hospital,Buddhist Tzu Chi Medical Foundation  
No.289,Jianguo Rd.,Xindian Dist., New Taipei City  
23142,Taiwan(R.O.C.), 23142 New Taipei City,Taiwan,  
[chiu-feng@tzuchi.com.tw](mailto:chiu-feng@tzuchi.com.tw)

## Relationships among nurses' week-end experience, emotional experience, and recovery from work

## CHEN Ling-sui, KUO Yen-hung, CHEN Hui-chen, HUANG Wei-ling, LI Chih-yi, CHANG Jui-tzu

### Background/Problem/Objective

Job stress and recovery from work have become an important topic in the healthcare workplace. For healthcare workers, non-work experiences during the weekend provide opportunities for the recovery of work demands and the replenishment of lost resources. Moreover, employees' emotional experiences and expressions impact others. Their affect states at work can be influenced by factors at work as well as factors off-work. However, there is still lack of evidence to know the relationships between weekend experience and recovery from work.

### Methods/Intervention

Purpose. To validate the effects of healthcare professionals' recovery experience from weekend. Methods. We conducted a longitudinal study to examine the relationships among weekend experiences, emotional experiences within the weekend, and need for recovery from work. A total of 193 nurses (with 84% of response rate) in two 1000-bed hospitals completed surveys before the weekend and the end of the weekend. This study has been registered in the clinical trial between two hospital' IRB (20151031B and 10507-C01).

### Results (of evaluation)

The most rated weekend experience in the study was experiencing control (mean= 3.8). In the multiple linear model, we found only emotional experience showing significant relationship ( $\beta$ : -0.13 on positive emotional experience and 0.31 on negative emotional experience). We further used generalized estimating equation to test the weekend effect on nurses' need for recovery. The mediation effect was statistically significant among weekend experience and recovery from work through emotional experience ( $\beta$ : 0.15 on positive emotional experience and 0.17 on negative emotional experience).

### Conclusions/Lessons learned

This is an original research to validate weekend effect on nurses' need for recovery from work. Suggestions for future research include a further examination of the role of individual differences, weekend activities, and specific work demands in employee stress recovery.

### Contact: KUO Yen-hung

Chia Nan University of Pharmacy and Science (CNU)  
No.60, Sec. 1, Erren Rd., Rende Dist., Tainan City 71710,  
[phielk@gmail.com](mailto:phielk@gmail.com)

## Reduce gynecology ward nurses shift meeting time in a general hospital

## LI I-LU, WANG Shu-Chen, KUO Ming-chuan

### Background/Problem/Objective

Nurse in hospital work is very busy and stressful. They are taking times per day due to poor shift meeting. Worksite health promotion is very important because of the change of wasting time on unnecessary activities, especial for nurse in hospital. In recent years, nurse recruitment is difficult to take off in hospital. The shift nurse started work at 0730 and started to shift

hands with the big night nurse 15 minutes after the morning meeting. The night shift nurse seriously delayed the shift of the night shift nurse due to the large night shift nurses taking care of 10 to 16 beds.

### Methods/Intervention

This study aimed to reduce shift meeting time by nurse at work of the ward nurses in hospital. Statistics were used to calculate while a pre and post-intervention design was used to promote how to know shift meeting in gynecology ward and make it invocation. Sampling was purposive and ward nurses were recruited for the study. The sample size is 140 and the participation rate was 100%. We were statted the unit unified shift work practices, created Create a new way to shift meeting, used work diversion when there are being shift meeting .

### Results (of evaluation)

We found that ward nurses had higher job satisfaction rate; the incidence was 70.6% to 100%. The ward nurses had understood to use effective shift meeting and reduce time of 97.61 seconds to 50.99 seconds. The strategies used to improve ward nurses in hospital eliminated steps and make it into action and awareness was successful. Overall, ward nurses working attitudes to intervention were positive.

### Conclusions/Lessons learned

Nurse seem generally aware of the reducing unnecessary movement by nurse at work for their importance but are happy to take part in this study, would like to be informed, expect them to make it into action themselves, in order to reduce the risk of the excessive walking and standing. The development plan is planned to be a practical tool for implementing evidence based practices to support hospital managers in promoting the dining rate of the ward nurses in hospital.

### Contact: I-JU LI

Cathay General Hospital, No.280, sec 4, Ren'ai Rd., Da'an Dist.  
Taipei City 106, [bella\\_ms9@yahoo.com.tw](mailto:bella_ms9@yahoo.com.tw)

## Use workplace resilience to reduce the turnover rate of intensive care unit nurses

## YUEH-WEN Kao, YI-HSUAN Chen, AN-NA Teng

### Background/Problem/Objective

Stressors faced by intensive care unit nurses in the workplace include: shift schedules, rapid changes in patient condition, ineffective communication of medical teams, grieving patient family members and the need to be patient and empathetic; long-term workplace stress induces physical fatigue, build-up of negative energy and loss of enthusiasm, resulting in abandoning the workplace. The turnover rate of regular staff in this unit was 19.1% and that of newly recruited staff was 28.5%. The reasons for leaving were lack of self-confidence, excessive pressure and incapacitation caused by physical and mental illness, causing the loss of high-quality human resources.

### Methods/Intervention

From May 2016 to November 2017, through the theoretical intervention of resilience building, including: high fidelity simulation teaching mode to enhance the ability to handle emergen-

cies in peer situations; arranging courses such as palliative care, grieve counseling and experience camps, referring to psychological counseling whenever necessary to provide guidance to increase capacity to identify one's own strengths and capabilities and to maintain positive thinking; adjust class flexibility, make class suitable to needs, allow annual leave in accordance with length of service, organize and participate regularly in recreational and public service activities with the intensive care unit director and Yide Mothers (volunteer group) to promote physical and mental relaxation, build up interpersonal and social skills, all for the purpose of enhancing self resilience.

#### Results (of evaluation)

After the intervention of the above method, the satisfaction level of the newly recruited staff for the high fidelity simulation education of critical situations was improved from 2 points to 4 points; their participation in the high fidelity simulation competition resulted in receiving the "the best potential" award, which boosted the confidence of coworkers, the unit turnover rate of new recruits dropped from 28.5% to 15.4%, the turnover of permanent staff from 19.1% to 9.2%.

#### Conclusions/Lessons learned

Using measures to improve resilience as way of intervention to improve the physical and mental health of the coworkers, increase their participation and identification with the unit which also promote teamwork spirit and mutual trust. This policy should be continued by the unit supervisor in the future.

#### Contact: YUEH-WEN KAO

Taipei Tzu Chi Hospital  
16F., No.1, Ln. 610, Wujia 1st Rd., Fengshan Dist., Kaohsiung City  
830, Taiwan (R.O.C), Taipei, [scorpio621014@gmail.com](mailto:scorpio621014@gmail.com)

## The innovative Care-Mediator Team promotes workplace health and changes organizational culture in a Taiwan hospital.

**TSAI Hsiu-Nan, LAI Chun-Huang, LAI Wen-Der, CHIANG Shu-Fen, HUANG Chi-Chen, CHEN Shu-Lin**

#### Background/Problem/Objective

Healthcare dispute and communication conflict could increase workplace stress. Alternative dispute resolution (ADR) refers to techniques used to resolve conflicts without going to the courtroom. When properly implemented, ADR has an excellent track record of avoiding litigation, decreasing overall cost, and increasing satisfaction among both plaintiffs and defendants. From Jan. 2013 to Nov 2017, we have established the first care-mediator training team in Taiwan, in order to promote the holistic care, communication for medical disputes and to change organizational culture.

#### Methods/Intervention

Under the nationwide executive program by the department of health and welfare, our expert training team provides supportive aid to promote the establishment of medical care team all around Taiwan. We have held over 20 training workshops and trained more than 500 participants to practice care and mediation program. After fast response meeting for issue analysis,

we will hold a care meeting for medical staff and patients. Furthermore we will hold a neutral third-party mediation meeting by trained mediators.

#### Results (of evaluation)

After the survey among participants, 91.2% of the respondents agree the CMT is helpful to promote organizational culture about care and communication. 91.1 % agree the CMT program is helpful to establish interdisciplinary care and cooperation. 91.0 % agree the CMT is helpful to relieve the workplace stress and to promote workplace health. 95.7 % agree the CMT is helpful to promote the systemic analysis and safety culture. 89.3 % agree the CMT program is helpful to promote healthcare quality.

#### Conclusions/Lessons learned

Traditionally, the most informal form of ADR is negotiation. This is simply a meeting between the two parties to discuss the conflict. Besides, mediation is a negotiation that is facilitated by a neutral third-party mediator. ADR has the potential to help reform the medical dispute resolution system, reducing cost and increasing both parties' satisfaction. In conclusion, the CMT program (care-mediator team) provides a better strategy for medical dispute resolution, promoting health for healthcare workers and improving the organization culture.

#### Contact: TSAI Hsiu-Nan

Kaohsiung Municipal United Hospital  
976 chunghua 1st Rd, 80457 Kaohsiung,  
[nan122510@yahoo.com.tw](mailto:nan122510@yahoo.com.tw)

## Effect of Applying Chronic Disease Management on Workplace Health Promotion.

**HUANG Wei-Ling, CHEN Ying-Chen, CHANG Yi-Hsuan, HUANG Shou-Yung, CHENG Yi-Fang**

#### Background/Problem/Objective

Studies have shown that healthy diet and regular exercise can reduce weight and improve blood sugar. To prevent metabolic syndrome, it is advisable to establish a healthy lifestyle including healthy eating, regular exercise and avoidance of obesity. The workplace is an important part of health promoting. Therefore, the study aims to understand the effect of chronic disease management strategies in staff of the hospital.

#### Methods/Intervention

1. Chronic Disease Management: The obesity and latent diabetes population are selected in this study. 2. Regular exercise: (1) Sports associations: Encourage employees to participate the leisure clubs (light and aerobic, Pilate's Exercise, HIPT High Intensity Strength Training Club), and exercise two times a week. (2) Promotion of stair climbing: build the healthy and beautiful stairways, and label the heat consumed by climbing the stairs. 3. Healthy procurement: We provided the healthy meals that the staff can choose a "low fat meal" or a "healthy balance meal".

**Results (of evaluation)**

1. There are 45 people in health promotion exercise class and do the physical fitness test and in-body test. There is 2.2% morbidly obese cases in pre-test of BMI, 15.9% moderate obesity cases, 45.5% mild obesity cases and 22.7% overweight. After 2 months exercise class, 81.5% had reduced more than 3 cm and body fat was decreased 79%. 2. Staff Weight Loss Competition: There were 455 staffs were enrolled in 2017 and a total of 551.6 kilograms were reduced. Physical Activity Level showed 69.9% increased. Blood pressure were all in normal. Body fat rate decrease: males of staffs <20% and females of staffs <25%.

**Conclusions/Lessons learned**

Dietary support can promote staff awareness of metabolic diseases and understand the correct weight loss methods and the establishment of a balanced nutrition concept. After the sports activities, the participants responded enthusiastically and said they were willing to continue their activities. As a result, they saw that they had established regular sports habit. The leisure clubs not only reduced the number of kilograms of body weight but also significantly increased their performance from the perspective of physical fitness. This shows that staffs not only focus on "weight loss" but focus on exercise and physical fitness.

**Contact: HUANG Wei-Ling**

Kaohsiung Medical University Hospital  
No.100, Tzyou 1st Road Kaohsiung 807, Taiwan, 807 Kaohsiung,  
[1040166@kmu.org.tw](mailto:1040166@kmu.org.tw)

## Session P1.9: Improving the physical health of staff

### Efficacy and Effectiveness of Safety-engineered devices for preventing needle-stick injuries and body fluid exposure at a Medical Center

**CHIEN Shu-Fen, MA Hsuan-Yin, LO Ju-Chun, LAI Yu-Ling, WANG Jann-Tay, SHENG Wang-Huei, CHEN Yee-Chun, CHANG Shan-Chwen**

**Background/Problem/Objective**

The needle stick injuries (NSIs) and body fluid exposures are common occupational hazards at medical institutions. Using safety-engineered devices (SEDs) is an important reform and step for the prevention of NSIs. In 2011, Taiwan has allowed laws for the usage and promotion of SEDs in the daily practice at hospital settings. It is necessary to investigate the effect of using SEDs in term of reducing the incidence and the costs of NSIs.

**Methods/Intervention**

The characteristics and follow-up status of each needle stick injury case was extracted from the records of occupational safety and health office at a medical center from 2011 to 2016. The usage of SEDs was implanted over the hospital phase by phase since 2011. The trend of application of safety-engineered devices and the case numbers of needle stick injuries were

analyzed by chi square for trend analysis using statistic software R. The mechanisms of needle stick injuries were also analyzed.

**Results (of evaluation)**

The amount of the SEDs consumed increased from 143,078 in 2012 to 2,609,671 in 2016. The overall incidence of NSIs decreased from 3.90% in 2011 to 2.82% in 2016 ( $P < 0.01$ ), which is especially significant for nurses. In addition, the rate of NSIs caused by conventional devices decreased from 57% in 2011 to 39% in 2016. The cost-benefit analysis shows SEDs decrease the costs of post-exposure laboratory examination and prophylactic medication from 60,033 USD in 2011 to 57,061 USD in 2016 ( $P < 0.01$ ).

**Conclusions/Lessons learned**

This study used the real-world data to reveal that the use of SEDs can effectively prevent NSIs, especially for nurses. Needle-injury related costs also decreased after the use of SEDs. Keeping and making a more safety workplace environment with sustained efforts should be ongoing.

**Contact: MA Hsuan-Yin**

Sanofi Pasteur Taiwan Co., Ltd  
7th Fl., No.3, Songren Rd., 11010 Taipei, Taiwan,  
[heidi0616@gmail.com](mailto:heidi0616@gmail.com)

## Promoting Health of Healthcare Workers through Initiating Exercise Intervention

**HOU Jung-Ying, TSAI Ching-Fang, HUANG Paul, WANG Jian-Yu, WANG Cheng-Wei, HUNG Shan-Ching, CHEN Wei**

**Background/Problem/Objective**

For promoting health for all, the ChiaYi Christian Hospital (CYCH) provides annual physical fitness testing for employees as well as patients and community residents for over 10 years. Through improving employees' physical fitness as a pilot study, CYCH initiated an exercise intervention program included a 36 sessions of exercise class combining with the annual physical fitness testing in 2017. The physical fitness improvement project evaluated the effectiveness by comparing the post project physical fitness test results with the baseline data from the pre-test in annual physical fitness testing.

**Methods/Intervention**

This exercise program recruited 47 volunteer participants. The exercise program designed 36 sessions of exercise course in 12 weeks, 3 times a week, and 60 minutes in each session. The exercise course included sports injury prevention, eating habits adjustment, aerobic dance, physical softness training, muscle strength training, and sports competition. In the pre and post physical fitness test, we also included the following measurements in collecting the fitness test results, the BMI, muscle strength and muscle endurance, physical softness and heart and lung endurance. We performed pair t-test for statistical analysis in evaluating the significance of the exercise intervention.



**Results (of evaluation)**

There were 47 in 50 participants completed the exercise course. The average age of the 47 completed participants was 36.8 years. Before and after the program, the measurement changes were average weight change  $-1.99 \pm 2.88$  Kgs ( $p < 0.001$ ), BMI change  $-0.72 \pm 1.12$  ( $p < 0.001$ ), Waist and hip ratio change  $-0.01 \pm 0.03$  ( $p = 0.124$ ), knees-bended sit up and down in 60 seconds change  $3.36 \pm 3.50$  ( $p < 0.001$ ), sitting bending front change  $2.13 \pm 3.67$  ( $p < 0.001$ ), and heart and lung endurance index change  $2.44 \pm 4.20$  ( $p < 0.001$ ). The measurement results changes all have the statistical significance, excluding Waist and hip ratio change.

**Conclusions/Lessons learned**

Base on the outcome in this study, we found that it is effective in promoting physical fitness of hospital employee by performing regular exercise. Furthermore, CYCH will continue developing exercise intervention program in helping patients and/or community residents promoting health.

**Contact: HUNG Shan-Ching**

CHIA-YI CHRISTIAN HOSPITAL

No.539,Zhongxiao Rd.,East Dist.,Chiayi City 60002,Taiwan

[cych05509@gmail.com](mailto:cych05509@gmail.com)

## Preliminary Investigation of the Effectiveness of Using Different Health Management Methods on Weight Control - A Case Study of a Southern District Hospital

**CHIEN-CHI CHOU, JUNG-HUA HSUEH  
KUN-LING WU**

**Background/Problem/Objective**

Shift-based staff are often unable to comply with the times of weight loss programs. In order to overcome this problem, this study uses a distance learning design to provide a real-time online course as part of a weight loss program, to understand the effectiveness of distance learning on weight control and to provide shift-based staff with an alternative weight control method to maintain a healthy body and life.

**Methods/Intervention**

Using purposive sampling, 41 subjects who were overweight or metabolic syndrome, were recruited from June to August 2015. Subjects were divided into distance course (14 subjects) and face-to-face course (27 subjects) according to personal preference. Intervention method: Face-to-face course- exercise classes, supportive environment and healthy diet classes were provided; Distance course group – Videos of face-to-face exercise and nutrition classes were uploaded onto the hospital's online learning system, a LINE group was established to regularly report weight in kilograms and to send information and feedback; using reduction in waist circumference and weight to evaluate effectiveness.

**Results (of evaluation)**

Face-to-face course group: Post-intervention average body weight decreased from 75.94kg (SD  $\pm 14.30$ ) to 72.65kg (SD  $\pm 13.70$ ), waist circumference decreased from 91.20cm (SD  $\pm$

10.56) to 87.98cm (SD  $\pm 9.61$ ); Distance course group: Post-intervention average body weight decreased from 76.33kg (SD  $\pm 14.85$ ) to 72.31kg (SD  $\pm 14.04$ ), waist circumference decreased from 89.38cm (SD  $\pm 10.00$ ) to 85.79cm (SD  $\pm 7.98$ ), both groups showed a significant difference ( $P < .05$ )

**Conclusions/Lessons learned**

A significant difference on weight and waist circumference reduction was found in both groups and overall improvement was better in the distance learning group compared to the face-to-face group. In the future, this weight loss management model may be applied to staff who work in 3 shifts and are unable to attend face-to-face weight loss programs. However, due to the small sample size, the findings may not be generalized and therefore, future studies should recruit a larger sample size.

**Comments**

We confirm that this abstract has not been published elsewhere and is not under consideration by another workshop or symposium. All authors have approved the abstract and agree with submission to HPH. The authors have no conflicts of interest to declare.

**Contact: CHOU CHIEN CHI**

Tainan Municipal Hospital, Zonta Road

Tainan, [bosmin110@gmail.com](mailto:bosmin110@gmail.com)

## Analysis on the Blood Glucose Detection Data of a Taiwanese's Chemical Factory Staff and Follow-up Health Promotion Management

**LEE Meng-Szu, TANG Yu-Hsuan, YEH Ming-Lun , KUO Hsiang- Ju, YANG Jeng-Fu, LIN Shu-Ching, HSU Yu-KueiDAI\* Chia-Yen**

**Background/Problem/Objective**

Neglecting the control of fasting blood sugar may trigger over or under blood glucose, further long-term out of control may lead to irreversible diabetic complications. High and low blood sugar can cause physical discomfort (such as dizziness, coma and other symptoms), easy to derive an accident problem. This study is to analyze the dysglycemia proportion and related factors for the chemical factory staff, then establish the corresponding strategy of follow-up health promotion management to help employees control their blood sugar.

**Methods/Intervention**

This study collected a total of 1862 fasting blood glucose data from a chemical factory. Based on the measurement basis of the blood glucose level exceeded 100mg/dl as abnormal blood glucose, 100 to 126mg/dl as pre-diabetes, and 126mg/dl as hyperglycemia, the Minitab v17 software was used for statistical analysis of the basic statistics of samples, and the chi-square test analysis of the factors associated with dysglycemia was also demonstrated.

**Results (of evaluation)**

The average age of employees in this chemical factory was  $43.2 \pm 10.0$  years and the fasting blood glucose was  $100.6 \pm 17.7$  mg/dl. The proportion of employees with dysglycemia was 35.6%, of which 89.5% was pre-diabetes and 10.5% was hyperglycemia. The chi-square test showed that there was a statistically significant relation between the dysglycemia and the age ( $p < .001$ ), BMI ( $p < .001$ ) and waist circumference ( $p < .001$ ) respectively. Based on the statistical results, the corresponding strategy of follow-up health promotion management was then set up.

**Conclusions/Lessons learned**

Long-term lack of controlling blood glucose affects personal health and the efficiency of work, further derives as an occupational safety issue. There was 35.6% employees with dysglycemia in this factory, thus set up a follow-up corresponding strategy of health promotion management is necessary, which can help employees control their blood sugar for preventing occupational safety problems. The results of this study can be used as a reference for plant managers to promote employee health management.

**Contact: LEE Meng-Szu**

Kaohsiung Medical University Hospital, Kaohsiung Medical University  
No.100, Tzyou 1st Road  
807 Kaohsiung,  
[vvvykimo@gmail.com](mailto:vvvykimo@gmail.com)

## The Relationship Between Physical Fitness and Sleep Quality in a Taiwan Eastern Regional Teaching Hospital : A Case Study on Mennonite Christian Hospital

**CHEN Chien-Ju, LIN Yea-Pyng, CHEN Wan-Hsin, CHAN Tsung-Yu, LIN Chih-Yao**

**Background/Problem/Objective**

This research, conducted in 2017, investigated the relationship between physical fitness and sleep quality in a Taiwan teaching hospital staff. 82 hospital staff members were analyzed using the Pittsburgh Sleep Quality Index (PSQI), as well as the outcome of a physical fitness test. Based on the results we wish to promote the health of the hospital staff through effective fitness programs used to improve sleep quality.

**Methods/Intervention**

There were 82 subjects interviewed from the Mennonite Christian Hospital in Eastern Taiwan. PSQI was used to measure sleep quality, and they were evaluated with the following health indexes, announced by the Ministry of Education: Body mass index (BMI) and waist-hip ratio, 1-minute crunch test, sit and reach flexibility, and the 3-minute step. The data was analyzed by The R Project for Statistical Computing.

**Results (of evaluation)**

The results showed that: (1)The average PSQI global score of all the subjects was 5.95, and the PSQI > 5 in 50% the participants (N=82). The results show that those participants have a poor

sleep quality. (2)According to the physical fitness test, participants performed poorly in the tests of body composition, flexibility, and cardiorespiratory endurance.

**Conclusions/Lessons learned**

This study provides evidence of a significant relationship between sleep quality and cardiorespiratory endurance. Participants with better sleep quality had better cardiovascular endurance. These results are consistent with the results of previous research. According to the above mentioned analysis, encouraging staff to do more cardiovascular training is helpful for improving sleep quality.

**Comments**

Many studies confirmed the beneficial effect of exercise on sleep quality. In the limitation of this study, it is concluded that cardiovascular endurance was significantly correlated with sleep quality. The workplace health promotion projects in the hospital can design aerobic training programs, not only maintaining physical fitness, but also promoting sleep quality.

**Contact: CHEN Cheryl**

Mennonite Christian Hospital  
44 Min-chuan Road, Hualien,  
[cherylchen2008@gmail.com](mailto:cherylchen2008@gmail.com)

## Master Baker-Whole Grain Baking Competition

**KHAW Hui Wern, LEW Ya Hui, NG Teik Kee**

**Background/Problem/Objective**

The demand for healthy foods grows as people start leading a healthy lifestyle. Penang Adventist Hospital bakery is dedicated to providing natural and wholesome products to cater the needs of our customers. Ironclad evidence shows whole grains are associated with lower risks of non-communicable diseases. In view of this, our bakery has its role in promoting health to customers by introducing more wholegrain products.

**Methods/Intervention**

"Master Baker" competition offers a platform for staff to show their creativeness by incorporating whole grain into regular bakery recipe. Contestants were required to submit their recipes and wholegrain products. The evaluation was done by nutritionists and bakers based on healthy ingredients used including whole grain, sensory, creativity, product speciality and its sale result in the bakery. To promote the sales, flyers and email blast was sent to all staff.

**Results (of evaluation)**

There were 13 submissions of recipes for competition ranging from bread, cake, muffin, cookies to bar. The top 3 winners were cranberries oatmeal cheesecake, granola bar and charcoal wholemeal bread. Loyalty card also motivated other staff to consistently purchase Master Baker products. A short survey was conducted after the competition, 59.2% of staff rated this competition as "Good" program, 48.4% have supported Master Baker products and 40.3% would like our bakery to adopt the shortlisted recipes in future.

**Conclusions/Lessons learned**

This whole grain baking competition won a modest response from our staff, but it was our expectation. Contestants have had

the chance to explore various types of whole grains. This prompted them to modify regular recipe into much healthier version by adding in whole grain.

**Contact: KHAW Hui Wern**

Penang Adventist Hospital

465, Jalan Burma, Georgetown, 10350 Pulau Pinang,

[healthpromotion@pah.com.my](mailto:healthpromotion@pah.com.my)

## Ergonomics Hazards Analysis and Improvement Design of Module Picking material work in Hospital Central Storage

**LIU Chiung Fen, CHEN Fang chi, SU Yu The, CHEN Huan Chu**

### Background/Problem/Objective

Occupational Safety and Health Act sets out precautionary measures for employers to prevent workplace conditions such as repetitive tasks that trigger musculoskeletal disorders. Preventive measures include job content analysis confirmed human factors hazards and other factors. Understanding human factors of musculoskeletal disorders can assist in the development of appropriate policies and preventive measures. Central storage colleagues work long hours to stand, move, transfer, overloaded and other picking operations, whether men or women have long-term musculoskeletal injuries.

### Methods/Intervention

Adopting a cross-sectional study, which was an example to the central storage Taiwan South Medical Center Hospital and Regional hospitals. The Nordic Musculoskeletal Questionnaire (NMQ) (Kuorinka, et al, 1987) with minor modifications is used to investigate the central storage operator dislocation of musculoskeletal conditions. Use site observation platform and auxiliary tools to record the posture of pick-up and the condition of hardware and equipment by using the questionnaire survey, field observation and analysis, field work environment measurement and body measurement data analysis.

### Results (of evaluation)

In picking operation, hand and wrist movements are too complicated. For example, when unpacking, carrying heavy loads frequently causes lower back or lumbar discomfort. The majority of is symptoms pain, and the highest ratio for discomfort is 64.3% for back and waist, 64.3% for left shoulder, 64.3% for right wrist. According to the survey results, recommendations for improvement of hardware and management should be given and the symptoms of musculoskeletal discomfort in central warehouses can be effectively alleviated.

### Conclusions/Lessons learned

Consider the existing hardware space may consider the purchase of labor-saving devices, such as trolleys can be lowered, reducing the number of people bent over, and slow down the lower back or waist discomfort. Picking operations consider the re-planning of storage, in order to pick up the storage and moving the smallest distance-based. According to the demand for high-frequency materials placed in each storage cabinet near the aisle at the storage position, the storage for arm lift to the waist distance is the priority placement.

**Contact: LIU Chiung Fen**

Kaohsiung Municipal Ta-Tung Hospital

No.68, Zhonghua 3rd Rd, Cianjin District, Kaohsiung City 80145, Taiwan(R.O.C.), Kaohsiung,

[998319@ms.kmuh.org.tw](mailto:998319@ms.kmuh.org.tw)

## Is Weight Loss Competition Program a Healthy Way to Control Body Weight? : Workplace Health Promotion Program

**PAN Hsiang-Ju, WEN Pei-Ju, HUNG Li-Ju, CHENG Jin-Shiung**

### Background/Problem/Objective

Maintain a healthy weight is one of the key factors of prevention obesity related chronic disease. However, combat weight gain is a frustrated experience and need motivation to keep long-term maintenance. This study is aimed at discussion the effect of weight competition program on weight loss.

### Methods/Intervention

The study was conducted in 2014 to 2016. We had a general survey to assess employees' body weight, lifestyle and metabolic syndrome. Those who had BMI  $\geq 22$  kg/m<sup>2</sup> (as the suggestion of Taiwan Health Promotion Administration) or associated with hypertension, hyperglycemia or dyslipidemia were recruited for a 6 month-weight-loss competition program. Employees could join the competition by personal or by group. This program included three diet control lectures and an off time physical activity twice a week.

### Results (of evaluation)

General health survey showed almost forty percent of employees had overweight (BMI  $\geq 24$ kg/m<sup>2</sup>) or obesity (BMI  $\geq 27$ kg/m<sup>2</sup>). About 260 employees joined the weight-loss competition program annually. The initial BMI was about 27 kg/m<sup>2</sup> and 76% was female employees. The cumulated weight loss was 452.8kg, 412.2kg and 648kg in 2014, 2015 and 2016 respectively. The weight loss effect is more prominent in group competition than personal and they also had less relapsing rate.

### Conclusions/Lessons learned

Five percent weight loss is adequate for improving health related problem. At workplace, we offered a number of programs that help our employees achieve a healthy lifestyle. By offering competition rewards could motivate employees to maintain weight control program. Competition in the workplace can be a good thing for health promotion. Group competition could create and healthy environment, which can spur a commitment to self-control.

**Contact: PAN Hsiang**

Kaohsiung Veteran General Hospital, Taiwan

No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City 81362, Taiwan, 81362 Kaohsiung,

[philia81301@gmail.com](mailto:philia81301@gmail.com)

## To Stimulate Employee Motivation to Improve Body Fat Percentage through Colleague's Encouragement and Companionship

**WU Ying-Hsiang**

### Background/Problem/Objective

Body Fat Percentage (BFP) is a measure of fitness level. High body fat percentage may cause hypertension, diabetes, heart disease or other diseases; therefore, the activity "Battle against Body Fat" was designed in order to motivate employee's continuous exercise and diet control through the encouragement and companionship of their colleagues.

### Methods/Intervention

Take the employees who work in the same office as object. The "Battle against Body Fat" was 8-months activity, and "Body Fat Reduction Plan" was set by group to implement during the period of activity. The plan includes dietary control, such as reducing consumption of sugar-sweetened beverages and fried foods, and weekly exercise. Members can choose suitable exercise for them to implement every week during 8-week activity, such as TRX, spinning, aerobic dance or yoga, to reduce body fat.

### Results

During the activity, dietary control was effectively implemented under colleagues' supervision to each other, and continuous exercise motivation was effectively stimulated by each other's companionship. After 8 months of activity, the average BFP decreased by 2.0%. Employee BFP decreased by 2.4% at most, and employee with least effect could even maintain BFP. The effect of BFP reduction is different based on different exercise intensity they chose, but colleagues' encouragement and companionship do motivate BFP improvement or maintenance.

### Conclusions/Lessons learned

Colleagues' support and companionship will influence the motivation of ongoing exercise and diet control. In the future, we can hold "Group" or "Team" activity to enhance the effectiveness of employee body fat percentage improvement.

**Contact: WU Ying-Hsiang**

[emiwu@mail.femh.org.tw](mailto:emiwu@mail.femh.org.tw)

## The Mobilisation Initiative to decrease sick leave in healthcare personnel

**BRISMAN Marga, TENENBAUM Artur, AHLGREN Louise, ANDERSSON Stefan**

### Background/Problem/Objective

The number of individuals on sick leave in Sweden is increasing. The numbers are especially high for women employed in the Public Health Care Sector and often associated to exhaustion. Early detection and intervention are health promoting and crucial in preventing long-term negative consequences of sick leave. The objective of the initiative was to see if a joint intervention by the Hospital as employer, the National Security

System and the Occupational Healthcare Unit could have a positive impact.

### Methods/Intervention

7 departments with 670 employees were chosen for the initiative. Lectures and workshops during 2016-2017 were designed for the heads of the departments. The goal was to give the participants tools to work with employee on sick leave and those on the verge of it. To identify individuals on the verge of sick leave a clinical screening tool of incipient work-related exhaustion, LUCIE, was used. Identified individuals were the included in a health promoting program.

### Results (of evaluation)

The sick leave percentage on the departments included in the project decreased by 1,9% and short term sick leave decreased by 141 days. Return to work from sick leave was also seen although the main purpose of the project was to decrease short term sick leave. 749 individuals were prospectively followed with the LUCIE instrument across one year. A decrease of individuals from 39 to 25 with high stress values was seen.

### Conclusions/Lessons learned

Given the right tools heads of departments can prevent sick leave and also rehabilitate employees. LUCIE can detect work-related exhaustion/burnout and is a useful tool for clinical screening of work-related exhaustion. Progress of rehabilitation and health promoting initiatives of and for staff employed at the hospital can successfully be monitored with LUCIE.

**Contact: BRISMAN Marga**

Skaraborg Hospital

Lövängsvägen 1, 54142 Skövde,

[marga.brisman@vgregion.se](mailto:marga.brisman@vgregion.se)

## Effects of Exercise Program on Improving Work-related Stress in Overweight Employees in High-tech Industries

**HSU Mei-Chi, FANG Yun-Ya, HUANG Chien-Yuan**

### Background/Problem/Objective

Health promotion programs designed for workers have positively impacted the health outcomes and well-being of them. Occupational health care team in hospitals plays a pivotal role in workplace health management that addresses the overall health care needs of working populations. The high-tech industry in Taiwan, is known to be highly stressful and demanding. The aim of this study was to evaluate the effectiveness of exercise program on work-related stress of overweight employees in high-tech industries.

### Methods/Intervention

This study was a randomized controlled study. The participants were recruited from high-tech industries in the Science Park. Participants in the experimental group received this exercise program on a moderate intensity for 12 weeks. Those in the control group received no intervention. Evaluations were performed at baseline and at the end of the study. The intervention was offered by the hospital health care team. Body weight,

work stress, work control, mental health, vigor indicator and general health were assessed.

#### Results (of evaluation)

The mean age of all participants was 37.4 years ranged between 22 and 50 years. Randomization resulted in two groups comparable ( $p > 0.05$ ) in the distribution of basal characteristics of the participants. Significant positive effects on work control and interpersonal relationship at work ( $p < 0.05$ ) were found. The exercise program is effective to reduce body weight, levels of serum triglyceride, total cholesterol and low-density lipoproteins-cholesterol in the experimental group ( $p < 0.05$ ).

#### Conclusions/Lessons learned

Workplaces are important settings for health promotion. Physical inactivity is one of the risk factors in the development of health problems. Results from this study showed that the exercise program is important in improving work-related stress and physical outcomes for overweight employees in high-tech industries. The program attracted employees in health behavior change. Therefore, the exercise program might be a promising component in the management of work-related stress, and should be implemented in workplace health promotion.

**Contact: HSU Mei-Chi**

I-Shou University

No.8, Yida Rd., Jiaosu Village Yanchao District

82445 Kaohsiung City, Taiwan, R.O.C.,

[hsu88@isu.edu.tw](mailto:hsu88@isu.edu.tw)

## Improve Staff's Capability of Home-Made Diet by Holding Cookery Course and Recording Cook Video

**HUANG Pei-Ju , CHEN Pei-Jyun , NIEN Yu-Ting , CHEN Li-Ya , TSAI Yi-Fang , HUANG I-Ling, CHEN Wan-Chin**

#### Background/Problem/Objective

According to the questionnaires investigation about personnel health behavior and management in 2016 in Changhua Christian Hospital, Taiwan, the percentage of regular out-eater is 31.5%. In order to improve healthcare provider's capability of home-made food and reduce eat-out ratio, we apply the strategy of holding cookery class and recording cook video during class. The cook video will be released since 2018 in our staff sports center.

#### Methods/Intervention

We held 4 cookery courses from Sep. 2017 to Oct. 2017, the including criteria is body weight index(BMI) above 24kg/m<sup>2</sup>, and a total of 20 employees participated during these periods. The course design included healthy home-made diet concepts sharing by dietitians and final presentation. Participates needed to filled in 7-days diet scale before and after course. The healthy home-made diet concepts sharing divided to four parts. The first and most important concepts are nutritional balance and varied food. The second concepts are eating 0.3 kilogram vegetables daily and adding grain rice into white rice. The third concept is adequate meat intake. The last one is halved salt to enjoy natural and fresh food. The comparison of 7-days diet scale would be compared before and after course.

#### Results (of evaluation)

After course, the effective filling of the 7-day diet scale was 16. The average score of balanced nutrition intake, including servings of principal food, milk products, vegetables, and fruit, increased from 6.6 to 8.7. The average score of oily or salty food intake decreased from 3.2 to 1.3. According to score, personnel healthy behavior had effective changes.

#### Conclusions/Lessons learned

The effectiveness of employee health promotion by holding cooking course and video recording is obvious. The employees learned how to choose safe ingredients, reduce the risk of poisoning exposure, and enhance their immunity. We will release cookery course video in 2018 to share new nutritional concepts to our staffs and increase home-made diet ratio.

**Contact: HUANG PeiJu**

Changhua Christian hospital

No. 135, nanxiao street, 500 Changhua,

[triangle0128@gmail.com](mailto:triangle0128@gmail.com)

## Ergonomics analysis of work-related musculoskeletal disorders for workplace improvement of Central Sterile Supply Department in Taipei Tzu Chi Hospital

**LIN Li-Hua**

#### Background/Problem/Objective

Work-related musculoskeletal disorders (WMSDs) are important topics of international concern in recent years. According to Taiwan occupational disease statistics, the musculoskeletal injuries, both in terms of incidence and medical reimbursement are on the rise every year. An amendment of Occupational Safety and Health Act has passed in 2013, indicating that employer should take preventive strategies from repetitive cumulative jobs in terms of possible musculoskeletal diseases working environment. The central supply department is responsible for processing surgical instrument. The repetitive nature of the work, including handling instrument trays and materials, to where constructing high frequency actions such as lifting, pushing and pulling, and must always with heavy load, as well long standing.

#### Methods/Intervention

In order to effectively and correctly identify ergonomic hazards, the labor health team performed the following plan 1. Nordic Musculoskeletal Questionnaire 2. Analysis of workflow, content and action, utilize risk assessment form, such as the NIOSH, KIM-LHC, KIM-PP 3. On-site observation 4. Results evaluation and identifying hazard factors

#### Results (of evaluation)

1. Questionnaire results a. Muscle pain duration: 6 persons over 3 years, no obvious symptoms to the rest of the crew b. Sore area: Right hand and wrist accounted for 24%, the second for the neck, shoulder, knee, etc. accounted for 14%, and 4 people accounted for shoulder pain with the third level. 2. Hazard factor as ergonomic checklist: awkward posture & heavy Loading 3. On site environment and equipment analysis



inadequate Workstation & working chair 4. Improvement measures a. Educational training, allowing the physical therapist to guide the correct posture. b. Height adjustable working table c. Work rotation; avoid maintaining the same posture for a long period of time. d. Powered machine replaces manpower in instrument handling

#### Conclusions/Lessons learned

In recent years, Taiwan has gradually begun to pay attention to the safety and health of the workforce. Through the workplace environmental investigation and analysis, our short term goal is to teach correct job posture, and in the long run is to upgrade the equipment to prevent WMSDs instead of manpower. Through the ergonomic intervention, similar units can be applied to the same improvement process in creating a better medical working environment.

**Contact:** LIN Li-Hua

Taipei Tzu Chi Hospital, Jianguo Rd., Xindian Dist., Taiwan (R.O.C)  
No.289, 23142 New Taipei City,  
[xd306131@tzuchi.com.tw](mailto:xd306131@tzuchi.com.tw)

## Cardiovascular risk assessment of hospital employees

**CHEN Ru-Yi, WANG Fu-Wei, YANG Hao-Yu, TZOU Chan-Yin, CHENG Jin-Shiung**

#### Background/Problem/Objective

In addition to cancer, cardiovascular events have been the second leading cause of death in Taiwan since 2007. And the annual cardiovascular death numbers has been increasing in recent 7 years. The hospital employees often have to face high physical workloads and mental stress which may result in higher cardiovascular event rate. We set a plan to evaluate the risk condition of hospital employees in a hospital in southern Taiwan.

#### Methods/Intervention

Between January 2 and September 30 in 2017, all hospital employees underwent periodic hospital health examination, including blood pressure check and blood test. All employees were invited to finish online lifestyle survey in the same period. The results were applied to assess the cardiovascular risk according to the Framingham Risk Score (FRS).

#### Results (of evaluation)

A total of 2861 employees underwent health examination and 1957 employees finished online lifestyle survey. According to FRS system, 272 (13.90%) of employees participated in survey have moderate (214, 78.68%) or high (58, 21.32%) cardiovascular risk. The 272 employees have a mean age of 53.10 years, men accounted for 57.72% and administrative and support staff took for the highest percentage (133, 48.90%).

#### Conclusions/Lessons learned

Few studies investigated the cardiovascular risk of hospital employees according to the FRS system. The results can be a reference for hospital policy-making for health promotion strategy. The hospital employees can be aware of personal cardiovascular risk condition. And employees at moderate or high risk can seek appropriate medical attention as early as possible.

**Contact:** CHEN Ru-Yih

Kaohsiung veterans general hospital  
No.386, Dazhong 1st Rd., Zuoying Dist.  
81362 Kaohsiung City, [rorychen@vghks.gov.tw](mailto:rorychen@vghks.gov.tw)

## The Relationship Between the Locomotive Syndrome in Staffs and Exercise Habits Before and After Adulthood.

**SUZUKI Gaku, TERAOKA Kaori, WATANABE Risa, NEGISHI Kyota**

#### Background/Problem/Objective

Reconsideration of lifestyle habits and reacquisition of exercise habits are important for extension of healthy life expectancy. We studied the relationship between locomotive test results of hospital staffs and their exercise habits before and after reaching adulthood. Labeling the group of subjects which did not participate in the tests as "uninterested parties", we also studied their awareness of physical activity as well as habits.

#### Methods/Intervention

Our subjects were 162 adults working at Tokyo Kensei Hospital. With locomotive test participants as "interested parties", and non-participants as "uninterested parties", we examined the rate of the locomotive syndrome by gender and age, the presence or absence of the locomotive syndrome, and characteristics of subjects' exercise habits. All data analysis was carried out through JMP 13.0 (SAS Institute).

#### Results (of evaluation)

In the percentages of the locomotive syndrome grouped by gender and age, women in their thirties had the highest rate. In comparing the group with the locomotive syndrome to the group without, declines were observed in pre-adulthood exercise habits, how favorably the subjects currently see exercise, and how favorably they had seen exercise before adulthood. The "uninterested" group, when compared to the "interested" group, saw declines in recognition of the locomotive syndrome, as well as recognition of sarcopenia.

#### Conclusions/Lessons learned

The high rate of the locomotive syndrome among women in their thirties is speculated to be a byproduct of the declining physical strength of schoolchildren since 1985. Our results have shown that having exercise experience before adulthood influences locomotion after reaching adulthood, which suggests that the physical fitness, exercise habits, and a favorable attitude towards exercise developed during childhood are important. One particular characteristic of the "uninterested parties" was the lack of knowledge acquisition concerning health information.

#### Comments

The ability to acquire, understand, and use health information effectively for ourselves - health literacy - is low, and this is problematic. As an approach to "uninterested parties", we should begin with communication, followed by awareness of one's own muscle strength and degree of locomotion. Coupling

these with health education is important for the improvement of lifestyle and exercise habits.

**Contact:** SAITOH Fumihito

Oizumi Health Cooperative Hospital  
Higashi-Oizumi, 178-0063 Nerima, Tokyo,  
[fumisaitoh@gmail.com](mailto:fumisaitoh@gmail.com)

## Preventing lower back pain in our hospital

**MURAKAMI Narumi, EZEKIEL WONG Toh Yoon, SUGA Takako, TATEISHI Junko, MURATA Hirohiko**

### Background/Problem/Objective

It has been reported that about half of nursing staff suffer from lower back pain (LBP) due to their work. Since 2013, a rhythmic exercise program was introduced by our hospital's safety and health committee which requires nursing staff to perform guided stretching exercise before commencing work. After 4 years, we re-evaluated the role of this exercise program and its contribution towards the prevention of LBP.

### Methods/Intervention

Nursing staff are generally required to perform these guided stretching exercises before starting work. We performed a questionnaire survey during a two week period in August 2017 on 123 nursing staff to evaluate the current state (implementation) of this exercise program and to collect feedback from participants.

### Results (of evaluation)

Similar to previous surveys, about 80% of respondents reported LBP. We found that these exercises were performed regularly only during the day shift. However, since nurses only enter day shifts 5 to 10 times a month, the number of exercises performed every month for each nurse seems insufficient. The time allocated to these exercises (i.e. for each stretching pose) were also less than that initially recommended. Nevertheless, about 70% of respondents reported feeling some positive effect from the exercise program.

### Conclusions/Lessons learned

After four years from its Background/Problem/Objective, we found that these exercises were only strictly implemented during the day shifts, which may not be regular enough to prevent LBP, despite the positive feeling reported by our respondents. Regular evaluation is needed to promote and enhance the implementation of this program to reduce the burden of LBP on healthcare employees.

**Contact:** WONG Toh Yoon

Hiroshima Kyoritsu Hospital  
Hiroshima-shi Asaminami-ku Nakasu 2-19-6  
[easybs@hotmail.com](mailto:easybs@hotmail.com)

## Satisfaction Survey of Vegetarian Meal in Work Environment

**CHIU Wen-Hsin, LIN Yu-Fang, ZHOU Zhe-Wei, HUANG I-Liang, KUO Shih-Ching, WU Jing-Hui**

### Background/Problem/Objective

Medical staffs often compress or delay meal time due to job demands, resulting in irregular eating and may therefore be at high risk of gastrointestinal diseases. In order to prevent of gastrointestinal diseases, our hospital in addition to promote healthy vegetarian food, nutrition department design the hospital meeting meals, so that colleagues due to work needs can have a regular and balanced diet. Meeting lunch box is with a balanced dish content to provide colleagues a healthy meal

### Methods/Intervention

We designed vegetable meeting meal or meeting refreshments to prepare balanced dishes, by selecting seasonal ingredients and based on "daily dietary suggested intake". Participants who eat meeting meals were surveyed by questionnaire randomly. The variation of main course and main food, cooking tastes, side dishes, meal temperature, variation of snacks, and overall satisfaction of meals are surveyed in questionnaire.

### Results (of evaluation)

In 2017, a total of 25,277 vegetarian meals were served at the hospital meeting (average 2,106 person-times per month). This questionnaire has a total of 100 valid questionnaires. Overall satisfaction with the questionnaire is 4.1 in average (threshold 3.5), the average satisfaction score is 82 points. The score of variation of main food is 3.9 in average, this item is with the lowest score.

### Conclusions/Lessons learned

In this questionnaire, the average of the variation of main foods in the survey items 3.9 is the lowest score. Although it is higher than the threshold of 3.5, we still need to upgrade the items. Implementation for improvement: The main food choices will be increased more 5 styles, including rice noodles, green bean noodles, flat noodles, noodles, sushi. Main food will be cooked with different cooking ways to increase variability. We hope to provide healthy meeting meal continuously.

**Contact:** KUO SHIH-CHING

Taipei Tzu Chi Hospital  
No.289, Jiauguo Rd., Xindian Dist., 231-42 New Taipei City,  
[shihchingkuo@yahoo.com.tw](mailto:shihchingkuo@yahoo.com.tw)

## The formaline use in hospital. a preventive control path in the light of the new hazardous reclassification

**TORTI Carluccio, SCARPINI Gian Carlo, SOTTOTETTI Elisa**

### Background/Problem/Objective

Formalin, in solution, has long been used in the health sector for the conservation of histological findings to be analyzed. Until recently, the practice of fumigation has been employed in hospitals for the terminal disinfection of the premises. Formaldehyde, with the enactment of EU regulation no. 605/2014 story has been reclassified for its dangerousness towards the

health of people passed from "suspected carcinogen" to "may cause cancer". This change is mandatory for the handling of this matter within the cycle: the Lombardy Region, with its Guidelines, has drawn a new path for controlling the exposure of workers and the population. In ASST of Pavia since 2004 it is a matter of carrying out a knowledge of the path over time and the forecasts in monitoring this danger, and the criticalities that have emerged, presenting possible future preventive measures.

#### Methods/Intervention

The use of formalin in various working environments has involved the analysis of all the processes in which it is used, and by improving the detailed examination of the exhibition moments, improvements have been identified. Beyond the continuous use of the Personal Protective Equipment used, the first preventive intervention was to adopt a specific company procedure, subsequently the use of the chemical hoods was improved, where formalin is also handled in "production sites" "Of the sample (operating groups and endoscopic areas). Following this we proceeded to introduce pre-filled containers of formalin in place of manual filling from large containers, to the continuous training of the exhibitors. Since the Background/Problem/Objective of the compulsory health surveillance, all the operators exposed to this substance have been subject to specific controls conducted by the competent doctor. The choices adopted over time and those that will be, derive from the analysis of the results emerged in the measurements performed annually for the determination of environmental contamination (in some moments also on biological matrices: urine of the exposed). The environmental analyzes first involved all the manipulation sites and then only involved pathological anatomy laboratories. Analysis performed with instantaneous sampler for the entire session of each type of processing (sample production, sample processing, etc.,). A system for monitoring the application of the company procedure and specific rules on the subject has also been adopted through the implementation of targeted internal audits

#### Results (of evaluation)

The analytical results found in the various years of control, whose sampling points are diversified according to the working cycle, have made it possible to highlight that in pathological Anatomies, only in two out of five years have environmental leaks been detected, whose average is around 0.04 ppm against a limit of 0.3 ppm; in the other areas (sample production sites) the results did not give any results, especially given the low exposure time. The internal audits of the system showed that the operators possessed a good preparation giving coherent answers with respect to the role played in the organization. Only in a laboratory of Pathological Anatomy have emerged criticalities (mainly from the point of view of age of some equipment), critical issues immediately addressed for the improvement interventions

#### Conclusions/Lessons learned

The analysis of the analytical results, compared with the reference standards, do not show any particular differences. In the "production" sites of the sample, since the exposure time is limited, there is no evidence of dispersion in the environment: this entails the choice to carry out the measurements at these points with a periodicity greater than one year. The critical issues that emerged in the laboratories, on the other hand, lead us to forecast the revision of the equipment used in the short term, moving to machines where the circuit for the use of formalin is increasingly closed circuit. Another intervention in proposition is to create specific dedicated rooms, equipped with specific air treatment systems, with closed circuit equip-

ment, where to work this substance. During the implementation of these structural interventions in the laboratories, environmental monitoring will be carried out at close intervals (every 6 months) as well as more and more targeted audits on the work modalities in the laboratory and on the organization of the whole formalin cycle (from raw material storage to the conservation of histological findings post-analysis).

**Contact:** SOTTOTETTI Elisa

AO Pavia

Via Castellaro, Torrazza Coste,

[elisa\\_sottotetti@ospedali.pavia.it](mailto:elisa_sottotetti@ospedali.pavia.it)

## The Study about the Effectiveness of Smartphone Application as Employees in Seoul National University Bundang Hospital(SNUBH)

LEE Kiheon, PARK Sukwon, CHOI Eunhee

#### Background/Problem/Objective

According to the Korea National Health and Nutrition Examination Survey, the prevalence of obesity defined by BMI  $\geq 25$  kg/m<sup>2</sup> also increased from 26.9% in 1998 to 32.0% in 2011. According to the result of the health examination in October 2016, 21% of SNUBH employees confirmed a body mass index (BMI)  $\geq 25$  kg/m<sup>2</sup> including dyslipidemia, hypertension, therefore, weight management is necessary.

#### Methods/Intervention

For employee health promotion, we conducted smartphone program, using the Noom, focusing on weight loss with behavioral coaching. Twenty-two employees, aged 30-60 years, who had risks of metabolic syndrome such as fasting glucose  $\geq 100$ mg/dl or BMI  $\geq 25$ kg/m<sup>2</sup> or systolic blood pressure  $\geq 130$ mmHg or diastolic blood pressure  $\geq 85$ mmHg, were recruited. From June to October, participants inputted food and exercise data, then they were provided with human coaching to motivate and increase activities such as food logging, cooking, health recipes, and physical activity.

#### Results (of evaluation)

Participants showed a clinically significant BMI loss effect of -0.38kg/m<sup>2</sup> also at the end of 16-week program. As a result of the Wilcoxon Signed Ranks Test, BMI(Asymp. Sig 0.039, <0.05) only was more significant than in 2016. The frequency of logging meals and exercise was associated with body fat loss.

#### Conclusions/Lessons learned

This advanced smartphone app was a useful tool to maintain weight loss in overweight or obese employees. After that, long-term studies are needed.

**Contact:** PARK SUKWON

Seoul National University Bundang Hospital

82, Gumi-ro 173beon-gil, Bundang-gu,

Seongnam-si, Gyeonggi-do, [11550@snuhb.org](mailto:11550@snuhb.org)

## Let's Reduce Intake of Free Sugars For Health.

**PARK Sukwon, LEE Kiheon, CHOI Eunhee**

### Background/Problem/Objective

According to the WHO guideline, the intake of free sugars should not exceed 10% of total energy intake. However, The Korea National Health and Nutrition Examination Survey found that Sugar-Sweetened Beverage(SSB) consumption has doubled from 58 to 101 g in 2017, three years from 2014. The Korean have a much higher intake of sugar than the world recommends, many of which are consumed through beverages. So, the Seoul National University Bundang Hospital(SNUBH) designed a project to reduce intake of beverage for employees.

### Methods/Intervention

First, a survey was conducted to SNUBH employees in October 2016. Responses were obtained from 331 employees, and questionnaires about personal information, awareness of beverage on intake consumption and health, considerations for choosing beverage, amount of soft drink consumption, checking the ingredients and the nutrition information, expenditure on beverage were administered. Second, the hospital investigated employees preferences of sweet taste using KFDA (Korea Food & Drug Administration)'s program.

### Results (of evaluation)

According to the survey, the most common reasons for choosing a drink was "when I feeling thirsty or habitually" and consideration for choosing two of the beverages was "delicious things and low-calorie". 2 out of 5 employees (44.7%) turned out that they just eat out of habit of sweet taste. We conducted an educational program, which invited an outside expert, and the campaign. Also leaflets in the field of SSB were put on display at the entrance of the staff cafeteria.

### Conclusions/Lessons learned

After the project, we realized that is effective for improving employee's awareness of sugar-sweetened beverages (SSB). For this reason, we will try to expand to this project in the community, in 2018.

### Contact: PARK SUKWON

Seoul National University Bundang Hospital  
82, Gumi-ro 173beon-gil, Bundang-gu  
Seongnam-si, Gyeonggi-do, [11550@snuh.org](mailto:11550@snuh.org)

## Managing Metabolic Syndrome through Life Habit Improvement and Exercise in Workplace

**KYURI Park, HANNA Kim, MUSANG Jang, SUBAE Lee, KIBOUNG Hyun, JONG-YIL Chai**

### Background/Problem/Objective

Based on a study by the National Health Insurance Service, of everyone who underwent a physical examination in 2016, 25.0% had metabolic syndrome and 72.6% had at least 1 risk

factors of metabolic syndrome. Due to excessive work, frequent drinking and lack of exercise, office workers, especially, have a higher chance of chronic diseases, resulting in demoted socio-economic loss. For this reason, it was developed as an effective health management strategy that will facilitate each worker to manage health.

### Methods/Intervention

The purpose of this program is to improve the risk factors to promotion of health and prevention of chronic diseases for the members of the Korea Health Promotion Association. Five measurements were taken, waist circumference, blood pressure and sugar levels, triglyceride, and HDL cholesterol, and members with 3 or more risk factors and 1 or 2 risk factors who entered to be in the program. The management method involved exercise, walking using smart devices and customized counseling during 3 months.

### Results (of evaluation)

Of a total of 171 persons in the program, the number of persons with 3 or more risk factors of metabolic syndrome declined from 38, 22.2%, to 31, 18.2%. Out of 171 persons, those with 3 risk factors decreased from 28, 16.4%, to 23, 13.5%. Out of 171 persons, those with 4 risk factors decreased from 10, 5.8%, to 5, 2.9%. There was no one with 5 risk factors, but it improved to 1.8% (3 persons).

### Conclusions/Lessons learned

It was concluded that managing metabolic syndrome requires continual improvement in life habits and exercise, including nutrition counseling and training, and follow-up programs to continuously manage the conditions.

### Contact: KYU RI Park

Korea Association of Health Promotion  
Goryeo Building, 350, Hwagok-ro, Gangseo-gu, Seoul, Korea  
07653 Seoul, [pkrmay@naver.com](mailto:pkrmay@naver.com)

## Dietary Promotion Strategy Approach to Improve Iron Status in Premenopausal Hospital Women Staff

**HSU Chiu-Ping, CHANG Huang-Yu, CHENG Hsueh-Chien, LI Lin-Hui, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

### Background/Problem/Objective

Iron deficiency is the most common nutritional deficiency in the world, responsible for a staggering amount of ill health, lost productivity, and premature death. Preventing iron deficiency has been a main target of the World Health Organization since 1992 and it also has been included in Health 2020 of Taiwan. According to the third National Nutrition Examination Survey in Taiwan, the total iron deficiency rate in women was 12.9% and the dietary iron-intake of premenopausal women was below dietary reference intakes.

### Methods/Intervention

A Dietary Education Strategy for iron improvement was conducted for premenopausal staff in Keelung Hospital by using a supportive system and establishing personnel skill. There were four programs in this strategy during 10 months included Nutri-

tion Education, Workplace Health Environment, Rich-iron Shared Meals share and Discussion in Network Station. Questionnaires of knowledge, attitude and behavior (KAB) were investigated before and after the strategy. Data was analyzed using the SPSS version 20.0. Outcomes were combined using the Turkey test method.

#### Results (of evaluation)

A total of 58 premenopausal staff finished KAB questionnaires during the 10 months. The score of the knowledge, attitude, and behavior questionnaires increased significantly from 68.45±16.31 to 100.00±14.99, 3.00±1.53 to 3.98±0.86, and 32.03±5.50 to 33.45±3.58 compared with before and after the Dietary Promotion Strategy intervention.

#### Conclusions/Lessons learned

This Dietary Education Strategy intervention of iron improvement improved the knowledge, attitude and behavior of the subject's staff and may be used to prevent iron deficiency among premenopausal staff in healthcare workplaces.

#### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Workplace Health Promotion – Join and Fight Body fat Together

**FAN Yu-I, SHYU Ren-Shi, CHEN Xiao-Jun, KE Chun-Yu, WANG Yi-Wen, CHEN Ying-Chih, LIU Yi-Lien**

#### Background/Problem/Objective

A "healthy workplace" should protect and promote the safety, health and well-being of its workers, and their quality of work and life. According to the data collected from the 2016 employee health screening, the top five items that stand out were BMI> 24 (40.7%), cholesterol> 200 mg / dl (36.1%), LDL> 130 mg / dl ) And low HDL (19.5%), showing that weight control, a healthy diet and exercise are the most urgent health needs for our staff.

#### Methods/Intervention

Handling of employees' annual health check to look for abnormalities; handling of a series of health promotion activities: walking 10,000 steps; display calories intake per dish at the employees' cafeteria etc.... In addition to the above health promotion activities, "Gomaji Health GO" activity was also held: inviting family/friends to combat excess weight/fat together, it combined sports activities led by invited sports instructor with a series of healthy diet lectures led by nutritionists, like "Be full easily, Eat Healthy Meals," etc...

#### Results (of evaluation)

Thirty employees participated in "Gomaji Health GO". Among them, nine (30%) were healthy, twenty-one (70%) were overweight. A total of 11 sports/exercise classes, 3 healthy eating knowledge courses, and 2 healthy meals practices were organized. The attendance rate at exercise classes reached 80.6%. Statistics show 86.7 % have exercised at least 12 times a month for 30 minutes each time. Health Assessment Evaluation showed

80% correctness in a Healthy Eating questionnaire. The program received a 95% satisfaction rate.

#### Conclusions/Lessons learned

This activity uses the power of being part of a group and of the game collection points to motivate employees who have never exercise to sign up for participation. The average body fat decreased by 1.1 kg. After the activity, employees can still see the good habits of their colleagues who continue to maintain their healthy diet. They discover their favorite type of exercise and can participate in lunch break film exercise teaching. They can learn how to lose weight.

#### Contact: EVE Chiu

Min-Sheng General Hospital  
168 Ching-Kuo Rd., 33044 Taoyuan City,  
[a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## BMI change on the development of Metabolic Syndrome after 5 years in employees of semiconductor manufacturing company

**CHEN Hon-I, CHEN Ru-Yi, HUANG Tzu-Ya, WANG Fu-Wie, CHENG Jin-Shiung**

#### Background/Problem/Objective

39% of adults aged 18 years and over were overweight in 2016, and 13% were obese. Raised body mass index (BMI) is a major risk factor for non-communicable diseases such as hypertension, diabetes mellitus, dyslipidemia and metabolic syndrome (MetS). The high-tech industry employees often have to face high mental stress which may result in higher cardiovascular event rate. This study is to investigate the associations of BMI change and MetS in a sample of semiconductor manufacturing company employees in Taiwan.

#### Methods/Intervention

A total of 328 Taiwan employees, not fulfilling MetS criteria, of a semiconductor manufacturing company underwent annual health examinations in 2011 and 2015. Anthropometric, biochemical, clinical data and lifestyle habit were collected by health examination and self-completed questionnaire. Multi-variable logistic regression analysis was performed to examine the association while controlling for potential confounding variables and estimate the adjusted odds ratios (OR) of risk for MetS development.

#### Results (of evaluation)

The overall prevalence of MetS in 2015 was 11.9%. Individuals with MetS had a significantly ( $p < 0.001$ ) increased BMI than those without MetS. The odds ratios for MetS development among the subjects who raised BMI and initially had MetS components were 1.7 and 9.5. Lack of regular exercise ( $p = 0.826$ ), smoking ( $P = 0.797$ ), sleep hour ( $P = 0.352$ ) and shift worker ( $p = 0.516$ ) were not significantly associated with MetS development.

#### Conclusions/Lessons learned

The result suggest workplace health improvement programs for identifying MetS and prevent raised BMI are necessary for improvement of employees health. It is important to support



employee promoting mental health, healthy lifestyle and preventing major non-communicable diseases by using specific workplace health policies and management tools for reducing health care costs caused by employees' diseases.

**Contact: CHEN Hon-I**

Kaohsiung veterans general hospital  
No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City,  
[hichen@vghks.gov.tw](mailto:hichen@vghks.gov.tw)

## Session P1.10: Monitoring and implementation of health promoting strategies and standards

### Health Promotin in Military University Hospital Prague

**GUTOVA Lenka, VANHOVA Monika**

**Background/Problem/Objective**

Military University Hospital in Prague became a member of HPH network in 2012. Since then many different activities and projects have been organised. The aim of health education is to offer to employees, to the public and to patients sufficient information such as to how to prevent diseases, change lifestyles, increase awareness, and motivate them and influence their attitudes for the purpose of creating an active interest in their own health.

**Methods/Intervention**

The health promotion In Military University Hospital in Prague is centered on: Patients – part of the admission nursing assessment for every hospitalized patient are also information pertaining to the perception of one's own health with the patient focusing on identification of his lifestyle and health risk factors. If the problem is detected, appropriate recommendations are made to the patient to improve a healthy lifestyle. Patients are contacted with relevant specialists and clinics. Public – health promotion events for public focused on prevention of lifestyle diseases are organized. Employees – focused on physical activities (physical exercise) and mental health (an anonymous email address for employees in critical situations as a discrete way how to get in contact with professionals).

**Results (of evaluation)**

The health promotion In Military University Hospital in Prague is centered on patients, public, employees. Hospital management records the number of patients examinations and the number of risky patients. This admission nursing assessment is executed electronically in AMIS HD system. Public has got an opportunity to meet various experts from different disciplines and seek advice, listen to the lectures or receive printed materials. An expert group for health-promoting activities for employees has been established in hospital. This group is responsible for planning, organizing and evaluating all HPH activities within the hospital.

**Conclusions/Lessons learned**

The presentation will summarize different health promoting activities which are provided for patients, public and employees. It will present also some data – number of visitors of the events for public, number of reduced kilograms of individuals in

the project "Improve your health by changing your lifestyle", number of clients who visited different specialists (addictologist, psychologist, etc.).

**Contact: PETR Tomas**

Central Military Hospital - Military Teaching Hosp  
U Vojenské nemocnice 1200, 169 01 Prague,  
[tomas.petr@uvn.cz](mailto:tomas.petr@uvn.cz)

## Promote Comprehensive Patient-Centered Medical Care with Health Promoting Hospitals Accreditation (HPH) and Integrated Chronic Care Health Promotion Model, (ICCHPM). - A Case Study of A Medical Center in Southern Taiwan.

**CHEN Ling-Sui, HUANG Wei-Ling, HSU Chia Wen, CHANG Chia-Fang, CHEN Hui-Chen**

**Background/Problem/Objective**

We review the health-service orientation and strategies by initiating Health Promoting Hospitals Accreditation (HPH) and to achieve a better health gain by improving the quality of health care, as well as the conditions for satisfaction of patients, and staff. However, it required to adopt an interdisciplinary cooperation model of medical care, governance and leaders support, and enough budgetary to develop effective policy measures, people-centered health care as well as strengthening prevention and health promotion.

**Methods/Intervention**

Based on the Chronic Care Model (CCM) and the Shared medical appointment model (SMAM), the study focuses on the self-management, a well-developed health system and community resources and policies, with clinical information systems emphasizing the integration of team care and collaborative decision making into Health Promoting Hospitals (HPH) certification as a method to promote a people-centered Integrated Chronic Care Health Promotion Model (ICCHPM).

**Results (of evaluation)**

1. Health Care Organization (1) We have a "Health Promotion Hospital Committee", including "Tobacco-free Hospital Team", "Age-friendly Hospital Team", "Staff Health Promotion Team" and "Staff Care Team" for promoting health promotion works. (2) We have a budget of about US \$ 9.6 million per year in health promotion programs. 2. Community Resources and Policies To strengthen hierarchy of medical care policy, we had established 16 community health network and bi-directional Referrals with 110 health care organizations. 3. Clinical Information System The iCKD Cloud-Care Platform and APP has home physiological signal measurement, disease education, nutrition analysis, medication reminders and warning notification functions. (2) We designed QRcode on medicine bags, and it can be connected to the pharmacy information system, and provides voice services in three languages - English, Chinese and Taiwanese.

**Conclusions/Lessons learned**

A good chronic disease care planning depends on the joint participation and coordination of care system, patients and community resources. We design information system to improving patients' disease-related knowledge and care skills, information and communication technologies. As a result, new types of remote health care services have emerged by using remote monitoring of care mode, which are the future trend of an aging society.

**Contact: CHEN Ling-Sui**

Kaohsiung Medical University Hospital  
No.100, Tzyou 1st Road Kaohsiung 807, Taiwan, 807 Kaohsiung  
[lschen@kmu.edu.tw](mailto:lschen@kmu.edu.tw)

## Evaluating The Implementation of WHO Health Promotion Hospital Ad- vanced Certification Program

**HUANG Ya-Hsueh, YANG Hsin-Yi, LU  
Chieh-Hsiang, TAI Tsai-Sung, KUNG Fang-  
Ping, YU Hui-I**

**Background/Problem/Objective**

Health promotion is an integral part of a health care program. Hospital need to implement Health Promotion program into the health care system to improve the quality of chronic diseases care. The purpose of this study is to examine if the participation in HPH (Health Promotion Hospital) advanced certification program will develop effective strategies and improve health promotion activities for patients and staff.

**Methods/Intervention**

This study was conducted in a regional teaching hospital in southern Taiwan. Subjects were diabetic patients over the age of 20 and metabolic and endocrine department staff. Study period since April 2014 to June 2015. Research Methods: in the traditional clinical pathway, we increased the health promotion information management system and activities centered on patients and employees. The results were evaluated by medical records audit, questionnaires for patients and employees. Descriptive analysis using SPSS 21.0.

**Results (of evaluation)**

A total of 200 patients with diabetes and 70 employees were recruited. One year after they were introduced to the HPH Advanced Certification Program, the completeness rate of medical records increased from 72.4% to 81.4%, quality of life table about physical and mental health were better, the staff awareness of the hospital to promote health promotion policy rate increased from 39% to 87 %. The hospital access to the WHO HPH Advanced Certification is gold level

**Conclusions/Lessons learned**

The Background/Problem/Objective and implementation of advanced certification of Health Promotion Hospital can effectively enhance the satisfaction with health promotion activities for patients and staff and improve quality of life and staff's promotion of health promotion in hospitals. And it might enhance clinical improvement and promote patient safety. We may establish computer-based health promotion models to enhance the quality of chronic diseases care.

**Contact: HUANH YA HSUEH**

[cych02234@gmail.com](mailto:cych02234@gmail.com)

## Self assessment on HPH Standards of ASL Roma 1 (Italy)

**LAZZARI claudio, QUINTILI maddalena,  
GAMBERALE daniela**

**Background/Problem/Objective**

ASL Roma 1 (Local Health Company) is an Italian new public legal entity, born on 01.01.2016 following the merger between 2 smaller ASL. ASL Roma 1 covers 524 km<sup>2</sup> in the northern area of the city of Rome with 1.046.862 local population and an estimated 500,000 average daily presences (tourists, workers etc.). It's organized into 6 Districts with 4 hospitals. ASL Roma 1 decided to be part of the HPH & HS Network from February 2017.

**Methods/Intervention**

The HPH Coordinator organized a working group to explain the HPH network and completed the check list of HPH standards in order to facilitate the practical use in planning, implementation and assessment of health promotion at ASL Roma 1. It was used the self-assessment tool based on HPH standards to make a focus on Health Promotions Care taken from the "Manuale e Schede per Atovalutazione" translated by in italian regional network of Piemonte.

**Results (of evaluation)**

On 40 questions ASL Roma 1 answered with 17 "Yes" (42%), 17 "partially Yes" (42%) and 6 "No" (16%). The best results are on "Patient Assessment and Intervention" (standard 3) and "Continuity and Cooperation" (standard 5). "Patient Assessment" (standard 2) and "Promoting a Healthy Workplace" (standard 4) had only one "NO" each. There is certainly plenty of scope for improvement on Management Policy (standard 1). Some additional indicators have been collected above all on Risk Management topics.

**Conclusions/Lessons learned**

The self assessment on HPH standards is an important tool for improving Health promotion services into ASL Roma 1. The results show that many activities are not planned or properly documented, especially in terms of Management Policy. The direction is the right one, but it is necessary to make a further effort planning for the year 2018 interventions to reach the HPH standards

**Contact: LAZZARI claudio**

asl roma 1  
borgo santo spirito 3, 00193 roma,  
[claudio.lazzari@aslroma1.it](mailto:claudio.lazzari@aslroma1.it)

## Session P1.11: Pain-free health care

### The effects of auricular acupressure on pain, anxiety and blood pressure for patients after arthroscopic surgery of shoulder

**LIN Jhih-Yu, HUNG Shuo-Suei, LIN Kuen-Huei, WU Pei-Ching**

#### Background/Problem/Objective

Auricular acupressure therapy is as effective traditional Chinese medical and complementary therapy, being used as an adjunct to modern medicine, in order to meet achieve a better health care. Auricular acupuncture using a combination of auricular Shenmen and other relevant points can relieve postoperative pain after orthopedic surgery. The aim of this study is to discuss the effectiveness of auricular acupressure on patients after shoulder arthroscopy surgery.

#### Methods/Intervention

Patients receiving shoulder arthroscopic surgeries were divided into two groups. The experimental group received three auricular acupressure points to stimulate the auricular Shenmen, shoulder and shoulder joint. The control group received placebo paste at three sham points. Three parameters, including pain [using the Visual Analogue Scale, (VAS)], anxiety [using the Hospital Anxiety Scale (HAS)] and blood pressure were measured in both groups before and after the intervention.

#### Results (of evaluation)

All patients experienced moderate to severe level of postoperative pain, and there was no significant differences found in the pain scores. However, patients in the experimental group requested significantly fewer pain killers post-operatively than those in the control group ( $P < 0.05$ ). The patients experienced normal anxiety in both groups, and the score decreased gradually over time without significant differences. Diastolic blood pressure on the second day after surgery was lower in the experimental group than in the control group, and the correlation test indicated that the improvement of blood pressure in the experimental group was well correlated with auricular acupressure.

#### Conclusions/Lessons learned

Auricular acupressure decreased the demand for postoperative pain killers after arthroscopic surgery of shoulder, and it could also lower the diastolic blood pressure on the second day after surgery, which may signify that the patients were experiencing less pain with such intervention.

#### Contact: JHIH-YU LIN

Taipei Tzuchi Hospital, The Buddhist Tzuchi Medical Foundation  
No. 289, Jianguo Rd, Xindian Dist., New Taipei City 23142,  
Taiwan, Republic of China, 23142 Taipei ,  
[linfish1210@yahoo.com.tw](mailto:linfish1210@yahoo.com.tw)

## Physiological effect of touch inter-vene in palliative patient compare to Orange Sweet Oil

**YANG TING-FENG, LIN CHUN-LAN, HO CHIA-YEN**

#### Background/Problem/Objective

Cancer was the top in the major causes of death of in 1982, keeping first for more than 30 years. Those patients had different levels of damage. In addition to receiving orthodox medical methods, they sometimes relied methods of complementary and alternative medicine (complementary and alternative medicine, CAM) to relieve the discomfort of the symptoms and improve their quality of life. One of the most popular adjunctive therapy, aromatherapy was already used at a hospice. Those could comfort mood, and relieve tension. By means of massage, bath and sucking, aromatic therapy could maintained balance between body and spirit harmony. Routasalo explained touching as body contact of natural emotion, widely applied to treatment, medication and daily comfort. It can also occur in interpersonal interaction, for example, encouragement, appreciation. Most importantly it is vital non-verbal communication skills, playing an important role in nurse-patient relationship.

#### Methods/Intervention

The purpose of this research was to investigate the effect of touch therapy. Palliative patient were divided into two groups with and without 30-minute touch therapy many items, such as vital sign, perception of pain and distress scale were measured before and after the treatment, comparing the difference of the items in 8 and 24 hours. The results and data was analyzed by the description, Wilcoxon Signed-Rank test (Nonparametric Test) of statistical methods.

#### Results (of evaluation)

Sixty terminal cancer patients participated in this study, in which they were evenly divided into two groups, one receiving massage with tangerine essential oil, the other receiving gentle stroke touches, to determine whether or not these treatments help relieve the patients' discomfort levels. The study confirms what the previously published documents have discovered: 1. After either one of the treatments, the patients feel their discomfort levels have improved after 30 minutes, 8 hours, and 24 hours. The effectiveness even reaches up to 24 hours. There is no significant difference regarding the effectiveness between massaging with tangerine essential oil and gentle stroke touches.

#### Conclusions/Lessons learned

This research could provide a reference for the clinical nurses to develop their independent role. And release patient physical discomfort to enhance their relationship to family.

#### Contact: YANG Ting-Feng

[tiffany@smh.org.tw](mailto:tiffany@smh.org.tw)

## Family Meeting for Hospice and Palliative Care: The Improves Do-Not-Resuscitation Consent Signature in p't with Chronic MV Care

**HSU Kuei-Ling, TAI Hsueh-Ping, CHEN Chiu-Fan, LEE David Lin, CHEN Kang-Pan, CHENG Jin-Shiung**

### Background/Problem/Objective

Patients with prolonged mechanical ventilation (PMV) are heavy economic and care burdens of the society. In our subacute respiratory care unit, a specialized weaning unit for PMV patients, we implement a family meeting for hospice and palliative care (FMHPC), to discuss the prognosis, tracheostomy, do not resuscitation, and discharge plan. Based on the spirit of holistic health care, the goals of family meeting are to improve clinical care, reduce medical cost, and improve the quality of care in terminal life.

### Methods/Intervention

We developed 4 strategies for the implementation of family meeting: (1) Internal education program for medical staff. (2) Standard operation procedure for family meeting. (3) Start the shared decision making (SDM) materials about tracheostomy and do not resuscitation (DNR). (4) Multidisciplinary information platform to improve communications between medical staff. From 2016 to 2017, patients admitted to the subacute respiratory care unit were collected, and data was analyzed for DNR rate, tracheostomy rate, and time to tracheostomy in the unit.

### Results (of evaluation)

There were 328 patients transferring to the MV weaning unit in 2016, and there were 278 patients in 2017. DNR consent was obtained in 41 patients in 2016, and 71 patients in 2017. There was a significant difference of DNR consent after the FMHPC (12.5% vs. 25.5%;  $p < 0.001$ ). There was no statistically significant difference about tracheostomy rate after the FMHPC (87.9% vs. 88.5%;  $p = 0.857$ ). There is no statistically significant difference after the FMHPC for the time from transfer to tracheostomy ( $14.6 \pm 17.9$  days vs.  $12.9 \pm 8.9$  days;  $p = 0.643$ ) although it showed a trend of reduction.

### Conclusions/Lessons learned

For PMV patients, FMHPC is an important policy of Bureau of National Health Insurance in Taiwan. Family meeting improves communication and patient's prognosis awareness between medical staff and patient's family. SDM materials also help clinical decision making in DNR and tracheostomy issues. Patients with PMV not only had poor life quality, but also consumed lots of medical resources. Family meeting intervention helps patients and family to choose their goal for the end-of-life care.

**Contact:** HSU Kuei-Ling

[klhsu@vghks.gov.tw](mailto:klhsu@vghks.gov.tw)

**Specchio Riflesso: A new creative intervention to prevent smoking behaviour in early adolescence**

**STECA Patrizia, D'ADDARIO Marco, GAMBA Alessio, MONZANI Dario, GIANGRECO Daniela, DE LUCIA Luca, ALLOISIO Marco**

### Background/Problem/Objective

Smoking is very common among adolescents; young people start smoking very early, before being 15 years old. Early and effective interventions are needed to contrast this risky behavior. Traditional interventions with an informative approach are largely ineffective. For these reasons, the section of Milan of the LILT has developed Specchio Riflesso, an innovative intervention based on the social theatre methodology and aimed at promoting preadolescents' self-reflection on their identity and facilitating their critical reflection toward tobacco smoking.

### Methods/Intervention

191 students were involved in SR, consisting of two sessions in the first class and two sessions in the second class of the secondary school. Questionnaires aimed to assess self-efficacy beliefs, independent thinking, attitudes and cognitive representations associated to smoking behaviors were administered before (first part of each academic years) and after the intervention (end of each academic year). A group of 324 preadolescents not involved in Specchio Riflesso has been compared to the experimental group undergoing intervention.

### Results (of evaluation)

Analyses of variance and t-test were performed to test differences pre-post intervention and to compare the intervention group with the control one. Results attest the efficacy of SR to diminish the attractiveness of cigarettes, by counteracting the formation of positive emotions and attitudes toward smoking and promoting higher assertiveness and self-efficacy to express opinions. Specchio Riflesso is less effective in promoting higher negative attitude and emotion toward cigarette.

### Conclusions/Lessons learned

Specchio Riflesso is an intervention for the primary prevention of smoking in early adolescence. It was developed to promote self-efficacy beliefs, independent thinking, correct attitudes and cognitive representations associated with smoking behaviors in 6th and 7th grades students. This study proved its effectiveness in promoting interpersonal self-efficacy beliefs, as well as in contrasting positive attitudes and emotions associated with cigarette smoking. Thus, Specchio Riflesso should be preferred over traditional informative interventions for the prevention of tobacco smoking during early adolescence.

**Contact:** MONZANI Dario

University of Milan – Bicocca, Piazza dell'Ateneo Nuovo, 1, 20126 Milan, [dario.monzani@outlook.com](mailto:dario.monzani@outlook.com)

**Effects of Intravenous Vitamin C on Pain Relief: Meta-Analysis of Randomized Controlled trials**

**CHEN Yi-Chun, SU Yuh-Wen, PENG Ching-Ching, LIN Yeu-Tyng, CHIEN Wu-Hsiung,**

## HSUEH Shu-Ching, TUNG Tao-Hsin, HSIA Shih-Min

### Background/Problem/Objective

Pain is a subjective, unpleasant experience, which distinctly worsens the quality of life. In addition to the conventional analgesics with documented side effects, the role of intravenous vitamin C (IVC) in pain relief has brought increasing attention. The potential analgesic mechanisms of IVC proposed included effects of anti-oxidation, anti-inflammation, and neuromodulator. The aim of our study is to assess the effects of IVC in relieving pain.

### Methods/Intervention

A systematic search of randomized control trials comparing intravenous vitamin C against placebo on pain relief was conducted on PubMed and Cochrane Library until 1 January 2018. The search strategy was composed of "Intravenous vitamin C or ascorbic acid" and "pain". Three studies were eventually included among 127 eligible publications. The primary outcome was the standardized mean difference (SMD) and p value of visual analogue scale among patients treated with IVC or placebo.

### Results (of evaluation)

This report included three randomized controlled trials comprising 168 participants in total (86 patients in the IVC group and 82 patients in the placebo group) suffering from post herpetic neuralgia or postoperative pain. Compared with the control group, the quantitative analysis showed a significant relief in pain among patients treated with IVC (SMD: -0.99; 95% confidence level [CI]: -1.87 to -0.12).

### Conclusions/Lessons learned

Intravenous vitamin C treatment showed a significant effect in reducing pain level in our study. Vitamin C is cost effective and appears to be a safe adjuvant therapy for pain relief. Further clinical trial studies are expected to explore more about its objective plasma concentration level and its effects on different etiologies of pain.

### Contact: CHEN Yi-Chun

Cheng-Hsin General Hospital, Taiwan  
No 45, Cheng-Hsin St. Beitou District, Taipei, Taiwan  
[ycchen1204@gmail.com](mailto:ycchen1204@gmail.com)

## Breakthrough cancer pain: characteristics, management and impact on the quality of life of hospitalized patients

**FERREIRA-SANTOS Maria do Carmo, SUÑER-SOLER Rosa, PORTA Rut, CARBAJAL Walter, JUVINYà Dolors**

### Background/Problem/Objective

Cancer has many associated symptoms, of which pain is the most common and feared. Pain, specifically breakthrough cancer pain is present in 40-95% of patients, affects all dimensions of the human being and decreases quality of life.

### Methods/Intervention

A descriptive, cross-sectional study (March 2016 to June 2017) conducted at the Catalan Institute of Oncology of Girona. Participants completed questions, including the Breakthrough Pain Assessment Tool and the EORTC Quality of Life Questionnaire - C30.

### Results (of evaluation)

130 hospitalized patients with cancer were studied. Average age was 60 years, 58.5% were male and 87.6% had metastatic disease. The four most common cancer diagnoses were 36.9% gastrointestinal, 25.4% respiratory, 12.3% genitourinary and 6.9% hematological. In 95.4% of the sample, the intensity of the breakthrough pain exceeded moderate for the worst episode suffered (Visual Analog Scale from 7 to 10) and 96.2% explained a moderate-intense intensity for typical episodes. The treatment used for the control of breakthrough pain at hospital was 46.2% subcutaneous morphine, 5.4% oral morphine, 3.1% endovenous morphine and 0.8% oral oxycodone, followed by 31.6% of transmucosal oral absorption fentanyl. In 75% of the cases, the pain had a significant impact on daily life activities. 77% of the patients considered their health appalling and 78.4% said that their quality of life was also terrible.

### Conclusions/Lessons learned

Breakthrough cancer pain is a symptom of difficult identification, diagnosis and management that considerably affects the quality of life of the person who suffers it. Health professionals play a key role in identifying, evaluating and managing the patient's symptoms in an individual way. Patients with cancer need an integrated and specific treatment plan that not only deals with basal pain but also manages the presence of breakthrough pain properly.

### Contact: FERREIRA DOS SANTOS Maria do Carmo

University of Girona, Carrer Les Goges, nr 3  
17481 Sant Julià de Ramis, Girona,  
[carmosantos99@gmail.com](mailto:carmosantos99@gmail.com)

## School project about prevention of alcohol consumption between teenagers from 15 to 17 years old.

**SCIPIONI Mattia, FRANCHELLA Carmela, ANTONECCHIA Pierangela, FERRARA Angela, BELLOMO Marinangela, D'AULERIO Marianna, SBROLLA Barbara, FABRIZIO Giovanni, FRANCIONE Salvatore**

### Background/Problem/Objective

The aim of the project is to promote healthy behaviors among young people through the gradual and permanent modification school environment. Several researches demonstrated how young people behaves are influenced by social context in which they live. Based on cooperative learning and life skills techniques, a research project of prevention and health promotion was carried out.



**Methods/Intervention**

The project involved 777 students from Campobasso, Ascoli Piceno and Benevento districts. The students were from 15 to 18 years old. Two groups were detected: an intervention group and a control group of 402 students and 375 students, respectively. The main parts of the projects are the following: the training of a working group into the involved schools to write recommendations, teaching activities in class, enrolling of students in the peer education, interactive laboratories.

**Results (of evaluation)**

During follow-up, the percentage of non-drinking people increased of 25% and 14% for intervention group and control group respectively. The percentage of people drinking alcohol daily decreased of the 72% for intervention group, while it remained constant to 5% for control group. Young people used to drink beer most, however consumption of superalcoholics decreased of 45% for intervention group during follow-up. During follow-up a reduction of 34% and 20% of hangovers was detected for intervention group and control group respectively.

**Conclusions/Lessons learned**

The use of context policies was effective to prevent early approach to alcohol for non-drinking teenagers, while it was less effective for who usually drink alcoholics. In general, a reduction of risky behaviors was detected both in terms of alcoholic type and frequency of hangover episodes.

**Contact: SCIPIONI Mattia**

86039 Termoli,  
[mattiascip@gmail.com](mailto:mattiascip@gmail.com)

## Session P1.12: Promoting the health of children and adolescents

### Effectiveness of Health Knowledge Integration into Children 's Summer Camp - A Case Study of Taiwan.

**LIN Yi-Hsuan, YEH Shih-Yu**

**Background/Problem/Objective**

In recent years, food safety, emerging infectious diseases and drug abuse are endless, but also aroused public attention to public health, the hospital for the World Health Organization Health Promotion Hospital network members, hoping through the summer camp lively interactive way to effectively pass school children know , To enhance the concept of children's health awareness.

**Methods/Intervention**

We teach children in the form of entertaining knowledge of food packaging labeling, prevention of drug abuse related knowledge and the temptation to reject drugs, thereby enhancing the epidemic prevention knowledge, reduce the risk of infection, to achieve the goal of health promotion. The summer camp organized by the school, the country for five to six years as the object, the implementation of teaching activities, and the same test questions before and after the test, with four knowledge-oriented accuracy, analysis of learning effectiveness.

**Results (of evaluation)**

Through the four knowledge-oriented analysis of the accuracy of the results, showing higher than the former measured before the test. The correct rate of food safety knowledge increased by 23.9%, the correct rate of first aid skills increased by 7.2%, the correct rate of drug abuse prevention was 3.2%, and the correct rate of disease prevention and control was increased by 1.4%.

**Conclusions/Lessons learned**

Before entering puberty, children are a critical period of cultivating good health knowledge. This program shows that students have a significant increase in the correct rate of knowledge after participating in healthy summer camps. Through interesting interactive learning, children can effectively strengthen their awareness of health , And the sharing of knowledge through the knowledge of the family, but also to expand the impact of family members, to create the effect of mutual learning.

**Comments**

If the school can diet education on weekdays, to strengthen food safety advocacy, supplemented by the activation of common sense teaching, I believe will be more able to strengthen the children's awareness of food safety awareness.

**Contact: LIN Yi-Hsuan**

Kaohsiung Municipal United Hospital  
No.976, Zhonghua 1st Rd., Gushan Dist., Kaohsiung City 804,  
Taiwan (R.O.C.), Kaohsiung,  
[s87108011@gmail.com](mailto:s87108011@gmail.com)

## Assess the fall risk among hospitalized pediatric patient

**CHEN Yu-Ling, CHEN Er-Mei, LIN Ching-Feng**

**Background/Problem/Objective**

Fall is the most common cause of accident events in hospital. Prevention of falling down is the important topic in inpatient care. The purpose of this study was to discuss the risk factors of fall and found effective methods to reduce the incidence of toddler inpatient falls.

**Methods/Intervention**

For literatures review and the data analysis disclosed the three risk factors of falls.: First of all, staffs were lack of alerts to risk factor identification and did not ensure the risk assessment. Second factor is the age of patient and different environment. Finally, patients and families were lack of knowledge about falls. The nursing intervention include staffs join the literatures review and discussion reeducation to increase the ability of fall risk factors identification for complete the risk assessment, and setup prevent fall tools, make warning billboard and warning stick on wristband, provide education paper to families for falls prevention.

**Results (of evaluation)**

After the above precautions during this research, the inpatient falls incidence rate reduced 1-2 times per month from 1-2 per season. The quality of nursing care was proved effectiveness in this study.

**Conclusions/Lessons learned**

We further analysis of the causes of falls, including forget pull up the bed rails, kicked the chair, drop from the bed bar gap especially on toddler patient. Although pediatric nurses can complete their "Prevent fall down" education and preventive measures while child since admitted, but still happened fall down in hospitalized. Therefore, in the future fall prevention measures, family involvement and empowerment are very important.

**Contact: CHEN YuLing**

Keelung Hospital, Ministry of Health and Welfare  
No.268, Xin 2nd Rd., Xinyi Dist., 20147 Keelung,  
[eeekbm@gmail.com](mailto:eeekbm@gmail.com)

## Current status of Oil Disease children in Taiwan, A 14-years Study of 176 Cases in Taiwan

**HSUEH Jung-Hua TSENG YUAN-TSUNG****Background/Problem/Objective**

In 1979, there was an unfortunate replication of the Japanese poisoning, this time in central Taiwan. Although about 2000 persons registered with health agencies as being exposed after each episode, the exact number of victims is unknown. To compare the long term risk in 176 Taiwanese children who had been exposed prenatally to polychlorinated biphenyls (PCBs) with control children who were exposed to background levels by Matched-pair cohort study.

**Methods/Intervention**

We followed the exposed persons and compared their cause-specific risk of disease with the Matched-pair cohort 40 years after the accident in central Taiwan. To identified 176 children born after June 1978 or after their mothers' consumption of contaminated rice oil; 176 children matched for sex, age, before the poisoning. To analyze the incidence of chronic, physical and mental illness and major injuries with the three million health care and major injuries database sampled by National Health Center.

**Results (of evaluation)**

The exposed children in the skin disease and skin cancer group were 33.4% and 0.7% ( $P < 0.002$ ), COPD group was 5.3% ( $P < 0.001$ ), the thyroid gland was higher than the control group 1.2%, thyroids higher than 1.3%, showing significant skin and endocrine diseases. Compared with the control group, the first generation of the patients with hyperthyroidism was 2.5% in the first generation, 1.7% in the second generation. Cancer and Parkinson's disease were no significant difference.

**Conclusions/Lessons learned**

The Children prenatally exposed to heat-degraded PCBs had a significant risk in skin and thyroid than their matched controls. Prenatal exposure to PCBs has long-term adverse effects on skin and chronic disease development in humans. Besides, current health care policy pay insufficient attention to Oil disease children. We suggest that Oil disease children should receive as much health care as first generation Oil disease victims.

**Comments**

We confirm that this abstract has not been published elsewhere and is not under consideration by another workshop or symposium. All authors have approved the abstract and agree with submission to HPH.

**Contact: TSENG Yuan-Tsung**

Tainan Municipal Hospital, Taiwan (R.O.C.)  
No.670, Chongde Rd., East Dist., Tainan City 701, Taiwan  
670 Tainan, [b891040733@yahoo.com.tw](mailto:b891040733@yahoo.com.tw)

## Prevalence of Chronic Hepatitis B Carriers among Junior High School Students in South Taiwan

**YEH Jih-Kuei, CHEN Chia-Hui****Background/Problem/Objective**

Hepatitis B virus (HBV) is endemic in many areas of the world, such as Taiwan. An estimated 3 million people are carriers of HBV that were approximately 15 to 20% of the Taiwan's populations. Around 70% are positive for hepatitis B surface antigen who develop chronic HBV infection are expected to progress to cirrhosis and end-stage liver disease. The study was to investigate the prevalence of hepatitis B surface antigen (HBsAg) among junior high school students in south Taiwan.

**Methods/Intervention**

All students with hepatitis B vaccine injection at birth were enrolled after admission health examination in this high school. Hepatitis B vaccine was administered intramuscularly as a 3-dose series on a 0-, 1-, 6-month schedule to achieve immunity.

**Results (of evaluation)**

A total of 404 students (male: 146 (36%) female: 258 (64%)), age range from 15 to 16 years, with hepatitis B vaccine injection at birth were enrolled after admission health examination in this high school. We analyzed data of medical reports for students, HBsAb negative and HBsAg positive results were 2 students, available in 0 male and 2 female.

**Conclusions/Lessons learned**

Hepatitis B vaccines injection at birth is extremely safe and efficacy immunogenicity. A key tool for the prevention of hepatitis B virus infection is hepatitis B vaccine injection.

**Contact: YEH JIH-KUEI**

Kaohsiung Municipal United Hospital  
No.976, Jhonghua 1st Rd., Gushan Dist., 804 Kaohsiung,  
[yzk1369@gmail.com](mailto:yzk1369@gmail.com)

## Prevalence of Overweight and Obesity among Junior High School Students in South Taiwan

**YEH Jih-Kuei, CHEN Chia-Hui**

**Background/Problem/Objective**

There is growing evidence of a link between obesity and various chronic conditions, and the prevalence of obesity has increased globally. Previous study suggested that children 10–17 years of age with select chronic conditions were at increased risk for obesity compared to their counterparts without a chronic condition. The purpose of the current study was to evaluate the prevalence of the overweight and obesity among junior high school students in South Taiwan.

**Methods/Intervention**

WHO (world health organization) is suggested that classification of overweight and obesity by Body mass index (BMI), waist circumference. Central obesity was considered at a waist circumference of  $\geq 90$  cm in boy and  $\geq 80$  cm in girl. The predictive value of adolescent BMI for overweight, obesity at 15 years old, defined as BMI  $>23.1$ ,  $25.5(\text{kg}/\text{m}^2)$  for boy and BMI  $>22.7$ ,  $25.3(\text{kg}/\text{m}^2)$  for girl. Weight, height, and waist were measured.

**Results (of evaluation)**

We investigated 404 students aged 15 y/o including 146 boys (36%) and 258 girls (64%) after admission health examination in high school. There were 6.16% (9/146) boys and 5.43 % (14/258) girls within central obesity and the percentage of boys was higher than girls. Prevalence of overweight and obesity in the studied boys were 8.90 % (13/146), 9.59 % (14/146) and in girls were 8.53 % (22/258), 10.47 % (27/258), respectively. The obesity percentage of girls was higher than boys.

**Conclusions/Lessons learned**

The results of this study clarified the prevalence of overweight and obesity among junior high school students in South Taiwan, who require appropriate strategies for combating overweight and obesity. Pronounce the importance of body mass index and/or waist circumference on the obesity among adolescents.

**Contact: YEH JIH-KUEI**

Kaohsiung Municipal United Hospital  
No.976, Zhonghua 1st Rd., Gushan Dist., 804 Kaohsiung,  
[yzk1369@gmail.com](mailto:yzk1369@gmail.com)

## Sharing the Results of Improving Children Household Safety -In a Remote Area in Southern Taiwan.

**WU Mei-Hui, LIU Bie-Ching, CHEN Yu-Wen**

**Background/Problem/Objective**

In Taiwan, the main causes of death in children is accidental injury, the mortality rate is 15.5 per 100,000 children, as a severe public health issue. Longqi kindergarten is an educational and caring institution, which accepts children aged from 2-6 years old. According to study, there are almost 50% children ever accidentally injured at home. Use Household Safety Checklist (HSC) to survey 30 children, there are five unqualified terms: stairs(39%), ropes(37%), doors and windows(34%), household facilities(33%), bathroom and kitchen(30%).

**Methods/Intervention**

Proposing Household Safety Improve Plan (HSIP). HSIP includes household safety education training of kindergarten teachers and care givers, and household safety demonstration bag

making. The bag contents safety-walk, corner guard, edge guard, rotating finger pinch guard, plug cover, cable tie and multi-purpose lock, in order to improve the unqualified terms.

**Results (of evaluation)**

After implementing HSIP, kindergarten teachers and care givers elevated the concept of children household safety and the prevention of accidental injury. The educational materials enhance concepts of the prevention of accidental injury and household environmental safety. By using the household environmental safety demonstration bag, reducing the unqualified rates of terms to stairs(20%), ropes(11%), doors and windows(6%), household facilities(9%), bathroom and kitchen(8%), put the household safety into effect.

**Conclusions/Lessons learned**

To prevent accidental injury in children, enhancing the household safety education and improve facility protect-prevention can't be suspended. All preventions should be combined with family, school and community to provide a safe and healthy environment for children. During the time, pre-school children oral understanding is limited, using safety-related teaching aids can be more effective in raising children's interest in learning. Making or collecting more related teaching aids can serve as a reference for promoting this issue in the future.

**Contact: WU Mei-Hui**

National Cheng Kung University (NCKU) Hospital  
No.138, Sheng Li Road, Tainan, Taiwan 704, R.O.C.  
[n007700@gmail.com](mailto:n007700@gmail.com)

## Implementation of Fever Education and Treatment Flowchart to Reduce Discharged Pediatric Patients Return Visit Rate in Emergency Department Within 72 Hours

**KUO Chih-Jung, LIN Shu-Mei, LIN Kuan-Hung**

**Background/Problem/Objective**

Fever is common in children and is the most common cause of hospital visits among children. Because the emergency department provides faster treatment, it is typically the first choice for main caregivers seeking medical support for children. However, if the main caregivers have misconceptions about fever and its treatment, they often repeatedly seek medical support, thus wasting medical resources. With advancements in science, fever treatment procedures have been updated according to new empirical information. Therefore, this study revised health education for fever treatment procedures according to empirical data. Before child patients leave the hospital, accurate knowledge about fever and home care methods for fever should be provided to main caregivers to reduce the rate of emergency department revisits because of fever without any comorbidity.

**Methods/Intervention**

This study applied a cross-sectional design. The content of the current health education for fever treatment procedures was revised on the basis of evidence from empirical data. The health

education sheet was revised, and a new flowchart for treating fever was produced. The study period was between July 2017 and November 2017. A total of 254 children with fever (age: 3 months to 18 years) were recruited from the pediatric ward of a hospital to participate in this study. Nursing staff educated main caregivers about fever treatment procedures, providing them with health education leaflets. They provided one-on-one health education involving the definition and causes of fever and the methods of assessing and treating fever. Subsequently, this study tracked the patients to determine and examine those returning to the emergency department within 72 hours for treatment.

#### Results (of evaluation)

Between January 2017 and June 2017, 3.2% of the child patients returned to the emergency department within 72 hours because of fever with no comorbidity. During the period from July 2017 to November 2017, after the main caregivers of these patients received health education on caring for people with fever, the rate decreased to 0.3%. According to the results, following the fever treatment flowchart and accurately educating main caregivers about caring for people with fever helped the main caregivers perform home treatments for children with fever.

#### Conclusions/Lessons learned

Empirical data were used to propose health education for fever treatment procedures and develop a fever treatment flowchart. Nursing staff followed the fever treatment flowchart to accurately educate main caregivers of child patients about home treatment methods for fever. When the main caregivers' knowledge and skills about caring for children with fever was enhanced, the children's emergency department revisit rate and the associated medical cost were reduced and children's health improved.

**Contact: KUO CHIH-JUNG**

Taiwan Adventist Hospital  
No.424,Sec.2,Bade Rd, 105 Taipei,  
[144797@tahsda.org.tw](mailto:144797@tahsda.org.tw)

## The Global Health Promotion Strategies for Indonesian Children: Evidence-Based Practices through Cooperation between Health Promoting Hospitals in Korea and Indonesian Civil Society Organization

**KWON Eunjoo, NAH Eun-Hee, CHO Seon, JEONG Heon-Woo, RYU Jin-Youp, KIM Hyun-Seung, LEE Keon-Hoon, JEOUNG Hoo-Gn, HOANG Eui-Hyug**

#### Background/Problem/Objective

Evidence-based practice means applying the best evidence currently available for the health practitioners providing health services. School health services for children in the developing countries could contribute to improve community health and eliminated health disparities. Promoting the strategies of health

equity and child-centered public health will help to ensure that social and environmental determinants contribute to health and well-being of children. Thus, health practitioners who provide school health services in the developing countries need to focus on evidence-based practices.

#### Methods/Intervention

The purpose of this study was to describe the global health promotion strategies for Indonesian children. The global health promotion strategies were based on theoretical evidence and results of health promotion practices for the school children in Banda Aceh, Indonesia (2012-2014). The health promotion practices were performed by Korea Association of Health Promotion (KAHP), sponsored by Korea International Cooperation Agency (KOICA).

#### Results (of evaluation)

The global health promotion practices were applied principles of Community-Based Participatory Research (CBPR). In addition, this project was based on results of parasite and health examination by KAHP in Banda Aceh, Indonesia, 2012-2014. The prevalence of anemia was decreased 18.8% to 6.8%, parasite infection rate was declined 18.2% to 3.8% after the practices, 2014. Also, the prevalence of anemia and parasite infection of the children who had abnormal findings was decreased by 2.0% and 6.4%, respectively, after the practices.

#### Conclusions/Lessons learned

Application of CBPR and evaluation results of past practices is useful strategies to promote children's health in developing countries. In addition, the cooperative partnership between HPHs and the community organization is necessary in the school health programs for the children in developing countries. In 2018, KAHP has initiated the new school health practices in Indonesia, on the basis of previous accomplishment.

**Contact: KWON Eunjoo**

Health Promotion Research Institution  
350 Hwagokro, Gangseo-gu, Seoul,  
[4ever35@hanmail.net](mailto:4ever35@hanmail.net)

## Outcome of Newborn Glucose-6-Phosphate Dehydrogenase (G6PD) Screening Program in Taiwan

**HSIAO Kwang-Jen, YEH Hsin-Ling, SHIAU Yu-Shih, TSAO Pei-Chen, CHIANG Szu-Hui, CHIANG Po-Huang, WANG Ying-Wei**

#### Background/Problem/Objective

Severe neonatal jaundice (NJ) triggered by environmental factors and/or medications is the major health impact of G6PD deficiency in newborns. If not prevented or treated properly, it may lead to kernicterus and cause death or permanent neurological damages. The incidence of G6PD deficiency in Taiwan is about 2%. In 1970s, 30% of NJ admitted to hospital was G6PD deficient with 16% mortality and 32% developed kernicterus. A nationwide newborn G6PD screening program for prevention was started in 1987.

**Methods/Intervention**

For the quality of the screening, external quality assurance (EQA) programs for G6PD screening and confirmatory tests have been developed since 1988. The Health Promotion Administration also provided education resources for parents before neonates were discharged from the nursery regarding early recognition of NJ. The patient data of hospital admission with NJ after discharged from the birthing facility between 2000 and 2010 were retrieved from the National Health Insurance Research Database, which covered >98% population of Taiwan, for analysis.

**Results (of evaluation)**

The coverage rate of the screening program has reached >99% since 1996. There were 12,828 NJ (0.53%) admissions from 2,428,341 live births and 27 of them were treated with exchange transfusion between 2000 and 2010. Only 9 of the NJ cases dead within 1 month of age and 4 of them developed kernicterus not due to isoimmunization. The average immediately severe morbidity and mortality were about 1 (0 ~ 3) case per year nationwide.

**Conclusions/Lessons learned**

The results indicated that public health prevention program (including universal newborn G6PD screening) and effective clinical management in Taiwan almost eliminated severe morbidity and mortality caused by NJ with G6PD deficiency after discharge from birth facilities. The EQA programs developed have been extended to help newborn G6PD screening programs in other countries worldwide.

**Contact: SHIAU Yu-Shih**

Preventive Medicine Foundation  
P.O. Box 624 Taipei Xinwei, Taipei, Taiwan 10699, R.O.C.  
10666 Taipei, [alice@pmf.tw](mailto:alice@pmf.tw)

## Use the game-turntable to perform aerosol therapy to reduce the number of hospital stays for sick children with respiratory illnesses

**TSENG Tzu-Wei, HUNG Hsiang-Ying, CHIANG Shu-Chuan, WU Mei-Chuan**

**Background/Problem/Objective**

Aerosol treatment is a common treatment for pediatric inpatients. Most of the sick children in the Aerosol treatment, often due to limited ability to self-cough with the course of treatment, and the medical environment and equipment, fear and anxiety. Appear crying, resistance treatment and other acts to express dissatisfaction, leading to poor treatment. Using the game-turntable in the spray treatment to divert attention to forget the fear of action, to reduce the number of hospital stays.

**Methods/Intervention**

Sick child in the aerosol treatment process fear of fear leads to low levels of implementation and implementation. Using the game-turntable to add interactive patterns with music and LED lights to create spray therapy fun, It could improve the implementation rate of patient spray treatment, decreased hospitali-

zation days, enhance care and care quality and enhance the family satisfaction for the hospital.

**Results (of evaluation)**

Intervention of the therapeutic game-turntable. The number of days hospitalized for respiratory diseases dropped from 4.1 days to 3.96 days, implementation of the spray treatment rate increased from 60% to 86%, raise nursing job satisfaction from 60% to 80%, and family members of patients satisfaction with hospital from 69% to 88%

**Conclusions/Lessons learned**

Sick children don't cooperate with the aerosol treatment not only affect the implementation of nursing work, the loss of working hours, but also result in the loss of nursing staff, nursing quality and other reasons. Using the game-turntable not only reduce the fear of patients for aerosol therapy and the number of hospitalized days of sick children due to respiratory diseases but also increase the implementation rate of aerosol therapy, the quality of nursing care, nursing staff job satisfaction and patient's satisfaction with hospitalization.

**Comments**

Children's fear of hospitalization and the intervention of game therapy not only meet their needs, but also help to relieve their fear and pressure in unfamiliar surroundings and increase their sense of security so as to promote emotional and physical well-being and achieve the goal of treatment and improve nursing care quality. In hoping to build friendly medical environment, and furthermore provide positive, it is recommended to promote to other medical institutions for reference.

**Contact: CHERN Meei-Ling**

Chang Bing Show Chwan Memorial Hospital  
No.6, Lugong Rd., Lugang Township, Changhua,  
[kkmimi0507@hotmail.com](mailto:kkmimi0507@hotmail.com)

## Specific learning disorders: work in progress

**CENCI Luigina, ROSSI Lina, FRASCIONE Giulia, FRASCIONE Cindy, APPOLONI Pamela, DI FRANCESCANTONIO Irene, ZAMMIT Agnese**

**Background/Problem/Objective**

LDs are part of differences in individual's neurological development. According to social model of individual differences, learning difficulties mainly depend on culture. "If we lived in an oral culture, LDs would not exist, as reading and writing would not be necessary." 3-5% Italian school-age population show LDs. Intervention tools (dedicated staff, teacher training, video lessons, learning difficulty-oriented computers) are not available in every single school. Marche Region accredited private-health structures to provide the needed care and benefits to diagnose LDs.

**Methods/Intervention**

Cooperative company Gammanì is responsible for biweekly after-school educational laboratory dedicated to specific LDs. This program addresses children. While traditional rehabilitation treatment aims to control meaning contents and aware-



ness in correcting errors, our after-school program focuses on every-day tasks: it is supported by new information and communication technologies (ICTs) consisting of compensatory software. Organizational tools promote effective study strategies to achieve independence consistent with ministerial programs for dyslexia and aims at strengthening health care system.

#### Results (of evaluation)

Our data concerns writing LDs, followed by reading and maths LDs. During the past three years we diagnosed 30 people and issued relates certifications. Our activities include meetings with teachers, parental counseling, pre-school early screening service, health-care benefits according to law. Rehab works on cognitive strengthening executive functions and application of new technologies for remote rehab: this tool is currently undergoing evaluation. We also carry out quality analysis of the service through assessment questionnaires and successful outcomes.

#### Conclusions/Lessons learned

Provision of multi-specialist service dedicated to specific LDs offers children, families and teachers the opportunity to improve learning and social appropriate behavior at school respecting children. In order to prevent inequalities, a synergy with a social charity initiative (in collaboration with Rotary Falconara) is ongoing, aiming at guaranteeing economic support and assistance to families with poverty. This guarantees long-acting management and new project application (sustainability, home assistance, remote rehab techniques).

#### Contact: FRASCIONE Giulia

Cooperative company Gammani  
largo ungaretti 1, monte san vito,  
[cenci.luigina@gmail.com](mailto:cenci.luigina@gmail.com)

## The Influence of Using Musical Group Activities on Adolescents' Self-concept - take Taiwan Wulai indigenous adolescents for example

**WENG CHUNG-FENG, LIN YI-HUI , TSENG CHUN-HAN , HSIEH HUNG-YU, CHEN HSIN-CHUN , HSIAO TONG-YUN, CHIEN SHIH-YUN HUNG YU-SHAN**

#### Background/Problem/Objective

In Taiwan, Wulai is a mountain indigenous district. Due to limited resources in the region and most adolescents' parents move to urban areas for economic reasons that changes family structural such as "grand parenting" or "single parenting", that are the discipline issues in the community. Food sharing is a common phenomenon, which easily allows them to contact bad behaviors and even illegal drugs. Thus, for enhancing the health characters and lifestyle, it comes to the Wulai Adolescent Health Group Program to promote the positive development, active learning and future competitiveness of the wulai indigenous adolescents.

#### Methods/Intervention

The purpose of the study is using musical group activities to obvious the influence of adolescents' self-concept. We combined the musical learning and character-building in the course, some strategies are as follows: 1. Through the variety of musical teaching to enhance the Collective Efficacy on the group. 2. Through the character-building games to understand more about themselves, boundaries and healthy self-image. 3. Provide more musical services to learn self-affirmation and developing others, such as perform in the elderly day care center. 4. Organize community concert and invite their relatives and friends, allow them to increase self-confidence and feel social support.

#### Results (of evaluation)

The musical group taught ukulele and cajón and by completing 9 lessons, adolescents can fulfill their dream by starting a two group orchestra and can perform shows with multiple combinations. Using the self-concept scale, the statistic result showed higher score on family self, school self, means the group help them to develop healthy interpersonal relationship and got family and social support. The higher adolescents' self-concept, the lower their self-damage and better life adjustment.

#### Conclusions/Lessons learned

The period of adolescents is between child and adult stage. This is the golden period to shape one's character. Lots of good or bad habits and behavior are developed in this period. Thus, this is a very important issue for us to help Wulai indigenous adolescents with their healthy growing up. The series of courses indeed help Wulai adolescents in establish a healthy self-concept with the help of their families and friends, we will continue our concern for the future of these adolescents and witness their change in their paths of growing up.

#### Contact: WENG Chung-Feng

Cardinal Tien Hospital  
No.6, Ln. 11, Sec. 2, Xiyuan Rd., 108 Taipei City,  
[nursingbee@gmail.com](mailto:nursingbee@gmail.com)

## Developmental Outcome in Infant with Esophagus Atresia and Tracheoesophageal Fistula: Case Study

**HUANG Tzu-Hsiu, JU Yun-Hue, LEE Su, CHEN Hsiu-Lin**

#### Background/Problem/Objective

Esophagus Atresia (EA) is a common developmental defect of the gastrointestinal tract often accompanied with the tracheoesophageal fistula (TEF) and need surgical repairs. At long term follow-up, these children can be associated with many problems such as dysphagia, gastroesophageal reflux disease (GERD), growth delay and lower score in expressive language domain. But little is known about the development characteristics of these infants in the first year. We assume that the reluctance to lying prone and nutritional issues may affect the axial and proximal stability, and impede the motor development of the first year.

#### Methods/Intervention

This case is a term female baby (GA 37 weeks, twin B, SGA) diagnosed with esophageal atresia with TEF s/p OP and gastros-

tomy. She was admitted to an inpatient neonatal physical therapy program since PMA 42 weeks and received therapy twice a week for 4 weeks. After discharged she continued received physical therapy once per week until now (8.5 month old). Physical therapy intervention included facilitation of gross motor development with emphasis on trunk stability & prone posture, and fine motor development activities with promotion of proximal stability. Peabody Developmental Motor Scales 2nd Edition (PDMS-II) was conducted at age 6 and 8 month to monitor the gross motor and fine motor development.

#### Results (of evaluation)

Initially the infant was delay responsive to stimulation due to long term hospitalization and lack of head control in prone with infection of gastrostomy wound. After 6-month physical therapy she demonstrated improvements in PDMS-II and GMQ, FMQ, TMQ were at the average level. But at the 8th-month development the infant manifested developmental difficulties with the standard score of FM and TM below one standard deviation and also appeared growth delays, dysphagia, and GERD.

#### Conclusions/Lessons learned

This case study describes the changes of the development in the first 8 months and addresses the importance of early intervention of physical therapy. Prone development and proximal stability of upper limbs may be the major causes that delays the motor developments while the gastrostomy, dysphagia and GERD resulted in positional preference and nutritional problems, which aggravating these difficulties.

#### Contact: HUANG TZU-HSIU

KAOHSIUNG MEDICAL UNIVERSITY HOSPITAL, KAOHSIUNG MEDICAL UNIVERSITY, KAOHSIUNG,  
100 Tzyou 1ST Road, 807 KAOHSIUNG,  
[tzuhsiu.grace@gmail.com](mailto:tzuhsiu.grace@gmail.com)

### Achievement Sharing of Cambodian Children Health Care Project

**SHEN Fan Yun, HUANG Wei Chun, CHENG Jin Shiung, CHANG Hong Tai, CHIOU Yee Hsuan, LIU Wan Sheng, WU Pi Chuan, LIN Yen Ting, PAN Li Fei**

#### Background/Problem/Objective

According to World Bank small area focalized Limitation data, in Cambodia, the mortality rate of children under five years old and newborns are higher than neighboring countries. Therefore, Kaohsiung Veterans General Hospital held the first volunteer team focus on Pediatrics to visit Cambodian. The team members came from infection, dentistry, ophthalmology, cardiology, dermatology, and nutrition department. We hope by sharing our project arrangement from proactivity, implementation, to review could provide some advices for international medical service achieving a better effectiveness.

#### Methods/Intervention

VGHS multidisciplinary physician team used physical examination and analysis how many of the children had disease and bad health caused by malnutrition. According to the result of examination, we will combine dermatology, dentistry, pediatric

and nutritionist to make some innovative health education, then train volunteer and parents, such as provided the Baking thermometer to remind people about the relation between cooking temperature and food safety, introduced that how to use foods high and increase calcium and iron absorption and utilization.

#### Results (of evaluation)

In Cambodia, we had served 469 patients, among them, age 6-12 was 152, (32.41%), at the most, Second were over 12 years old, 104, (22.17%), as follow were age 3-6, 78, (16.63%), and age 1-3, 74, (15.78%). By disease, the most was dermatologic patients, 161 (34.33%). Follows were malnutrition, 79 (16.84%), ophthalmology, 72 (15.35%). And among patients, 37.63% children body weight were lower than 10 kgs, 52.58% were between 10-20 kgs, and only 1.55% more than 30 kgs.

#### Conclusions/Lessons learned

We implanted a series of health plan to promote the concept of children nutrition and health, such as enhanced dental care instruction; sharing idea of "strengthen the diet weight" to local volunteer and parents. Due to under-supply or intolerance of milk product, we introduced the way how to use foods high in calcium and iron, and reduce the loss of calcium and iron as well. We also emphasized on storing food in correct and fresh way to improve children malnutrition problem.

#### Contact: SHEN Fan Yun

[eshcablood@gmail.com](mailto:eshcablood@gmail.com)

### A Multidisciplinary Approach to Reduce the Intestinal Parasitic Infection Rates among Schoolchildren~ A 5 Years of Rooting Experiences by Taiwan in Two Remote Community Schools of Solomon Islands

**CHANG Wei-Chou, LEE June-Der, WANG Jiun-Jye, HSU Hui-Yu, LIN Yu-Chau, HUANG Meng-Chuan, JENG Chreng-Jye, CHONG Inn-Wen**

#### Background/Problem/Objective

Based on the pilot survey conducted by Taiwan Kaohsiung Medical University Healthcare Team (KMUH) in 2009, the intestinal parasitic infection rates among schoolchildren in SI was 54.5%, which is considered relatively high in schoolchildren living in remote area. With the goal of United Nation Sustainable Development, KMUH aimed to establish preventive strategies, treatment plans and implementation to reduce the parasitic infection rates among schoolchildren of Solomon Islands (SI).

#### Methods/Intervention

Since year of 2011, this project has launched in Visale & Kulu community schools and the nearby communities. Residents living in such remote areas generally do not have access to internet and electricity, and have poor hygiene condition. KMUH has dispatched multidisciplinary expert teams to conduct such anti-parasite program. The first phase was aimed to re-

duce the schoolchildren parasitic infection rates by 50%. Strategies included (1) to perform parasite screening and administer anti-parasite medicine; (2) to train anti-parasite seed teachers to educate community health promoters; (3) to donate shoes and slippers to prevent infection; (4) to provide group education to introduce basic nutrition and food sanitation knowledge.

#### Results (of evaluation)

During year of 2011 to 2016, more than 66 experts have participated and assisted in this anti-parasite project, 192 seed teachers have been trained and 32 parasite prevention and hand hygiene training programs were conducted. A total of 3,716 participants joined the program, and up to 1,541 students received parasite screening and treatments. The overall infection rates were found to drop from 57.1% in 2011 to 12.5% in 2016. The overall outcomes have raised attention of Ministry of Health of SI and World Health Organization. Since year of 2014, SI has targeted 30,000 school children in the capital, to implement a comprehensive administration program.

#### Conclusions/Lessons learned

Our anti-parasite program with public health education appears to be an effective method to reduce parasitic infection rates among schoolchildren in remote areas of SI. For the second phase program, KMH will be collaborated with churches to target community dwellers as the main recipients to foster knowledge of hand hygiene, food safety and correct lifestyle practice, aiming to extend program impact on a broader population in SI.

#### Contact: CHANG Wei-Chou

Kaohsiung Medical University Hospital, Kaohsiung Medical University, 100 TzYou 1st Rd., 807 Kaohsiung, [0870500@gmail.com](mailto:0870500@gmail.com)

## Why does it smoke? Prevention intervention on cognitions with respect to smoking in pre-adolescence

**DANIEL LINA MANCUSO rita corazza**

#### Background/Problem/Objective

Free to Choose is a national smoking prevention program for secondary school children. Specifically, the provincial section of Agrigento carried out this project at the I.C. "Mariano Rossi" of Sciacca. The recipients were the pupils of the first classes, parents and teachers; with the objectives of increasing pupils' knowledge of smoking damage, raising parents' awareness of their experiences and making teachers aware of aspects of health education.

#### Methods/Intervention

provided for four phases: Teacher training for the use of the appropriate tools, Distribution of educational and informative material, Administration of teaching materials to pupils and parents, Data processing.

#### Results (of evaluation)

Results show that the set goals have been achieved; the survey on the knowledge of the pupils highlighted more awareness on the dangers of smoking. Most of the smoking parents have stated that the cigarette consumption approach is linked to social pressures and that only a few of them admit repentance.

Teachers have learned new concepts and skills to pass on the culture of health and prevention effectively to children.

#### Conclusions/Lessons learned

On the basis of the activities carried out it has been shown that the approach that the students have with the first cigarette is strongly influenced by the cognitive dysfunctions transmitted by the adults. Parents admit that they have started smoking due to a lack of knowledge of the damage it causes to health and the social pressure suffered in their adolescent years. Teachers report greater competence in dealing with topics of addiction to smoking.

#### Contact: CORAZZA Rita

[ritacorazza1@gmail.com](mailto:ritacorazza1@gmail.com)

## The Effects of Adolescent Internet Usage on School Life Adaptation – Base on a Junior College of Nursing

**CHOU Lih Lih, LIU Hsiao Fen, WANG Wei Chu**

#### Background/Problem/Objective

The Internet has become an important part of our daily life, and the convenience of the internet have become the favorite of adolescents. Improper use or over-spend time by the adolescents on the Internet, neglect the interaction in the interpersonal. Adolescents are at an important stage of physical and mental development, if misconduct in the internet will influence physical and mental health. The purpose of this study is to explore the effect of youth internet usage on school life adaptation.

#### Methods/Intervention

In this study, the research sample are the students on a junior college of nursing in northern Taiwan. Data collection includes basic information and structured questionnaires. The questionnaires are "Internet Usage questionnaires" and "School Life Adaptation Scales". A total of 205 collected. Data Analysis using personal background and Internet usage behavior variables, conducted regression analysis on school life adaptation and explored its explanatory power.

#### Results (of evaluation)

The results show that female have better adapt on school life, the Leisure and education learning affects school life adaptation (R Square = 0.116, Adjusted R Square = .087, Sig. F Change = .002). The study found that the three most influential factors of which two are derived from learning activities carried out on the internet content, thus highlighting the nature of students choose to browse the internet activities, their school life adaptation has important implications.

#### Conclusions/Lessons learned

For nursing students living in schools, the school environment plays a very important role. Teachers should also be aware of and moderately provide counseling on the use of online learning activities while teaching, especially in the content and time invested, to avoid any significant influences on the physical and mental health of adolescents caused by improper use of the internet in the face of academic pressure.

**Contact: CHOU Lih Lih**

University of Kang-Ning  
137, Lane 75, Sec 3, Kangning Rd. Neihu District. Taipei City,  
Taiwan  
[lilychou2159@gmail.com](mailto:lilychou2159@gmail.com)

## Combat poor nutrition! Diminish overuse injuries! -- What we do for community adolescent athletes

**HSIEH SHIAU-FU, CHIOU YU-SHU**

### Background/Problem/Objective

Adolescent athletes in our community suffering from numerous overuse injuries with delayed diagnosis and inadequate dietary nutrition despite of their intense training loads for elite/near-elite competition level.

### Methods/Intervention

A integrated healthcare network for community adolescent athletes was built between a tertiary medical center and schools hosting sport teams in this community. Monthly discussions within the multidisciplinary team of our hospital and school sport teams aimed to identify the unmet health needs of community adolescent athletes. Potential solutions were implemented within this network. Outcomes and improvements were monitored.

### Results (of evaluation)

Excessive overuse injuries, delayed diagnosis and poor nutrition were identified. We implemented changes including spontaneous coach visits by doctors to discuss about resistance training regimens and relative rest for the injured athletes, real-time physician consultation for sideline athletic trainers, and athlete education of symptom reporting and recovery. Charity-provided funds helped those students with financial difficulty in attending hospital appointments. Food and milk were supplied under financial support. Also hospital dietitians gave dietary consultations and healthy weight restriction strategy.

### Conclusions/Lessons learned

Starting from investigating the unmet health needs of adolescent athletes, providing knowledge and backup, and also by willing to implement evidence-based changes, our hospital worked together with school sport teams to promote health for adolescent athletes.

**Contact: HSIEH SHIAU-FU**

[sfhpmr@gmail.com](mailto:sfhpmr@gmail.com)

## Forming Interdisciplinarity & Community Healthcare Network for Adolescent Athletes

**HSIEH SHIAU-FU, WANG TZU-HAN**

### Background/Problem/Objective

Adolescent athletes received poorly-integrated healthcare due to fragmented medical services in the community and lack of communication between specialists in healthcare facilities.

### Methods/Intervention

A dedicated health network for community adolescent athletes was built, led by one sports medicine physician in a tertiary medical center. Within this medical center, key specialists for common sports injuries were identified and recruited, including orthopaedic surgeons, neurosurgeons, radiologists and pediatricians. Monthly case discussion meetings were held. Athletes and supporting persons received a detailed explanation of diagnosis and treatment plan. They received treatments in the medical center, or were referred to a community hospital, or two nearby clinics.

### Results (of evaluation)

Fifty-nine elite or near-elite student athletes in this community were cared in this network from September 2016 to January 2018. Monthly case discussions were held regularly with good feedbacks from participating specialists, occasionally joined by team staff and hospital administrative officials. Disagreements on diagnosis and treatment plans were discussed more easily. The community hospital and clinics received treatment referrals from the medical center with high satisfaction and referred back questionable cases or new patients for diagnosis.

### Conclusions/Lessons learned

An adolescent athlete healthcare network in Tamsui, Taiwan formed successfully, which integrated the fragmented services in hospitals and in the community. Both clients and care providers reported high satisfaction.

**Contact: HSIEH Shiao Fu**

[sfhpmr@gmail.com](mailto:sfhpmr@gmail.com)

## Effectiveness of high-fidelity simulation training to improve the skills and clinical management of fetal monitoring for obstetric nurses

**LEE Hsiu-Lan, WENG Yi-Hao, LIU Pei-Chi**

### Background/Problem/Objective

Monitoring of fetal heart rate is an important tool to assess the fetal well-being and placental function. In order to keep fetus safe, clinical obstetric nurses need to identify the patterns of fetal heart rate. High-fidelity simulation training may be helpful in enhancing their clinical skills. The current study was to determine the effectiveness of nursing simulation training on the improvement of fetal monitoring.

### Methods/Intervention

This study was conducted in two medical centers in 2016. Trainee in A center received simulation training courses (experimental group); trainee in B center received regular lecture courses (control group). The total period of training was three months for both groups. All participants were assessed by a standardized written test for knowledge and skills and a perceived self-efficacy scale for clinical management before and after the courses. Student t test and chi square test were used to compare the experimental and control groups. The means of the pre- and post-course responses were compared using paired-sample t-test.

**Results (of evaluation)**

This study enrolled 36 nurses in the experimental group and 21 nurses in the control group. There was no significant difference in the gender, age and working period between the experimental and control groups. After the training courses, the skills ( $p < 0.001$ ) and clinical management ( $p = 0.041$ ) of nurses in the experimental group had significant improvement. However, their knowledge did not improve ( $p = 0.801$ ). In the control group, the skills ( $p = 0.158$ ) and clinical management ( $p = 0.719$ ) of nurses did not significantly improve. In contrast, their knowledge improved after the lecture courses ( $p = 0.010$ ).

**Conclusions/Lessons learned**

High-fidelity simulation courses are useful in improving the skills and clinical management of fetal heart beat tracings for obstetric nurses. Lecture courses are more helpful in improving the knowledge. The findings in this study suggest that incorporating simulation training into lecture course is more effective to improve the knowledge, skills, and clinical management of fetal monitoring for postgraduate continuing education.

**Comments**

The fatal monitor training program would play an important role and as a rationale in preparing tomorrow's obstetric nursing professionals.

**Contact: LEE HSIU-LAN**

Linkou Chang Gung Memorial Hospital  
No.5, Fuxing St., Guishan Dist., Taoyuan City 333, Taiwan  
Taoyuan, [f22023@cgmh.org.tw](mailto:f22023@cgmh.org.tw)

## Session P1.12: Promoting the health of pregnant women and mothers

### The usefulness of multiple information sources for an optimal surveillance of miscarriage at the population level

**PERTILE Riccardo, PEDRON Mariangela, PIFFER Silvano**

**Background/Problem/Objective**

In Italy the miscarriages survey is part of a flow coordinated by the Italian National Institute of Statistics (ISTAT) and it refers only to hospitalized cases. The survey has completeness limits and it does not consider the increasing cases managed only at the First Aid (FA) and never hospitalized. The objective of this study is to quantify and identify the proportion of miscarriages, in the province of Trento (north-east of Italy) in 2013-2016, managed exclusively at the FA.

**Methods/Intervention**

The hospitalized cases of miscarriage from the ISTAT survey, integrated by a cross-check with the hospital discharge database, were linked with the FA dataset (female, 15-49 years with an icd9CM code equal to 632 or between 634.00 and 634.92), to identify those women treated exclusively in FA. Accesses for ectopic pregnancy and vesicular mole (such as in ISTAT survey)

were excluded. We verified the existence of differences related to care, age and citizenship between ISTAT survey and FA dataset.

**Results (of evaluation)**

During the four-year period 2013-2016, 1,573 cases of miscarriage, managed exclusively in FA, were registered, with an increasing trend: from 326 cases in 2013 to 546 in 2016. The proportion of cases managed in FA on the total number of miscarriages in each year, varies from 31.8% to 60.5%. In 2013 the miscarriage rates without and with the FA fraction were 5.4‰ and 8.0‰, while in 2016 the difference between these two rates was deeper: 2.7‰ and 7.3‰.

**Conclusions/Lessons learned**

A complete surveillance of miscarriages is important not only to study adverse outcomes of pregnancy in environmental epidemiology, but also to investigate quality and appropriateness of care. The standard registration assumes an annual comparison between ISTAT and hospital discharge archives. This modality is no longer sufficient because a great amount of cases shifted from the care unit to FA. The opportunity to foresee the registration of exclusive cases of the FA should also be considered within the ISTAT flow.

**Contact: PERTILE Riccardo**

Epidemiology Department-Center for Health Services  
Viale Verona, 38123 Trento, [riccardo.pertile@apss.tn.it](mailto:riccardo.pertile@apss.tn.it)

## Evaluate the effectiveness of intervention program for second-hand smoking cessation during pregnancy

**LEE Mung Jung, HSU Ron Yuan, CHEN Cheng Yu, LU Hsin**

**Background/Problem/Objective**

Smoking is medically acknowledged as a chronic and addictive disease. Research indicates that smoking or exposure to second-hand smoke during pregnancy may cause adverse effects on the fetus. Currently this is one of the most important issues in public health. This study is to discuss the effectiveness of health education intervention for smoking pregnant women or their live-in family member change motivation of smoking cessation.

**Methods/Intervention**

The study objects are pregnant women or their live-in family members with smoking habit. The study is permitted at a medical center, total of 14 people, including 2 pregnant women and 12 live-in family members. The intervention is one-on-one health education, first let the object fill up a questionnaire to understand the current smoking cessation behavior change then conduct the quit smoking health education by the video and the manual. Let the objects fill up another questionnaire after the completion of health education. The tool of this study is structured questionnaire to be filled up before and after the health education by every study object.

**Results**

The results showed that the short-term intervention of health education was statistically significant for the individual object in changing with the knowledge of smoking cessation and smoking



cessation behavior. In 14 cases, after long-term follow-up the smoking cessation rate was 15% in three months, 63% in six months and 50% in a year. The results of this study support the theory-based that interventional health education program and long-term follow-up can be sensitively aware of the continuous smoking cessation behavior.

#### Conclusions/Lessons learned

In this study found that most objects are live-in family members. It is suggested in addition to smoking cessation counseling it can also include the actions to refuse second hand smoke. The smoking cessation of the 2 mothers last to 6 months after delivery.

**Contact:** CHOU Hung Yu

[xdc07141@tzuchi.com.tw](mailto:xdc07141@tzuchi.com.tw)

## Application of Perineal Warm Packs on Labor Pain and Comfort in the Second Stage of Labor

**CHIU Mu-Jung, GAU Meei-Ling, LIN Pei-Ying, LIN Shu-Mei, HSU Tzu-Chuan, HUANG Hui-Ting**

#### Background/Problem/Objective

Reducing pain during labor and delivery is an important issue in maternity care. Studies have indicated that applying a hot compress to the perineum during the second stage of labor may effectively reduce postpartum perineal pain, and urinary incontinence and to improve perineal comfort.

#### Methods/Intervention

Research was conducted from January 2016 to June 2017. Forty-seven cases were assigned based on stated preference to the intervention group and to the control group. The intervention group completed the pretest at the start of the second stage of labor, with the researcher first assessing patient perineal pain and physical comfort and then administering the initial hot compress application to the perineal region. The control group received standard maternity care only. The data was analyzed by SPSS 20.0.

#### Results (of evaluation)

Significant differences between the two groups were observed in terms of level of perineal pain at pretest (full dilation;  $t=2.02$ ,  $p<.05$ ), immediately after the time ( $t=4.17$ ,  $p<.01$ ), 30 minutes after the time ( $t=10.08$ ,  $p<.01$ ), 60 minutes after the time ( $t=16.86$ ,  $p<.01$ ), and at 24-hours postpartum ( $t=5.42$ ,  $p<.01$ ). However, significant intergroup differences for this variable were recorded at all post-application observation time points (immediately after [ $t=-6.31$ ,  $p<.01$ ], 30-mins after [ $t=-16.96$ ,  $p<.01$ ], 60-mins after [ $t=-27.34$ ,  $p<.01$ ], and 24-hrs after [ $t=-6.56$ ,  $p<.01$ ]).

#### Conclusions/Lessons learned

Results support that applying the perineal hot compress intervention during the second stage of labor significantly reduces perineal pain while improving perineal comfort. The authors hope that the present article provides maternity-ward personnel with the basic skills necessary to perform this intervention in clinical settings in order to reduce perineal pain and to im-

prove the perineal comfort. And promote positive perspectives on the birth process, and achieve optimal birth outcomes.

**Contact:** CHIU MU-JUNG

Taiwan Adventist Hospital, No.424, Sec. 2, Bade Rd., Songshan District, 10556 Taipei City, [122666@tahsda.org.tw](mailto:122666@tahsda.org.tw)

## Regulations and policy in regulating aspects of ART-related multiple-birth in Taiwan

**WANG Ying-Wie, CHEN Miauh-Shin**

#### Background/Problem/Objective

Assisted reproductive technology (ART) uses the modern medical technology currently available to give hopes to couples suffering from infertility. However, it also has introduced health risks associated with multifetal pregnancy reduction or multiple births for pregnant women. The objective of this poster presentation is to present the regulations and policy in regulating aspects of ART in Taiwan.

#### Methods/Intervention

The Artificial Reproduction Act (ARA) was promulgated and implemented by the Ministry of Health and Welfare in 2007. A total of 83 artificial reproduction institutions were established, these medical institutions are required to apply for approval from the competent authority before performing in assisted reproduction treatment. According to Article 16 of the Act, the women receiving artificial reproduction treatment cannot transfer more than five embryos at a cycle. In 2014, a new grading item was added to the Regulations for Artificial Reproduction Institution Permit, which stated that "The ratio of women under the age of 35 who have had less than two embryos implanted within current permit period." This was done to lowered the number of embryos implanted in artificial reproductive institutions and reduce health risks associated with multiple birth.

#### Results (of evaluation)

According to the Act, the assisted reproduction database has been periodically updated by artificial reproduction institutions. Singleton birth rate had gradually increase from 58% in 1998 to 72.4% in 2015, while twins birth rate had gradually decline from 37.7% in 1998 to 27.3% in 2015, and triplet birth rate had gradually decline from 4.2% in 1998 to 0.3% in 2015.

#### Conclusions/Lessons learned

With the aforementioned laws and regulations, the rates of multiple births as a result of ART has declined in Taiwan. However, as compared to the Western countries, Taiwan ART-related multiple-birth rates remains at a higher level. In 2017, the Taiwanese Society for Reproductive Medicine has proposed the "2016 Guideline of Recommended Limits of the Number of Embryos to Transfer" to all artificial reproduction institutions. The government continues to work and cooperate with institutions to reduce the ART-related multiple-birth rates and to safeguard maternal health.

**Contact:** LIU Rachel

Taipei, [fenliu@hpa.gov.tw](mailto:fenliu@hpa.gov.tw)

## From the Outsider to the Insider: A Narrative Inquiry on Breastfeeding Experiences of a Female Surgical Physician

**HUANG Wan-Ting, YANG Hsin-Yi, HSU Yu-Chen, CHANG Li-Chen**

### Background/Problem/Objective

The World Health Organization suggests that infants should be exclusively breastfed for 6 months after birth, but there are many challenges to practice it among career women who have finished the maternity leave return to workplace may encounter many barriers, such as colleagues' criticism, which may cause mothers' pressures and anxieties. Female physicians with both roles of mothers and working women are also the experts in healthcare education. It is worth exploring the experiences of the female physician's breastfeeding.

### Methods/Intervention

We conducted a narrative inquiry and in-depth interviews with an attending physician in hospital and who has two children. The interview was agreed by the interviewee and was taken for 1 hour and recorded throughout. Based on the interview records, we coded and analyzed the verbatim drafts.

### Results (of evaluation)

Reasons for partial breastfeeding: including an inadequate secretion of breast milk, sore nipples, lack of experience and support from medical staff, and returning to the workplace. The advantages of breastfeeding: including taking baby out easily, breastfeeding in the midnight no interfering with mother's sleep, and enhancing the identity of motherhood and enjoying the high quality of parent-child interaction. Reflection on professionalism: the participant, as a mother, has more empathy with the patients' breastfeeding problems, and provides them more flexible advices.

### Conclusions/Lessons learned

To achieve exclusive breastfeeding for 6 months, the female physician may face with the limitations that result from individual difficulties, the incompleteness of health education, and problems from the environment. Then, we suggest that the medical staffs pay more empathy for the postnatal women. Other adjustments, such as reorganizing the clinical duties, are also needed.

### Contact: HUANG WanTing

Chia-Yi Christian Hospital  
No.539, Zhongxiao Rd., East Dist., Chiayi City 600, Taiwan  
[cych13198@gmail.com](mailto:cych13198@gmail.com)

## Nutritional status of pregnant women in Taipei Tzu Chi Hospital

**TSAO Chang-An, HOU Yi-Cheng, CHANG Yin-Kuang, BAI Chyi-Huey, CHENG Neng-Hsin, LEE Li-Chu, HSIEH Yu-Ling**

### Background/Problem/Objective

The lack of nutrients during pregnancy may result in pregnancy outcomes, which may further affect the development of the fetus and its future health. The study of nutritional status of pregnant women in Taiwan has not been consistently updated for nearly ten years.

### Methods/Intervention

This is a prospective study from October 2017 to December 2017 in Taipei Tzu Chi Hospital. Inclusion criteria were 18~45 years old during stage I (1~3 months), stage II (4~6 months), or stage III (7~10 months) pregnant women. Subjects underwent a biochemical exam for assessment of nutritional status including RBC, hemoglobin, iron, transferrin, iron, TIBC, UIBC, ferritin, vitamin D, vitamin B12, folic acid, and RBC folate. Statistical analysis was done using descriptive statistics, ANOVA, where  $p < 0.05$  is considered significantly different.

### Results (of evaluation)

We recruited 30 pregnant women who came to Taipei Tzu Chi Hospital for the prenatal exam. The average age of subjects was  $33.2 \pm 3.4$ . Analysis of the blood routine, RBC and hemoglobin showed  $4.06 \pm 0.4$  MIL/cum and  $9.8 \pm 1.0$  g/dL. Analysis of iron metabolism, transferrin, iron, TIBC, UIBC, ferritin showed  $354 \pm 87$  mg/dL,  $75 \pm 4$  µg/dL,  $496.2 \pm 121.9$  µg/dL,  $421.0 \pm 135.1$  µg/dL, and  $29.29 \pm 33.36$  µg/dL, respectively. Analysis of the biochemical status of vitamin D, vitamin B12, folic acid and RBC folate showed  $22.28 \pm 8.87$  ng/mL,  $228 \pm 140$  pg/mL,  $11.9 \pm 4.4$  ng/mL and  $659 \pm 281$  ng/mL, respectively. (Table 1) According to the biochemical assessment, deficient prevalence of hemoglobin ( $< 11$  g/dL), iron ( $< 28$  µg/dL), ferritin ( $< 15$  µg/L), vitamin D ( $< 20$  ng/mL), vitamin B12 ( $< 203$  pg/mL), RBC folate ( $< 400$  ng/mL) was 76.7%, 6.7%, 73.3%, 43.4%, 16.7%, 28.3%, respectively (Table 2). As pregnancy is progressing, the levels of transferrin increased but the levels of ferritin decreased, indicating the change of iron metabolism.

### Conclusions/Lessons learned

Nutritional status is a very important pointer for pregnant women. There was insufficiency of iron, vitamin D, vitamin B12, and folate in all stages. In particular, iron deficiency became increasingly prevalent during pregnancy over time.

### Contact: YI CHENG Hou

Taipei Tzu Chi hospital  
No.289, Jianguo Rd., Xindian Dist., New Taipei City 23142  
Taipei, [anny321@tmu.edu.tw](mailto:anny321@tmu.edu.tw)

## Using of Maternal and Child Health Record with Nutritional Status and Childhood Development in Thailand

**JARIYAJIRAWATTANA Siriporn, KANGKAN Wannapa, POONSAWAT Nuchjarin, LOSATIANKIT Panit**

### Background/Problem/Objective

Conducted through the descriptive method of research, the purposes of this research were to assess the factors related to using of material and child health record with nutritional status and to assess the factors associated with using of material and child health record and childhood development in Thailand. The

present study used the secondary data from the research title "The Situation of Childhood Development in Thailand" conducted by Dr.Panit Losatiankit and colleagues.

#### Methods/Intervention

The samples were Thai children who have the age 8 months 16 days to 5 year 11 months 29 days and parents or caregivers who have the consanguinity with the subjects. The total samples are 9,984. The data was collected from the maternal and child health record and parents or caregivers interviewing. Then, the data was analyzed by using Denver II child development evaluation (Thai version), whereas the weight and height measurement were analyzed by descriptive statistics and Chi-square.

#### Results (of evaluation)

73.8% of Thai children have a proper development, and 62.5% are good in level of height and well-built. 27% of the caregivers used maternal and child health record in following the growth by using graph record, and 32.2% by development record. Using of maternal and child health record is related to age, education, occupation, and income of the caregivers, and the place that gives the service. Using of maternal and child health record has significantly related to the nutritional status and childhood development.

#### Conclusions/Lessons learned

Then, using of maternal and child health record should be educated and urged to the caregivers so that they could use it as a tool in taking care of their children effectively.

**Contact: TUTCHANANUSORN Sasiporn**

Department of Health Ministry of Health  
88/22 Tambon Taladkhwan Muang Tiwanond Road  
11000 Nonthaburi, [stutchana@gmail.com](mailto:stutchana@gmail.com)

## Evaluate Effectiveness of Smoking Cessation Intervention Program for Smokers Living with Pregnant Women

**CHEN Cheng-Yu, LU Hsin, LEE Mung-Jung, HSU Ron-Yuan, HSU Ching-Fen**

#### Background/Problem/Objective

Smoking is medically accepted as a chronic and addictive disease. Research shows that women who exposed to second-hand smoke have many unfavorable effects on the fetus. However, there are few studies related to smoking cessation program on smokers living with pregnant women in Taiwan. In this study, we tried to evaluate the effectiveness of the program to this group of people.

#### Methods/Intervention

The study population is smokers living with pregnant women. 12 smokers were recruited in the medical center. All smokers were adopted a one-to-one health education with the manual to quit smoking education content description and to understand behavior changes in smoking cessation before and after consultation. We used research tools for the structured questionnaire. Due to the small number of cases, we used Non-parametric analysis of the relevant variables.

#### Results (of evaluation)

The results showed that there was statistically significant change in knowledge of smoking cessation and changes of smoking cessation behavior among the interventions. In 12 cases, the smoking cessation rate was 15% in three months and 63% in six months. The one-year smoking cessation rate is 50%. The results of this study represent interventional health education programs and long-term follow-up will enhance continuous cessation behavior.

#### Conclusions/Lessons learned

In the future, it is suggested that health education on prevention and control of second-hand smoke be introduced into early pregnancy, and include prenatal education and other promotion courses to increase pregnant women's awareness of harm about second-hand smoke and to refuse smoke, further more to advice smokers lived with pregnant women to quit.

**Contact: CHOU Hung Yu**

[xdc07141@tzuchi.com.tw](mailto:xdc07141@tzuchi.com.tw)

## The Differences of The Night Sleep Quality Between Rooming-in and conventional postpartum women

**LEE Mung-Jung, GAU Meei-Ling**

#### Background/Problem/Objective

The practice of rooming-in has been shown to help new mothers and their newborn infants adjust physically and mentally and to increase breastfeeding success. This objective has fallen significantly short of expectations in terms of both the number and the success of hospital implementations. In general, hospitals are concerned that rooming-in may decrease sleep quality in birth mothers.

#### Methods/Intervention

Using a prospective correlational study design, 120 postpartum women were recruited from a Medical Center hospital. The quality of sleep was measured by both the Cadiopulmonary Coupling (CPC) and the Pittsburgh Sleep Quality Index (PSQI). Other instruments consisted and selected demographic, obstetrical, and health related questions. The CPC, PSQI, were measured everyday during postpartum hospital stay.

#### Results (of evaluation)

The study found that the choice of rooming-in is positively related to maternal attitudes toward rooming-in, and previous experience of rooming-in. Mothers who had rooming-in had higher sleep scores compared to those who did not room-in due to frequent sleep interruptions from breast-feeding ( $p < 0.05$ ). The results showed in the rooming-in from vaginal spontaneous delivery mothers, the maturity of the newborn is the predictive factor for better sleep quality. The increased frequency of breastfeeding led to poor sleep quality. And the sleep quality gradually improved with time. Among women who received cesarean section, the predictive factors of sleep quality and family income. The lower score of sleep quality. Higher income families and those without rooming-in have poor quality of sleep.

**Conclusions/Lessons learned**

Maternal attitude and prior experience of rooming-in are major factors for mothers who chose to room-in. Clinically, patient education and psychological preparation in postpartum care needs to be enforced early at the obstetrician clinic. A supportive environment and strong family structure are essential. Our results prove that rooming-in mothers have better sleep quality and positive effects in postpartum care. Nursing staff should further assist postpartum women adequate support, and improve sleep quality.

**Contact:** CHOU Hung Yu

[xdc07141@tzuchi.com.tw](mailto:xdc07141@tzuchi.com.tw)

## Pre-pregnancy body mass index and gestational weight gain and their effects on pregnancy and birth outcomes in Taiwanese women

**YANG Hsin-Yi, CHEN Solomon Chih-Cheng, LEE An-Ting, CHEN Wei**

**Background/Problem/Objective**

Inappropriate weight gain during pregnancy may associate with adverse maternal and newborn outcomes. The objective of this study was to assess the associations of pre-pregnancy body mass index (BMI) and gestational weight gain (GWG) with pregnancy outcomes.

**Methods/Intervention**

We investigated 132 postpartum women who had full-term singleton babies between 2015 and 2016 at a district hospital in Taiwan. One well-designed questionnaire was used to collect general information and pre-pregnancy weight. The body weights of the studied women were measured at three time points. Multiple logistic and regression analyses were undertaken to compare pregnancy and birth outcomes for different BMI and GWG, using normal weight women and women with a recommended weight gain as the referent groups.

**Results (of evaluation)**

Only 32.56% of the women had a weight gain that was within the Institute of Medicine (IOM) recommended range; 43.41% and 17.83% had weight gains that were below and above the recommended range, respectively. Pre-pregnancy BMI shows no significant relationship with birth weight, however, the GWG was positively associated with high birth weight. Compared with women of normal weight, overweight/obese women had a higher rate of cesarean section, preeclampsia and small for gestational age.

**Conclusions/Lessons learned**

This study found high pregnancy BMI and excessive GWG are associated with adverse pregnancy outcomes. Therefore, maintaining normal body weight before and throughout pregnancy should be recommended in order to reduce the risk of excessive infant birth weight and its associated complications.

**Contact:** YANG Hsin-Yi

Ditmanson Medical Foundation Chia-Yi Christian Hospital  
No.539, Zhongxiao Rd., East Dist., 600 Chiayi,  
[cych13018@gmail.com](mailto:cych13018@gmail.com)

## Lectures to Grandparents “Welcome, my grandchild” For Happiness across Three Generations

**ANDO Mika, ETO Chihiro, OHNO Giichiro**

**Background/Problem/Objective**

There are many cases where new mothers are puzzled about what to do with their baby when the baby's grandmothers give them some advice which contradicts what they've learned in the mothers' classes. As a result, both mothers and grandmothers suffer from stress and might not get a happy start in their life with the baby. That's why we came up with the idea of giving lectures to grandparents, so that mothers can get effective support from them.

**Methods/Intervention**

We host a biannual 90-minute lecture for 20 grandparents-to-be. Through quizzes and discussions, they begin to realize that the way they took care of their babies was appropriate at that time, but child rearing methods are not invariable and change with the times. We also advise it should be more important for grandparents to help the new mother rather than to take care of the baby.

**Results (of evaluation)**

The feedback from the participants is as follows. -I will support my daughter not in my old way, while paying attention to her opinions. -I've learned the difference between the current and the past methods of child rearing. -I will support my daughter mentally. From these feedbacks, we've found that the grandparents willingly assimilated with the new methods and became aware of the need to support the mother, not the baby.

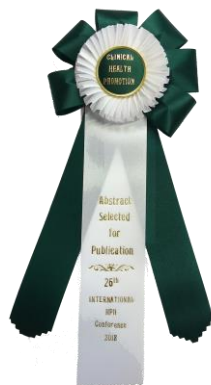
**Conclusions/Lessons learned**

When grandparents give proper support, they make themselves happy as well as the mother and the baby. Furthermore, being satisfied, they might try to support other mothers and children in the community as well, which will lead to the happiness of the whole community. We will continue to host the lecture for health and happiness across three generations in our community.

**Contact:** ANDO Mika

Tokatsu Hospital  
naka 102-1, 270-0153 nakareyama city,  
[mikadepucarani@gmail.com](mailto:mikadepucarani@gmail.com)

## Prescription patterns and consequences of Chinese herbal medicine in pregnant women: A population-based study



**WU Hsien-Chang ,  
WU Dai-Lun, WEN Shu-Hui**

### Background/Problem/Objective

Pregnant women using traditional Chinese medicine (TCM) is gaining in popularity worldwide. The use of Chinese herbal medicine (CHM) during the perinatal period is common in Chinese communities. To treat illness during pregnancy with TCM, which is usually promoted as being natural and safe. However, some herbs using in pregnancy might still lack of safety and efficacy. Hence, in this cohort study, the prevalence and diagnoses of using CHM during pregnancy women in Taiwan have been explored.

### Methods/Intervention

Pregnant women aged 18-50 years were selected from the longitudinal health insurance database (LHID) between 2001 to 2011 using the 2-million random samples of the NHIR Database. Prescription patterns of CHM and obstetrics diagnoses was collected from all TCM outpatient records during pregnancy. CHM prescription records were further categorized on the before or after first prenatal visit during pregnancy. Descriptive statistics such as numbers and percentages were provided for the distribution of primary diagnoses codes and CHM use.

### Results (of evaluation)

A total of 15,162 pregnant women received CHM during pregnancy with CHM utilization rate of 20.6%. Top 3 obstetrics related diagnoses codes were disorders of menstruation and abnormal bleeding from female genital tract, hypertension complicating pregnancy and excessive vomiting in pregnancy. Before the first prenatal visit, the most common used single herb was Cyperi Rhizoma, followed by Cuscutae Semen and Leonuri Herba. The top 3 herbal formulas were Dang-Guei-Shao-Yao- San, Jia-Wei-Siao-Yao-San and Wen Jing Tang. After the first prenatal visit, Scutellariae Radix was the most frequent single herb; next was Atractylodes macrocephala rhizome and Cortex Eucommiae. Dang-Guei-Shao-Yao- San remained the most commonly used herbal formulas. The following commonly used herbal formulas were Bao Chan Wu You Fang and Xiang Sha Liu Jun Zi Tang.

### Conclusions/Lessons learned

TCM is popular among pregnant women in Taiwan. However, the safety of TCM was needed to be monitored during perinatal period requires future investigation.

### Comments

This study focuses on maternal health promotion, especially the safety of traditional Chinese medicine for pregnant women. The use of traditional Chinese medicine which have promoting

blood circulation effects in irregular menstruation, women should be aware of the issue of pregnancy.

### Contact: WU Hsien-Chang

Taipei Tzu Chi Hospital  
No.289, Jianguo Rd., Xindian Dist., 23142 New Taipei City,  
[xuang@ms65.hinet.net](mailto:xuang@ms65.hinet.net)

## Session P1.14: Improving patient safety

### Evaluate the Effect of Critical Values Notification and Audit System to Enhance Patient Safety

**TU Chi-Chao, LEE Pei-Ning, WU Tung-Huan, WU Meng-Ting, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

### Background/Problem/Objective

Establishing a full range of patient safety care environment is our primary mission. Failure to adequately communicate a critical laboratory value is a potential cause of adverse events. Critical value reporting is an important phase of the clinical laboratory testing process, and notifications of results outside the target time can indicate ineffectiveness of the process. In the present study, we report data obtained in a 6-year period of critical values analysis and describe a computerized communication system conducive to improving the quality of critical value reporting.

### Methods/Intervention

The clinical laboratories undertake assessments and appropriate measures to improve the timeliness of critical value reporting. Documentation and communication processes were regularly monitored and implemented under ongoing systems for quality monitoring. Doctors automated reply by the system immediately and deliver notice by hand. The double-track notification to ensure that physicians promptly aware and perform. We report audit results at medical meetings periodically.

### Results (of evaluation)

The completion rates of notification of critical values from 2013 to 2017 were 97.61%, 97.88%, 98.03%, 98.42% and 99.0%, respectively. The follow-up rates of notifications of critical values were 97.31%, 98.48%, 99.0% and 99.49% in turn 100%.

### Conclusions/Lessons learned

Automated communication improves the timeliness of notification and avoids the potential errors for which accreditation programs require read-back of the result. The communication also improves the likelihood of reaching the physician on call and may provide important decision support.

### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)



## Collecting Intravenous Drip Stands by an Innovative Cabinet to Improve Clinical Care

**BEY-JING Yang, JIANN-FU Lin**

### Background/Problem/Objective

Intravenous drip is the most commonly accepted medical treatment for patients. In order to meet the injection site and the amount of injection dose, the nursing staff always prepares some drip stands for intravenous drip. Nowadays, Medical institutions generally centralized drip-racks at a designated place with a bucket or a box. However, in such way, it is difficult to identify and access because the hanging arms and hooks easily touch or twist with each other. Moreover, they always make a lot of noise while accessing them.

### Methods/Intervention

An innovative equipment for managing and accessing drip stands easily and safely intravenous drip stands was developed, which will accelerate clinical workflow and improve nursing efficiency. To avoid the above troubles, an innovative equipment was proposed for collecting innovative drip stands with the traits of easy categorized, easy accessed and noiseless. It is a wooden cabinet 120 cm long, 60 cm wide and 50 cm high, and the roof is divided into dozens of sockets which provide fixed places for drip stand's rods to insert into the cabinet body. There is a staircase receiving part in the cabinet for inserting drip stand's rods onto the stairs, in which the surface of each stair is equipped with anti-noise and anti-skid of elastic pad, so that the bottom of the drip stand's rods putting on them will not make any noise and slide away.

### Results (of evaluation)

After using the innovative cabinet for collecting innovative drip stands, 75 nurses were interviewed and all of the interviewees were satisfied the equipment and they found that could greatly increase their nursing efficiency. In additions, the equipment can prevent nursing staff injured by suddenly falling drip stands while accessing them and can avoid the noise made by drip frame collision.

### Conclusions/Lessons learned

The use of innovative drip stands cabinet not only assisted nursing staff to improve the efficiency of this frequently performed work, but also maintained a quiet and peaceful environment for patients.

### Comments

The drip stands cabinet is well worth promoting in medical institutions, which enhances the quality of nursing care and provides a quiet and safe environment for patients and nursing staff.

**Contact: BEY-JING Yang**

National Taiwan University Hospital.

Emergency Department, Chung-Shan South Road, Taipei, Taiwan, 100 Taipei,

[miffy@ntuh.gov.tw](mailto:miffy@ntuh.gov.tw)

## Reduction of central-line associated bloodstream infection after implementation of care bundle: a multi-disciplinary approach

**HUANG Ching-Min, WANG Shu-Chuan, SU Pei-Chen, TSAI Hsiao-Wen**

### Background/Problem/Objective

Critically ill patients who undergo bloodstream infection has a higher incidence of morbidity and mortality; in critical units, the majority of bloodstream infection is associated with catheters, especially central-line catheter. The aim of the study was to set up a multidisciplinary team for central-line care bundle promotion in order to reduce central-line associated bloodstream infection (CLABSI).

### Methods/Intervention

The research of central-line care bundle was conducted at an intensive care unit in Taiwan from August 2013 to January 2014 under evidence based medicine guideline. It includes hand hygiene, jugular vein or subclavian vein selection as the insertion site, sterilizing with 2% chlorhexidine gluconate, setup of specialized nursing cart and the package of central-line insertion for maximal barrier precautions, assessment of unnecessary catheter removal, selecting appropriate dressing at the insertion site, and checking the condition of surrounding skin area.

### Results (of evaluation)

After the central-line care bundle intervention for 5 months, the incidence of CLABSI decreased from 1.96‰ to 0.4‰. We also used the structured questionnaires to measure the effectiveness of care bundle. The accuracy of central-line insertion process improved from 30.0% to 96.7%, and that of daily central-line care process increased from 70.4% to 98.2%. The proportion of unnecessary catheter removal also raised from 59% to 100%.

### Conclusions/Lessons learned

Our research proved that the setup of a multidisciplinary team for central-line bundle care could reduce CLABSI, enhance the quality of critical care and, furthermore, achieve the safety of patients.

**Contact: WANG Shu-Chuan**

Kaohsiung, [wangyuki1104@gmail.com](mailto:wangyuki1104@gmail.com)

## Chest Physiotherapy and Care of Pneumonia in the Elderly

**WANG Mei-Hua, WANG Ping-Huai, CHANG Hou-Tai**

### Background/Problem/Objective

Pneumonia is the 4th leading cause of death in Taiwan, accounting for 6.1% of deaths. Chest physiotherapy is an auxiliary therapy, enhancing the secretion expulsion. It is helpful to relieve the distress of patients, improve the illness, and then cost down the health care fee. All these are the main goals of

caring pneumonia. Decrease in pneumonia-related readmission has been recognized as a benchmark of quality care. There are several modalities and products to assist chest physiotherapy.

#### Methods/Intervention

This study collected retrospective study design, in the northern part of a medical center for data collection, information with SPSS 20.0 statistical software were Integration and analysis to the number, percentage, mean, standard deviation, binary logistic regression analysis, multiple regression analysis, and chi-square test for independent samples t test. This study has been registered in the clinical trial (103123-E).

#### Results (of evaluation)

Pneumonia patients received chest physiotherapy, found only in the hospitalization up to have significant ( $p = .01$ ), before the bed ridden of statistical significant ( $p = .04$ ), a higher proportion of readmission (17.1%). Among these variables, age, inability of self-care, unconscious when hospitalization, unable to walk more easily hospitalize after discharge for fourteen days. These factors can be evaluated at the time of discharge and are can be used to predict patients who have higher probability to be readmitted.

#### Conclusions/Lessons learned

In our study shows that the situations of patients with chest physiotherapy, regardless of the use of high frequency chest wall oscillation or mechanical chest percussion, are helpful for patients with pneumonia. A post-discharge health care plan can be conducted to prevent patient readmission, thereby increasing the patient safety and reducing the healthcare cost.

**Contact:** WANG Mei-Hua

[haua68@yahoo.com.tw](mailto:haua68@yahoo.com.tw)

## A 15-year continuous quality improvement can reduce unplanned extubations in adult intensive care units.

**YEH Mei-Lin, HUANG Wei-Chun, CHEN Kang-Pan, LUE Ya-Meei, CHUNG Hsing-Chi, KUO Shu-Hung, LIN Kun-Chang, HUNG Wang-Ting, LIN Sheng-Che, CHENG Chin-Chang, WANN Shue-Ren, LIU Chun-Peng, CHENG Jin-Shiung**

#### Background/Problem/Objective

Unplanned extubation (UE) is a critical issue in intensive care units (ICU), which may lead to severe complications in patients. This study is to investigate the impact of 15-year continuous quality improvement program on improving the incidence rate of UE in adult intensive care unit in a tertiary medical center.

#### Methods/Intervention

All patients in 59 adult ICU beds of a tertiary medical center were enrolled from 2002 to 2017. The quality control meetings were held monthly. In this meeting, the incidence of UE will be monitored continuously. If UE value exceed threshold, several Deming cycle and root cause analysis were performed to im-

prove the quality care. The key interventions include improvement of restraint, pain and agitation control, self-extubation alarm, innovative automatic weaning reminding information system, innovative posture e-learning app software and hand restraint device, which was patent in Taiwan.

#### Results (of evaluation)

The study group include Total 198,400 ventilator-day and 191,810 endotracheal tube-day. The incidence of UE was reduced from 1.55% in 2002, 1.05% in 2003, 0.98% in 2004, 1.0% in 2005, 0.78% in 2006, 0.97% in 2007, 0.72% in 2008, 0.47% in 2009, 0.37% in 2010, 0.29% in 2011, 0.37% in 2012, 0.4% in 2012, 0.53% in 2014, 0.33% in 2015, 0.26% in 2016 to 0.14% in 2017. The improvement percentage of UE from 2002 to 2017 is 91%. Furthermore, the incidence rate of ventilator associated pneumonia(VAP) was reduced from 9.25‰ in 2002, 8.23‰ in 2003, 6.91‰ in 2004, 12.4‰ in 2005, 12.15‰ in 2006, 12.34‰ in 2007, 8.23‰ in 2008, 5.72‰ in 2009, 3.18‰ in 2010, 2.45‰ in 2011, 2.46‰ in 2012, 1.8‰ in 2012, 2.29‰ in 2014, 1.63‰ in 2015, 0.89‰ in 2016 to 0.92‰ in 2017. was decreased from 9.25‰ in 2002 to in 2017. The improvement percentage of VAP from 2002 to 2017 is 90%.

#### Conclusions/Lessons learned

This 15-year study demonstrated that continuous quality improvement with innovative hand restraint design, information reminding system and multidisciplinary team work can reduce unplanned extubation and ventilator associated pneumonia in intensive care units.

**Contact:** YEH MEI-LIN

Kaohsiung Veterans General Hospital

No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City, Taiwan 81362 Kaohsiung, [ericayeh6045@gmail.com](mailto:ericayeh6045@gmail.com)

## Reducing the incidence of falls for the inpatient population

**WU Jia-Min, CHEN Ya-Hui, CHANG Ching-Mei, CHEN Ying-Zheng, HSU Zhi-Quan, CHEN Hui-Jen, HONG Chun-Lai, YEN Chen-Jung, HSU Hung-yi**

#### Background/Problem/Objective

Fall events were accounted for 25% of adverse events in our hospital. Once the patient falls, it may result in injury or longer hospitalization days. We worked on reducing the incidence of falls for the inpatient population and improving fall prevention strategies. After analysis, the falls happened in the "Ward" was 84%. Falls when entering or leaving the restroom was 26%. 66% occurred because of foreign caregivers and patient's health situations such as weakness or lack of strength.

#### Methods/Intervention

Team members developed evidence-based fall prevention strategies: 1. Replaced the bathroom and toilet tiles for Slip Resistance. 2. Revised fall risk assessment timing. 3. Provided patients with muscle strength training and assistive devices such as Auxiliary Belt Shifter. 4. Videos and leaflets of fall prevention education were available in multiple languages including English, Vietnamese, Indonesian, etc. 5. Medical staffs were

notified automatically by Health Information System when patients take drugs that can easily lead to falls.

#### Results (of evaluation)

The incidence of falls for the inpatient population was decreased from 0.035% to 0.025%. Coefficient of Slip Resistance was increased from 0.33 to 0.53 after replaced the tiles. Patients need to be re-assessed fall risk and recorded during hospitalization when daily shift, after surgery, condition change, or transferred to the intensive care unit. Falls when entering or leaving the restroom was decreased from 26% to 19%.

#### Conclusions/Lessons learned

The use of systematic literature review can enhance the ability of medical staffs to translate knowledge. This will promote the clinical application of evidence and improve patient safety. There are still some controversial interventions such as whether the bed bar should continue to pull up or whether to use the exit alarm. In the future, we can do more researches to make policies and practices more beneficial for patients.

#### Contact: WU Jia-Min

Tungs' Taichung MetroHarbor Hospital  
No.699, Sec. 8, Taiwan Blvd., Taichung City,  
[m28905108@gmail.com](mailto:m28905108@gmail.com)

## A new system to reduce the incidence of cardiac arrest in cardiology wards - Early Warning Systems

### YANG Kuei-Hsien, SONG Truey-Yeh

#### Background/Problem/Objective

Cardiac arrest patients in the event occurred before the incident 6-8 hours will appear clinical symptoms and vital signs deteriorated, when conditions worsen, the medical team to increase the frequency of patient monitoring and assessment, development of clinical early alert system (Early Warning Systems, EWSs) can be early to remind the medical staff of patients, help staff a clear grasp of the patient's condition, improve the acute medical care effect. In our hospital, the risk of unexpected cardiac arrest is highest in cardiology wards. The aim of this study was to establish a standard protocol about develop the function of early warning system in order to reduce unexpected cardiac arrest events in our wards.

#### Methods/Intervention

From April 2016 to June 2017, the project policy included integration of interdisciplinary professional services, a review of the present situation and plans to improve it, provision of adequate employee education and training, the creation of screening checklists for high-risk cases, and the development of a early alert system (Early Warning Systems, EWSs) to report alarms.

#### Results (of evaluation)

From April 2016 to June 2017, the project policy effectively reduced rate of unexpected cardiac arrests needed resuscitation from 6.09% to 2.22% in our cardiology wards. Reduced the number of unexpected cardiac arrests needed resuscitation from 32 to 11. Increased rate of recovery of spontaneous circulation (ROSC) unexpected cardiac arrests needed resuscitation from 62% to 75%.

#### Conclusions/Lessons learned

Interdisciplinary cooperation was central to this project and the principal reason for the reduction in unexpected cardiac arrests. It not only enhanced professional competence, but also improved the standard protocol and the management of resuscitation screening.

#### Contact: YANG KUEI-HSIEN

Shin Kong WU HO-SU Memorial Hospital  
6B., No. 95, Wen Chang Road, Shih Lin District, Taipei City,  
Taiwan (R.O.C.), Taipei City,  
[r0928832307@gmail.com](mailto:r0928832307@gmail.com)

## Application of Bundle Care to Reduce respirator related contract pneumonia Infections

### LUE Ya Meei, YANG Hsia Fen, CHEN Kang Pan, CHENG Jin Shiung

#### Background/Problem/Objective

Hospital Infection is an important index of medical quality; respiratory related pneumonia not only prolonged intensive care unit retention days, respirator usage days, and increase mortality, but also caused medical staff work pressure. Empirical studies showed that bundle care could reduce invasive medical-related infection rates, improve the quality of medical services, and create a safe and high-quality antibacterial environment to patient with prolonged mechanical ventilator.

#### Methods/Intervention

We used check sheet and Platon Analysis to find the possible causes; Fishbone diagram analysis, so call Feature due to the map, to find potential causes, and HFEMA to find the essential reason. As Hazard index is greater than or equal to 8 points or more, it was medium and high risk and need to improve.

#### Results (of evaluation)

Bed was not raised 30 degrees, without termination daily sedation, and the routine respirator not implemented were the causes of respirator related contract pneumonia infection; and we created handy identify points, warning sign card to raise the bedside, set up routine sedatives usage. We were the pioneer to use the respirator automatic screening reminder system and through the automatic intersected system to remind nursing staff to detach respirator in patient.

#### Conclusions/Lessons learned

After we adopted this measure, the infection patient-time declined from 15465 to 5597, density of infection dropped down from 2.4‰ to 0.2‰ and the effect maintaining rate was 0.7‰. We saved NT dollars 101,728 in Antibiotics costs, at the same time, patient satisfaction were risen from 93.9% 96.7%. Furthermore, when nursing staff performed a bundle care, the step was simple and high security; it could prevent respirator-related pneumonia effectively and the number of care hours did not increase.

#### Comments

We had won the Highly Commended Prize and Oral presentation in National Nurses Innovation Competition held by TUNA (Taiwan Union of Nurses Association) in 2016, we will promote this achievement continuously through publishing the results in

domestic and international journal and reach the goal of using and promoting the evidence-based medicine result in clinical practice to provide patient a high quality in critical care.

**Contact: LUE Ya Meei**  
[eshcablood@gmail.com](mailto:eshcablood@gmail.com)

## Clinical health promotion in complex patient pathways.

**LAURIDSEN Susanne Vahr, JENSEN Bente Thoft**

### Background/Problem/Objective

Radical cystectomy is a complex procedure involving lymphadenectomy, cystectomy and harvesting bowel for making a urinary diversion. More than 60% of the patients experience at least one complication postoperatively. Poor preoperative performance has been shown to prolong recovery suggesting that the preoperative period may be the most favorable time to involve the patients in own recovery. The aim of this review is to summarize current evidence on prehabilitation interventions and postoperative outcomes and impairments in patients undergoing radical cystectomy.

### Methods/Intervention

The primary literature search was conducted in PubMed, Cochrane Library and CINAHL using medical subheadings [MeSH] terms relevant to the patient-population and outcomes; recovery, functional capacity, health related quality of life (HRQoL) and complications.

### Results (of evaluation)

The search retrieved 2813 articles out of which 61 were considered relevant to this narrative review. This review found that none of the RCTs reduced postoperative complications. However, there is level 1 evidence that physical exercises significantly improves; physical capacity, cardiac fitness and ability for early mobilization. Regarding nutritional support, smoking cessation, alcohol abstinence and psychological support, level 2 evidence is available whereas only level 4 evidence is available regarding sexual health.

### Conclusions/Lessons learned

The early experience of prehabilitation in bladder cancer patients undergoing radical cystectomy is promising, but further high level evidence is needed to decide if prehabilitation interventions can reduce postoperative complications.

**Contact: LAURIDSEN Susanne**  
 University Hospital of Copenhagen, Rigshospitalet  
 Blegdamsvej 9, 2100 Copenhagen,  
[susanne.vahr@gmail.com](mailto:susanne.vahr@gmail.com)

## Evaluation of Pharmacist's Intervention on Interprofessional Practice for Home Health Care

**FANG CHIH-WUN**

### Background/Problem/Objective

Interprofessional practice (IPP) is the team for home health care. Team members included doctor, home care nurse, pharmacist, nutritionist, physiotherapist, and social worker. In Taiwan, the patient often visited different doctors in different medical institutions. Therefore, polypharmacy always troubled for patient. It's also the point of pharmaceutical care. In the past, pharmacist only provided paper comments for home health care. In IPP, pharmacist tries to proactively take participation and interact with other members. To improve quality for patient-centered care.

### Methods/Intervention

The research collected pharmacist's meeting minutes between 2017/5 to 2017/12. Classifying the meeting minutes to pharmacist's comments and interaction for other member.

### Results (of evaluation)

IPP organized 16 times in the 7 mouths. Pharmacist's comments can classify to 10 items. In the other hand, interaction for other member was 5 items. The top 2 classification were treatment schedule (22.6%; 55.2%) and disable the medication (22.6%; 24.1%). Polypharmacy and inappropriate prescribing are the main problem in home health care. The medication treatment always starts easily but stops hardly. Pharmacist's Intervention could solve the medication difficult to stop. Furthermore, pharmacist interaction would expand thinking range.

### Conclusions/Lessons learned

Pharmacist is a necessary role in IPP. However, pharmacist should not do paper work only. Patient-centered care is everything around patients. No member is independent. Pharmacist proactively participated and interacted. In first, it could evaluate inappropriate prescribing. In addition, pharmacist would improve the group discussion and provide different opinion. Finally, we can let patients to have more health and quality of life.

### Contact: FANG CHIH-WUN

Zuoying Branch of Kaohsiung Armed Forces General Hospital  
 No.553, Junxiao Rd., Zuoying Dist., Kaohsiung City 81342, Taiwan (R.O.C.), 81342 Kaohsiung,  
[u101530009@gap.kmu.edu.tw](mailto:u101530009@gap.kmu.edu.tw)

## Effectiveness of reducing pressure injury incidence if using air cushion bed and changing position every 2 or 3 hours

**CHEN Sung-Yun , YANG Shih-Fang, TSAI Yi-Fan**

### Background/Problem/Objective

A respiratory care ward (with total 32 beds) in a regional hospital in northern Taiwan, bed ridden was 80.5% and average rate of pressure injury was 12.6%. Pressure ulcers are treated by reducing pressure on the areas of damaged skin. We used air cushion bed and changing position every 2 hours for them to reduce pressure injury. However, considering of work loading and patient's resting time, we tried to define a better frequency time. According to the studies confirmed changing position every 2 hours could prevent pressure injury but also could

influence patient's resting time, however, every 4 hours changing position would increase pressure injury. This study aimed to investigate the effectiveness of lowering pressure injury if using air cushion bed and changing position every 2 or 3 hours.

#### Methods/Intervention

Our research design is for bedridden patients were all used air cushion bed from January to November in 2017. They were randomized into 2 groups by frequency of changing position. Experimental group was changing position by caregiver or nursing staff every 3 hour, control group was every 2 hours respectively. Physical examination and pressure injury was assessed by daily shift nursing staffs every day.

#### Results (of evaluation)

A total of 53 bed ridden patients (average age 72.5 years old, male/female 26/27) were enrolled in this study. We changed patient's position every 2 or 3 hour, the incidence of pressure ulcer was 13.3% and 14.5% and no found new ulcers appear. There was no significant difference in every 2 and 3 hours. Caregivers and nursing staff who changing position every 3 hour indicate that patients have better rest quality and reducing work loading.

#### Conclusions/Lessons learned

According to our results, there was no difference in the risk of pressure injury between changing position every 2 or 3 hours after using air cushion bed. This study provided evidence that there was lower incidence of pressure injury inpatient with bed ridden if using air cushion bed and changing position every 2 or 3 hour. Our results provided as a reference and let patients getting better sleep quality, thus enhancing quality of care, ultimately creating a healthy and friendly supportive environment.

#### Contact: TSAI YI-FAN

Taipei City Hospital, Young Ming Branch  
No.105, Yusheng St., Shilin Dist., Taipei City 11146, Taiwan  
10453 Taipei, [b1717@tpech.gov.tw](mailto:b1717@tpech.gov.tw)

## Use bladder ultrasound to limit unnecessary re-insertion of urinary catheter and thus to reduce catheter-associated urinary tract infections.

**CHUNG Hsing-Chi, HUANG Ming-Shiuan, CHEN Jui-Kuang, WU Yun-Yu, CHEN Kang-Pan, CHENG Jin-Shiung**

#### Background/Problem/Objective

Urinary tract infection is one of the most common medical care associated infections. 80% of the medical care associated urinary tract infections are resulted from indwelling catheter. The best prevention method is to avoid using improper urinary catheter and to remove the unnecessary ones. Bladder ultrasound, by giving an objective assessment on bladder urine volume and by reducing unnecessary insertion of urinary catheter, makes it possible to reduce catheter-associated urinary tract infections(CAUTI).

#### Methods/Intervention

The bladder ultrasound process was designed on bladder dynamics. A medical center ICU conducted study to the ones who receive indwelling catheter for more than 48 hours from July 2014 to November 2017 and bladder ultrasound process was used for intervention from July 2016. Bladder ultrasound scans urine volume 4 hours after the catheter is removed. Scan every 2 hours if urine volume is 100-400ml; stop scanning if urine volume is less than 100ml and the patient can mature by himself.

#### Results (of evaluation)

From July 2016 to November 2017, 659 persons used bladder ultrasound after removing catheter and the success rate of getting rid of catheter after 48 hours takes up 60.5%(399/659). Pre-intervention (July 2014~November 2015) compared with post-intervention (July 2016~November 2017): Catheter usage rate significantly dropped from 69.3% to 66.1%( $p < .005$ ); Catheter indwelling days significantly dropped from 6.1 to 5.0( $p < .0001$ ); Catheter associated urinary tract infections was reduced from 6.7% to 4.6% ( $p < .05$ ).

#### Conclusions/Lessons learned

ICU is a high-risk unit of nosocomial infection, where the patients have a high severity of disease, need more invasive medical treatment and often use broad-spectrum antibiotics. That increases the risk of infection. The use of bladder ultrasound will limit unnecessary re-insertion of urethral catheter, improve the density of CAUTI, shorten the length of hospitalization, reduce medical costs, and thus improve medical care quality to the patients.

#### Comments

Bladder ultrasound process designed on Bladder Dynamics makes it possible for the medical team to continuously apply it under standardized procedures to the catheter indwelling patients and to give objective assessment of urinary bladder urine volume after removing urethral catheter, which avoids unnecessary to re-insertion and thus effectively reduces CAUTI.

#### Contact: WU yun yu

Kaohsiung Veterans General Hospital  
No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City  
81362 Kaohsiung, [yvwu@vghks.gov.tw](mailto:yvwu@vghks.gov.tw)

## The Improvement for Inpatients Fall Prevention

**CHANG Chia-Chen, WU Chiou-Yu, LAI YI-Shan, LI Pei-Jung, FENG Ming-Chu**

#### Background/Problem/Objective

Fall is the most common cause of accident events in hospital. Prevention of falling is the important topic in inpatient care. Because If the patient who is fall in the hospitalized period, the cost will increase and the hospitalized will be extend. In 2016, the incidence of falls increased by an average of 0.23%, which not only caused injuries, but also brain hemorrhage. The aim of this project was to lower the fall incidence among ward inpatients.

#### Methods/Intervention

The study population was recruited from January 1, 2016 to November 30, 2016. According the falling factors, such the



nurse shortage and no manpower to help, lack of knowledge about preventing fall, lack of health education tools and the lack of assisted devices. Measures for improvement included: Recruiting the Nursing Assistant to assist the nursing work, physician participation in patient fall prevention education, develop of fall prevention educational poster exhibition, and supplement of assisted devices.

#### Results (of evaluation)

After improving the incidence rate of falls had been reduced to 0.12%.

#### Conclusions/Lessons learned

The project team not only decreased the falling events but also improved patient safety in hospital.

#### Contact: WU Chiou Yu

Kaohsiung Municipal Cijin Hospital  
33, Cigang Rd., Cijin Dist., Kaohsiung City 805, Taiwan (R.O.C.)  
805 Kaohsiung, [yuh3850@gmail.com](mailto:yuh3850@gmail.com)

## Decrease the complication of cancer inpatient with PICC

**CHIANG FANG-YING, HSU CHI-CHEN,  
YANG WAN-ZHEN, WU TUNG-YUN,  
CHUANG SHU-TINGCHIEN SOU-HSIN**

#### Background/Problem/Objective

Cancer inpatient will often need to take anti-cancer medicine from veins during their chemo therapy. To input PICC enable cancer patients complete the chemotherapy more safe and comfortable. From 2017 January to June, We have totally collected 174 inpatients who have PICC. During the experimental period, there are totally 16 incidents occurred, and the rate of occurrence is 9.2%. The top three incidents including 6 cases of opilation of tube, 4 cases of tube removing and 3 cases of dermatitis.

#### Methods/Intervention

This project aims to decrease the PICC infection rate for cancer patients down to 5 %. Through decision matrix analysis, We have made solutions according to the mention factors. 1. To held two PICC on-job education and field training. 2. To revise PICC wound caring SOP. 3. To record the technical training video for place PICC tube, tube washing and medicine replacing. 4. To make medical education sheets for PICC self-caring.

#### Results (of evaluation)

The project took place from 2017 September 1st to 2017 November 30th. There are totally 85 inpatients using PICC. Only two patients (2.4%) removing the tube due to the infection and the other two patients (2.4%) had tube sliding due to dermatitis. The occurrence rate of complication for PICC is 4.7%, which is below the project target.

#### Conclusions/Lessons learned

Because of the effective implementation of the project, we formulated that: 1. To add PICC simulation training aids for field practice. 2. To arrange regular on-job education programs and continuing the training for our nursing staffs. 3. To foster seed drillmaster to provide consultation and skill assistance in order

to promote the tube caring quality and safety of cancer patients.

#### Comments

By enforcing this project, we can make improvement according to the main abnormal factors for tube caring. After employing the project, the nursing staffs can increase the correction rate for tube caring and decrease the infection rate. By listing PICC caring as one of the regular monitoring item, we can promote the quality and make the tube caring more safe.

#### Contact: HSU chichen

Buddhist Tzu Chi Medical Foundation  
No.88, Ssc 1, Fengxing Rd, Tanzi Dist. Taichung, Taiwan.  
Taichung, [a0928508556@gmail.com](mailto:a0928508556@gmail.com)

## The 5-year continuous quality improvement program can reduce in-hospital cardiac arrest via early warning information system

**KUO Shu-Hung , HUANG Wei-Chun , JUAN Wang-Chuan , LIN Kun-Chang , HUNG Wang-Ting , CHIANG Cheng-Hung , LIN Sheng-Che , CHENG Chin-Chang , LIN Po Hsiang , MAR Guang-Yuan , WANN Shue-Ren , CHEN Yao-shen , LIU Chun-Peng, CHENG Jin-Shiung**

#### Background/Problem/Objective

Although improvement of survival and neurological outcomes after in-hospital cardiac arrest during the past decade, the rate of survival to discharge is still high. American Heart Association (AHA) Guidelines for cardiopulmonary resuscitation (CPR) and emergency cardiovascular care (ECC) add surveillance and prevention into new IHCA chains of survival, which means early warning system is critical for IHCA patients. The aim of this study is to investigate the impact of continuous quality improvement (CQI) method on reducing IHCA.

#### Methods/Intervention

Total 247,426 consecutive adult patients admitted to a tertiary medical center between January 2013 and September 2017 were enrolled in this study. Since 2015, we organized a multi-disciplinary CQI team, including cardiologists, intensivists, emergency physicians, and nursing staffs. The key interventions in this program include electronic national early warning score information system, nurses and physicians computer-based reminding alarm if NEWS  $\geq 7$  or more than highest scores among previous 3 measurements, real time early warning screen saver and electric board, in service education and early warning monitor team.

#### Results (of evaluation)

Total 1,599,921 patient-day, including 738,027 internal medical patient-day, was included in this study. The incidence of IHCA improved from 0.37‰ in 2013, 0.36‰ in 2014, 0.32‰ in 2015 and reduced to 0.26‰ in 2016 and 0.28‰ in 2017 ( $p < 0.05$ ). The rate of IHCA improved from 2.5‰ in 2013, 2.4‰ in 2014, 2.1‰ in 2015 and reduced to 1.7‰ in 2016 and 1.8‰ in 2017 ( $p < 0.05$ ). The incidence of IHCA in internal medical patients improved from 0.62‰ in 2013, 0.65‰ in 2014, 0.60‰ in 2015

and reduced to 0.43‰ in 2016 and 0.49‰ in 2017 ( $p < 0.05$ ). The rate of IHCA in internal medical patients improved from 4.8‰ in 2013, 4.9‰ in 2014, 4.6‰ in 2015 and reduced to 3.4‰ in 2016 and 3.7‰ in 2017 ( $p < 0.05$ ).

#### Conclusions/Lessons learned

This 5-year study demonstrated that continuous quality improvement method can reduce the incidence and rate of IHCA, especially internal medical patients.

**Contact: WEI-CHUN Huang**

Kaohsiung Veterans General Hospital  
No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City, Taiwan  
81362 Kaohsiung, [wchuanglulu@gmail.com](mailto:wchuanglulu@gmail.com)

## Improvement of Healthcare-association Bloodstream Infection in Hemodialysis Outpatients at a Medical Center Unit

**LO J.-C., LIN H.-C., SHENG W.-H. CHEN Y.-C.**

#### Background/Problem/Objective

Hemodialysis patients receive frequent arteriovenous puncture, and have higher risk of bloodstream infection (BSI). We aim to reduce health care-associated bloodstream infections in hemodialysis outpatients at a medical center.

#### Methods/Intervention

We set up a standardized protocol according to Center for Disease Control and Prevention Care promote care bundle of central venous line. An interdisciplinary team hold a series of activities for insertion and maintenance of hemodialysis catheterization. The activities during this period include CVC kit standardizing for maximal barrier precautions. The doctor of indwelling CVC must surgical hand disinfection, skin disinfectant with chlorhexidine gluconate, personal protective equipment standardizing with hemodialysis procedure, a project for improving puncture methods of artery-venous fistula, change dressing standardizing for CVC, senior physician teaching using ultrasound select place the site. The CDC/NHSN criteria was used to investigate the infection density associated with hemodialysis between 2006 and 2016.

#### Results (of evaluation)

After the intervention the infection density was reduced from 1.91‰ (baseline periods, Jan 2009 to Mar 2011) to 0.59‰ (Apr 2011 to Jun 2016). The infection density of preventable pathogen (Gram positive cocci) was reduced from 0.40‰ to 0.03‰.

#### Conclusions/Lessons learned

Hemodialysis patients had higher risk of healthcare association bloodstream infection. Continuously implement of quality improvement and infection control activities are important to decrease healthcare association infection. Our intervention of care bundle revealed a successful experience to promote the care quality of hemodialysis units.

**Contact: LIN Hui-Chi**

Center for Infection Control, 2 Internal Medicine, NATIONAL TAIWAN UNIVERSITY HO  
No.7, Zhongshan S. Rd. Zhongzheng Dist., Taipei City 10002  
[heigilin@gmail.com](mailto:heigilin@gmail.com)

## Improving Magnetic Resonance Imaging Test Completion Rate

**LIN Chuan-Yu, WEI Hung-En, HSIEH Ping-Chang, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

#### Background/Problem/Objective

Improve the magnetic resonance imaging test completion rate in conjunction with the pursuit of image quality and medical service improvement, coupled with patient-centered community medicine.

#### Methods/Intervention

One or two days prior to a magnetic resonance imaging test, the nurse or radiologist should take the initiative to inform the patient of the test and health education matters by phone. If the patient cannot be reached, a family member will be notified to take a message; if either continues to be unreachable, the social work team will make follow-ups. In addition, the division has produced health education pamphlets and related health education videos in five languages, which are supplied to patients ten minutes before the test on the day for them to understand the test environment, re-test indications and health education simulations in order to reduce the patient's worry and stress during the test.

#### Results (of evaluation)

The patient's test completion rate increased from 91% to 94.6%. The patients were able to report to the hospital in time for a test and undergo multiple health education sessions in advance, thereby effectively reducing waiting time and enhancing the test service volume executed. From May 2016 to October 2017, the average test service volume reached 134 persons, and the service volume for November 2017 increased to 149 persons, accounting for an 11% service volume increase and an indication of significant service improvement effectiveness.

#### Conclusions/Lessons learned

Medical services should be noticeable and heartfelt, with an initiative to "give" and "offer" considerate services. Radiologists in medical institutions, in addition to performing imaging tests, also partially take on health education work. Patients often fear the unknown and tests, in need of assistance from the medical team as well as their cooperation and mutual encouragement. Through the Division's improved service quality and minimized accidental factors during an ongoing test, the tested patients' trust and support for the hospital improved. The warm reminders and confirmations on test schedules contributed to the improved test rate and test completion rate that relieve patients from the cumbersome toil, comprehensive and advanced tests with sound quality as well as clinical tests that produce instant results are provided to achieve the goal of improving medical service quality.

**Contact: LIN Ching-feng**

Keelung Hospital Ministry of Health and Welfare

Shin-Erh Road 268, 201 Keelung,  
chingfeng01@gmail.com

## Factors Influencing Inpatient Medication Errors: An Analysis of the Medical Incident Reporting System

WU Ju-Fang, CHEN Shu-Lin, CHEN Chieh-Fan, LA Wen-Ter

### Background/Problem/Objective

This study aimed to investigate the status of and factors related to the occurrence of nursing medication errors (NMEs) in a regional teaching hospital in southern Taiwan.

### Methods/Intervention

A total of 299 adverse events reported voluntarily by 213 nurses from January 2013 to December 2016 at this regional teaching hospital were analyzed. Descriptive and correlation analysis was performed to identify factors associated with the occurrence of NMEs.

### Results (of evaluation)

The NME occurrence rate was 9.37%. The mean±SD frequency of NMEs for the reporting nurses was 2.01±0.66 times, with a maximum frequency of 4 times. Nurses who were aged 20 to 24 years, who were still completing the 3-month probation period, and who were at the N stage of the clinical ladder had higher NME rates than the other nurses. The NME rate reported to the hospital varied from month to month, in association with nurse workforce insufficiency and surges of recruitment of new staff during some periods. The most frequent cause of NMEs was lack of compliance with the "three-reads, five-rights" process, followed by confusion of drugs with similar names and appearances. Among drug types, antibiotics, especially those given in injection form, were most commonly involved in errors. Nurses who worked the day shift had a higher NME rate than those who worked other shifts. Regarding the consequences of medication errors, 4.23% of patients suffered from at least a moderate degree of injury for which they needed treatment. The nurses' number of years of experience, position on the clinical ladder, units, and shifts were significantly correlated with NME frequency. Working in the surgical ward and being on the N clinical ladder were significant independent variables predicting the frequency of NMEs.

### Conclusions/Lessons learned

Based on our results, we suggest that hospital nurses strictly follow the "three-reads, five-rights" process when administering medicine to patients. Improving new nurses' drug-identification ability and compliance with standard operating procedure is an important issue for the clinical nursing administration.

### Contact: SHU-LING Chen

Kaohsiung Municipal United Hospital (ROC)  
No.976, Jhonghua 1st Rd., Gushan Dist., Kaohsiung City 80457  
80457 Kaohsiung City, Taiwan (R.O.C.), [juno3180@gmail.com](mailto:juno3180@gmail.com)

## The investigations of Hospital Services and Patients' Loyalty - Using a Regional Teaching Hospital in Northern Taiwan as an Example

WU Chi-wen, LIN Yu-wen, YANG Nan-ping, LIN Ching-feng

### Background/Problem/Objective

This is the primary goal of all levels of hospitals at present to improve the quality of medical services in hospitals, bring higher medical effects and service quality to patients. This goal not only affects the acceptance of the hospital, but also affects the patient's medical loyalty to the hospital or doctor. In the present paper, the quality of medical services may come from such factors as the quality of service, medical staff and administrative staff.

### Methods/Intervention

In this study, the structural questionnaire was designed to address the issue of free recruitment of internal patients and their families at Keelung Hospital of Ministry of Health and Welfare. The questionnaire design includes six sub-questionnaires: (1) services for medical staff, (2) hospital space and mobility configuration, (3) medical technology and equipment provision, (4) patient safety and health education, (5) administration staff services, (6) patient's loyalty to hospital and doctor. We want to know which items are the major factors in the quality of healthcare services and performing statistical analysis with the subjects' variables including overall satisfaction, gender, age, number of visits and so on.

### Results (of evaluation)

The results of ANOVA showed that there was no significant difference in the quality of healthcare services,  $F(1999)=2.03, p=0.09$ , five indicators reached a level of satisfaction above 4, representing satisfactory evaluation of all five indicators. The highest satisfaction was the medical staff services, the lowest was patient safety and health education. The results of MANOVA showed that there was no significant difference in the six indicators between gender, place of residence, income, treatment category and number of visits. In terms of age, subjects over the age of 60 were found to have higher scores than subjects aged 50-59. The level of education showed significant differences, with those middle school and lower level of education had higher scores than those with technical and university education.

### Conclusions/Lessons learned

The age and education status may not be the same for the quality of medical services. In the future, it is hoped that analyses of these specific groups to find possible reasons for improvement. The results of this study will provide information on the quality of hospital-related medical services and bring substantial help to the hospital.

### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Project for Reducing the Amount of Overtime Worked by Paramedics in Medicine Departments

**HUANG ya-hui, CHENG jin-shiung**

### Background/Problem/Objective

Worldwide, it has become a common problem that paramedics are frequently required to work overtime, which not only poses a serious threat to their physical and mental health but also influences the lives of patients and quality of nursing. General medicine departments typically have only a single ward to provide holistic health care. Because of the special nature and variety of the services provided, the percentage of overtime worked by paramedics is relatively high.

### Methods/Intervention

From January 1 to June 30, 2017, the panel implemented a series of solutions, including promoting and implementing the simplification of nursing records, revising standards on outpatient services, implementing a newly revised succession schedule, and changing the custom of writing records only after work or treatment has been completed.

### Results (of evaluation)

Through these measures, the panel has successfully reduced the daily average among of overtime worked by paramedics (from 111 to 52 min), shortened the length of morning conferences (from 17 to 7.2 min), and improved succession times (from 60 to 38.6 min).

### Conclusions/Lessons learned

These results show that the objective of this project was achieved; thus, it will be continued moving forward. The implementation of this project is aimed at ameliorating the problem of paramedics' working overtime, thereby improving the work environment and quality of nursing.

**Contact: YAHUI huang**

[yhhuang@vghks.gov.tw](mailto:yhhuang@vghks.gov.tw)

## The Association between the Development of Pressure Injury and the Operative Positioning in a Medical Center: a Cohort Study.

**WANG Shu-ling, CHUANG Fu-Lien, LIN LI-HUA, WU Shing-Fen, TANG Yi-Chen, CHENG Jin-Shiung**

### Background/Problem/Objective

Pressure injury is one of the common problems in the surgical patients, regardless of medical quality or medical, social costs considerations is a topic worthy of attention. This study aims to investigate the occurrence rate, area, grades of the pressure sores in the surgical patients in our hospital with the four different operative positioning.

### Methods/Intervention

To examine these issues, we designed a retrospective cohort study using the data in the period of 2014. The subjects regarding the occurrence rate of pressure injury are the surgical patients from a medical center (total number of surgeries: 25,649). The data of pressure injury area and grading are focused on the patients with the development of pressure injury during operation (Total number of surgeries: 1,126). The data are extracted from the operation room and the postoperative recovery room management system and the records of pressure injury on Google Cloud.

### Results (of evaluation)

the development rate of pressure injuries is 4.4%, with the most of first grade (83.5%), followed by the second grade (15.8%), and Surgery patients have pressure injuries to men (63.6%) and general anesthesia (99.1%) accounted for the majority. Four kinds of surgery supine to prone highest incidence of pressure ulcers (16.6%), The degree of pressure ulcers at a ratio of more than two highest occurrence of side (34.1%) Supine and lateral pressure ulcer area produced significantly greater than prone

### Conclusions/Lessons learned

The current study result could serve as the reference for the development of nursing management for the perioperative occurrences of pressure injuries, also can improve the quality of patient care by providing further evidence-based research result.

**Contact: LIN LI-HUA**

Kaohsiung Veterans General Hospital-Nursing Department  
386, Ta-Chung First Road, Kaohsiung 813, Taiwan

[llhlin74068@gmail.com](mailto:llhlin74068@gmail.com)

## Analysis and Research on 2017 Abnormal Incidents in the Department Pharmacy of Pharmacy-Using a Regional Teaching Hospital in Northern Taiwan as an Example

**SHIH Po-Jen, LIN Yu-wen, YANG Nan-ping, LIN Ching-feng**

### Background/Problem/Objective

Targeting the patient safety system in Taiwan, this hospital, analyze root causes and establish an error prevention mechanism, thereby achieving the goal of a safe medical environment. In addition to errors during medical order issuance stage, medication stage and pharmacy formulation stage, many unusual events cannot be ignored despite their rarity. Hence, every link in medication safety has its great importance.

### Methods/Intervention

Targeting the hospital's outpatient, emergency and hospitalization medication anomalies in 2017, and exclusion of medication repetition, dosage and usage errors, and other common errors, a rare unusual event descriptive statistical analysis was conducted, including medication errors detected during irrelevant diagnostic examinations, oral medical order errors, patient errors, injury behaviors and other unusual incidents.

**Results (of evaluation)**

The results show that 730 drug incidents were reported in 2017, of which 20 were irrelevant diagnostic drugs, accounting for 2.73%, the doctor prescribed anti-epileptic drug Aleviatine for a patient diagnosed with diarrhea, Alverine is correct; seven oral medical order input errors (0.96); eight patient errors (1.10%); there were five injury behaviors (0.68%), such as the patient shouting and verbal violence at the medication claim counter, needing volunteers or supervisors to appease and explain to the patient.

**Conclusions/Lessons learned**

Unusual medication incidents are often reviewed and improved through PDCA or RCA related quality tools. The medical order disposal codes that are often wrong were changed to an effective error prevention mechanism. As for urgent oral medical orders should be gradually minimized to reduce input and medication errors. During pharmacists' medication operations, patient confirmation related procedures and patient education should be strengthened. For the medication safety part, everyone can prevent possible errors and strive to enhance medical quality and patient safety.

**Contact: LIN Ching-feng**

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## A MODEL TO MANAGE REHABILITATION NEED AFTER ORTHOPEDIC DISCHARGE

**MARTINO MARIA TERESA, VARALDA  
EMILIANO, BONA CAROLINA, REITANO  
FRANCESCO, ABATANGELO  
LUCAMARTINO MARIA TERESA**

**Background/Problem/Objective**

Patients' safety is a very important hospital matters. International literature reports that good communication and organization can support wards system and improve patients' safety. When patients are discharged from hospital, usually few oral explanations follow the medical letter of resignation and sometimes, this can generate confusion. The aim of this study is to demonstrate that an organization can be improved and the feeling of safety, amplified. This way allows patients to trust more and more the hospital system

**Methods/Intervention**

We organized the beginning of intensive rehabilitation (MAC 8) for orthopedic diseases in Vigevano' hospital. We involved patients at their discharge time from orthopedic ward and listed them from January 2016. They were told to do anything for rehabilitation reservation (medical check, rehabilitation program), as they have to do in Italian hospitals, because they have been inserted in a dedicated rehabilitation system list/program. At the right time, respecting orthopedic indications, each patient began rehabilitation. They had all temporary acquired disability.

**Results (of evaluation)**

Until now 149 males and 153 females (aged from 16 to 70yrs) attended this simplified program to enter rehabilitation system. Most people were students or workers and few of them just retired. They had to do anything but waiting for our telephone call. Most of them entered rehabilitation program after a resting period but the timing was correctly calculated as it was one of the information needed to monitor each patient, inserted in the system. System is still working.

**Conclusions/Lessons learned**

People seem to appreciate this organization where hospitals and its systems take care of the whole period of recovery even if already discharged. People are told about their informations to manage at home, and they enter the rehabilitation system if they need. The organization follows each patients' indications who begins at the right time after a telephone call who communicate what to do.

**Comments**

The communication's support helps people to understand better all the indications that sometimes, are difficult to manage alone. It improves the safety feelings of patients. Besides if a system positively works for people care, it gives more credibility to every hospital efforts and job action not so often visible because of the complexity of the organization

**Contact: MARIA TERESA MARTINO**

ASST DI PAVIA  
VIA MONTE BALDO, 27029 VIGEVANO,  
[maria\\_teresa\\_martino@asst-pavia.it](mailto:maria_teresa_martino@asst-pavia.it)

## Prescriptive appropriateness of orthopedic, physiatric, rheumatological, neurosurgical visits and of NSAIDs in the elderly patient

**MARCONI Bettina, PROSCIA Irene,  
PALAZZI Mario, FERRETTI Eleonora, PISI  
Filippo, FERRARI Lorenzo, FANTUZZI  
Sara, RODOLFI Rossella, BASSI Maria Be-  
atrice, VALERIANI Samanta, FERRAÙ  
Claudio, GUALTIERI Sonia, PINOTTI Mirco,  
BUSANI Corrado, GABRIELLI Laura**

**Background/Problem/Objective**

The data of Reggio Emilia, Local Health-Authority Primary-Health-Care-Units, remarked some areas of inappropriateness: The number of request for specialist examinations in Castelnovo ne' Monti District is higher than province and region data Less requests for physiatric visits High employment of NSAIDs for more than 15 days in the patients aged over-65 A meeting was organized to share the objectives with the Primary-Health-Care-Coordinators and the specialists concerned. The protocol has been revised and prescription data of specialist examinations have been checked.



**Methods/Intervention**

The pharmaceutical service extracted for the General Practitioners the data of the patients aged over-65 that employed NSAIDs for more than 15 days in year 2016. The data will be compared with those of 2017. Each practitioner analyzed his data. All the prescriptions of NSAIDs for more than 15 days in the patients aged over-65 were considered inappropriate, except for: acute lumbosciatalgia, cancer pain, acute rheumatic diseases, potentially inappropriate: NSAIDs in mono-administration with a number of tablet >15.

**Results (of evaluation)**

An intermediate meeting after the first intervention has been organized. Specialistic examinations and NSAIDs prescriptions in the first months of 2017 were compared with the same period of 2016. The number of specialist visits, especially orthopedic, was reduced. The number of the physiatric visits increased. The prescriptions of NSAIDs for more than 15 days in the patients aged over-65 were reduced. In each Primary-Health-Care-Unit were remarked the percentages of totally inappropriate prescriptions and with which NSAIDs.

**Conclusions/Lessons learned**

The intermediate data, waiting for the complete data of 2017, showed a reduction of specialist examinations considered inappropriate and an increase in physiatric visits. Meanwhile, it has been pointed out a reduction of the prescription of NSAIDs for more than 15 days in the patients aged over 65

**Contact: GABRIELLI Laura**

AUSL Reggio Emilia  
Via Carandini 10, 41043 Formigine ,  
[laura.gabrielli@ausl.re.it](mailto:laura.gabrielli@ausl.re.it)

## Peer comparison in order to improve the prescriptive appropriateness in pediatrics

**MONTANARI Rita, MANZOTTI Romano, GIORGI ROSSI Paolo, MANCUSO Pamela, PINOTTI Mirco, GABRIELLI Laura**

**Background/Problem/Objective**

Upper respiratory tract infections are the first prescription cause of antibiotics in pediatrics. When necessary, all the Guidelines recommend the employment of Amoxicillin, as first choice. The available prescription data compared with the European ones highlight a significant prescriptive inappropriateness in Italy. Despite of this trend, in Reggio-Emilia province and in particular in Scandiano District the antibiotics prescriptions in pediatrics have remarkably improved from 2011 to 2015.

**Methods/Intervention**

Several means have been employed to promote the prescriptive appropriateness of antibiotics in pediatrics and to get such significant improvement in Reggio-Emilia province: diffusion of existing Guidelines, discussion and confrontation about secondary literature, regional project ProBa, promotion of the employment of rapid pharyngeal swabs, local agreements with the pediatricians, elaboration of reports of the pharmaceutical prescriptions. With the prescription reports realized in Scandi-

ano district, each pediatrician can easily compare his prescriptive habits with those of his colleagues of the District.

**Results (of evaluation)**

The prescription rate of all antibiotics in pediatrics in Reggio-Emilia province has decreased in all the districts. The prescription of Amoxicillin increased in Scandiano District (median from 644 to 690) and in the other districts of the province (median from 533 to 674). Moreover, in Scandiano district was observed also a concomitant reduction of the inter-individual variability of the prescriptions between the single pediatricians (Scandiano interquartile range from 453 to 319; other districts interquartile range from 489 to 305).

**Conclusions/Lessons learned**

The collegial discussion of the prescription data of each pediatrician compared to those of the professionals of the District is a useful and valid mean to promote the prescriptive appropriateness. The mean can also reduce the inter-individual variability of the prescriptions, inducing the single professionals to the virtuous behavior.

**Contact: GABRIELLI Laura**

AUSL Reggio Emilia  
Via Carandini 10, 41043 Formigine ,  
[laura.gabrielli@ausl.re.it](mailto:laura.gabrielli@ausl.re.it)

## Patient safety in real time

**ELKJAER Eva-Karin**

**Background/Problem/Objective**

Patient safety in Real time (PiR) is a further development of the method Global Trigger Tool (GTT). The aim of PiR is, in addition to the identification of hospital induced complications, to include and study the patients' perspective on quality and patient safety, continuity in care, person centered matters, and drug related problems.

**Methods/Intervention**

Structured reading of the patient records according to GTT together with person-centered questions, during ongoing care Interviews with patients and/or their relatives The care team and the managers of the unit receive feedback the same day as the review takes place The care team now has the opportunity to take necessary measures to meet the patient's needs and to prevent them from harm

**Results (of evaluation)**

The reviews take place during the care episode and each review includes one patient group of 6-10 patients. The care team and the unit's managers receive feedback the very same day. This is the most important part of the method since the receiving of feedback provides the opportunity for reflection, learning, correction of misunderstandings, and the chance to prevent hospital induced complications during ongoing care. Patient perspective are shared with care team.

**Conclusions/Lessons learned**

189 patients were included, a total of 1280 care days 39 patients and relatives were interviewed 26 care teams received feedback Immediate measures were taken to meet patient's needs and to improve routines and work procedures Most of the interviewees believed that participation is about gaining

access to the knowledge of what caused their inconvenience and what is the plan. Participation in me is that the doctor tells and informs without having too extract the information"

**Contact: ELKJAER Eva-Karin**  
Sahlgrenska University hospital  
Diagnosvägen 11, 41685 Gothenburg,  
[eva-karin.elkjaer@vgregion.se](mailto:eva-karin.elkjaer@vgregion.se)

## Evaluating the Effectiveness of Fall Risk Screening Tool to identify the fall risk factors in acute care hospital

**HSING HUI-FEN, LI IN-FUN, CHEN SHIH-CHIA, LIN SHU-CHUANHUNG TA-CHUAN**

### Background/Problem/Objective

Patient falls are the most frequent adverse events that occur in a hospital. Falls occur frequently and can have serious physical and psychological consequences. A successful fall prevention is to identify those at risk of falling but several risk screening tools applied in acute care hospital exist differences. The aim of this study was to identify the most critical fall risk factors and assessment tools in acute care hospital.

### Methods/Intervention

Revised falls risk assessment tool from evidence-base of meta-analysis, and combined with detect the muscle power of the lower extremities. The inpatient data for the period from July 2015 to June 2016 was extracted from the adverse event reporting system and nursing information system of medical center. The sample Include medical and surgical ward adults, exclude intensive care center and obstetrics. The data were analyzed by receiver operating characteristic curve (ROC) and multivariate logistic regression.

### Results (of evaluation)

During the study period, 235 fallers and 15,581 non-fallers were identified. The result of the analysis showed the inpatient fall risk screening tool AUC= .862, (sensitivity, 80%; specificity, 81% , Likelihood ratio 4.24). The Youden index suggests at least 2.5 points to be the most suitable cut-off point for the inpatient fall risk screening tool. Furthermore, the logistic regression had identified that the odds ratio of falling among high risk fall inpatients was 17.02 times higher than other inpatients and revealed a considerably increased fall risk in patients with: History of falls, Impaired ability to walk and dizziness accompany with weakness. The implementation of the new fall risk assessment tool the fall rate drop from 0.031% to 0.029% during 2016 to 2017.

### Conclusions/Lessons learned

We concluded that the Revised fall risk assessment tool can raise alertness and awareness of clinical nurses to identify inpatients adult at a high risk of fall. Fall risk tools and risk factors may provide an empirical evidence to help nurses to adjust current patient safety care plan, and facilitate the development of fall prevention interventions and reduce the fall rate.

**Contact: HSING HUI, FEN**  
Mackay Memorial Hospital

Minsheng Rd, 251 Taipei,  
[shingyanrong@gmail.com](mailto:shingyanrong@gmail.com)

## Exploring the Inpatient Fall Incidence Factors in Psychiatric Center Southern of Taiwan

**CHANG Shu-Min, LU Huei-Lan**

### Background/Problem/Objective

The purpose of this study was to exploring the inpatient fall incidence factors in psychiatric center southern of Taiwan, as a reference of treatment strategies for a medical professional team

### Methods/Intervention

Data collection by the patient safety reporting system from Jan. to Dec. in 2017 in a psychiatric center southern of Taiwan. To collect the data of inpatient falls incidence, variable data included age, gender, and diagnosis, date of occurrence, time, place and degree of injury. SPSS18 version for statistical analysis.

### Results (of evaluation)

There were 428 valid falls incidence in the statistical results, 293 incidence (68.46%) in acute ward, 135 (31.54%) in rehabilitation ward, 201 were males and 227 were females. There were 246 incidence (56.78%) with no injuries, the average male age was 51.41 and female was 46.88. The occurrence of day shift was 176 (41.12%), of which 54 (30.68%) occurred at the treatment period (8:00-10:00) , with 125 (29.20%) at night shift, of which 54 occurred at 18:00 -20:00 in the evening, There were 127 (29.67%) incidence occurred at night shift, 52 (40.94%) incidence occurred from 6:00 to 8:00 in the morning. The falls factor included 246 (57.48%) were health factors , 56 (13.08%) were medication factors , 55 (12.85%) were environmental factors and 71 (16.59%) were other factors. 175 (40.9%) cases with diagnosis of Schizophrenia , 140 (32.71%) cases were Bipolar disorder , 92 (21.49) case were dementia and organic mental disorder, 11 (2.57%) cases were mental retard .

### Conclusions/Lessons learned

The result found that the falls incidence of psychiatric inpatients, most of patients with obvious psychiatric symptoms, mood disorders, impulsive behavior, they were in high risk of fall due to the psychotic symptom and medication side effects. Occurrence period included during medical treatment, nighttime toilets, early morning washing and breakfast breaks. Therefore, it is proposed that medical care should be based on individual attributes and the direction of medical treatment should be more individualized; arrange more staffs to strengthen rotation of high-risk case dynamics, strengthening the use of identification, warning and manpower deployment, which we believe can be effectively improved.

**Contact: LU Huei-Lan**  
Jianan Psychiatric Center, MOHW  
No.80, Lane 870, Jhong-shan Road , Rende District  
Tainan, [csha731@mail.cnpc.gov.tw](mailto:csha731@mail.cnpc.gov.tw)

## Session P2.1: Chronic disease management II

### Screening of Late-Onset Pompe Disease in a Sample of Taiwan Chang Bin area Patients With Liver Function Etiology

**CHIA Shing Sung, SHIH Pei-Jhu, LYU Cang-An, LIN Kai-Han**

#### Background/Problem/Objective

Pompe's disease is an autosomal recessive lysosomal storage disease caused by a deficiency of acid

#### Methods/Intervention

The method we use is to run statistical data from 2015 to 2017 using Pompe's disease screening in 390 patients in our hospital. This study aimed to determine the prevalence of late-onset Pompe's disease (LOPD) in a high-risk population. GAA assays using whole blood or dried blood spot (DBS) samples are an established diagnostic method for Pompe's disease. With a positive DBS test result, a GAA tissue assay or genetic analysis should also be completed to confirm a LOPD diagnosis.

#### Results (of evaluation)

There are 243 male (62.3%), and 147 female (37.7%). The Pompe's disease screening shows that one of 147 female is positive while three of 243 screening is positive. In DNA sequencing, we found out that there are c. | 726G>A, p.Gly576Ser | Homozygote, c. | 1935C>A, p.Asp645Glu | Heterozygote, c. | 2065G>A, p.Glu689Lys | Homozygote, c. | 752C>T, p.Ser251Leu | Heterozygote, c. | 761C>T, p.Ser254Leu | Heterozygote gene mutation may cause enzyme activity reduce, and enzyme deficiency.

#### Conclusions/Lessons learned

The screening of LOPD patients with liver function diseases revealed only non-pathogenic genes. But these patients with genetic changes can continue to track whether there is a change, because LOPD because of its part of the GAA activity, the disease deterioration rate is slower than the baby type. It may occur in childhood or adulthood, and the symptoms and severity vary from person to person. The main symptoms of this type of patients are muscle weakness, respiratory failure or insufficiency, gastrointestinal problems.

#### Comments

According to the statistics survey results show that the long-term clinical patients with unexplained symptoms, Blood tests Creatine-phospho-kinase(CPK), Lactic dehydrogenase(LDH) 、 glutamic-pyruvic transaminase( GPT) 、 glutamic-oaa transaminase(GOT), dried blood spot from abnormal index patients were screened to identify potential patients.

#### Contact: CHERN Meei-Ling

Chang Bing Show Chwan Memorial Hospital  
No.6, Lugong Rd., Lugang Township  
Changhua, [kkmimi0507@hotmail.com](mailto:kkmimi0507@hotmail.com)

## Diabetic friendly care for disabled --- The clinical experience of Diabetes Home Visit Service

**CHIEN Li-Hsin , KUO Chao-Tsen , LO Hsueh-Mei , CHUANG Hsiao-Ling , HSIEH Jiun-Sheng, LO Su-Huey**

#### Background/Problem/Objective

Diabetes Mellitus is a complex disorder, characterized by serious chronic complications if the metabolic disorder is not well controlled. The experience of outpatient clinics had shown that some disabled diabetic old patient had no laboratory result because they were inconvenient to go to hospital to receive blood test. In order to provide better service for these incapacitated patients, the Diabetic Home Visit Service was performed by Diabetic Home Visit Group (DHVG) since October, 2016. We can assist the clinicians by providing laboratory examination, medical suggestion and encourage the patients by showing our thoughtfulness.

#### Methods/Intervention

The DHVG enroll multi-aspect of diabetic specialist including: physician, nurse and medical technologist. The DHVG is actively participated in the care of disabled diabetic patients, the DHVG visit the diabetic patient at home each quarter to evaluate the general health condition, to provide medical consultation and to do the blood test for the patient. The final goal is a " comprehensive and intimate care of diabetes".

#### Results (of evaluation)

From 2016 to 2017, the DHVG had enrolled 10 diabetic patients(5 male and 5 female, age 82.7±9.3 y/o )and performed 25 times of home visiting, the average HbA1c before visiting was 8.1±2.2%, 6 months after regular home visiting was 7.1±1.7%.

#### Conclusions/Lessons learned

Diabetes Home Visit Group actively and energetically participate in the share care of disabled diabetic patients, can provide the patient regular laboratory test to improve blood sugar control and better health-care quality, It's worth to promote to other health-care system.

#### Contact: LO su huey

Tao-Yuan general Hospital, Ministry of health and welfare  
1492 Chung-Shan road, 300 Tao-yuan city,  
[shlo@ms1.hinet.net](mailto:shlo@ms1.hinet.net)

## Impact of self-measurement frequency via mobile health application on blood glucose and blood pressure levels

**PARK Hee Dong, OH Jae Ho, HAN Seung Hee, SHIM Ga Yang, KIM Doyen**

**Background/Problem/Objective**

Chronic disease management (CDM) for diabetes and hypertension patients are, at the very least, a two-pronged effort. It necessitates patients' own diligence to lifestyle management as well as regular medical care. Recently, smartphone applications proved to be useful in managing metabolic health indicators. To test a theory that frequently self-measuring and inputting health data would be beneficial for patients' health, all patients included in the study received blood pressure (BP) monitors or glucometers and were instructed on self-measurement.

**Methods/Intervention**

Adult outpatients (n=128) were recruited from Seoul Medical Center (SMC). All were prescribed hypertensive/diabetes medications, in a CDM project, and downloaded the "SMC Smart-care" mobile application, which automatically transfers recorded data to a hospital-based server. Fasting glucose and BP at their highest were included as primary data. First recorded health measures were considered as initial. Mean and change rate was calculated over a six-month period. Independent t-test was used to analyze the differences in change rate, factoring in measurement frequency.

**Results (of evaluation)**

Change rate in blood glucose was significantly increased in patients that self-measured their health indicators more than six times within the study period ( $t(61)=-2.462$ ,  $p=.017$ ). No significant changes, however, were observed in systolic/diastolic BP levels despite measurement numbers (systolic  $t(38)=-1.803$ ,  $p=.079$ ; diastolic  $t(38)=-1.316$ ,  $p=.196$ ). This outcome is in partial alignment with the hypothesis that patients who frequently measure their chronic illness health parameters are more cognizant of their state and therefore more likely to be in control of their health.

**Conclusions/Lessons learned**

It is possible that with a more longitudinal approach, patients' attention to their health parameters, signified by their number of recordings in the Smartcare app, could result in significantly lowered BP as well as glucose levels. While BP and glucose levels could be managed with similar methods such as diet and exercise, it takes more time for the change in lifestyle to leave a permanent change in BP. Future studies could address this longitudinal approach for mobile healthcare management.

**Contact: PARK Hee Dong**

SEOUL MEDICAL CENTER

HPH Team, 156, Sinnae-ro, Jungnang-gu, Seoul, Republic of Korea, 02053 Seoul,

[technocar@seoulmc.or.kr](mailto:technocar@seoulmc.or.kr)

## GDM Intimate Care Program --- The Clinical Experience from a Regional Teaching Hospital

**LO Hsueh-Mei, LI Jui-Hsiang, CHEN Show-Wen, LO Su-Huey**

**Background/Problem/Objective**

Gestational Diabetes Mellitus (GDM) is a common complication during pregnancy. Both the mother and fetus would have higher morbidity and mortality rate if the blood sugar was not well controlled during pregnancy. The prevalence of macro-

somia in GDM is around 15-45%, so the good glycemic control during pregnancy is very important. We have initiated a "GDM intimate care program" since February 2017 to promote better glycemic control and health quality for GDM mother and baby.

**Methods/Intervention**

The GDM intimate care program enrolled multi-professional specialist, including: diabetologist, obstetrician, dietitian and diabetes nursing educator. When the GDM mother was referred to our diabetes health promotion center, we'll provide our considerate resource for them, including: nutrition consultation, free supply of glucose meter for SMBG, 24 hours blood glucose monitor and consultation through telecare, series outpatient clinic follow up before delivery and postpartum. The glycemic target during pregnancy was fasting blood sugar(ac) < 95 mg/dl and 2 hours post-meal(pc) < 120 mg/dl (ADA 2017).

**Results (of evaluation)**

From Feb. 2017 to Nov. 2017, there were 46 delivered GDM mothers, according to the A1c value at the time of GDM was diagnosed, the 46 GDM mothers were divided into 2 groups, group A(A1c<6.5%) had 38 mothers with mean age 34 y/o, A1c  $5.5\pm0.4\%$ (mean $\pm$ SD), ac  $84\pm11$  mg/dl, pc  $167\pm19$  mg/dl, 6 weeks after "GDM intimate care program" with ac  $82\pm7$  mg/dl, pc  $114\pm19$  mg/dl, there were 2 mothers with pre-term delivery and 2 baby with low birth weight, the average body weight of newborn was 3091 gm. Group B(A1c $\geq$ 6.5%) had 8 mothers with mean age 33 y/o, A1c  $7.6\pm1.3\%$ , ac  $120\pm25$ mg/dl, pc  $192\pm44$ mg/dl, 6 weeks after the program with ac  $114\pm37$ mg/dl, pc  $143\pm39$ mg/dl, there were 2 mothers with pre-term delivery, average newborn body weight was 3629 gm with 3 macrosomia and 3 neonatal hypoglycemia. Post-partum follow up of 23 mothers, 9 showed normal glucose tolerance, 10 showed impaired glucose tolerance test and 4 showed T2DM.

**Conclusions/Lessons learned**

"GDM intimate care program" create a thoughtful environment for GDM mother to provide better glycemic control during pregnancy and better pregnancy outcome, It's worth to promote to other health-care institute.

**Contact: LO su huey**

Tao-Yuan general Hospital, Ministry of health and welfare  
1492 Chung-Shan road, 300 Tao-yuan city,

[shlo@ms1.hinet.net](mailto:shlo@ms1.hinet.net)

## The effectiveness of a professional support program on medication adherence of patients with glaucoma in southern Taiwan

**WANG Yuh-Wei, HUNG Kuo-Chi, LEE Hua-Kuei**

**Background/Problem/Objective**

Background: Glaucoma is a chronic eye disease and a major cause of blindness. The key for successful control of glaucoma and stable IOP is medication and adherence to medication. Because symptoms of early glaucoma are not obvious, patients ignore the importance of using medication. In Taiwan, medication adherence of patients with glaucoma is poor. Purpose: To investigate medication adherence of patients with glaucoma

and test effectiveness of a professional support program on patients' medication adherence and vision improvement.

#### Methods/Intervention

Methods: Sixty patients diagnosed with glaucoma were recruited in an ophthalmology clinic in southern Taiwan from March to November, 2017. Thirty participants assigned in the interventional group received the professional support program, which included individualized health education and support (inspecting how medication was used and whether it was used correctly) for 3 months. The control group received only usual care. The 22-item questionnaire consisting of four domains (medication usage, knowledge about medication, health belief, and family support) with satisfactory reliability and validity (Cronbach's alphas ranged 0.75-0.94; CVIs ranged 0.85-0.93) was completed by all participants before and after the intervention. Intraocular pressure (IOP), visual acuity, and visual field of the participants were also measured. Independent t and paired t test was used to examine mean differences between groups and time. Pearson correlation was used to analyze correlation between variables.

#### Results (of evaluation)

Medication adherence of the participants in the interventional group increased from pretest to posttest. Different from family support, the participants' health belief was positively correlated with medication adherence. Those who had lower medication adherence had higher IOP.

#### Conclusions/Lessons learned

Health education and professional support that may modify patients' health belief may improve their medication adherence and further improve their disease condition.

#### Contact: HUNG Kuo-Chi

Sinying hospital, Minister of Health and Welfare, Tainan, Taiwan  
No.73, Xinyi St., Xinying Dist., Tainan City 730, Taiwan (R.O.C.)  
73042 Tainan City, [b101092013@tmu.edu.tw](mailto:b101092013@tmu.edu.tw)

## The Effectiveness of Integrated Chronic Kidney Disease Early Stage Care Program.

**TSAI Tsung-Lung , FANG Miao-Ju , SU Po-Wen , CHEN Hui-Yun , CHANG Kai-Ling , LIN Su-Chao, HSIAO Yu-Ling, LIANG Hwey-Fang**

#### Background/Problem/Objective

Taiwan is one of the countries with the highest prevalence rate and incidence of hemodialysis. Hemodialysis affects the quality of life of patients and will result in a serious medical burden. Therefore, the prevention and treatment of early chronic kidney disease is an important issue for people's health. Disciplinary team care, including physicians, nutritionists, health educator and case management could delay renal failure and enhance quality of life.

#### Methods/Intervention

Subjects were the chronic kidney disease patient who received medical treatment in 90 days in the hospital; the illness stage was including Stage 1, Stage 2, and Stage 3( IIIa). The integrated

care strategies included 1. to encourage physicians to follow the policy actively while receive the case; 2. Add an educator 3. Hold an out-patient renal care groups education (including videos and health education posters) 4. Simplify the medical treatment set the package code 5. Provide cross-team integration care.

#### Results

After the implementation of this program, the number of care for chronic kidney disease increased from 20 to 38, the progress rate of this activity was 90%, the achievement rate was 180% and the hospital annual income was increased to 11,200 NT. The result reveal that the integrated care program have achieved remarkable.

#### Conclusions/Lessons learned

This integrated care program effectively improves the care rate of patients with chronic kidney disease. Encouraging physicians to receive the case actively, increasing the manpower of educator, using diversified health education methods, assisting with computer information systems and implementing integrated disease care act., all above intervention could avoid or delay disease progression to end stage renal disease and hemodialysis treatment, reducing the medical burden, but also improve the quality of life in patients with chronic kidney disease.

#### Contact: FANG Miao Ju

Potz Hospital, zhongxiao Rd., 600 Chiayi,  
[maryfang168@gmail.com](mailto:maryfang168@gmail.com)

## Care Needs and the associated factors of Primary Caregivers of Liver Cirrhosis Patients

**SONG Truey-Yeh**

#### Background/Problem/Objective

Advances in medical technology have extended the life expectancy of chronic patients but have also increased the time and burden of chronic disease care. To provide appropriate information, support and care skills guidance during hospitalization for primary caregivers so as to reduce the impact of caregivers, reduce the rate of re-hospitalization and enhance the quality of care for chronic patients. The purpose of this study was to understand the care needs and the associated factors of primary caregivers of liver cirrhosis patients.

#### Methods/Intervention

This study used the cross-sectional design with convenience sampling. One hundred and fifty four primary caregivers for liver cirrhosis patients under hospitalization were recruited from one medical center in Taipei from January, 2014 to December, 2015. Instruments were structured questionnaires including: Personal Demographic Data, Physical Self-Maintenance Scale, Symptoms Distress Scale and Primary Caregivers Needs Scale. The questionnaire results were statistically analyzed by SPSS20.0 software. The collected data was analyzed by descriptive statistics, Pearson product-moment correlation, Paired t-test, one-way ANOVA.

#### Results (of evaluation)

The results ranked the care needs of primary caregivers of liver cirrhosis patient were Information needs, Social-Psychological



needs, Patient care needs and then Spiritual needs. The religion, experience of admission, marry status, symptom distress of patients and the sex, work status, occupation, religion, health status of primary caregivers corresponded to significant difference in care needs of primary caregivers of liver cirrhosis patient.

#### Conclusions/Lessons learned

The results of this study provide a helpful reference for clinical nursing personnel to evaluate care needs of primary caregivers and will enhance their insight to provide discharge services that are closer to the expectations of primary caregivers of liver cirrhosis patients.

#### Contact: SONG Truey-Yeh

Shin-Kong Wu Ho-Su Memorial Hospital  
95, Wen Chang Road, Shih Lin, 11101 Taipei,  
[r010748@ms.skh.org.tw](mailto:r010748@ms.skh.org.tw)

## The efficacy and economic benefit of diabetes share care program in a regional teaching hospital

KUO Chao-Then, LO Su-Huey

#### Background/Problem/Objective

According to the analysis of National Health Insurance Administration (NHIA) of Taiwan, the expense of medical health-care of DM patients was 4.3 times higher than others in 1998. More than 350 billion NT that was around 12.5% of the total budget of NHI was spent every year in the care of diabetes and its' related complications. The evidence from UKPDS research showed that early intensive glycemic control can reduce diabetes related microvascular and macrovascular complications. In order to improve diabetes care quality, Taiwan government had initiated a program that enroll multi-professional diabetic specialist including physician, nurse, dietician and pharmacist to organize a diabetes share care network system since 2001 to provide better diabetic care quality.

#### Methods/Intervention

This study collect the data from 642 new patients that was enrolled in the diabetes share care program since 2016-1-1 to 2017-12-31 and they had at least 4 times of visit/year, we had analyzed the diabetes care quality including A1c, Blood pressure and lipid profile. We also analyze the outpatient and inpatient medical expense of the patient between the diabetes share-cared (3472 patients) and non share-cared group (3103 patients) in 2016, in order to evaluate the efficacy and economic benefit of share care program.

#### Results (of evaluation)

After 1 year engagement in the diabetes share care program, the A1c from  $8.3 \pm 2.3\%$  (mean  $\pm$  SD) to  $7.5 \pm 1.6\%$  ( $p < 0.000$ ), LDL-cholesterol from  $108 \pm 35$  to  $100 \pm 29$  mg/dl ( $p < 0.000$ ), Triglyceride from  $189 \pm 73$  to  $177 \pm 53$  mg/dl ( $p < 0.147$ ). 35.5% of the diabetic patients achieved the ABC target ( $A1c < 7\%$ , and  $BP < 130/80$  mmHg and  $LDL-C < 100$  mg/dl). The average outpatient clinic visit was 5.13 times with the expense of 2464 NT at each visit in share-care group, the hospital admission rate was 1.8% with the average cost of 46281 NT per admission. The outpatient clinic visit was 3.48 times with the expense of 1845 NT at each visit, the hospital admission rate was 6% with the average cost of 75244 NT per admission in non share-cared group.

#### Conclusions/Lessons learned

From short-term survey, there was a significant health quality improvement (based on ABC on target ratio) after 1 year enrolled in the diabetes share care program. In general, the share cared group had lower hospital admission rate and less inpatient expense per admission, but they had more outpatient clinic visit times and little more expense at each visit.

#### Contact: LO su huey

Tao-Yuan general Hospital, Ministry of health and welfare  
1492 Chung-Shan road, 300 Tao-yuan city,  
[shlo@ms1.hinet.net](mailto:shlo@ms1.hinet.net)

## Investigation of Associated Factors and Resource Utilization of Delayed Hemodialysis in End-Stage Renal Disease Patients

MAI Hsiu- Chin, SHI Hon-Yi, CHEN Szu-Chia, CHANG Yi-Han

#### Background/Problem/Objective

The purpose of this study is to explore the characteristics, clinical features, and long-term trend of characteristics of hospitals in end-stage renal disease (ESRD) patients, who delay into the hemodialysis (HD). The study further assesses the related factors of their consumption of medical resources and medical efficacy.

#### Methods/Intervention

This study uses retrospective longitudinal study using the 1997-2012 National Health Insurance database, analysis to discuss the main diagnostic ICD-9 codes (585, 586, etc.) of patients with chronic kidney disease receiving delay HD treatment. We use descriptive statistics and inferential statistics (chi-square test, independent samples t test, multiple regression analysis, Kaplan - Meier survival analysis, Cox Analysis), to explore long-term trends of delay HD treatment in ESRD patients, characteristics of time for medical resources and medical efficacy influence.

#### Results (of evaluation)

1. Total cost of medical care increased in 3rd year (vs. 1st year,  $p < 0.001$ ) in non-delay HD patients. The number of outpatient visits increased during 2nd year, and decreased in 4th and 5th years in delay HD patients (vs. 1st year,  $p < 0.001$ ). 2. Old age (per 1 year, HR: 1.07,  $p < 0.001$ ), male (vs. female, HR: 1.41,  $p < 0.001$ ) are associated with increased overall mortality in delay HD patients.

#### Conclusions/Lessons learned

This is the first study to explore long-term trend (1997-2012) of delay HD in ESRD patients, which provide the related factors influencing medical resource consumption and mortality. Through statistical analysis of different properties, this study may act as a reference although limited health-care database factors.

#### Contact: HSIU-CHIN Mai

Kaohsiung Municipal Siaogang Hospital

No.482, Shanming Rd., Siaogang Dist., Kaohsiung City 812,  
[shiu8158959@yahoo.com.tw](mailto:shiu8158959@yahoo.com.tw)

## Protected discharge of the patient with diabetes who begins insulin therapy in hospital and hospital-territory continuity

**MANICARDI Valeria, MICHELINI Massimo, PAGLIANI Aldo Ugo, MANICARDI Elisa, GANASSI Marco, MANICARDI Enrica, ROMANI Sonia, GRECI Marina, IEMMI Marina**

### Background/Problem/Objective

Appropriate therapy for diabetes during an acute event in the hospital is insulin therapy, and patients often begin for the first time in hospital. This patient is a frail patient, who requires to be educated in the use of insulin pens, home glycemic self-control, supplied with the necessary devices, and then a protected discharge. Objective: Insert the disposable insulin pens in hospital, safely. Structuring the "protected" discharge of patients starting insulin therapy to ensure continuity between hospital and territory.

### Methods/Intervention

Single-patient pens with safety needle inserted, identified by the patient's barcode, which follow the patient on discharge. The nurse compiles the Brass for diabetics who start insulin for the first time, which is transmitted to the provincial services for taking charge of the patient. Three days before discharge, the advice of the diabetic team is activated, which instructs the patient to use insulin pens, home self-control, and supplies the patient with drugs, devices for diabetes and the first post-discharge appointment.

### Results (of evaluation)

The insulin is administered with the disposable, single-patient pen and delivered to the patient in discharge. Three days before discharge, the Diabetological Team advises you. The pharmacy doesn't deliver insulin bottles. In 2016: 1837 patients were discharged with insulin at home, (3724 insulin prescriptions). 99% received disposable pens and therapeutic education in hospital. The insulin bottles saved were 3720 with a waste avoided of 113.952 €. 1835 patients were discharged with disposable pen, taken care of pre-discharge and instructed.

### Conclusions/Lessons learned

The use of single-patients insulin pens reduces clinical risk and waste, assuring continuity between the territory and the hospital and vice-versa. The pre-discharge education of the diabetological team assures the patient's discharge in safety, able to self-manage home therapy, and hospital-territory continuity.

### Contact: MANICARDI Valeria

Azienda USL di Reggio Emilia IRCCS  
 via Barilla, 16, 42027 Montecchio Emilia,  
[Valeria.Manicardi@ausl.re.it](mailto:Valeria.Manicardi@ausl.re.it)

## Using SDM to improve the insulin injection rate of diabetes patients

**WANG Wen-Yu, FAN-CHIANG Yu-Chen, HO Yu-Ping, CHUANG Shu-Ting, CHIEN Sou-Hsin**

### Background/Problem/Objective

There are about 8.5% of diabetes population around the world. In order for diabetes patients to well-control their blood sugar, they need to pay attention to their food, exercise and medication. According to the research, if diabetes patients can accept insulin treatment early on, they can not only well-control their blood sugar, but also can prevent the occurrence of chronic co-existing illness. However, most of the diabetes patients cannot understand the importance of the insulin injection. Therefore, the injection rate is a little bit low.

### Methods/Intervention

This theme of this project called "For those patients of NIDDM, shall I inject insulin?" The team of Endocrinology Department use team-work medical education mode and employ SDM method to design interactive medical education materials. They play multimedia statement and process improvement as interventions.

### Results (of evaluation)

The project was enforced during 2017 July 15th to 2017 August 15th. The select condition shall be totally 29 diabetes patients whose HBA1c are higher than 8% but still not yet have insulin injection treatments to participate the research. After totally 29 diabetes patients have been enforced SDM medical education, there are 24 patients (80%) who agree immediately to have insulin injection treatments. Only five patients (17%) need more time to consider whether to have such treatment.

### Conclusions/Lessons learned

This project has achieved the expected goal which is to increase the insulin injection rate. SDM is focus on the patients and combine together with knowledge, communication and respect. The aim of this project is to make sure that the nursing staffs will make the best policy for the patients by fully communicating with each other prior to the decision-made. This medical education plan is worth to promote.

### Comments

The medical team use SDM tool to process medical education. The project collects totally 29 patients whose HBA1c are all higher than 8%. After medical education, the consent rate for insulin injection is 83%. Through a more easily statement combine with patients' aspiration, SDM enable nursing staffs and patients to co-decide whether to inject insulin to increase the injection rate. This result can be a reference for diabetes team to develop a more proper medical education material.

### Contact: FANCHIANG Yu-Chen

Buddhist Tzu Chi Medical Foundation  
 No.88, Sec. 1, Fengxing Rd., Tanzi Dist., Taichung City,  
[df173536@tzuchi.com.tw](mailto:df173536@tzuchi.com.tw)

## Diabetic Hemodialysis Patients Foot Health Care Promotion

**HOU Yu-Hsueh, WANG Yu-Hung, YAU Wen-Jan, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

### Background/Problem/Objective

With the population aging and the prevalence of dialysis patients with diabetic nephropathy increasing year by year, lower extremity angiopathy and neuropathy are two of the major complications of hemodialysis patients and account for 58% of our hospital dialysis patients with diabetes. In 2014, three patients faced the fate of amputation due to irreversible diabetic foot ulcers. If foot lesions are not detected and properly treated early, tissue necrosis can form, increasing the risk of amputation, leading to disability. Therefore, early foot assessment, care, and prevention of comorbidity are extremely important measures.

### Methods/Intervention

Integrate diabetic foot assessment and care into the routine care of dialysis patients and complete the cases within one month of receiving the cases. Include foot care assessments to provide patient care guidance, improve patient's self-care skills, use of Foot Assessment Tools, ABI, Tuning Fork, Single Nylon Rope, Detecting Foot Vascular Function and Establishing Abnormal Referral Specialist Flow.

### Results (of evaluation)

Between December 2016 and December 2017, a total of 95 cases were received. The correct rate of foot care in diabetic dialysis patients increased from 64.3% to 90.7%, and the incidence of foot wounds dropped from 6.3% to 2.4% with no occurrence of infections. Two cases were referred to cardiology while neurology received seven cases.

### Conclusions/Lessons learned

Foot care is easily overlooked in the general population as well as in the hemodialysis population. Early foot assessment referrals and establishing self-care knowledge of the feet in diabetic hemodialysis patients can prevent foot lesions and delay the loss of foot function. Losing the capacity for voluntary activities leads to a deterioration in the quality of life and increases the care required and financial burden on family members.

### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Hepatitis A outbreak in region of Lazio (Italy) mostly affecting men who have sex with men

**NAPPI MARIA ROSARIA , DE MARCHIS ANTONELLA, BISTI ANNA, PENDENZA ALESSIO , LAZZARI CLAUDIO,**

## BRANDIMARTE MARIA ALESSANDRADI ROSA ENRICO

### Background/Problem/Objective

Since September 2016, there has been an increase in cases of hepatitis A between men and women with sexual intercourse with men who have sexual relations with other men (MSM). The ECDC's Rapid Risk Assessment of 28 June 2017 reports in the last year 1500 confirmed cases of hepatitis A in 13 different countries, attributable to three distinct viral strains of the IA genotype. Most of them were involved MSM.

### Methods/Intervention

In the first 6 months of 2017 in the ASL Roma 1 (a Local Health Company that covers 524 km<sup>2</sup> in the northern area of the city of Rome with 1.046.862 local population) there were 155 notifications of acute hepatitis A (an increase of about 10 times compared to the average of previous years); the operators made 86 epidemiological survey on resident people using the SEIEVA questionnaire.

### Results (of evaluation)

The data confirm a considerable increase in cases of acute hepatitis A, presumably in relation to the circulations of viral strains due to outbreaks reported in Europe and in Italy between MSM, also in Rome. Of 155 notifications received, 142 (91%) were related to men; 55 (64%) people reported MSM in the 8 weeks preceding the onset of symptoms; the age most involved was between 19 and 55 aa. Only a few (5) said they had traveled abroad.

### Conclusions/Lessons learned

The status of MSM is the most relevant and widespread risk factor of the Hepatitis A outbreak. The most effective prevention measures are health surveillance of cases and the vaccination of close contacts (including sexual partners) of probable and confirmed cases of hepatitis A. Preventive vaccination is strongly recommended. It was created a leaflet illustrating information on Hepatitis A and the opportunity to get vaccinated by turning to a dedicated toll-free number according in collaboration with LGBT associations of Rome.

### Contact: LAZZARI claudio

asl roma 1  
borgo santo spirito 3, 00193 roma,  
[claudio.lazzari@aslroma1.it](mailto:claudio.lazzari@aslroma1.it)

## Effect of sugar-free coffee intake on the control of diabetes mellitus: a cross-sectional study in an urban hospital

**WU Hsun-Pai, CHEN Shih-Chueh, SUN Kuo-Ting**

### Background/Problem/Objective

Recent observational studies have found protective associations between coffee intake and the risk of diabetes mellitus. However, few have examined the relationship between sugar-free coffee intake and diabetes control. In addition, despite a growing consumption of coffee in Asia, related studies were rarely

conducted. Our study aimed to investigate the effect of sugar-free coffee intake in middle-age diabetic patients in an urban hospital in Taiwan.

#### Methods/Intervention

We used data from 247 cases of middle-age (45-65 years-old) diabetic patients. By using logistic regression analysis, the effect of diabetes control quantified using HbA1c and fasting blood glucose levels was compared in the following categories: no sugar-free coffee intake (control group), less than 2 cups/day (<1000cc/day), and more than 2 cups/day (>1000cc/day).

#### Results (of evaluation)

Among these patients, 153 cases (81 male, 72 female) had a habit of drinking sugar-free coffee, of which 85 cases (40 male, 45 female) drank <2 cups/day, and 68 cases (35 male, 33 female) drank >2 cups/day. Statistical analysis found sugar-free coffee intake was not significantly associated with better diabetes control comparing to control group ( $p=0.055$ ). However, in the analysis stratified by sugar-free coffee intake, the association was stronger with an intake of >2 cups/day of sugar-free coffee ( $p=0.024$ ).

#### Conclusions/Lessons learned

Sugar-free coffee intake may improve blood glucose control in some middle-age diabetic patients, but a dosage of over 2 cups a day is recommended for potentially more significant effect.

#### Contact: WU Hsun-Pai

Cheng Ching Hospital, No.139, Pingdeng St., Central Dist., Taichung City 400, Taiwan (R.O.C.), 400 Taichung City, [haydenwu0406@gmail.com](mailto:haydenwu0406@gmail.com)

## Bidirectional association between psoriasis and multiple sclerosis: a systematic review and meta-analysis of observational studies

LIU Chia-Yu, TUNG Tao-Hsin, LEE Chin-Yu, WANG Shu-Hui, CHI Ching-Chi

#### Background/Problem/Objective

Psoriasis and multiple sclerosis (MS) share similar predisposing genes and mechanisms but their association was unclear. This meta-analysis is conducted to investigate the association between psoriasis and MS.

#### Methods/Intervention

We conducted a systematic review and meta-analysis of observational studies, and searched MEDLINE, EMBASE, and CENTRAL. We used the Newcastle-Ottawa Scale to assess the risks of bias. The included studies were divided into four types: (1) case-control or cross-sectional studies containing a psoriasis group and a non-psoriasis control group; (2) case-control or cross-sectional studies containing a MS group and a non-MS control group; (3) cohort studies containing a psoriasis group and a non-psoriasis control group; and (4) cohort studies containing a MS group and a non-MS control group.

#### Results (of evaluation)

We included 9 case-control/cross-sectional and 3 cohort studies, with 3 rated with a high risk of bias. Psoriasis was associated with an increased odds (odds ratio 1.43; 95% confidence interval (CI) 1.12-1.83) and risk for MS (risk ratio 1.88; 95% CI 1.52-2.32). MS was not associated with an increased odds (odds ratio 0.96; 95% CI 0.74-1.23) but with a higher risk for psoriasis (hazard ratio 1.92 (95% CI 1.32-2.80)).

#### Conclusions/Lessons learned

Patients with psoriasis are vulnerable to MS and vice versa.

#### Contact: TUNG Tao-Hsin

Cheng-Hsin General Hospital  
No45, Cheng-Hsin st, 112, Shipai, 112 Taipei, [ch2876@gmail.com](mailto:ch2876@gmail.com)

## Effect of green tea intake on the control of diabetes mellitus: a cross-sectional study in an urban hospital

CHEN Shih-Chueh, WU Hsun-Pai, SUN Kuo-Ting

#### Background/Problem/Objective

Recent observational studies have suggested that green tea intake is protective against the risk of developing diabetes mellitus. However, few have examined the effect of drinking green tea on diabetes control. Our study aimed to investigate the effect of green tea intake on glucose control in elderly diabetic patients in an urban hospital.

#### Methods/Intervention

We used data from 638 cases of elderly diabetic patients over 60 years-old of age. Logistic regression analysis was used to examine the association of green tea intake and diabetes control. We studied the effect of diabetes control (quantified using HbA1c and fasting blood glucose levels) of the following categories: no green tea intake (control group), intake of less than 2 cups/day (<1000 cc/day), and intake of more than 2 cups/day (>1000 cc/day).

#### Results (of evaluation)

Among these patients, 179 cases (104 male, 65 female) had a habit of green tea intake, of which 105 cases (68 male, 37 female) drank less than 2 cups/day, and 72 cases (44 male, 28 female) drank more than 2 cups/day. Statistically analysis showed an association of green tea intake with better diabetes control comparing to the control group ( $p=0.046$ ). In the analysis stratified by green tea intake, the association was stronger with an intake of >2 cups/day ( $p=0.011$ ).

#### Conclusions/Lessons learned

Green tea intake is beneficial to some elderly diabetic patients in controlling blood glucose, but a higher dosage of more than 2 cups a day is recommended for more prominent effect.

#### Contact: WU Hsun-Pai

Cheng Ching Hospital  
No.139, Pingdeng St., Central Dist., Taichung City 400, Taiwan (R.O.C.), 400 Taichung City, [haydenwu0406@gmail.com](mailto:haydenwu0406@gmail.com)

## A long-term quality-of-care score for predicting the occurrence of macrovascular diseases in patients with type 2 diabetes

LI Pi-I, WANG Jian-Nan, GUO How-Ran

### Background/Problem/Objective

Diabetes is a complex, chronic progressive metabolic disorder requiring ongoing medical care with multifactorial risk-reduction strategies beyond glycemic control. However, no reliable method is currently available for linking the quality of care and the development of macrovascular complications besides the blood sugar level. We therefore assessed whether a quality of care summary score could predict the occurrence of macrovascular disease in patients with type 2 diabetes.

### Methods/Intervention

Using Taiwan's Longitudinal Cohort of Diabetes Patients Database and the medical records, we identified the incident patients with type 2 diabetes during 1999-2003 and followed them until 2011. A summary score was calculated according to process indicators (frequencies of HbA1c and lipid profile testing, urine and retinal examinations), intermediate outcome indicators (low-density lipoprotein and HbA1c), and the comorbidity of hypertension. We used Cox regression models to evaluate the association between the score and the incidence of macrovascular complications.

### Results (of evaluation)

Of the 1,694 patients enrolled, 696 developed macrovascular complication events after a mean follow-up period of 8.6 years. Compared to the risk of developing a macrovascular disease event in patients with scores  $\leq 1$ , the risk was 66% lower in those with quality-of-care scores  $\geq 5$  (adjusted hazard ratio [AHR]=0.34; 95% confidence interval [CI]: 0.25, 0.47) and 33% lower in those with scores between 2 and 4 (AHR, 0.67; 95% CI: 0.57-0.78).

### Conclusions/Lessons learned

Good quality of care can reduce the risk of macrovascular diseases in patients with type 2 diabetes. The score developed in this study had a significant association with the risk of macrovascular complications and thus can be applied to guiding the care for these patients.

#### Contact: LI Pi-I

Chi Mei Medical Center

No.901, Zhonghua Rd., Yongkang Dist., 710 Tainan,

[sunnyapple82@gmail.com](mailto:sunnyapple82@gmail.com)

## Effectiveness of accessing multimedia education programme for reducing of serum phosphate levels in Hemodialysis Patients

HSU Hsiu-Chuang, SHA Wei-Hui, CHANG Chih-Ming

### Background/Problem/Objective

Hyperphosphatemia is a major cause of morbidity and mortality in patients with chronic kidney disease. The association between hyperphosphatemia and increase risk of hyperparathyroidism, bone disease, cardiovascular disease and vascular calcification has been well established for a long time. The aim of this study is to explore the factors which associated with inadequate phosphate control in hemodialysis patient, and by accessing multimedia education programme to maintain hemodialysis patient in an achieve phosphate control level.

### Methods/Intervention

This study has administered the questionnaire to determine the level of understanding regarding to hyperphosphatemia in long term haemodialysis patients and the data were collected since October of 2015 till March of 2016, total 982 of haemodialysis patients, total percentage of 38.08% in 374 CKD patients showed serum phosphate level  $>6.0\text{mg/dl}$ .

### Results (of evaluation)

This study found that the major reason caused of elevation in serum phosphate levels were miss of regular taking medications, disorder eating foods containing rich in phosphorus and poor medication adherence. The effective strategies were set up a medication cabinet (Mackay APP, medication reminder alarm kit), create multiple languages of illustration card with film and poster. Cooperated with dietetic department to provide low phosphate hospital diet order service, regular discuss with patient regarding to personal log book, establish of hyperphosphatemia standard procedures. This study result indicated the percentage has decreased from 38.08% to 25.42% of hemodialysis patients showed serum phosphate level  $>6.0\text{mg/dl}$ . Haemodialysis patients' knowledge level regarding to control serum phosphate level has increase from 68.14 to 98.14%.

### Conclusions/Lessons learned

This study has attaching multimedia to an APP, applied medication cabinet and multiple language of illustration card to help patient quickly access video via mobile phone to increase patient's memory performance and in maintaining haemodialysis patient in an adequate serum phosphate level and obtain optimal quality of care. This study has provide as an important reference for healthcare organization and nursing staffs that have implemented and developing multimedia education programme for reducing of serum phosphate levels in hemodialysis patients and to further increase quality of care.

#### Contact: HSU Hsiu-Chuang

HsinChu Mackay Memorial Hospital

#690, Section 2, Guangfu Road, Hsinchu City, Taiwan, R.O.C.

30071 Hsinchu City, [3523@mmh.org.tw](mailto:3523@mmh.org.tw)

## Session P2.2: Community health promotion and public health

### Health promotion programs based on Taoyuan area are involved in the health outcomes of elders in a school

LIU Yi-Lien, YANG Pei Chen, HSU Hui Wen, MAI Chien Kai



**Background/Problem/Objective**

The World Health Organization (WHO) has indicated that moderate levels of physical activity can reduce the risk of developing chronic diseases. Studies have shown that people over 65 should accumulate at least 150 minutes of moderately strenuous exercise per week, and that an increase in balance and preventive physical activity, etc., can reduce the risk of weakness.

**Methods/Intervention**

The Community Health Promotion Program for the Elderly, in conjunction with local health care teachers trained in the field of resources, hospitals and health authorities, A total of 22 people were entertained for 8 weeks, 1 session per week, 2 hours per session, for a total of 16 sessions with lively, interesting and empirically activities. There were three kinds of activities, with 4 hours of healthy aging, 9 hours of exercise, and 3 hours of cognitive function training.

**Results (of evaluation)**

The results of questionnaire survey the study showed mean age of 65 years participated. The average BMI was 24.1 kg / m<sup>2</sup>, waist circumference 82.3 cm, and hip circumference 94.7 cm. Seated forward stretch was 5.7 cm, 18 arm flexions in 30 seconds, 19 stand up/sit-down in 30 seconds, six meters walking speed was 1.4 meters / second, walking test at 2.44 meters 4.7 seconds, hands grip was on average 27.9 kg, significantly better than the results of the previous test.

**Conclusions/Lessons learned**

The Health promotion programs aim to strengthen community primary preventive functions and to diversify curricula such as health aging, exercise intervention and cognitive function training to reduce the risk of elderly incapacity and enhance the independence and autonomy of the elderly in their daily lives.

**Contact: EVE Chiu**

Min-Sheng General Hospital  
168 Ching-Kuo Rd., 33044 Taoyuan City,  
[a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## The Risk of liver disease in Homecare nurses : A 14-Year Nationwide Population-Based Cohort Study

**TSENG Yuan-Tsung, WANG Heng-Horng**

**Background/Problem/Objective**

Homecare nurses in Taiwan have heavy, stressful workloads, are on-call, and have rotating nightshifts, all of which might contribute to liver disease. We wanted to evaluate the risk between homecare and general hospital, it's seem to be prevalent among nurses, but observations in the literature based on questionnaires as measurement tools may not reflect the true situation throughout Taiwan. Clinical data among nurses may better represent the importance of this issue, to obtain which a population-based longitudinal survey is required.

**Methods/Intervention**

Using Taiwan's National Health Insurance Research Database were retrieved from a representative NHIRD cohort from January 2000 to December 2013, we identified 458 nurses in homecare instutisiton and 4,580 nurses in medical hospital as the study cohort, and randomly selected an identical number of

nurses of general hospital (i.e., general population) as the comparison cohort. Risk ratio analysis was used to compare the liver risk between them. Subgroup analysis for hospital category was also done.

**Results (of evaluation)**

Homecare nurses and other Hospital nurses had a significantly higher Myocardial infarct ([RR]: 12.0 ; 95% confidence interval [CI]:1.3-115.1),Congestive heart failure ([RR]: 1.3 [CI]:0.7-2.2),Peripheral vascular disease ([RR]: 1.3 [CI]:0.6-3.1),Cerebrovascular disease ([RR]: 1.2 [CI]:0.4-3.8)Dementia ([RR]: 3.0 [CI]:0.7-13.4),Chronic pulmonary disease ([RR]: 1.5 [CI]:1.2-1.9) Connective tissue disease ([RR]: 1.3 [CI]:0.8-2),Ulcer disease ([RR]: 0.9 [CI]:0.7-1.1) Mild liver disease ([RR]: 1.5 [CI]:1.2-1.8),Diabetes ([RR]: 0.9 [CI]:0.6-1.5) Hemiplegia ([RR]: 0.7 [CI]:0.2-2.3),Moderate or severe renal disease ([RR]: 1.0 [CI]:0.5-2.1),CANCER ([RR]: 0.9 [CI]:0.4-1.8),Lymphoma ([RR]: 4.0 [CI]:0.3-63.8),Severe liver disease ([RR]: 1.5 [CI]:1.1-2.1)

**Conclusions/Lessons learned**

In contrast, nurses in general hospital had a lower liver disease risk and Chronic pulmonary disease risk. Heavy workloads, long working hours, workplace stress, rotating nightshifts, and coping skills may explain our epidemiological findings of higher risks for liver in some Homecare nurses , which might help us improve our health policies for Homecare nurses . Education program may be helpful in reducing the incidence of liver disease.

**Contact: TSENG Yuan-Tsung**

Tainan Municipal Hospital,Taiwan  
No.670, Chongde Rd., East Dist., Tainan City 701, Taiwan  
670 Tainan, [b891040733@yahoo.com.tw](mailto:b891040733@yahoo.com.tw)

## The Occupation Stression and Risk in Homecare nurses: A 14-Year Nationwide Population-Based Cohort Study

**TSENG Yuan-Tsung, WANG Heng-Horng**

**Background/Problem/Objective**

Occupation Stression seem to be prevalent among nurses, but observations in the literature based on questionnaires as measurement tools may not reflect the true situation throughout Taiwan. According to this report questionnaire is often influenced by information bias that should be minimized. Clinical data on Occupation Stression among nurses may better represent the importance of this issue, to obtain which a population-based longitudinal survey is required.We wanted to occupation stression and risk in HCWs, which is not clear.

**Methods/Intervention**

Using Taiwan's National Health Insurance Research Database were retrieved from a representative NHIRD cohort from January 2000 to December 2013, we identified 458 nurses in homecare instutisiton and 4,580 nurses in general medical hospital as the study cohort, and randomly selected an identical number of non-HCW patients (i.e., general population) as the comparison cohort. Conditional logistical regression analysis was used to compare the PUD risk between them. Subgroup analysis for physician specialties was also done.

**Results (of evaluation)**

Homecare nurses and other Hospital nurses had a significantly higher sleep disorder ([RR]: 1.2 [95%,CI]:1-1.4), Migraine ([RR]: 1.3 [95%,CI]:0.9-1.8), Abnormal menstruation([RR]: 1.1 [95%,CI]:1-1.2), Dysmenorrhea ([RR]: 0.7 [95%,CI]:0.6-1), Pre-menstrual syndrome ([RR]: 0.7 [95%,CI]:0.3-1.4), Lower back pain ([RR]: 1.3 [95%,CI]:1.1-1.6), Back pain ([RR]: 1.4 [95%,CI]:1-1.9).

**Conclusions/Lessons learned**

In conclusion, considering the harmful consequences of sleep disorder and back pain reported in this survey, serious effects on Homecare nurses' health and patient safety can result. Shift work, job strain, sleep and early signs of negative health effects were supported by results of disturbed sleep and poor recovery. Homecare nurses are emerging high burnout group; its severity is similar to that of nurses and far more than that of other nurses within general hospitals. Efforts should be dedicated to improve screening for sleep disorders and access to treatment. These findings may contribute to the development of feasible strategies to reduce the stress which results at Long-Term Care 2.0 in Taiwan.

**Contact: TSENG Yuan-Tsung**

Tainan Municipal Hospital, Taiwan  
No.670, Chongde Rd., East Dist., Tainan City 701, Taiwan  
670 Tainan, [b891040733@yahoo.com.tw](mailto:b891040733@yahoo.com.tw)

## Effect of health education intervention on oral health improvement for home care patients

**YU-HSUAN TANGMENG-SZU LEE****Background/Problem/Objective**

Oral health care is an important issue among long term care patients. More than 90 percent of home care patients are bedridden or disable the quality of oral health care is rely on their family or caregiver, therefore, it is important to educate on the knowledge and skill of oral health care to the main caregivers. The purpose of the study was to investigate the effect of intervention by health education.

**Methods/Intervention**

There were 106 patients recruited from a medical center hospital. The intervention group (n=50) received an 8-week health education program including demonstration of acupressure massage, Bass Technique of Tooth brushing by using a dental model, provided oral health information written in difference languages to the caregivers, and monitored the quality of the health care. The control group (n=55) received a usual care through the study period, we compared the difference of oral health after 8-week intervention between two groups.

**Results (of evaluation)**

The results showed that the intervention group had a significant better oral health and oral breath than the control group (both  $p < 0.001$ ). Bad breath has also been improved (both  $p < 0.001$ ). Our results suggested that acupressure massage maneuver and health education could improve the oral health condition for home care patients.

**Conclusions/Lessons learned**

Health education intervention and acupressure massage maneuver to the home care patients on oral health is effective. Oral health care for bed-ridden patients in particular requires attention from caregivers and is enforced.

**Comments**

Oral disease is a common health problem among older people, evidences have revealed that oral disease is one of the major risk factors for chronic diseases. It is important to educate on the knowledge and skill of oral health care to the main caregivers. If will be able to persevere, the oral health condition among the home care patients can improve.

**Contact: YU HSUAN Tang**

Kaohsiung Medical University Hospital, Kaohsiung Medical University, No.100, Tzyou 1st Road Kaohsiung 807  
Kaohsiung, [tang96540010@gmail.com](mailto:tang96540010@gmail.com)

## An Epidemiological Analysis of Head Injury 10 Years after Helmet Policy in Taiwan

**HSU I-Lin, CHIEN Li-Chien****Background/Problem/Objective**

There was a motorcycle helmet law implemented in Taiwan on June 1 in 1997 and a published study revealed effectively decreases the mortality and morbidity from motorcycle-related head injury in 2000. We analyzed the Taiwan's National Health Insurance (NHI) system data 10 years after the law to follow up the effects of this strategy.

**Methods/Intervention**

Using the 2007-2008 total admissions claim dataset from Taiwan's National Health Insurance (NHI) system, total admissions due to acute head injury were selected for further analysis. The obtained data included patient demographics and trauma hospitalization rate.

**Results (of evaluation)**

A total of 99,391 patients were admitted with head injury; 48,792 of these admitted patients had moderate-to-severe head injury. There were 4935 cases recorded as in-hospital mortality and the standardized in-hospital mortality rate was 10.7 deaths per 100,000 person-years. The mortality rate increased with age. After adjustments, male gender, age older than 54 years, living in a rural area, lower monthly income, a Charlson comorbidity index greater than one, being a pedestrian hit by a motor vehicle, fall from a height, and having significant chest, abdominal, or lower extremity injury increased the risk of death during admission.

**Conclusions/Lessons learned**

The motorcycle helmet law is only a part to prevent head injury mortality and morbidity. We should pay more attentions on elderly people prevention and rural area medical resources.

**Contact: I-LIN Hsu**

International Medicine Center  
No. 138, Sheng Li Road  
Tainan, [yilinhhsu@gmail.com](mailto:yilinhhsu@gmail.com)

## Role of the hospital in public health promotion

**PETR Tomas, GUTOVA Lenka**

### Background/Problem/Objective

Military University Hospital in Prague is a member of HPH since 2012. Since then a wide range of different activities and projects focused on patients, employees and public have been organized. The paper summarizes activities focused on public health promotion and we believe it might be inspirational for other hospitals.

### Methods/Intervention

Hospital as a centre of healthcare organizes various preventive and promotional activities for hospital visitors and people from neighborhood. The main aims of these activities are: - to educate health risk factors - to provide short screening of some of risk factors - to advise how to care about physical and mental health Background/Problem/Objective and description of these activities is the main purpose of our paper.

### Results (of evaluation)

In the paper, we will present various activities organized by hospital towards public and show increasing numbers of people involved in these activities. Health promotion events for public are organized in the hospital regularly. They are focused on the prevention of lifestyle diseases and the provision of relevant information relating to health promotion. Public has got an opportunity to meet various experts from different disciplines and seek advice, listen to lectures or receive printed materials. Examples of activities during the event: blood pressure checking, measuring of presence of CO in breath, measuring of cholesterol level in blood, gaining breast self-examination experience, exercises for back pain, getting information about blood and bone marrow donation, providing melanoma prevention information and screening, relevant nutrition, dental hygiene and many more.

### Conclusions/Lessons learned

"Every healthcare contact is a health improvement opportunity" - we believe in this concept and trying to implement it in the practice.

### Contact: PETR Tomas

Central Military Hospital - Military Teaching Hosp  
U Vojenské nemocnice 1200, 169 01 Prague,  
[tomas.petr@uvn.cz](mailto:tomas.petr@uvn.cz)

## Cross-team social safety network in Shilin District - Community-based home guardianship

**LEE WEN-YU, YEH JO-FEN, LIOU SHEUE-SHYAYUAN LU-FANG**

### Background/Problem/Objective

Taipei City has established a basic and cross-unit social safety network to address attacks in community and create a safe and warm home.

### Methods/Intervention

(1) Objectives 1. Implement social safety network. 2. Strengthen collaborative professional services. 3. Reinforce community support system. (2) Methods 1. Monthly discussion on difficult cases. 2. Network incorporation for volunteer training. 3. "GDS-15 short-form" screening for solitary elderly.

### Results

(1) Team-work for community safety network in Shilin District The District Chief convenes monthly cross-team meetings to enhance basic cooperation. (2) Professional services 1. 10 seminars were convened to discuss 10 were self-mutilations or attack cases among total 15 cases. Additionally, 319 solitary elderly aged above 65 were screened using "GDS-15 short-form". 2. Use LINE groups to update information timely and improve network efficiency. 3. Schedule seminars for exchanging experiences on suicide and mental illness prevention and regulations for non-citizens residing in Taiwan. (3) Strengthen community support system 3,365 people were trained for simple assistance techniques to cultivate friendly companionship in 4 sessions. 171 people participated in 7 community mental health forums.

### Conclusions/Lessons learned

With joint cooperation between units and villages and the help of volunteers, the support and care for unprivileged households is reinforced. Under the guidance of experts, special cases and problems were analyzed and cross-team caring was coordinated. For members in network with insufficient knowledge and experiences, educational training or topical interaction were provided for improvement. The mode of network combined with community participation is worthy to be continued since it can enhance and promote healthy effects of individual cases, and maintain warm families.

### Contact: YUAN Lu-fang

Shilin District Health Center of Taipei city, 2F,#439,ZhongZheng Rd,Shilin District, 11163 Taipei city,  
[slowly6493@health.gov.tw](mailto:slowly6493@health.gov.tw)

## Health Check-up Support for Newlywed and Soon-to-be Married Couples; How to Improve the Health Awareness and Encourage Childbirth of Young Adults in Family Formation

**LEE Jaekyung, OH Bumjo, JUNG Yong Jin, KIM Ji Won, KIM Byeong Gwan, KIM Sookyung**

### Background/Problem/Objective

Healthy families lead to a flourishing society. The declining marriage rate and very low birthrate (1.14 in 2016) are serious problems in South Korea. This social phenomenon represented as the "three-give-up-generation" (sampo-sede), a neologism for the young generation who gives up courtship, marriage and childbirth, reveals how frustrated younger Koreans feel about marriage and having family. Despite the rural-to-urban migration of the younger population, the birthrate is lower in the metropolitan area than in the rural areas and provincial cities.

**Methods/Intervention**

Seoul Metropolitan Government-Seoul National University Boramae Medical Center (SMG-SNU BMC), a municipal hospital, set a pilot project to provide health check-up to newlyweds (within 1 year of marriage) and soon-to-be married couples under 40 years old who live in Seoul. Participants were enrolled by volunteer recruitment. A benefactor (Mr. Y.S.Lee) fund and the matching fund from the social welfare budgets of SMG-SNU BMC secured subsidy financing.

**Results (of evaluation)**

From July 2017 to January 2018, 298 participants received the health check-up. 141USD was paid from the fund, and the beneficiaries paid from 188USD(male) to 282USD(female) per person. We gave them an integrated health check-up, counseling and childbirth educations. Female participants without antibody for varicella or rubella received vaccinations, and all the participants were encouraged to have adult vaccinations. Abnormal results such as acute or pre-chronic diseases or any urological/gynecological problems were referred to the specialists for further management. Personal education was given to encourage pregnancy and to decrease inappropriate contraception, miscarriage or abortions, and infertility treatment due to misplaced pregnancy postponement.

**Conclusions/Lessons learned**

Through this program, the newlyweds and married-to-be couples could check health status. A tailored consultation was given to correct bad health habits and to enhance their health and pre-pregnancy awareness. Participants mostly showed eagerness to understand the results and gave effort to have proper insights as soon-to-be parents. The program had unveiled health insight of their spouse and family; A few congenital and chronic cases were reported that open-mindedness of participants and confidential counseling shall be guaranteed.

**Contact: LEE Jaekyung**

SNU-SMG Boramae Medical Center  
20, Boramaero-5-gil, Shindaebang-dong, Dongjak-gu  
07061 Seoul, [jaekyjaeky@naver.com](mailto:jaekyjaeky@naver.com)

## The use of SNS (Social Network Services) in weight-loss program can increase weight-loss effectively

**CHEN Jiyuen-Tieng, LIN Hui-Chun, TSAI Hsiao-Jung, LIN Su-Ji, HUANG Hui-Ting, LIN Shu-Mei**

**Background/Problem/Objective**

Obesity increases the risk of chronic diseases. According to the survey published in 2003 by the Health Promotion Administration, Ministry of Health and Welfare in Taiwan, the prevalence of overweight and obese among men and women is 51% and 36%. Recently, several studies have indicated that obesity is associated with diet, exercise, and living environment. Instead of only limiting what you eat in the past, changing the "obesogenic environment" is now seemed to be a more important and effective way to prevent obesity. Therefore, in addition to the traditional diet and exercise programs of health education, we can further use SNS, such as Line, to create a "weight loss environment."

**Methods/Intervention**

From March to June in 2017 and 2016, we invited those whose BMI was  $\geq 25$  or body fat percentage was  $\geq 25\%$  to the weight-loss program, which includes nutrition counseling courses (60 minutes per week, for a total of 8 weeks) and exercise classes (at least 33 hours per week). We created a Line group as a communication platform. BMI, body fat percentage were collected at the beginning (baseline data) and the end of the program.

**Results (of evaluation)**

There were 86 participants in 2016, and 83 in 2017. Participants could discuss diet and exercise issues, or shared their experiences anytime through Line group, and they thought using Line group could make them feel confident and easily to join the weight-loss program, therefore strengthening their motivation for diet control and exercise. The percentage of participants whose BMI exceeded 25 was over 90% (2017: 92.77%; 2016: 97.67%) at baseline, and dropped to 72.29% in 2017 and 79.07% in 2016 at last. The percentage of participants whose body fat percentage exceeded 25% was 80.72% in 2017 and 90.69% in 2016 at baseline, and finally dropped to 57.83% in 2017 and 75.58% in 2016.

**Conclusions/Lessons learned**

We found that joining the Line group in the weight-loss program can increase the rate of participants' weight loss.

**Contact: CHEN Jiyuen-Tieng**

Nutrition, No.242, Sec. 2, Bade Rd.  
Taipei City, [147570@tahsda.org.tw](mailto:147570@tahsda.org.tw)

## A matrix approach strategy by health promoting hospital to improve awareness of stroke in the community.

**JO Heui Sug, JUNG Su Mi, KIM Saerom**

**Background/Problem/Objective**

The main subjects for activities of the health promotion hospital include these to help prevention and early diagnosis of the community residents. The most important thing in the treatment of the stroke of residents is early treatment after symptom onset, and 80% of the premature death from stroke is preventable. However, the proportion of patients who arrived within 3 hours after the occurrence was less than 50%. It is important to improve public awareness of the early symptoms of stroke in order to reduce the time from stroke occurrence to treatment. The purpose of this study is to analyze the public awareness of early symptoms of stroke for residents in Gangwon province, Korea, and propose a methodology to improve them effectively.

**Methods/Intervention**

We identified the awareness of the five most common symptoms of the early symptoms of stroke (hemiplegia/ language, speech disorder/ visual field disorder/ balance disorder/ severe headache). If you are aware of each item, it can be considered as a correct answer or if you do not recognize or do not know, it can be considered as a wrong answer. Then, the distribution of right answers was analyzed. In addition, we checked the total

correct answer rate of 5 items and the total error rate of the items, and we found out the distribution of city group by the coordinate plane with corresponding values as X axis and Y axis respectively.

#### Results (of evaluation)

10.8% of the subjects were not aware of the five symptoms at all. In addition, there was a large variation in the perception rate among the 18 cities.

#### Conclusions/Lessons learned

It is necessary to provide different education programs by each region. For example, the region with the low rate of overall wrong answer and low rate of correct answers can be applied a strategy to inform early symptoms of stroke through the public campaign. In order to reduce health inequalities in terms of quality of life due to stroke death and complications, there are necessary of strategies to identify regional differences in preventable health determinants and to narrow differences in health determinants by prioritizing vulnerable areas. In addition, if additional socio-demographic variables of the project area is analyzed, it is considered that the effect can be enhanced by carrying out the project of stroke awareness considering the characteristics of the subjects.

**Contact: JO Huei Sug**

[blessing-you@kangwon.ac.kr](mailto:blessing-you@kangwon.ac.kr)

## Managing hospitalization period of inpatients for public health promotion in regional community

**PARK Ji-Ung , KIM Sunjoo , KU Juhyun, KIM Hanna, SEOL Dongwon, PARK Min-Hyun**

#### Background/Problem/Objective

As a classification of hospital grade in Korea, that is divided into general hospitals and local clinics depending on their roles. Ideally, general hospitals provide acute care to severe patients, and patients are sent to local clinics. If patients stay long in general hospitals even if the acute care is done, it occurs that other patients who need immediate treatment will be delayed. So we conducted this study to establish sustainable health systems to manage inpatients' hospitalization period.

#### Methods/Intervention

To decrease the number of a long-term inpatient, first, a joint committee was held in every 2weeks with doctors, nurses, department of administration, social welfare. We invited a chief professor of each medical department in the joint committee to discuss the necessity of managing inpatients' hospitalization period. Secondly, we were alert to the number of long-term inpatients to the assembly every month. Thirdly, we actively sent patients who don't need intensive treatment in general hospital back to local clinics.

#### Results (of evaluation)

During 2017, we performed the activities above. The average number of inpatients hospitalization period has decreased by 20.7% in 2017 from that of 2016. And what's more remarkable is, the average severity of disease of inpatient has increased in

Boramae hospital. The severity has increased by 6% in 2017 from that of 2016. It means, as decreasing the number of inpatients when the acute phase treatment is done, we were able to treat the acute patients.

#### Conclusions/Lessons learned

Shortening hospitalization period is important to make efficient use of health care. We suggest that active managing of inpatients' hospitalization period by a joint committee which was composed of various hospital staffs are the important things. These activities will efficiently distribute limited medical resources.

**Contact: PARK Ji Ung**

Seoul National University Boramae Medical Center  
5 Gil 20, Boramae-Road, Dongjak-Gu, Seoul,  
[alfbskan@gmail.com](mailto:alfbskan@gmail.com)

## Community health assessments targeting residents over the age of 40 in Zhenxing Village, Cijin Island, Taiwan (R.O.C.)

**YEN Yu-Syuan, CHEN Hsiuen , LIN Mei-Han , LIEN Min-An, WANG Ming-Wen , KO Woan-Yun , HO Yi-Chin , CHEN You-Ren, JIAN Shu-Yuan**

#### Background/Problem/Objective

The first step in solving community health problems is the community health assessment. This article was written by the student nurses in community nursing. According to Community as Client, we conducted community health assessments targeting residents over the age of 40 in Zhenxing Village, Cijin Island, Taiwan (R.O.C.), to know the health problems of this community and the related resources available to solve these problems.

#### Methods/Intervention

We used windshield survey, interviewing with the key persons, and designing questionnaire to get community information. We cooperate with the Generation Research Center of Kaohsiung Medical University to get the lifestyle and health data of the residents. Afterwards, we conducted an epidemiological analysis in these statistics. According the result of the analysis, we were able to understand the residents' living habits and health behaviors deeply.

#### Results (of evaluation)

We found four major health problems in these residents: "High rate of abnormal blood pressure (77.5%)," "High rate of overweight/obesity (58.6%)," "Low rate of participation in physical examination," and "High rate of not doing effective exercise (75.0%)." In addition, we found the medical resources were richer than other villages, including the Regional Hospital. In the community, there were many venues suitable for residents to exercises. Furthermore, there was a senior citizens learning center providing plentiful educational resources in neighbor elementary school.

#### Conclusions/Lessons learned

In response to the four major health problems, we provided improvement programs and recommendations for health



promotion to the residents by finding out the available resources through assessment we have done. And these findings may contribute to the residents' health and helping the nurses who will work in this community in the future.

**Contact: KO WOAN-YUN**

No.356, Gongyuan S. Rd., North Dist., Tainan City 704, Taiwan (R.O.C.), 70444 Tainan, [kowoanyun@gmail.com](mailto:kowoanyun@gmail.com)

## The relationship between abstinence confidence and dependence behavior in betel quid chewing in Taiwan

**CHANG Pei-Chi, HSU Chen-Yuan, CHIU Shu-Pi, HUANG Yi-Ching, HUANG Ya-Yen, CHEN Wei**

### Background/Problem/Objective

Betel quid is ranked fourth addictive substances in global utilization. The incidence of oral cancer in people with betel nut chewing is 58.4 times higher than people without chewing. Abstinence confidence questionnaire has been used for predicting lapse risk in alcohol and smoking, but it is unknown whether abstinence confidence is associated with dependence behavior in betel quid chewing. The aim of the study was to investigate relationship between abstinence confidence and dependence behavior in betel quid chewing in Taiwan.

### Methods/Intervention

This was a prospective study that recruited one hundred and twenty participants with betel quid chewing in a community hospital in south Taiwan between April 2017 and October 2017. We collected the demographic data, information about betel quid chewing, abstinence confidence questionnaire, and the betel quid dependence scale (BQDS), which consists of "physical and psychological urgent need," "increasing dose," and "maladaptive use."

### Results (of evaluation)

Of 120 participants, there were 119 male (99%) and the most predominant age was between 41 and 50 years (28.3%). The mean number of betel quid for each participant was 28 per day, and the mean duration of chewing was 24 years. On Pearson correlation analysis, it showed that abstinence confidence was significantly correlated with betel quid dependence ( $r=0.37, p<0.01$ ), the duration of betel quid chewing ( $r=0.24, p<0.01$ ) and the number of betel quid chewing ( $r=-0.20, p<0.05$ ).

### Conclusions/Lessons learned

Abstinence confidence was negatively correlated with betel quid dependence, the duration of betel quid chewing and the number of betel quid chewing. To increase the cessation rate of betel quid chewing, we may assess the level of abstinence confidence for the chewers and further enhance their confidence.

**Contact: LEE Pei Hsuan**

DITMANSON MEDICAL FOUNDATION CHIA-YI CHRISTIAN HOSPITAL, No.539,Zhongxiao Rd.,East Dist.,Chiayi City 60002,Taiwan(R.O.C), [cych13199@gmail.com](mailto:cych13199@gmail.com)

## The Effectiveness of "Family Doctor Integrated Delivery System" in a Country Area of Central Taiwan

**LIN I-Ching, YANG Pei-Yu, LIN Ying-Li, HUANG Pei-Ju**

### Background/Problem/Objective

This study is to evaluate the effectiveness of "Family Doctor Integrated Delivery System (Community Medical Group)" which was a plan initiated by the Bureau of Central Health Insurance in 2017 in Taiwan. The purposes of the plan are (1) to implement the hierarchical medical care system and the referring system, providing people comprehensive, coordinate and continuing medical service; (2) to establish the patient-centered healthcare; (3) to reduce the medical expenditure and improve the medical service quality.

### Methods/Intervention

All 27,318 patients enrolled for this plan had higher medical utilization based on national public health insurance database. The care quality indicators included (1) Percentage of emergency visit, hospital rate, fixed patient-doctor rate, and investigate the satisfaction of members; (2) Twenty-four-hour medical consultation phone; (3) Avoidable emergency rate and admission rate; (4) Percentage of members receiving prophylactic health care including the adult health exam, Pap smear, influenza immunization, and occult blood stool screening.

### Results (of evaluation)

The patient's satisfaction was evaluated and revealed high satisfaction (satisfied: 100%). There were higher avoidable emergency rate (2.1%) and avoidable admission rate (1.3%) than the average rate of all community medical group data. There were better fixed patient-doctor rate (55.9%), the adult health exam rate (55.7%), influenza vaccination rate (48.3%), the cervical cancer screening rate (26.7%), and colon cancer screening rate (46.7%) than the average of all community medical group data. Twenty-four-hour medical consultation phone was satisfied (100%).

### Conclusions/Lessons learned

Family Doctor Integrated Delivery System can integrate resources in the community in order to reach better medical care quality. This plan can provide good preventive health care and treatment system at the first line. People in the community can not only have best and convenient medical treatment, but also build best relationship between doctor and patient.

### Comments

According to the implementing experience, the "Family Doctor Integrated Delivery System" is a good healthcare plan for community people to reach better medical care quality.

**Contact: LIN I-Ching**

Changhua Christian Hospital  
No. 135, St. Nan-Xiao, 500 Changhua, [licypy01@gmail.com](mailto:licypy01@gmail.com)

## HIV: How to Identify Vulnerability: Permanent project to prevent sexually transmitted diseases and health promotion

**FORNACIARI Rossano, CASONI Carmen ,  
BONVICINI Francesca , GEMMI MariaCristina ,  
DURZO Rosamaria , GUATELLI Sara,  
CEINAR Nicola, PASTORE Elisabetta,  
BAGGA Rajni**

### Background/Problem/Objective

A working group has been active in Reggio Emilia for some years, including social/healthcare workers from the local health authority, professionals from non-profit organizations and other volunteers who work to reduce the spread of STIs and in particular HIV. The aim of the group is to increase the awareness of the operators involved in the management and assistance of people with HIV/AIDS. Over time it has also gradually strengthened prevention actions for the population. One of the strategies chosen for increasing the population awareness comes from the provision of tests that check for HIV and syphilis infection, in non-conventional communal places

### Methods/Intervention

From 2012 to 2017, 16 events were organized for offering "tests in town" to the population for the diagnosis of STIs. Sports associations, churches, schools, etc. have been involved in spreading information on the events. The local media have also been involved on an annual basis with participation in radio and TV programs. The events have been held in the main city squares or in the province during important cultural events (Notte Bianca, Festival Love, Local, Gay pride etc.).

### Results (of evaluation)

The main event has been organized annually on 1 December, World AIDS day. A total of 2943 tests have been performed, with positive diagnoses both for HIV and syphilis. In the square events, in addition to distributing informative material were offered gadgets

### Conclusions/Lessons learned

The population has welcomed the offer of tests in the city squares; the events have made early diagnosis of some STIs possible in patients who were not yet aware of being positive for the infections. The events have provided an opportunity for meeting with "the citizens" and getting closer to delicate health issues for the population

### Contact: FORNACIARI ROSSANO

public Health Authority  
via amendola 2, Reggio Emilia,  
[rossano.fornaciari@ausl.re.it](mailto:rossano.fornaciari@ausl.re.it)

## Healthy City in Korea: The Way it Works

**KANG Eunjeong**

### Background/Problem/Objective

Healthy City projects have been introduced since late 90's in Korea and about a third of municipalities manifest themselves as a Healthy City. However, the logic model of Healthy Cities in terms of structure, process, and outcome is largely unknown. The purpose of this study is to describe the inter-relationships among the structure, the process, and the outcomes of Korean Healthy Cities using the indices of the Korea Healthy City Index (KHCI).

### Methods/Intervention

KHCI was developed by Korean Healthy City Partnership and Soonchunhyang University in 2016. KHCI consists of 35 indicators representing 3 domains and 8 sub-domains: structure-operating system, personnel and network; process-information and surveillance, program management; outcome-physical environment, social environment, economic environment, healthcare resources and services, health behaviors, and health outcomes. The data were collected from Healthy City coordinators of 58 out of 83 Healthy Cities between Nov 18~Dec 11 in 2016. We ran a correlation analysis among the 8 sub-domains of KHCI.

### Results (of evaluation)

The two sub-domains of structure were significantly related only with the process sub-domains ( $p < 0.05$ ). Both process domains were only correlated with physical environment ( $p < 0.05$ ). Among the six outcome sub-domains, social environment was significantly correlated with healthcare resources and services and health behavior. In addition, physical environment, social environment, and health behaviors were significantly correlated with health outcome ( $p < 0.05$ ).

### Conclusions/Lessons learned

In this preliminary analysis, we found that Korean Healthy Cities improved health outcome through the improvement of physical environment. Therefore, further efforts are needed in Korean Healthy Cities to improve other environmental factors such as social and economic environments and healthcare resources and services. It was also noteworthy that healthcare resources and services was not correlated with health behavior or health outcome, which implied Korean healthcare resources and services need to be reoriented as the Ottawa Charter suggested.

### Contact: KANG Eunjeong

Soonchunhyang University  
[marchej72@gmail.com](mailto:marchej72@gmail.com)

## Intercultural mediation for the care of women who have been victims of sexual violence and/or have been abused during pregnancy

**FORNERO Giulio, CASERTA Mario, CASTAGNA Paola, CANAVESE Antonella, RABACCHI Grace, TESINI Imelda**

### Background/Problem/Objective

At the emergency department of Sant'Anna Obstetric and Gynecological Hospital of Turin, a Relief Centre (SVS) provides aid to women victims of sexual violence. Clinical, psychological and social assistance is intended, in 49% of the cases, for foreign women. In recent years there has been an increase in the numbers of immigrant women victims of sexual violence and torture in their country of origin or on their journey to Italy, or victims of trafficking and exploitation of prostitution. In the centre, working together with gynaecologists, midwives, psychologists and social workers, there are cultural mediators who facilitate the communication between the woman and professionals, helping them to understand the signals sent by a female who is in a very fragile state.

### Methods/Intervention

The "Role of Intercultural mediation for the care of women who have been victims of sexual violence and/or have been abused during pregnancy" training course shows the intercultural mediation activation pathway and the approaches to be taken to an interview and to the medical examination of the foreign woman. There are 5 modules of 2 hours, each one conducted by a different cultural mediator (Nigerian, Arab, Romanian, Chinese, Peruvian).

### Results (of evaluation)

The course ended December 19, 2017 and was attended by 25 gynaecologists, midwives, nurses, psychologists and social workers. An evaluation was conducted with a satisfaction questionnaire, at the beginning and end of course. All participants have understood the role of intercultural mediation within the SVS centre. The level of satisfaction evolved from 78% (beginning of course) to a level of 92% (end of course). The evaluation three months after the end of the course is still waiting to be conducted.

### Conclusions/Lessons learned

This course allowed professionals to identify the women with fragile state signals, not only during the admissions to the emergency room, but also in all wards. The project now is to extend the courses to the professionals of the General Hospitals of Turin.

### Contact: CARENA elisa

Città della Salute e della Scienza di Torino  
corso Bramante 88, Turin,  
[ecarena@cittadellasalute.to.it](mailto:ecarena@cittadellasalute.to.it)

## Tobacco informers key persons, when introducing non-smoking outdoor environments in hospitals

**SCHÖLD Anna-Karin, GLAD Elin, WHITE Alexandra, LEIJON Matti**

### Background/Problem/Objective

The outdoor environment of all facilities in the three hospitals in Region Östergötland has been a non-smoking area for two years. A number of efforts have been made, mainly concerning communication, in order to ensure good compliance with the non-smoking policy. The purpose was to create a dialogue with people who smoke, and redirect smokers to smoking locations outside the healthcare areas in order to achieve non-smoking outdoor environments.

### Methods/Intervention

To be confident in their assignment five tobacco informers received one day of education, with methods in Motivational Interviewing, knowledge of tobacco and information of non-smoking outdoor environments. The mission was to patrol the hospital area daily during two months, assigned to inform and refer smokers who were visiting the healthcare facilities to smoking locations outside the healthcare area. The efforts were evaluated using focus group interviews with the tobacco informers.

### Results (of evaluation)

The experience of the intervention is that tobacco informers make a difference to the adherence of the non-smoking policy. Four problem areas were identified; the public response, communication (maps, flyers and signs), smokers identified and unofficial smoking areas. The compliance among the healthcare professionals, visitors, taxi drivers and construction workers became better and more smokers used the smoking locations outside the healthcare areas. Though, it was still difficult to affect some smokers (for example) at the bus stops.

### Conclusions/Lessons learned

One of the lessons learned is to involve key persons from the beginning, and to have a long term perspective based on flexibility. It is also important to take continuous notice of new knowledge, and to update and develop new activities based on new input. In terms of behavioral change, it is a matter of patience and continuous information about the non-smoking policy. "Keep holding on and be patient."

### Comments

We have submitted 4 different abstracts that are linked together. This one and: - A total non-smoking health care in Region Östergötland - Educating Health Guides to improve individual empowerment in a small Community They can be presented individually under different themes but also together. We can then make a common background description of our organization, but also better demonstrate how these different strategic efforts are linked to different levels. We think this would create added value for the audience.

### Contact: SCHÖLD Anna-Karin

Region Östergötland  
Lasarettsgatan 37, 59185, Motala,  
[anna-karin.schold@regionostergotland.se](mailto:anna-karin.schold@regionostergotland.se)

## Using Group Activity to Improve the Physical and Psychological Health of Residents-Experience of a Regional Public Hospital

**YEH En-Tien, LIN Yi-Ping, TSAI Sheng-Hua, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

### Background/Problem/Objective

The WHO Bangkok Charter for Health Promotion : To make further advances in implementing these strategies, all sectors and settings must act to partner and build alliances with public, private, nongovernmental and international organizations and civil society to create sustainable actions.

### Methods/Intervention

Use a series of community activities including Health Examinations, Health Advice, Health Lectures, and Festival Activities to teach health knowledge to residents and promote the health knowledge of residents during participation in the health activities. Allow community residents to discover health issues while taking part in the activities. Further reach the goal of Wholeheartedly Healthy, and establish the model of a Sustainable Health Community.

### Results (of evaluation)

The study was conducted in 2017. 70 community activities were carried out. Community Health Lectures (49 times, 2937 participants), Free Health Examinations(8 times, 526 participants), Festival Activities (13 times, 700 participants), A total of 4163 people attended.

### Conclusions/Lessons learned

Hospital assimilated profession medicine knowledge into pleasant community activities, strengthening the health knowledge of residents and setting up partnerships with community medical groups, helping the network of the community. After these community activities, residents were more willing to act in concert with Medical Classification and primary health care institutions put into effect a two-way referral. The return number of patients from primary health care institutions increased 14.29% in 2017 compared to 2016.

### Comments

Creating a Sustainable Health Community is the core value of Community Medicine. It uses easy lifestyle activities to teach community residents health knowledge, and combine civil society organizations and community resources, working together to create a diverse health network.

### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Relationship of impression management and organizational citizenship behavior with job performance: the case of physical therapists

**HUANG Wan-Yun , WU Yu-Lung , LI Min-Hui , HOU Fu-I, CHENG Jin-Shiung**

### Background/Problem/Objective

Studies related to physical therapists generally research clinical professionalism, while studies exploring physical therapists' job performance from a management aspect remain scarce. In this study, "the positive impact of impression management on organizational citizenship behavior", the "positive impact of organizational citizenship behavior on job performance", the "intervening effect of organizational citizenship behavior on impression management and job performance", and the "positive impact of aggregate impression management on organizational citizenship behavior" explored.

### Methods/Intervention

The questionnaire survey method adopted to carry out this study. The questionnaire contents include an impression management scale, organizational citizenship behavior scale, and job performance scale. SPSS20 statistical software employed to carry out a correlation analysis and reliability analysis on the valid samples. HLM 7.01 subsequently used to establish correlation models using hierarchical linear modeling and carry out regression analysis.

### Results (of evaluation)

The formal questionnaire in this study adopted physical therapists practicing in Taiwan, Penghu, and Kinmen as research participants. 600 questionnaires were distributed, of which 543 copies recovered and 523 were valid questionnaire copies, accounting for effective recovery rate of 87.2%. The analysis results show the self-expression of the four aspects of impression management had a positive significant impact on organizational citizenship behavior. "Organizational citizenship behavior produced a positive impact on job performance" partially supported. "Flattery", "trying to fathom what pleases superiors", and "self-expression" produced a significant impact on job performance (Model 1). "Organizational citizenship behavior produced an intervening impact on impression management and job performance" supported. Aggregate impression management ( $\gamma_{01}=0.037(p<.05)$ ) produced a cross-level main effect on organizational citizenship behavior. Aggregate impression management ( $\gamma_{01}=0.172(p<.05)$ ) also produced a cross-level main effect on job performance.

### Conclusions/Lessons learned

The higher the impression management of physical therapists, the higher their motivation to achieve objectives by manipulating organizational citizenship behavior in order to change others' impression of them. Physical therapists' work attitude is also another predictive indicator of medical quality. The positive interactions among them are conducive to the enhancement of physical therapists' work attitude, enabling patients to receive high quality medical treatment.

### Contact: HUANG WAN YUN

Kaohsiung Veterans General Hospital, Department of Physical Medicine and Rehabilitation

No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City 81362,  
Taiwan (R.O.C.), [ballan666888@gmail.com](mailto:ballan666888@gmail.com)

## The experience of multiple nutrition education methods for chronic disease prevention in local community

**KO Shu-chen, CHEN Mei-ying**

### Background/Problem/Objective

Obesity and many chronic diseases are highly related to diet habit. Obesity may increase the risk of hypertension, diabetes, hyperlipidemia, chronic diseases and cancer. How to prevent or reduce the incidence of chronic diseases is a big challenge for all countries. This study used multiple nutrition education methods to promote nutrition knowledge and improve the health condition for people in community.

### Methods/Intervention

Dietitians followed the national policy to plan some activities, such as the checkpoints using, play games, tour posters, quizzes, practice, food taste and other ways, by different theme each season. Before and after the activities, nutritional knowledge of people in community was measured. E-newsletters which introduced the latest and popular nutritional topics and taught the popular food cooking skills were monthly sent to colleagues in hospital and community residents. The learning outcomes were assessed and the readers' feedbacks were collected every six months. Short talks of chronic disease prevention and diet for disease control were offered, on-site food preparing and tasting were conducted every two months in the community.

### Results (of evaluation)

The teaching effect was obvious for each kind of nutrition education method in this study. In the knowledge test, people after the education had more correct answers than before the education ( $p < 0.05$ ). The satisfaction rate of nutrition education was more than 90% surveyed in this study.

### Conclusions/Lessons learned

The uses of multiple nutrition education methods can give the correct nutritional knowledge and healthy eating style to people in the community. It will make people in community have the motivation, ability and confidence to apply the nutrition knowledge and cooking skills to daily life, in order to improve nutrition disorders or related chronic diseases.

### Contact: KO shu-chen

Changhua Christian Hospital  
No.135, Nan-Hsiao street, Changhua 500, Taiwan  
Changhua,  
[46619@cch.org.tw](mailto:46619@cch.org.tw)

## The Relationship between health risk behavior patterns and health-related quality of life among citizens in 25 regions of Seoul metropolitan area

**KIM Hyeyun, KIM Hyekyeong**

### Background/Problem/Objective

Health risk factors that threaten individual health include health behaviors such as smoking, drinking, lack of exercise, eating habits, stress, environmental factors such as social relations, organizational environment, and genetic factors. Therefore, an intervention to spread health behavior and lifestyle habits is a major task of national health promotion project. The purpose of this study was to identify the status of health behaviors among self-governing cities in Seoul and to suggest decision making alternatives for improving the health-related quality of life of similar community residents.

### Methods/Intervention

The subjects of this study were 23,004 residents of Seoul residents in 25 autonomous regions of Seoul who participated in the community health survey in 2015, using secondary data. The Fs/QCA 3.0 program was used to classify borough type through health risk behaviors, and data analysis was conducted through SPSS 21.0 program.

### Results (of evaluation)

There were 8 types according to current smoking, high risk drinking and lack of exercise, and 25 boroughs were distributed evenly. More than half of cases were included in both a single type with one health risk factor and a complex type with more than one health risk factor. Among all of these factors, the average score of the group with the lowest health risk level (Type8) was the highest. High risk drinking type was more significant when it was single type than multiple type health behavior type. The lack of exercise was found to have a greater impact on the quality of life of Seoul citizens than other health risk behaviors.

### Conclusions/Lessons learned

This suggests that it is necessary not to judge individual health problems or levels in a fragmentary way but also to grasp several factors in selecting and identifying priority health problems. Interventions for health risk factors such as smoking, high-risk drinking, lack of exercise, and depression should be mediated based on multi-level and complex factors, and it is more effective to establish an intervention strategy based on the type of health risk behavior.

### Contact: KIM Hyekyeong

Ewha Womans University  
52, Ewhayeodae-gil, Seodaemun-gu  
03760 Seoul, [hkkim@ewha.ac.kr](mailto:hkkim@ewha.ac.kr)

## Behavioral and environmental approaches to build healthy campus in South Korea: A case of the harmful drinking prevention project

**KIM Young Bok**

### Background/Problem/Objective

Healthy policies and disease prevention programs have been provided to reduce health problem of university students on campus. But it has not improved health status of them for several years. In recently, there has been a growing interest for



the health promoting university in many countries. This project was started to prevent binge drinking and to create the healthy campus. To improve harmful drinking, this study was carried out to change drinking behavior and educational environment through university and community partnership.

#### Methods/Intervention

This project was carried out from 2014 to 2017. In first year, we organized the task force team with representatives of university and community. It provided a web-based educational program, intensive counseling, campaign and contest in second year. Also the campus housing area was designated as the health zone in next step. Finally, it built the campus healthy policies and monitoring system on harmful drinking and derived educational and environmental factors to approach university health through consensus of experts.

#### Results (of evaluation)

For behavioral approach, it carried out campaign and contest to increase cognitive awareness of drinking problems. And it provided the web-based program to prevent harmful drinking and the intensive counseling for binge drinkers. For environmental approach, it established the regulatory provision on life for smoking and drinking prevention. It built the DU healthy zone at campus housing area and installed 31 notice boards in 14 residence buildings. Finally, it created the health promoting university model to prevent harmful drinking.

#### Conclusions/Lessons learned

To maintain changed behaviors and policies, it needs to lead the consensus on healthy campus between university members and community stakeholders. Therefore, it should develop the various and effective strategies to improve their health condition through maintenance of the university and community partnership.

#### Contact: KIM Young-Bok

Daegu University  
201 Daegudae-ro, Jinyang, 38453 Gyeongsan-city,  
[healthkyb@daegu.ac.kr](mailto:healthkyb@daegu.ac.kr)

## Session P2.3: Community health promotion for the elderly

### Self-rated health and its relationship to health behavior for the elderly by using the Happiness & Health Feeling Scale (2 HFS)

**FURUKAWA Kazuyo, TERAOKA Kaori, SUZUKI Minako, ONO Fumie, HIRASAWA Tamiki, NEGISHI Kyota, SHIMANOUCHI Norio**



#### Background/Problem/Objective

To achieve the better health support and self-actualization for the elderly, it is significantly important to measure their perception of happiness/health.

#### Methods/Intervention

Preventive care (exercise, oral, nutrition, cognitive function) program was administered to 17 of elder people who are over 65-year old, living in Tokyo (once a week for 120 minutes for 8 weeks). We examined if there was any change in the participant's Self-rated health in their daily lives by using 2HFS and the questionnaire on their physical/mental and social aspects at the end of the whole program. CS analysis was used for 2 HFS data analysis.

#### Results (of evaluation)

In the CS analysis of 2 HFS, There was a moderate correlation between the overall evaluation of happiness and "self-esteem". From the questionnaire on Self-rated health, the categories of "pain", "confidence", "anxiety for the future", "Increased communication with family/friend, making telephone calls, and outings" continued to stay low in their scores.

#### Conclusions/Lessons learned

This research (examination) suggested that both 2HFS and the questionnaire on Self-rated health had similar results in the categories related to low self-esteem and poor Self-rated health. This indicated that these measures were able to detect underlying emotions of the elderly which were not surfaced to their daily behaviors/activities. By administrating 2HFS to measure the elderly's happiness and health perception, we expect that it would bring improvements in their health behaviors, and Self-rated health.

#### Contact: SAITOH Fumihiro

Oizumi Health Cooperative Hospital  
Higashi-Oizumi, 178-0063 Nerima, Tokyo,  
[fumisaitoh@gmail.com](mailto:fumisaitoh@gmail.com)

## A Practice of Health Care at Day-Care Centers in Community: Caring for the Disadvantages and the Elders at Health Hospital in Taiwan

**CHIANG Hsiu-Chu, HUANG Tzu-Hui, WU Hsiu-Shan, LIN Kuo-Hsing, TSAI Tien-Sheng, HOU Ming-Feng, HSIEH Shui-Fu**

#### Background/Problem/Objective

With the strong networking of medical facilities and performance management skills as base, Our Hospital has been promoting the healthcare services in the community. In April 2016, Our Hospital cooperated with Kaohsiung City Government to establish two Day-Care Centers in Siaogang District and Lin-Yuan District. Two Day-Care Centers as the first milestone of the long-term care promotion in Siaogang District and Lin-Yuan District. To achieve the goals of aging in place and positive aging, 'Avoiding Disease and Disability', 'Maintaining Mentally and Physically Active', and 'Keeping Life Active and Thrive' becoming the three core values of the day-care center.

### Methods/Intervention

We cooperated with the community library in Siaogang District. Therefore, We cooperated with the office of Lin Yuan District Office in Lin Yuan District. During the preparation period, Our Hospital has overcome the regulation and construction difficulties. With the solid support from Our Hospital, there are physicians, nursing staff, social workers, physical therapists, functional therapists and nutritionists to provide the most comprehensive and localized service team in Siaogang District and Lin-Yuan District.

### Results (of evaluation)

With the establishment of two Day-Care Centers, the elderlies have more chances to review and pass on the traditional culture with the hand-craft courses designed by the day-care center. Special events are held regularly by the staff to enrich the lives of the elderlies, like birthday parties, Double Ninth Festival (traditional Chinese elderly event), Christmas market and Chinese Year-End Banquet. Compliments and recognitions have been sent from other cities in Taiwan and abroad.

### Conclusions/Lessons learned

A lot of facilities have come to visit and exchange experiences, including Chiayi City Government, Urban Development Bureau of Taichung City Government, Sakurajyuji Medical Group and Nishikawa Social Welfare Corporation from Japan. In 2016 & 2017 November, Two Day-Care Centers' team were invited by the mayor of Matsumoto City, Japan to attend The 6th & 7th World Health Capital Conference and to exhibit the way of operation.

#### Contact: TSAI Tien-Sheng

Kaohsiung Municipal Hsiao-Kang Hospital  
No.482, San-Ming Rd., Hsiao-Kang Dist  
812 Kaohsiung City,  
[h9471303@gmail.com](mailto:h9471303@gmail.com)

## How to promote community middle-aged health program- Example of southern Taiwan regional level public hospital

**HUANG Chi-Cheng, LAI Chun-Huang , SUN Feng- Qing , CHEN Shu-Nu, LAI Xue-Zhen, YE Ri-Gu**

### Background/Problem/Objective

Taiwan health promotion administration" has traced and surveyed long-term about middle-aged body and mind social life status" and shows 51.3% has at least above 3 chronic illnesses. The reasons are personal life style and health behavior. The initial stage happens and be neglected. Early health screening is effective to reduce happen and death rate for various cancers and chronic illnesses. Hospital periodically holds free health screening in community special for middle-aged above 40 to encourage them use nearby.

### Methods/Intervention

1.Set community tour checkpoint, roving screening car execute screening of breast, cervical, large intestine, oral. 2.Set hygiene education instruction group, cultivate nurses. Provide plan, prepare manual and execute preventive work. 3.Integrate

community resources to hold various free screening, borough chief, health clinic or civil society improve participation efficiency. 4.Open classes, enhance people knowledge and concept for measure of blood pressure, blood sugar, waist circumference.. 5.Government provides free examination once each year for aged above 65, once 3 years above 45.

### Results (of evaluation)

1.186 community tour checkpoints to execute health check service for people 2.1,561 of aged above 45 checked/year ; 5,223 of above 65 checked/year 3.7,627 of middle-aged were served on chronic illness preventive instruction 4.Cancers screening and positive case visit rate: I.Cervical cancer 6,230/year,79.07% II.Breast cancer 1,197/year, 83.52% III.Colorectal cancer 3,480/year,74.10% IV.Oral Cancer 1,716/year,54%

### Conclusions/Lessons learned

Periodically measure blood pressure,blood sugar, waist circumference and cancer screening can reduce happen and death rate of chronic illness and cancer. So hospital promote middle-aged to self-manage health,check periodically. Make community people realize that besides early discovery and control chronic illness and avoid happening of complication,for those who not yet has chronic illness, this can offer chance of preventive and delay happening of chronic illness.

### Comments

Hospital combine with Health Bureau, health clinic, hold periodically free health screening and health service in all communities. This makes the elder easier and willing to take the examination so that promote community middle-aged the healthier aging life style and make the elder lead a happier and more comfortable life.

#### Contact: HUANG Chi Cheng

Kaohsiung Municipal United Hospital  
No.976, Jhonghua 1st Rd., Gushan Dist  
80457 Kaohsiung, [gracsweet@yahoo.com.tw](mailto:gracsweet@yahoo.com.tw)

## Oral Movement Exercise and Lower Limb Exercise for Seniors

**YANG TING-FENG, YU YA-CHU, LIU HUNG-YUAN**

### Background/Problem/Objective

The demographic data of Taiwan shows that the percentage of the seniors reached 7.0% as of September, 1993., with the present seniors' population in Yilan County even constitutes 14.51%, which makes it an " aged society ". Difficulty in swallowing (dysphagia) could have many negative effects on anyone, including social isolation, malaise, malnutrition, dehydration, and aspiration pneumonia. Besides impacting on people's social interactions and self-esteem, oral health problems also affect life quality by compromising their swallowing abilities. On the other hand, basic body motor functions can be maintained by doing lower limb muscle strengthening exercise in order to help prevent seniors from taking falls. Body motor functions, nutrition and oral functions are closely related, so education on nutrition (proper diet), oral health, and gymnastics, are deemed to be crucial in maintenance and enhancement of the quality of

life. This study deals with seniors' oral health and body motor functions only.

#### Methods/Intervention

Thirty seniors participated in this study, in which they were taught to do oral movement exercise and body balance exercise for about 20-30 minutes weekly to determine whether these two kinds of exercise help improve the participants' well-being in four areas: general physical fitness, difficulty in swallowing, happiness, and participation in various programs for seniors after 3 months and after 6 months. The data was analyzed by means of frequency and description, using Wilcoxon Signed-Rank test (Nonparametric Test) of statistical methods.

#### Results (of evaluation)

The study discovers: 1. With regard to general physical fitness: the seniors have shown improvement when they were asked to do various exercise/movements. 2. With regard to difficulties in swallowing: the seniors feel there is improvement when swallowing hard, solid food. 3. Overall, the seniors feel they are happier, being able to manage their own daily life affairs more easily.

#### Conclusions/Lessons learned

Through the discovery of this study, we could provide community medical professionals with the exercise of oral movement promotion and lower limb movement for them to teach the seniors in their care. Hopefully, it will help seniors maintain and enhance their physical functions for the purpose of increasing their sense of well-being, slowing down their degradation and improving their quality of life.

Contact: YANG Ting-Feng

I-Lan, [tiffany@smh.org.tw](mailto:tiffany@smh.org.tw)

## Community-Focused Space: Community Senior Center in Taiwan

**CHEN HSIANGYI, LEE SHU-CHEN, WANG Chao-Chi, CHANG YU-SHIN**

#### Background/Problem/Objective

Community Senior Center providing primary prevention and care services, enhancing community participation and social interaction among elderly people. In New Taipei City of Taiwan 387 senior centers has set up in 29 administrative divisions since 2012 until now. Tamsui North Coast senior center under the Tamsui area, where the community elderly would use the recreational and leisure area of the day care center. In this way, elders can enhance their interpersonal relationships and health literacy from all kinds of activities.

#### Methods/Intervention

1. Eating with others program: Inviting the community elderly to come eating with others once a week here, to attend the nutrition lecture about elderly healthy eating before meals. 2. Health service program: We Recruit 15 local volunteers provide service everyday, measuring body mass index (BMI), blood pressure (BP), abdominal waist etc. 3. Community education program: We hold the health talks and family support groups monthly. The residents can read or borrow health promotion news, books and magazines.

#### Results (of evaluation)

1. Increased activity participation: The participants of eating with others program increased from 3 to 20 people weekly. In 2017 total 1856 people join the program. 2. Empower the local volunteers: The volunteers have invited about 200 residents living nearby into our senior center. 3. Volunteers has become "Move Health" coaches of New Taipei city. 3. Multiple health promotion issues: We design a series of education programs for the community needs such as Dementia screening and care, elderly rehabilitation etc..

#### Conclusions/Lessons learned

As the good neighbor of the local communities, Tamsui North Coast Senior Center use limited space and resources to expand unlimited community services and promote the healthy literacy for the elders to enable them to accept the aging better, to support their families on care works, to build a better and healthier living environment together with the community itself.

Contact: CHEN Hsiang yi

Mackay memorial hospital tamsui campus

No. 45, Minsheng Rd., Tamshui District.

2516 New Taipei City, [joylight722@gmail.com](mailto:joylight722@gmail.com)

## The Effects of Health Promotion Activities on Body and Mind in the aging population

**LIN Pei-Ching, CHANG Ren-Huai, CHENG Ya-Ai, HUANG Hsiu-O**

#### Background/Problem/Objective

The aim of this research is to investigate the influence of health promotion activities on body and mind among the elderly and to propose design strategy for the activity of community-dwelling older adults.

#### Methods/Intervention

Twenty residents over 65 years old lived in the day care institution were recruited in the experiment. The subjects had completed a 16-week lower body fitness exercise for 30 minutes twice a week. The measurements of physical fitness were evaluated before and after a 16 weeks lower body fitness exercise for all subjects, as the baseline and end line survey, respectively. The physical outcomes were conducted by statistical analysis.

#### Results (of evaluation)

Several measurements were evaluated at the begin and the end after 16 weeks intervention period, which includes the muscle strength and endurance (pre-test:17 times; post-test:17 times), lower limb softness (pre-test:1.8 cm; post-test:6.8 cm), balance function (pre-test:11.8 seconds; post-test:11.6 seconds), body coordination ability and physical flexibility (pre-test:8.8 seconds; post-test:8 seconds). Significant differences were found on the lower limb softness conducted by using the independent samples t-test. ( $p=0.002$ ).

#### Conclusions/Lessons learned

The results suggest that regular health promotion activities 16 weeks may be potentially helpful to improve the muscle power and endurance, balance function, body coordination ability and

physical flexibility for older adults, to avoid increasing damage in accidents and to delay aging.

#### Comments

It is recommended that that lower body fitness exercise may be feasible as a exercise protocol in the health promotion on elders in community and it should be implemented as a regular exercise program in community.

#### Contact: CHENG Yaai

I-Shou university, Yanchao Campus, No.8, Yida Rd, Jiaosu Village, Yachao District, 82445 Kaohsiung, [yaai@isu.edu.tw](mailto:yaai@isu.edu.tw)

## The effect of group music therapy for older people with dementia

### YU-HSUAN TANG

#### Background/Problem/Objective

Dementia is a global health issue given the increasing prevalence rate. It can cause patients to lose their daily living abilities and the limitations of drug effect. Group music therapy is an important method for neuropsychological, cognitive, and social behavior goals in the field of dementia. Group music therapy is a non-pharmacological intervention and it is helpful to the cognition in dementia. Music therapy is beneficial to improve cognition and to reduce neuropsychiatric syndromes of dementia.

#### Methods/Intervention

This study aims to determine the effect of group music therapy on level of mental state, agitated behavior, relationship and concentration among older people attending community day-care services. Older people with dementia (N=18) received 24 sessions of group music therapy (two 50-min sessions per week for 12). Music teacher observes emotional state, agitated behavior, relationship and concentration of dementia people during the activity. The effectiveness of the intervention group music therapy will be evaluated.

#### Results (of evaluation)

The result of 12-week intervention indicated that group music therapy was found effective at improving relationship and concentration (  $p=0.021$ ) and reduced depression and agitated behavior in older people with dementia (  $p=0.019$ ). Thus it can be seen improves among older people attending community day-care services mental state, agitated behavior, relationship and concentration state of health using the group music therapy to achieve remarkable success.

#### Conclusions/Lessons learned

Group music therapy can be considered a non-pharmacological intervention which has the potential effects to reduce depression and agitated behavior, improve relationship and concentration of dementia people. Group music therapy is a promising intervention for strategy of dementia and it must be started as early as possible.

#### Comments

This study support that music therapy is an effective intervention for elderly dementia patients. The authors hope that findings are a helpful way for clinical nurse to develop practical music therapy protocols.

#### Contact: YU HSUAN Tang

Kaohsiung Medical University Hospital, Kaohsiung Medical University, No.100, Tzyou 1st Road Kaohsiung 807  
Kaohsiung, [tang96540010@gmail.com](mailto:tang96540010@gmail.com)

## Initial Exploration into the Quality and Effectiveness of Discharge Planning Case Manager

### PI-HSUEH Chen, CHUN-LING Lin, MING-WEN Tsai, YI-JU Huang, IA-LING Chen, HSIU-CHU Chiang, CHUN-HUNG Chen

#### Background/Problem/Objective

Discharge planning case manager are patient-centered care services. With cooperation between interdisciplinary teams, healthcare human resources can be effectively integrated. A comprehensive evaluation is also conducted and healthcare resources integrated, while a family support system, economic status, and available social resources are considered. All of the above will help to provide elderly patients with high-quality healthcare in the appropriate place. The smooth transfer from receiving emergency healthcare to community-based care.

#### Methods/Intervention

Initial screening is conducted by a patient's caregiver in accordance with the Discharge planning case manager Screening Form, and approved by her administrator in charge of discharge planning services. For those who are qualified for the "Long Term Care 2.0 policy" and need, a care management assessment form, with the consent of their families. Relevant members of medical teams, patients and their families will be invited to attend meeting, in order to evaluate patients' functional status and care needs. Follow-up phone calls after hospital discharge will be made and home care visits conducted.

#### Results (of evaluation)

Discharge planning case manager help to reduce the average length of hospitalization from 18.6 to 17.8 days, to decrease the readmission rate within 14 days with a related diagnosis from 1.8% to 1.0%, the rate of return visits to an emergency department within 3 days after hospitalization from 3.4% to 2.5%, and the overstay rate from 18.7% to 14.0%, as well as to increase the average satisfaction rate of patients and their families towards Discharge planning case manager from 86.7% to 88.7%.

#### Conclusions/Lessons learned

Discharge planning case manager are an important part of the continuation of long-term care. Hospital and community care resources are connected according to patients' needs, in order to enable them to make the best use of various levels of care resources. reduce patients' anxiety and fears after they are discharged, as well as shorten the length of hospitalization and reduce the overstay rate to avoid unnecessary stay in hospital. Patients and their families can then be rest assured after patients are transferred to other care facilities, while medical costs are simultaneously lowered.

#### Contact: PI HSUEH CHEN

Kaohsiung Municipal Siaogang Hospital

No.482, Shanming Rd., Siaogang Dist., Kaohsiung City 812,  
Taiwan (R.O.C.), 812 Kaohsiung, [800358@knhk.org.tw](mailto:800358@knhk.org.tw)

## The Efficacy of Auricular Acupressure on Improving Sleep Quality in Elderly

LEE Yi-Chin, LIU Yi-Heng

### Background/Problem/Objective

Sleep disorders are common physiological problems in elderly. According to Taiwan Sleep Medical Association "National Sleep Survey over 65 y/o", elderly have insomnia experience as high as 50.8%. The treatment of sleep problems is still predominately drug-based. Alternative therapies have become a global concern and active efforts. The direction of Acupressure is a traditional Chinese medicine acupuncture therapy. The purpose of the study is to investigate the efficacy to improving sleep quality in elderly in community by auricular acupressure.

### Methods/Intervention

This study was one-group pretest-posttest group design, and using Chinese version of the Pittsburgh Sleep Quality Scale as a tool. The inclusion criteria was cores above 5 points; exclusion criteria were using sedative agents, heart disease and skin allergies. 20 elders were recruited. Six-weeks of auricular acupressure interventions were performed. Acupressure was pasted Wang-Vaccaria seed on Shenmen, Heart, Subcortex and Occiput. Then we compared the difference between pretest and posttest in elders with sleep disorders (Wilcoxon Signed Ranks Test).

### Results (of evaluation)

17 elders completed the study. After 6 weeks of auricular acupressure intervention, the total scores of Pittsburgh Sleep Quality Scale of 17 elders decreased after the auricular acupressure intervention. The pre-test score was  $9.23 \pm 3.09$ , then down to  $6.94 \pm 3.5$  posttest ( $P = 0.002$ ). Sleep quality ( $1.76 \pm 0.83$  to  $0.88 \pm 0.99$ ,  $P = 0.004$ ) and sleep latency ( $2.11 \pm 0.69$  to  $1.52 \pm 0.87$ ,  $P = 0.008$ ) were also found to be statistically significant result.

### Conclusions/Lessons learned

Insomnia induces a serious impact on elderly, including the deterioration of cognitive and daily life functions, increasing the use of health services, and reducing the negative impact on quality of life and psychology. Auricular acupressure is noninvasive, easy to learn and easy to perform. The results of this study show that auricular acupressure can effectively and significantly improve the quality of sleep in elderly, providing health care providers with an alternative solution to improving the quality of sleep in elderly.

### Contact: LEE Yi-Chin

National Taipei University of Nursing and Health  
No.296, Sec. 3, Ziyou Rd., East Dist.  
Taichung,  
[yeeheng6061@yahoo.com.tw](mailto:yeeheng6061@yahoo.com.tw)

## A Study of the Application to Health Promotion of the Elderly: by Re-

## search the Evidence-Based on Taitung Aboriginal Community

LO Hsien-Yi, CHOU Hui-Lin, SHYU Jen-Lain, CHEN Mei-Ling

### Background/Problem/Objective

According to the population survey by the Health Promotion Administration, Ministry of Health and Welfare, Taiwan has become an aging society. As the elderly population rises continuously, it is important to understand the causes of disability in the elderly and the strategies to prevent it. The purpose of this study is to examine the health promotion program on prevention of disability in the elderly of citizens of taitung aboriginal community.

### Methods/Intervention

The activities of this health promotion program will be held from 2016.09 to 2016.12. We carried out a series health promotion program (including: Prevent falls, nourishment, dental teeth, autism or withdrawal, and prevention of depression) regarding prevention of disability in the elderly of taitung aboriginal community in Taiwan. Pre/post-test design was used in one group of subjects this study. A total of 110 subjects were collected in this study.

### Results (of evaluation)

Participation rate of the program was 100%. The statistics show that after the implementation of the health promotion program, the proportion of autism or withdrawal symptoms was 30%, significantly lower than 70% before the start of the activity. The rate degree of satisfaction after health promotion program was 100%. The health promotion program had significant effects on prevention of disability in the elderly and satisfaction of taitung aboriginal community.

### Conclusions/Lessons learned

The health promotion program had significant effects on the prevention of disability in the elderly of citizens of taitung aboriginal community. In conclusion, adequate preventive strategies and exercise regimen play an important role to prevent or postpone the disability in the elderly.

### Contact: CHOU Hui-Lin

Chang Jung Christian University  
No.65, Gengsheng Rd., Taitung City, Taitung County 95051,  
Taiwan (R.O.C.), 95051 Taitung City, [hhuillan@gmail.com](mailto:hhuillan@gmail.com)

## Community-based prevention and delaying disabled elderly services

YANG Pei Chen, LIU Yi-Lien, CHOU Li Fen, CHIH Li Shen

### Background/Problem/Objective

Aging is a continuous process of change. The research showed that the human body function decreases by 1% a year from the age of 30 and the rate increasing rapidly after the age of 50, weakening the body when it drops to 60%. Therefore, the issue of how to maintain good functions is important to reduce chronic diseases as well as accidental falls among elderly.



Moreover, designing an effective exercise regimen for high-risk groups is important.

#### Methods/Intervention

Using the Taoyuan City Seniors Weak Assessment Scale and IADLs Disability Assessment, we measured the Kihon Checklist before and after the assessment. Provided for 3 months, 2 times a week, 2 hours each course, the course content includes the influence of keeping muscle strength in daily life, how to monitor the amount of exercise, strength of limbs and softness exercises. There was a total of 25 participants (2 males and 23 females) with a mean age of 81.

#### Results (of evaluation)

Overall average satisfaction was 94%. The Kihon Checklist assessment scale pre-test average score was 9.9, post-test average score was 8.4. The overall average reduction was 1.5 points. The higher the scale score indicates the more serious the elderly frailty. After intervention, Intermediary interventions decreased in the score of 7 items such as independent living, activity exercise, nutrition, oral hygiene, social adaptation, cognitive function and melancholy, which indicated that the degree of decline was improved.

#### Conclusions/Lessons learned

Elderly people have a high degree of participation in health issues related to themselves. The proportion of male participants is significantly lower, and male participation should be encouraged. Domestic research on long-term regular exercise shows it helps to reduce and delay aging. Therefore, frailty can be improved through the design of curriculum activities, and their promotion and implementation in community fields to prevent and delay the decline of the elderly.

#### Contact: EVE Chiu

Min-Sheng General Hospital  
168 Ching-Kuo Rd., 33044 Taoyuan City,  
[a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## Efficacy of Application of Exercise Promotion Model for the Healthy and Prefrail Community Dwelling Elderly in Taiwan

**CHIEN Meng-Yueh , TSAOU\* Jau-Yih, LEE Hsuei-Chen, LIN Pay-Shin , TSAI Yi-Ju , LEE Pei-Yun , WANG Ching-Yi , LIN Li-Ju, YU Li-Hui, WANG Ying-Wei**

#### Background/Problem/Objective

Health professionals should design appropriate exercise programs based on the mobility levels of elderly to promote overall health. Furthermore, these programs should be effectively applied to the community. Health Promotion Administration of Taiwan initiated a two-year project to develop exercise programs for elderly with varied functional mobility, and to verify the efficacy of its promotion to the community. The first part of this project established three levels of exercise that showed to effectively reverse frailty status of the community elderly. The present study is to report the efficacy of application of this

evidence-based exercise promotion model for the healthy and prefrail community dwelling elderly in Taiwan.

#### Methods/Intervention

Steps of promotion process include: (1) Filming of educational video that included entry- and advanced levels of exercises and their instructions; (2) Conducting a 16-hour training courses for exercise instructors in which hands-on practice and the required skills on the healthcare of elderly were included; (3) Offering 8-week community exercise classes by the trained instructors in communities, each of which included 15-20 healthy or prefrail elderly; (4) Sampling 8 health exercise classes for the assessment of the efficacy of exercise promotion into community. The assessments included senile physical fitness tests and basic health information of the elderly.

#### Results (of evaluation)

A total of 14 training classes for community exercise instructors were held in which 1598 instructors completed their training. A total of 229 community exercise classes were held. After 8 weeks of intervention, 115 elderly participated in 8 sampled community exercise classes showed significant improvements in the back scratch, chair sit and reach, 30-s arm curl, 30-s chair stand, walking speed, standing balance, 2-min stepping test and grip strength (all  $p < 0.05$ ).

#### Conclusions/Lessons learned

The present study showed that the evidence-based exercise programs developed by physical therapists for the elderly can be successfully applied to community service through professional training courses of community health instructors, and effectively improve the global fitness of healthy and prefrail elderly.

#### Contact: CHIEN Meng-Yueh

School and Graduate Institute of Physical Therapy, College of Medicine, National, Floor 3, No.17, Xuzhou Rd., Zhongzheng District, 10051 Taipei, [mychien@ntu.edu.tw](mailto:mychien@ntu.edu.tw)

## The Effects of Self-Management Program on the Degenerative Osteoarthritis in a Community Elderly.

**CHOI Eunhee, LEE Kiheon, PARK Sukwon**

#### Background/Problem/Objective

Knee osteoarthritis(OA) is one of the most prevalent musculoskeletal complaints worldwide, affecting 30–40% of the population by the age of 65 years. Physical exercise and educational programs offer several benefits for elderly with knee osteoarthritis (OA), but the hospitals have not yet tried.

#### Methods/Intervention

We developed a Self-Management Program in conjunction with rehabilitation medicine and staffs. It consists of 30-minutes disease education and 20-minutes Thera-Band exercise; flexibility exercise(stretching of knee and ankle joints), resistance exercises(strengthening of quadriceps, extension and flexion of the knee joint with an elastic band).

#### Results (of evaluation)

The health promoting hospitals conducted a campaign in senior welfare centers and community health center, from July to December in 2017. A total of 708 elderly people participated in

this program and before the training, we provided the Thera-Band with an exercise training poster. Participants' opinions were as follows; "I feel like I am decreasing pain." , " I think it's a good daily exercise program."

#### Conclusions/Lessons learned

The results suggest that a Self-Management Program may be an effective tool for improving daily physical activities in elderly with knee osteoarthritis(OA).

#### Contact: PARK SUKWON

Seoul National University Bundang Hospital  
82, Gumi-ro 173beon-gil, Bundang-gu  
Seongnam-si, Gyeonggi-do, [11550@snuh.org](mailto:11550@snuh.org)

## Community-based health promotion program on the prevention of sarcopenia in elderly population

**HAN Tzu Yang, CHEN Hsin Chun, HSIAO Tong Yun, TSENG Chun Han, HSIEH Hung Yu, HUNG Yu Shan, WENG Chung Feng**

#### Background/Problem/Objective

The world's population is aging, particularly in developed countries, are experiencing growth in proportion of older persons. Sarcopenia is a geriatric syndrome that is characterized by age-related loss of muscle mass, muscle strength and muscle function. In Taiwan, sarcopenia has had profound impact on healthcare cost and quality of life. In this study, a questionnaire was conducted and those who were determined as "prefrail" were asked to participate in exercise and dietary control to achieve prevention of sarcopenia.

#### Methods/Intervention

Prevention and management of sarcopenia were carried out through scheduled exercise and dietary modification. "Prefrail" was identified using "Study of Osteoporotic Fractures" criteria. These programs were accomplished over a course of ten weeks, twice every week and with a 1.5-hour duration. We compared the result of both questionnaire and physical fitness before and after these programs. Dietary modification by lectures on the nutrition and balanced consumption of food. Physical exercises to including balance and muscle strength with licensed instructors.

#### Results (of evaluation)

The study included 71 participants (mean age: 68.27 years; 10 men and 61 women). "Prefrail" was identified in 22 participants. Recognition of healthy diet through pre/post-test score improved from 8/12 (S.D.= 1.54) to 9/12 (S.D.= 1.39) ( $p=0.0301$ ). Physical exercises including elbow flexion improved from 14.5 times (S.D.= 5.43) to 18 times per 30 seconds (S.D.= 4.45) ( $p=0.0011$ ), and standing & seated chair exercise improved from 15 times (S.D.= 5.07) to 17.55 times per 30 seconds (S.D.= 4.65) ( $p=0.003$ ).

#### Conclusions/Lessons learned

Sarcopenia is a common clinical problem in people over 65 years of age, and may lead to adverse outcomes. Primary prevention with exercise and nutrition interventions may act as important role in improving muscle mass, muscle strength and muscle function. Health promotion programs in local communi-

ty are beneficial in the prevention of sarcopenia. However, further research is needed to maximize the efficacy of physical exercise combined with dietary modification.

#### Contact: HAN TZU-YANG

Cardinal Tien Hospital  
No.362, Zhongzheng Rd., Xindian Dist.  
23148 New Taipei City, [tzuyanghan@gmail.com](mailto:tzuyanghan@gmail.com)

## The experience of Taiwan in Prevent declining physical function of elderly in Community

**YA HUI chou**

#### Background/Problem/Objective

How to prevent or maintain physical function of elderly is an important issue in worldwide. Because poor physical function, elderly might have difficulty in performing activities of daily and increasing the need of care. Also, the country will spend more medical resources for elderly. Many studies showed the effect of exercises is effective for depredation. The purpose of the study is to investigate health promotion exercise program which designing by physical therapist of Taiwan medical center for community's elderly.

#### Methods/Intervention

The elderly who included in this study is over 65 years old. They live in their home and can go to the center of community by self or caregiver. Exercise is provided by physical therapists that experienced in treating older people and trained by classed for teaching technique. First, they assess subjects including of upper and lower limb muscle strength, range of motion, grip strength, balance, flexibility, walking function and ask subjects whether had fallen condition in their daily life. They joined twelve sessions including of muscle strengthening, flexibility, balance, cardiopulmonary endurance and strategies for preventing chronic disease and falling. One session of each week, each class takes two hours in exercising or lecture. After twelve classes, they received reassess physical function in the community. Usually, they may go to the community and join others classes likes singing or handicraft.

#### Results (of evaluation)

The rate of attending is over 80% and high satisfaction in classes. The effect of improvement is especially of balance and cardiopulmonary endurance. Balance is measured by keep one leg stand. The score increase from 4.8 seconds to 5.8 seconds. Cardiopulmonary endurance is measured by calculating two minute walking steps. Total steps increases from 88 steps to 106 steps. Also, elderly's walking function is significantly improved and they reported can walk for long distance in their daily life.

#### Conclusions/Lessons learned

In future, we hope to integrate impairment of elderly and develop exercise programs or equipment using in the community or home. Each older person can easily perform and be provided exercise prescription by physical therapy. They can have successful aging and happy life. Also, we thanks for government of health Bureau in Changhua which provided funds and communication with community.

Contact: YA HUI chou

[87971@cch.org.tw](mailto:87971@cch.org.tw)

## Evaluation of the Effects of Cognitive-based Training Programs for Community-dwelling Older People in Taiwan

**HUANG Wenyi-Yi, CHEN Po-Yen, LU Huei-Lan**

### Background/Problem/Objective

In 2017, the care for elderly is important policy in Taiwan. This study aim to investigate the effect of cognitive-based training programs for community-dwelling older people in Southern Taiwan.

### Methods/Intervention

23 community-dwelling older (age  $\geq 65$ , mean=76.1) people are recruited. Participants participate at least 10 sessions. Participants received cognitive-based training programs, including components memory, attention, executive function, and visual-spatial abilities, once weekly in 2 hour a session for 12 week. Participants also had to accomplish cognitive homework after program. We measured the effects through self-designed questionnaire according to Likert type four-point scale.

### Results (of evaluation)

The study results showed that: (a) all of participants were satisfied with cognitive programs. Total average scale of satisfaction was 3.7. (b) most (91.3%) of participants fully absorbed or partially absorbed the content of cognitive activity, only two absorbed a little. (c) all of participants strongly agree or agree that what they have learned can be applied to life is higher satisfaction from.

### Conclusions/Lessons learned

According to the outcome of this study, it showed that cognitive-based training program is effective for the community-dwelling older people. This improvement can represent a clinically important benefit, provide information about the use of cognitive-based training in older people.

Contact: HUANG Wen-Yi

Ministry of Health and Welfare Jianan Psychiatric Center  
71742 No.539, Yuzhong Rd., Rende Dist., Tainan City 717,  
Taiwan (R.O.C.), 717 Tainan, [wenyi1836@yahoo.com.tw](mailto:wenyi1836@yahoo.com.tw)

## Session P2.4: Health literacy and communication

**People Health Literacy Skills and Physician-Patient Communication at Mennonite Christian Hospital in Hualien City, Taiwan**

**WAN-HSIN CHEN, YEA-PYNG LIN, CHIEN-JU CHENCHIH-YAO LIN**

### Background/Problem/Objective

Health literacy skills are those people use to realize their potential in health situations. They apply these skills either to make sense of health information and services or provide health information and services to others. This is the era of information expansion, too much information makes people don't know whether is right or not. Thus we use questionnaire to survey people who come to Mennonite Christian Hospital health literacy skills and social demography.

### Methods/Intervention

We design the questionnaire by referring health literacy skills scales at home and abroad. The questionnaire content includes personal information, health literacy and physician-patient communication. We use this questionnaire to investigate people's health literacy skills and the correlation among social demography, health literacy skills and physician-patient communication.

### Results (of evaluation)

The result showed that the age, residence, and marital status were statistically significant difference on health behavior and health literacy; academic was statistically significant difference on reading medicine bag clearly and health literacy by ANOVA test. Health literacy skills were significant positive correlation on reading medicine bag clearly; health literacy skills were also positive correlation on physician-patient communication by Pearson's product-moment correlation coefficient.

### Conclusions/Lessons learned

Social demography was significant correlation on health literacy but weren't correlate on physician-patient communication; health literacy skills were significant correlation on physician-patient communication. There are some suggestions for improving people health literacy skill: 1. Posting medicine bag poster to educate people how to read exactly. 2. Adding educational video or games on hospital website and app can make people understand and remember easier than words. 3. Dividing information on hospital bulletin board makes people watch clearer and improve their willingness to watch.

Contact: WAN-HSIN CHEN

Mennonite Christian Hospital  
44 Min-chuan Road, Hualien, 970 Taiwan  
Hualien, [wanshin1015@gmail.com](mailto:wanshin1015@gmail.com)

## Applying the shared decision making (SDM) model to provide a choice for patients of production

**CHANG Ya-Hsiu, SHYU Ren-Shi, CAI Xue-Yu, YIN Xing-Wen, PAN Jing-Ru, WANG Rui-Lian, LIU Yi-Lien**

### Background/Problem/Objective

In addition to the need to be patient-centered, the interpretation of the disease should be explained from the patient's perspective to the patient's so that patients and their families

are provided all possible information before making medical decisions, and therefore making the best of choices. Motivated by the policy of "Baby-Friendly Hospital", Maternal and Child Health Care Hospital is taking the initiative to provide hygiene education so that the patient is better informed and can take better decisions.

#### Methods/Intervention

Since December 2016, this hospital has provided a health care education leaflet to all 28 weeks pregnant patients. They also placed Health education posters and videos were also placed in the clinic rooms to allow for a better understanding of the delivery process.

#### Results (of evaluation)

The satisfaction rate with the assisted maternal and child education videos to guide maternal understanding of the "mode of production" rose from 72.73% to 100% at antenatal clinics. The rate of awareness or acceptance of "shared decision making (SDM)" has been raised from 27.27% to 80.95%.

#### Conclusions/Lessons learned

The Background/Problem/Objective of the SDM approach not only provides nurses with complete health education guidance, but also gives patients an understanding of the mode of production and their participation in medical decision-making, making the hospital a truly "mother-baby Goodwill Baby-Friendly Hospital" hospital.

#### Contact: EVE Chiu

Min-Sheng General Hospital  
168 Ching-Kuo Rd., 33044 Taoyuan City,  
[a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## An Outcome Evaluation of the Community Pharmacy Efforts to Improve Health Literacy

**HIROTA Noritake, INAGAKI Mayumi, MATSUMURA Naomi, HOJYO Yuya, KAMIURA Manami, OGASA Minako, UTSUNOMIYA Reiko**

#### Background/Problem/Objective

Since August 2007, Aozora Pharmacy has been holding a learning class on drugs and health information biannually in order to improve Health Literacy among patients and community people. So far, 21 classes were held on various themes, and the number of participants sums up to 436 people in total. After a decade of this effort, a research was conducted to examine the effectiveness of participation to this class on individual awareness of their own health and behavioral change.

#### Methods/Intervention

A questionnaire was mailed to 209 participants, whose address was known, out of all participants from the previously held learning classes. The response was collected by mail anonymously. Surveyed items were: 1) gender, 2) age, 3) employment status, 4) number of participation to the learning class, 5) if any change happened after participation, and if so how, regarding their awareness and behavior, 6) request to pharmacy if any.

#### Results (of evaluation)

86 responses were collected out of 186 after excluding the 23 returned mails (death or moving) (collection rate: 46.2%). Male: 29.1%, female: 70.9%. Age: largest group=70~79, 45.3%. Participation number: once(1) 24.4%, twice(2) 23.3%, three(3) 11.6%, four(4) 7.0%, above five(5) 16.3%, above ten(10) 5.8%, unknown: 11.6%. Awareness and behavioral change: (+) 49(57.0%), (-) 27(31.4%), (±) 9(11.6%). A significant positive correlation was found between the participation number and the awareness and behavioral change ( $R^2=0.952$ , 95% CI:0.616~0.995,  $P=0.00344$ ).

#### Conclusions/Lessons learned

This study proved that the learning class given by community pharmacy was effective in improvement of health literacy among patients and community people, contributing to their health promotion. Moreover as evidence, significant correlation was found with the number of participation. A community pharmacy plays a role not only in sales of prescribed drugs or OTC but also in supporting the health and enhancing health promotion among patients and community people, therefore it is useful to continue holding such learning classes.

#### Contact: HIROTA Noritake

AQZORA Pharmacy, Osaka Pharmaplan  
3-6-8, Nozato, Nishiyodogawa-ku  
555-0024 Osaka,  
[n-hirota@faruma.co.jp](mailto:n-hirota@faruma.co.jp)

## Improving Health literacy in Community populations with hypercholesterolemia

**HUNG LI-Ju, PAN Hsiang-Ju, CHEN Ru-Yih, CHENG Jin-Shiung**

#### Background/Problem/Objective

Poor compliance to healthy lifestyle changes and / or lipid-lowering agents is associated with poor lipid control. We aimed at delivering an accurate health literacy to improve patients' compliance and evaluated the effect of regular follow-up on hypercholesterolemia in community.

#### Methods/Intervention

In 2015, we conducted a cohort study of 163 adults (age 38-97 years, mean 68years) with hypercholesterolemia in community. Hypercholesterolemia was defined as blood cholesterol level above 200 mg/d.l. All participants received a pre-intervention screening test. We offered education program and personal counseling monthly and followed with cholesterol test every 3 months for one year. We compared the difference of cholesterol test before and after intervention.

#### Results (of evaluation)

Compared with the difference between pre-test and post-test for total cholesterol showed a more significant ( $p < 0.001$ ) improvement via intervention. The mean cholesterol decreased by 18 mg/d.l overall.

#### Conclusions/Lessons learned

Patient's compliance is a key factor of chronic disease control. Improving health literacy with regular offering educational

materials by registered nurse and monitoring cholesterol could improve cholesterol control.

**Contact: LIJU HUNG**

Kaohsiung Veterans General Hospital  
No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City 81362,  
Taiwan (R.O.C.), 81365 Kaohsiung,  
[ljhorng@vghks.gov.tw](mailto:ljhorng@vghks.gov.tw)

## Alliance for Health Literacy in the Czech Republic (AHL)

**KALVACHOVÁ Milena, ŠTEFLOVÁ Alena**

### Background/Problem/Objective

AHL is a volunteer association of many groups including doctors, healthcare providers, schools, researchers, media, patients, etc. The Alliance's Coordinator and administrative base is Institute for Health Literacy, which was created in 2017 as a non-profit organization following the implementation of the National Strategy for Health Protection and Promotion with the aim to develop local health literacy. Basic information is provided through website. Since 2018 has been establish close cooperation with the Ministry of Health and the Czech Medical Society.

### Methods/Intervention

The primary objective is development of communication especially between citizens—public administrations, patients—healthcare workers, and others who are trying identify major health literacy issues. AHL seeks to disseminate Health Literacy's information and strengthen its role in HealthCare. It collects and mediates acquired knowledge and examples of good practice. In the field of research and evaluation, it points to the beneficial impact of health literacy on human health and well-being and on the economic benefit of a healthy social environment.

### Results (of evaluation)

A Task Force has been set up to develop an Action Plan for the Development of Health Literacy (HL) in which were defined 6 basic areas and were proposed 8 development projects, especially strategy of HL's continuous development, information and communication support, linking with primary care providers and schools, monitoring of HL of Czechs. Two conferences were held on 2017 which have become a good opportunity to present the views, experience and results of research studies and other activities.

### Conclusions/Lessons learned

Those interested in the Alliance can sign in at this link: <https://goo.gl/forms/DM0R56nVWwiSXmoM2>. The National Strategy for Health Protection and Promotion is a well-prepared outline of health policy.

### Comments

People's health literacy and good health policy will not be self-sufficient. The role of the state is important, the competent management of the Ministry of Health, broadly developed cooperation and the support of all organizations that can help to increase the level of health literacy in the Czech Republic.

**Contact: STEJSKALOVA Veronika**

Ministry of Health

Palackého náměstí 4, 128 01 Prague,

[veronika.ste@seznam.cz](mailto:veronika.ste@seznam.cz)

## The analysis of effectiveness to promote the evaluation of adverse effect after chemotherapy by information system

**YA-TING Wang, CHI-YING I, HUI-CHUAN Huang, LI-CHUN Hung, YI-JU Huang, YA-LING Chen, SHU-HUI Chuang, HUANG-CHI Chen**

### Background/Problem/Objective

According to the "Taiwan's Leading Causes of Death in 2016" issued by Ministry of Health and Welfare, the most vital cause is malignant neoplasms. Chemotherapy is a common of the treatment. When accepting chemotherapy by patients, the side effects are different for each person. If the evaluator did not record the whole details of patient's situation, it might influence the decision of visiting staff and prevents the visiting staff from taking precise medical measures and even threatens the life of the patient.

### Methods/Intervention

Integration of information elevates the security and quality of caring. About information, we decided to electronic medical records, through introducing National Cancer Institute Common Toxicity Criteria 4.0. As to standardization of side effect evaluation, we produced a standard format and fixed the location/terms of side effects; by doing so, we made the content of records unified and complete. When it comes to education of member in cancer-treating group, we held training course for "Recording Side Effects of Chemotherapy" and a digital learning.

### Results (of evaluation)

Before applying information system to "Recording Side Effects of Chemotherapy", there is no unified format, and the evaluator records the side effects based on their own standards and decisions; besides, the completeness of the records is 75.3%. After National Cancer Institute Common Toxicity Criteria 4.0 was introduced, the evaluation conducted after 6 months shows that the completeness became 99.1%, an increase of 23.8%, i.e., the situation significantly improved.

### Conclusions/Lessons learned

Side effects evaluation is not only a vital stage during the process of chemotherapy, but also the basis for treating side effects. It is a significant cause for adjusting the drug dosage or changing drug and has an influence on the cure rate closely related to the survival rate. Introducing National Cancer Institute Common Toxicity Criteria 4.0, we shortened the time for recording, making the team understand the patient's situation immediately. It became the common professional language to take care of patients and made good communication within the cancer care team group more convenient.



**Comments**

"Standardize side effects" to unify the format of record. It increases the security of chemotherapy, standardized, reduce the recording time, and raises the quality of caring.

**Contact: WANG Ya Ting**

KMU Healthcare System Kaohsiung Municipal Siaogang Hospital  
No.482, San-Ming Rd., Siaogang Dist.  
812 Kaohsiung City, [1036151@kmhk.org.tw](mailto:1036151@kmhk.org.tw)

## Using evidence-based shared decision-making to help patients with end-stage renal disease

**CHI Ling-Chih, CHUNG Hsuan-Kuang, LIAO Yin-Jing, WU Ting-Tzu, TSAI Yi-Fan**

**Background/Problem/Objective**

Taiwan has the highest incidence and prevalence rates of end-stage renal disease in the world. Death was inevitable even though we had hemodialysis or kidney transplant. Providing end-of-life care to patients suffering from end-stage renal disease often presents ethical challenges to families and health care providers. We wish to demonstrate how an interdisciplinary palliative team can be used to make decisions that satisfy the patient's and the medical team's desires for end-of-life care. In the studied unit is a hemodialysis center of regional hospital in northern Taiwan. In this study, we will test the SDM (Shared Decision-Making) communication to patient with end stage renal disease.

**Methods/Intervention**

Except hemodialysis and kidney transplant, palliative care in end stage renal disease is another choice. Before that, professional staffs need to have family meeting with patients and their family to discuss clinic diagnosis, prognosis and treatment choices. Nephrologists and social workers will communicate prognosis and provide advance care planning in face-to-face encounters with patients and families using a social work-centered algorithm. Multidisciplinary group made communication documentation and held discussion to help patients and their family to participate SDM.

**Results (of evaluation)**

We promoted the SDM communication in a hemodialysis center from April to October in 2017. Because of the conservative values in Taiwan, although we have only two cases so far, but it is more worthy of pay attention. It helped a 98-year patient who had advanced dementia, end stage renal disease and bed ridden to be good death. Another 83-year patient who refused hemodialysis intervention, from not giving up to early ready, home care team helped him dying peacefully at home.

**Conclusions/Lessons learned**

The SDM communication intends to improve discussions about prognosis and end-of-life care with end-stage renal disease patients. This communication will help hemodialysis staff and providers to effectively participate in advance care planning for patients to establish high value care at the end of life. We expect these results to provide as reference for helping patients make decision with end-stage renal disease.

**Contact: TSAI Yi-FAN**

Taipei City Hospital, Young Ming Branch  
No.105, Yusheng St., Shilin Dist., Taipei City 11146, Taiwan  
10453 Taipei, [b1717@tpech.gov.tw](mailto:b1717@tpech.gov.tw)

## Improve of effective communication between health care workers and patients' families by using the mnemonic phrases and media teaching

**KUO Jie-Shin, SU Wen-Hsuan, YANG Yan-Jin, CHEN Sung-Yun, TSAI Yi-Fan**

**Background/Problem/Objective**

Medical communication between health care workers and patient in Taiwan is an important issue in 2017. We encouraged patient to ask and created a clear and effective communication with health care workers. Effective medical communication has been the primary goal of medical care in Taiwan. Studies have confirmed that the communication accessory tools could be helpful and assisted patient or caregiver to express real need without language. The aim of this study was to promote effective communication between health care workers, patients and families by using the mnemonic phrases and media teaching.

**Methods/Intervention**

The content of mnemonic phrases related to communication include: 1. Ear: listen to patient and caregiver 2. Eye: eye contact and focus 3. Distance: keep distance of one arm 4. Heart: empathy, love and responsibility 5. Summary: direct and summary conclusion 6. Posture: forward when communication 7. Speaking: let patient and caregiver realize 8. Dress: dress with appropriate clothes. These mnemonic phrases were designed on a poster and were pasted on the ward. The website related to communication video was linked with QR code and created a multidisciplinary communication platform.

**Results (of evaluation)**

This communication proceeded with mnemonic phrases and media teaching from August to October in 2017. Satisfied investigation of clinical care was promoted from 90% to 99%. Thank your letters increased from 6 to 28. A total of 21 health care workers were investigated by questionnaire and all thought the communication was meaningful and effective between health care workers, patients and families.

**Conclusions/Lessons learned**

Mnemonic phrases and media teaching (linked by QR code) promoted communication effectively and quality of care. This strategy can increase the efficiency of health care workers-patient communication. Effective communication enables the medical team to understand the expectations and goals of patients and their families. Health care workers could arrange appropriate medical and nursing care and enhance the value of patient-centered care.

**Contact: TSAI Yi-FAN**

Taipei City Hospital, Young Ming Branch  
No.105, Yusheng St., Shilin Dist., Taipei City 11146, Taiwan  
10453 Taipei, [b1717@tpech.gov.tw](mailto:b1717@tpech.gov.tw)

## Taiwan Government's Achievements in Promoting "Guidelines for the Use of Health Literacy and Friendly Material Review"

LEE Chia-Hui, LIU Chiao-ching, LU Hsiao-Huey, LO Shu-Ying

### Background/Problem/Objective

Health Literacy is the key to equal patient safety and health. About 25-30% of adults in Taiwan lack health literacy, and these people have difficulty understanding complex health information. It is the government's obligation to provide comprehensible, feasible, and applicable health information to enhance people's self-health decision-making ability.

### Methods/Intervention

Taiwan's Health Promotion Administration, Ministry of Health and Welfare referred to the CDC Communication Index to build and develop the "Guidelines for the Use of Health Literacy and Friendly Material Index" which covers a total of 21 grading items in 6 dimensions as a basis for the production and censorship of health broadcast materials.

### Results (of evaluation)

Since February 2017, "Guidelines for the Use of Health Literacy and Friendly Material Review" has completed 58 items (graphic design: 39 pieces, Multimedia design: 19 pieces), with the initial trial approval rate of 44.8% (26 cases) and the final review approval rate of 84% (49 cases). The initial trial and the final review approval rate of the "graphic design" category was the highest.

### Conclusions/Lessons learned

1. The health material production unit recommends using the "Guidelines for the Use of Health Literacy and Friendly Material Review Index" during the material planning and production phase so that the material can be Health Literacy friendly and maximize the effectiveness of health communication.
2. Continuously implementing the education and training of "The Guidelines for the Use of Health Literacy and Friendly Material Review Index" and promote it across the country.
3. Dramatic or narrative health audio-visual materials should not be applicable to this Index, It should be developed separately to the Index.

Contact: CHIU Xnger

Ministry of Health and Welfare

No.36, Tacheng St., Datong Dist.

103 Taipei City, [xnger2015@hpa.gov.tw](mailto:xnger2015@hpa.gov.tw)

## Effectiveness of online training course on health literacy for healthcare professionals in Taiwan

CHANG Mei Chuan, WANG Ying Wei, WEI Mi Hsiu, HSIEH Jyh Gang

### Background/Problem/Objective

Preparing healthcare professionals with sufficient knowledge and skills to improve health literacy is essential for ensuring sufficient communication with patients and caregivers. This study aimed to design an online training course on health literacy to train healthcare professionals about health literacy practices in Taiwan and to evaluate the effectiveness of the training course.

### Methods/Intervention

Pre- and post-training surveys were completed by 350 participants in a training course designed to improve knowledge and skills of health literacy, including clear oral communication techniques and print communication techniques. A 43-minute teaching video was developed that contained the above topics and posted on the teaching websites of five hospitals in Taiwan. The participants were asked to watch the video at a specific time and finish e-questionnaires one week after completing the course to assess the effects of the training.

### Results (of evaluation)

A total of 363 registered nurses attended the training course and 350 completed the pre- and post-training surveys. Post-training scores on health literacy knowledge and experiences of applying teach-back and print communication addressing health literacy were significantly better than those of pre-training scores ( $t=-17.92$ ,  $t=-10.73$ ,  $t=-8.66$ ,  $p<.001$ ). The overall satisfaction score of the training course was  $8.08\pm1.50$  (out of a maximum score of 10).

### Conclusions/Lessons learned

This training course using an online teaching video is effective for healthcare professionals to gain the knowledge and skills of health literacy practice.

Contact: CHANG Mei Chuan

Tzu Chi University of Science and Technology

880, Sec.2, Chien-kuo Rd. Hualien City, Taiwan, ROC

97005 Hualien, [meichuan2@gmail.com](mailto:meichuan2@gmail.com)

## Evaluation of street campaign for awareness of Acute Myocardial Infarction symptoms and coping method

MOON Jiyong, LEE HeyJean, CHOI Danbi, BAEG Yeonheui, KIM Youngmi

### Background/Problem/Objective

Acute myocardial infarction (AMI) is the second cause of death in Republic of Korea. AMI needs urgent treatment and response influence the mortality. However, people often delay the time of treatment or select wrong intervention. Public health sectors use campaign as a method of health information PR. However, we have no idea how effective street campaign for health information PR. We identify the effect of street campaign for enhancing AMI symptoms awareness.

### Methods/Intervention

We pre-surveyed and explained with leaflet on AMI symptoms at 4 cities (experimental group) and recruited control group and did nothing on AMI symptoms at 14 cities of G province during

first week of September in 2017. 1,269 persons between the ages of 30 and 69 for 17 days in 2017 by telephone in G province with 1.54 million residents. We collected data about socio-demographic factors, past history of cardiovascular diseases, knowledge on AMI symptoms and coping method. We considered the people who have attended street campaign would have high AMI symptoms awareness and select to 'going to the hospital' or 'calling an ambulance' as coping methods.

#### Results (of evaluation)

200 persons in experimental and 482 persons in control were surveyed. Experimental group who attended street campaign was higher awareness of AMI symptoms than control group who was not given AMI information. 41.5% of experimental group awarded 5 symptoms but 15.4% of control group awarded 5 symptoms. We defined right coping methods as going to the hospital by ambulance in 3 hours when AMI symptoms were observed. 72% in experimental group and 59.8% in control group selected right coping methods.

#### Conclusions/Lessons learned

There are various methods to promote health information. However, we use street campaign with printed material as main PR method in G region. We identified that street campaign to enhance AMI symptoms awareness is effective method for providing health related information. We also found that there's no big difference between experimental and control group of awareness on coping methods. Because we did not emphasis on coping methods when the street campaign.

**Contact: MOON Jiyoung**

Kangwon National University Hospital  
Baegnyeongro, 24289 Chuncheon,  
[jy\\_moon@naver.com](mailto:jy_moon@naver.com)

## From Professional Sharing to Patient Empowering: Using Interdisciplinary Collaboration in Hemodialysis Medical Education Film-Making as an Example

**LEE Edwin, CHANG Li-Cheng, LI Dai-Ni, HUANG Paul**

#### Background/Problem/Objective

This study explored nursing staffs' learning experience in terms of basic photograph shooting skills and hands on medical education film-making, in a photograph and film-making class hosted by hospital media center. Through the teaching and guidance of media center staffs, the nursing staffs learned to use smartphone's camera in making hemodialysis patient education video. During the collaboration process of two hospital departments, our staffs shared and reviewed their experiences and accomplishments with each other.

#### Methods/Intervention

This study applied focus-group interview method in collecting data. There were 3 staffs participated our interview, two female staffs, and one male staff; one from Hemodialysis department, and two from media center. We conducted one hour interview, the interviews were full-time recorded with the consent of the

participants and transcribed into word for word scripts for further analysis.

#### Results (of evaluation)

1. Developing nursing staff's multispecialty capability: under the guidance of media center staff, nursing staff learned to use smartphone's camera in making medical education video. 2. Establishing interdisciplinary collaboration and coagulation of teamwork relationship: the media center staffs upgraded their professional skills through teaching and directing nursing staff in accomplishing their medical education video making. 3. Improving patient's health literacy: the nursing staff delivered professional dialysis care message from patient's perspective, and improved patient's health knowledge and self-care capability.

#### Conclusions/Lessons learned

Through interdisciplinary team learning and collaboration, it is helpful both in improving nursing staff's diversified medical education capabilities and patient's health literacy. Furthermore, the role of media center staff shifted from behind-the-scene assistance to a more active teaching and consulting specialist. Modern hospital provides a multidisciplinary work environment. It is crucial to have the mechanism in developing hospital staffs from manpower to talented specialists in order to create a healthy team relationship and improve medical service quality as well.

**Contact: LI kun-cheng**

CHIA-YI CHRISTIAN HOSPITAL  
No.539, Zhongxiao Rd., East Dist., Chiayi City 60002,  
Taiwan, CHIA-YI, [cych03472@gmail.com](mailto:cych03472@gmail.com)

## Development and Application Assessment of Health Literacy Instrument among Chronic Kidney Disease patients.

**CHIUNG-HSUAN Chiu, JUE-ZONG Yeh, IAN Chen, YU-JUEI Hsu, CHUNG-JEN Wei, JIA-HUI Shih, YING-WEI Wang**

#### Background/Problem/Objective

Chronic kidney disease (CKD) has been known for its 'silent epidemic' and become an important public health issue. It is believed that patient's health literacy level plays a key factor for the patient's safety, mental health, quality of life, appropriate use of medical resources, and possible compliance behavior. Knowing the factors that affect patient's literacy and knowledge could promote patient's self-care ability and health outcome. Anyhow, there are few health literacy instrument to measure disease-specific health literacy. Therefore, the purposes of this study are to develop questionnaire for measuring disease-specific health literacy for CKD patients.

#### Methods/Intervention

This study used cross-sectional design to interview CKD patients with age above 20 years. Sampling was based on the proportional probability sampling on total CKD patients registered in National Health Insurance Database. Survey collected eligible 1140 questionnaires, and the data were analyzed using SPSS 22.0 and LISREL 9.2. The reliability of all dimension of the

questionnaire reported as follows: health literacy was 0.682, CKD knowledge was 0.832, and provider-patient communication was 0.817.

### Results (of evaluation)

The findings of this survey indicated that the health literacy of patients with chronic kidney disease in Taiwan is low. The CKD population tend to be weaker on topic of CKD reading and diet. Regression analysis showed that factors affected CKD patient's health literacy, CKD knowledge, and compliance behavior were age, education, and provider-patient communication. The severity of CKD was also highly associated with CKD knowledge. Furthermore, stepwise regression showed that critical literacy was negatively associated with compliance behavior; medication safety knowledge was associated positively with compliance behavior.

### Conclusions/Lessons learned

We therefore recommend the policy makers to provide the knowledge of nutrition, diet and medication safety for CKD patients in order to increase their health literacy and knowledge, and the ability for selfcare.

**Contact: CHIU Chiung-Hsuan**

[cyen@hpa.gov.tw](mailto:cyen@hpa.gov.tw)

## Analysis of Patient Understanding of Drug Label Information

**JU- FANG Wu, CHEN-YING Su, PO-CHUEN Shieh, WEN-DE LA**

### Background/Problem/Objective

Medication error makes the treatment ineffective, increasing medical care costs and resource consumption. Taiwan Patient safety Reporting system from 2005 to 2009, the notification rate of abnormal events related to drug delivery process accounted for 17.1% -27.7%. The medicine bag is the most direct, simple and convenient medicine pipeline to provide medical treatment to the public. The complete contents of the medicine bag can enhance the patient's understanding of the medicine, ensure the curative effect and reduce the risk of the people making mistakes.

### Methods/Intervention

This study Cross-sectional research design, Please outpatient chronic patients to fill out the questionnaire, the contents of the questionnaire usually take medicine when you check in addition to the name and use of medicine on the bag, also check those matters. A total of 215 copies were recovered in this study, there is a chronic disease and open continuous prescription patients, aged 30 to 70 years. Statistical analysis was performed using SPSS software(version 20)

### Results (of evaluation)

Usually see the doctor to take medicine, you check the name and use of the drug bag on the outside:(1).Drug bag efficacy of the drug content is consistent with this look at the disease average  $3.37 \pm 0.65$  (2).Drug name and appearance average  $3.35 \pm 0.67$  (3).The number of drugs average  $3.36 \pm 0.66$  (4).Side effects or warnings average  $3.36 \pm 0.66$  (5).Drug shelf life and preservation method average  $3.36 \pm 0.67$ .The highest average is "whether

the drug efficacy of the medicine bag meets the current condition of the disease"

### Conclusions/Lessons learned

Medication experience, usually take medicine, in addition to check the name on the medicine bag and the use of methods, the remaining items are only moderately followed(average 3.35-3.37). For example, Drug bag efficacy of the drug content is consistent with this look at the disease, drug name and appearance, the number of drugs, side effects or warnings, drug shelf life and preservation method ,the patient's knowledge of the relevant precautions when medication is slightly less than the future drug advocacy should increase this content.

### Comments

When people get medicine bags, check the label on the medicine bag, and understand the role of drugs and side effects, and to observe and record their own reactions after taking medicine for 「Drug safety net last line of defense」 .

**Contact: JU FANG Wu**

Kaohsiung Municipal United Hospital  
No.976, Zhonghua 1st Rd., Gushan Dist  
80455 Kaohsiung City, [wdoris0110@gmail.com](mailto:wdoris0110@gmail.com)

## Project for Enhancing the Completeness of Nursing Instructions for Children Newly Diagnosed with Cancer

**LIU Hsiu-Mei**

### Background/Problem/Objective

Families with children who are newly diagnosed with cancer are mostly anxious and confounded because of the lack of knowledge about the diseases, treatment, and self-care. Comprehensive nursing instructions can not only reduce primary caregivers' stress but also improve their ability to take care of the children with cancer. This project aimed to increase the completeness of nursing instructions on chemotherapy for children with cancer, and the ultimate goal was to enhance the children's self-care ability.

### Methods/Intervention

The survey period lasted from March 1, 2017 to September 30, 2017. The obtained reasons involved the following: (a) insufficient information provided in nursing instruction guidelines, (b) incomplete nursing instruction tools, (c) lack of customized and consistent instructions in the standardized guidelines, (d) lack of adequate tools for evaluating children with cancer and their family members, (e) insufficient knowledge in nurses, (f) inconsistent nursing care methods provided by different members of the medical team, and (g) the lack of a monitoring mechanism. The solutions are: (a) to revise the Chemotherapy Nursing Instruction Guideline; (b) to create multimedia instructional ; (c) to design nursing instruction game books for children; (d) to revise the evaluation content; (e) to provide in-service education; (f) to hold team meetings to discuss the children's needs ; and (g) to establish monitoring mechanism.

### Results (of evaluation)

The completeness of nurses' nursing instructions increased from 71.8% to 97.3%, and the percentage of children with cancer and their family members who had adequate knowledge

increased from 85.2% to 95.3%. Thus, the objective of this project was achieved.

#### Conclusions/Lessons learned

Enhancing nurses' professional knowledge and skills and improving nursing instructional tools can increase the completeness of nursing instructions and strengthen family members' ability to take care of children who are newly diagnosed with cancer. With interesting and lively instructional materials, we found that the children's family actively participated in the learning activities; thus, the learning effectiveness was increased. In the future, an interdisciplinary team can be established to provide high-quality care for children with cancer.

**Contact:** LIU Hsiu-Mei

MacKay Children's Hospital  
92, Section 2, Chung-Shan North Road, Taipei, Taiwan, ROC.  
106 TAIPEI, [tammy.6062@mmh.org.tw](mailto:tammy.6062@mmh.org.tw)

## The level of health literacy in parents of 0-4 year-old children

**PERRUCA MARTINEZ Cristina , SUÑER-SOLER Rosa , RICART ENGEL Wifred JUVINYà CANAL Dolors**

#### Background/Problem/Objective

To study the level of health literacy in parents of 0-4 year-old children and associate it with sociodemographic and socioeconomic variables.

#### Methods/Intervention

Cross-sectional study carried out from May 2016 until December 2017. The study population was made up of parents of 0-4 year-old children who made healthy visits of two primary care centres in Girona (n: 261). The validated Spanish version of the HLS-EU-Q47 health literacy questionnaire was used as a measurement instrument.

#### Results (of evaluation)

78.3% of the population find it difficult to judge whether the information that appears in the media about a disease is reliable. While 70.7% find it very easy to find information to know what to do with regards unhealthy habits, such as smoking, performing little exercise and drinking in excess. There are areas of great interest that in the opinion of the participants are more difficult to understand and to carry out, such as to know how to improve workplace health (57%), how to understand easily information found on food packaging (90%) and how to make lifestyle changes to improve health (96.8%). No significant differences were found between centres ( $p > 0.05$ ).

#### Conclusions/Lessons learned

The results show aspects of greater difficulty, such as considering the reliability of health content in the media, as well as making lifestyle changes and this suggests areas of improvement to be worked on by health professionals in primary health care for children.

**Contact:** PERRUCA MARTINEZ Cristina

Universidad de Girona (España)  
C/Víctor Català 30, PB-2A. Torroella de Montgrí (Girona)  
17257 Girona, [cpmdui@gmail.com](mailto:cpmdui@gmail.com)

## The characteristics of health care settings can affect the satisfaction of health literate friendly environment in different patients

**HSIEH Jyh-Gang, WEI Mi-Hsiu, CHANG Mei-Chuan, WANG Ying-Wei**

#### Background/Problem/Objective

Health literacy must be an integral value represented in all aspects of planning and organization within health care settings. The characteristics of health care settings may also influence the practices of clinicians who interact with patients. The aims of our study was try to describe the relationship in health literacy between health care settings and their encounters.

#### Methods/Intervention

We developed Mandarin Multidimensional Health Literacy Questionnaire (MMHLQ) to measure multi-dimensional health literacy of patients. The proposed scale covers the following five dimensions: accessing, understanding, appraising, and applying health information, and communication and interaction. The scale includes 20 self-reported items. Well-trained interviewers had conducted effective interview with outpatient encounters at different health care settings.

#### Results

There were 2,475 participants included. Participants from medical center, regional hospital, district hospital and primary health care center were 753(30.4%), 1269(51.3%), 363(14.7%) and 90(3.6%) separately. Patients in medical center got higher grades in aspects of accessing, appraising, and applying health information ( $p < 0.05$ ). In medical centers and regional hospitals, patients with higher level of health literacy were more satisfied with the health literate environment supplied by health care settings they encountered.

#### Conclusions/Lessons learned

The characteristics of health care settings can indeed affect the satisfaction of health literate friendly environment in different patients they encountered. The effect is more pronounced for people with higher levels of health literacy.

**Contact:** HSIEH Jyh-Gang

Buddist Tzu Chi General Hospital  
No. 707, Sec. 3, Chung Yang Rd., Hualien, Taiwan  
97001 Hualien, [jyhgang@gmail.com](mailto:jyhgang@gmail.com)

## Session P2.5: Health promotion in psychiatric care

### Expectations of internal and external customers for a public psychiatric hospital in Korea



## EUN Sang Jun, KIM Hyun Joo, LEE Jin Yong, KIM Hee-Sook

### Background/Problem/Objective

Coordination and integration of mental health services (MHS) are important roles for mental health providers. In Korea, there are many obstacles to perform these roles, such as scarce resources for community-based MHS, underdeveloped mental health delivery systems, and private-dominant mental health providers. Public psychiatric hospitals (PPHs) should play a key role to lead coordination and integration, however, demands of internal (ICs) and external customers (ECs) have not been understood. The purpose of study was to identify the demands of ICs and ECs for the roles of PPH to coordinate and integrate MHS in the regional mental health services system.

### Methods/Intervention

70 staff members in one national psychiatric hospital located in the central region and 36 stakeholders in partnership were surveyed with structured questionnaires including normative and expected roles for PPH, required resources to perform the roles for PPH, and general assessment of the PPH's performance, during September 2015. We calculated scores of questionnaire items and compared between ICs and ECs.

### Results (of evaluation)

Generally, most normative roles for PPH were regarded as desirable, but care for intractable and complex psychiatric disorder and psychiatric emergency services were more valued for ECs (85.8% vs. 94.5% and 70.0% vs. 88.9%). However, perceived levels of role performance were variable (34.3% to 90.0% for ICs, 44.5% to 86.1% for ECs). ECs expected psychiatric emergency services to be provided by PPHs and PPHs to perform well. Also, ECs hoped PPHs to reinforce the patient referral system, integrate social rehabilitation, and enhance community-based MHS. Low capacity of human resource hindered to perform the role of PPH.

### Conclusions/Lessons learned

Our results showed that ECs' expectation for PPH could be summarized as publicly providing the services that had not been readily available in the private sector. Investment to human resource development might be the first step to meet the expectation of ECs.

### Comments

Our results showed that ECs' expectation for PPH could be summarized as publicly providing the services that had not been readily available in the private sector. Investment to human resource development might be the first step to meet the expectation of ECs.

### Contact: EUN Sang Jun

Chungnam National University College of Medicine  
266, Munhwa-ro, Jung-gu, 35015 Daejeon,  
[zepplin7@snu.ac.kr](mailto:zepplin7@snu.ac.kr)

## The "Reggio Emilia At-Risk Mental States" (ReARMS) project: 2-year follow-up findings on individual cognitive-behavioral therapy in young people at Ultra-High Risk for psychosis.

**PELIZZA Lorenzo, AZZALI Silvia, PATERLINI Federica, SCAZZA Ilaria, GARLASSI Sara, BARBANTI SILVA Veronica, FONTANA Francesca, FAVAZZO Rosanna, FABIANI Michela, PENSIERI Luana, POLETTI Michele, CHIRI Luigi Rocco, RABALLO Andrea, SEMROV Enrico**

### Background/Problem/Objective

In literature, several studies had shown the effectiveness of combined interventions (CBT + Pharmacotherapy) in the treatment of young patients with a first-episode psychosis (FEP) (NICE, 2004). More controversial are the evidence about the stability of the therapeutic outcomes in Ultra-High Risk (UHR) individuals (Raballo, 2015). Cognitive Behavioral Therapy (CBT), adapted for UHR subjects, appeared to be effective at 18 months follow-up, with a risk reduction of about 50% ("Dutch Early Detection and Intervention Evaluation trial" [EDIE-NL study] (van der Gaag, 2017). Aim of this study is to evaluate the effectiveness of individual CBT in a sample of Italian UHR individuals visiting all the 6 child and adolescent neuropsychiatry services in the Reggio Emilia Department of Mental Health.

### Methods/Intervention

The "Reggio Emilia At-Risk Mental States" (ReARMS) project is an early detection/intervention infrastructure, developed under the aegis of the "Regional Project on Early Detection of Psychosis". For UHR subjects, this project provides a multicomponent psychosocial intervention including: (1) a phase-specific individual CBT, (2) a psychoeducational intervention addressed to family members, and (3) a case management oriented to the recovery. Action strategies are preceded by the administration of a Battery Checklist as a comprehensive assessment useful to define the severity and the quality of symptoms, the degree of functioning, the subjectivity of suffering, and the perceived quality of life. In the present study, we focused on a subgroup of UHR individuals (n=40), aged 13-18 years, who only received individual CBT between September 2012 and December 2016. To the best of our knowledge, this is the first structured program of early detection and intervention for adolescents at UHR in Italy.

### Results (of evaluation)

After 24-month follow-up period, UHR subjects showed significant improvements in both psychotic symptoms (i.e. PANSS subscale score: "Positive Symptoms" [median: 10 vs 16; p<0.001], "Negative Symptoms" [median: 12 vs 19; p<0.001], and "General Psychopathology" [median: 24 vs 37; p<0.001]) and daily functioning (measured by the "Social and Occupational Functioning Assessment Scale" [SOFAS] [median: 65 vs 45; p<0.001]).

**Conclusions/Lessons learned**

Although our sample is still relatively small to draw definitive Conclusions/Lessons learned, it is emerging good clinical and functional outcomes for UHR adolescents receiving individual CBT within ReARMS project implemented in the Reggio Emilia Mental Health Department.

**Contact: PELIZZA Lorenzo**

Reggio Emilia Department of Mental Health - Reggio Emilia Public health-Care Cen, Via Petrella n.1/A, Reggio Emilia, [lorenzo.pelizza@ausl.re.it](mailto:lorenzo.pelizza@ausl.re.it)

## The approved Italian version of the comprehensive assessment of at-risk mental states (CAARMS-ITA): field-test and psychometric features.

**PELIZZA Lorenzo, RABALLO Andrea, SEMROV Enrico, PATERLINI Federica, AZZALI Silvia, CHIRI Luigi Rocco, SCAZZA Ilaria, GARLASSI Sara, FONTANA Francesca, FAVAZZO Rosanna, BARBANTI SILVA Veronica, FABIANI Michela, PENSIERI Luana, POLETTI Michele, CIONCOLINI Leonardo**

**Background/Problem/Objective**

The "Comprehensive Assessment of At-Risk Mental States" (CAARMS) was specifically developed to assess and detect young people at "Ultra-High Risk" (UHR) of developing psychosis. The current study was undertaken to test the reliability and validity of the authorized Italian version of the CAARMS (CAARMS-ITA) in a young help-seeking population.

**Methods/Intervention**

Psychometric properties of the CAARMS-ITA were established on a sample of 223 Italian adolescents and young adults aged between 13 and 35 years, who were divided into three groups according to the CAARMS criteria: UHR-negative individuals (UHR[-]; n=64), UHR-positive (UHR[+]; n=55), and individuals with a "first-episode psychosis" (FEP; n=104). The CAARMS-ITA reliability was tested measuring inter-rater reliability and internal consistency. Construct validity was tested comparing the "Positive and Negative Syndrome Scale" (PANSS) and CAARMS-ITA subscale scores across groups (i.e. UHR[-], UHR[+] and FEP). For concurrent validity, we studied correlations between symptoms of the CAARMS-ITA and their equivalents in the PANSS. Finally, the predictive validity was examined by following-up the UHR [+] individuals. The 12-month transition rate to psychosis was calculated.

**Results (of evaluation)**

The CAARMS-ITA showed good inter-rater reliability. The PANSS "Positive Symptoms" subscale scores in UHR [+] individuals were intermediate between FEP and UHR [-] groups. The positive and negative symptoms scores of the CAARMS-ITA significantly correlated with the corresponding scores of the PANSS.

After 12 months, 4 of 41 (9.8%) UHR [+] individuals had transitioned to psychosis.

**Conclusions/Lessons learned**

The CAARMS-ITA is a reliable and valid instrument for assessing and detecting at-risk mental states in Italian clinical settings. It also appears to be helpful in prediction to psychosis transition.

**Contact: PELIZZA Lorenzo**

Reggio Emilia Department of Mental Health - Reggio Emilia Public health-Care Cen, Via Petrella n.1/A, Reggio Emilia, [lorenzo.pelizza@ausl.re.it](mailto:lorenzo.pelizza@ausl.re.it)

## Schizophrenia Patients at Higher Risk of Hyperlipidemia and Dyslipidemia and Association of Statin Use and Subsequent Mortality: A 12-year Nationwide Population Based Study

**WEI Li-Hsiang, HSU Mei-Chi, TUNG Chia-Yi**

**Background/Problem/Objective**

The association between schizophrenia and hyperlipidemia (HLD) and dyslipidemia is contentious in the clinical literature. Studies from different health care systems have provided inconsistent findings. The objective was to examine HLD/dyslipidemia and the survival rate among Taiwanese patients with schizophrenia. A less well-investigated hypothesis that statin use and comorbidities plays crucial roles in subsequent mortality in schizophrenia was also investigated.

**Methods/Intervention**

We conducted a nationwide study using Taiwan's National Health Insurance Research Database (NHIRD) between 1997 and 2009. Subjects with a diagnosis of schizophrenia and with a primary and secondary diagnosis of HLD/dyslipidemia were identified. Patients younger than 18 years of age and those with previous HLD/dyslipidemia were excluded. These patients were tracked until the occurrence of the first HLD/dyslipidemia, death, or the end of the study. Cox proportional hazard survival analysis was used.

**Results (of evaluation)**

A total of 20964 eligible patients was identified. By the end of the follow-up period, 2720 (12.97%) had died. Schizophrenic patients had a higher risk of developing HLD/dyslipidemia. Months of being diagnosed as HLD/dyslipidemia after schizophrenia were 63.55 (SD=41.09). Statin initiation was associated with lower risk of all-cause mortality. Comorbidities such as alcohol-related disease (hazard ratio [HR]=2.12; 95% CI=1.81-2.48, p<0.0001), renal failure (HR=2.18; 95% CI=1.76-2.71, p<0.0001) were significantly associated with all-cause mortality. The 15-year survival rate is 79.18%.

**Conclusions/Lessons learned**

The study findings suggest an increased risk of HLD/dyslipidemia among schizophrenia patients. Monitoring for HLD/dyslipidemia should begin at the time of diagnosis of schizophrenia. Future studies on the identification of common etiologic pathways for schizophrenia and HLD/dyslipidemia could be significant for developing innovative treatments that target both illnesses concurrently. Statin use may reduce the

risk for mortality in patients with schizophrenia. Further mechanistic research is also needed. More attention to higher physical comorbidity in schizophrenic patients is warranted.

**Contact: HSU Mei-Chi**

I-Shou University  
No.8, Yida Rd., Jiaosu Village Yanchao District  
82445 Kaohsiung City,Taiwan, R.O.C., [hsu88@isu.edu.tw](mailto:hsu88@isu.edu.tw)

## Clinical Evaluation of Cholesterol and High-density Lipoprotein as Indicator for Violence Risk and health Promotion Strategy in Patients with Mental Illnesses

### HSU Mei-Chi

#### Background/Problem/Objective

Serum total cholesterol (TC) has been studied in relation to violence. However, the correlation of these factors is controversial. There are conflicting research findings on the role of TC in mental illness and violent behaviors. The clinical trials are scarce in this field. This study investigated the association between TC, high-density lipoprotein (HDL) and violence in patients with mental illnesses as health promotion strategies, and clinical applicability of TC and HDL as an indicator for violence risk in mental illnesses.

#### Methods/Intervention

An experimental study was conducted with 2 groups. The hospitalized patients had cholesterol  $\leq 160$  mg/dl or  $> 220$  mg/dl (the experimental group), and cholesterol between 160~220 mg/dl (control group), a diagnosis of mental illnesses and violence were recruited. The experimental groups received a cholesterol normalization program, an adjunctive intervention. The control group received the regular psychiatric treatment only. Evaluations were performed at baseline and the end of the study. Results of structured questionnaires and blood biochemistry tests were analyzed.

#### Results (of evaluation)

The intervention significantly reduced violence. Significant differences of violence occurrence were observed in the experimental group after the intervention ( $P < 0.05$ ). The levels of TC are related to violence ( $P < 0.05$ ). Patients who are physically more violent have lower cholesterol concentrations. The increase of HDL and the decrease of triglycerides were greater in the experimental group. Exclusively in the experimental group, the decrease in TG was further correlated with a decrease in fasting glucose ( $P < 0.05$ ).

#### Conclusions/Lessons learned

The study results suggest that improvement of violence is associated with abnormal cholesterol levels. TC and HDL are useful indicators for violence risk in patients with mental illnesses. Target cholesterol levels may be achieved by planned cholesterol normalization program. This study implies that further constructing and developing the relevance of cholesterol-to-violence, and HDL-to-violence, and tracking changes in TC and HDL are needed. The results can also help to develop health promotion strategy for violence prevention in patients with mental illnesses.

**Contact: HSU Mei-Chi**

I-Shou University  
No.8, Yida Rd., Jiaosu Village Yanchao District  
82445 Kaohsiung City,Taiwan, R.O.C., [hsu88@isu.edu.tw](mailto:hsu88@isu.edu.tw)

## Reduce the incidence and severity of falls in chronic psychiatric ward

### KUO MEI -WEN, WANG YI -HUANGLIN Kai-Han

#### Background/Problem/Objective

The incidence rate of falling for patients was 0.08% in chronic psychiatric ward in 2016, higher than that of the standard threshold 0.06% and 15.79% (1 brainstem hemorrhage, 5 fractures)serious injury. Actually, severe injuries are all female fracture. As for brainstem hemorrhage, it is due to squatting on the ground to speak on the phone, which position caused postural hypotension and hit the head. We hope to improve the incidence and severity of falls through the project.

#### Methods/Intervention

There are many reasons for falling. The main ones were as follows: wet floors 34.2%, use of sedative sleeping pills 21.1%, postural hypotension 13.2% and gait instability 10.53%; The measures we took to solve the problem are as follows: 1.Promote the activities of "watch the floor" 2.Reduce the frequency of nocturia 3.Reduce the production of postural hypotension 4.Slippers functional assessment 5.Screening for osteoporosis risk and arranging examination and administration 6.Making psychiatric defense Health education leaflets.

#### Results (of evaluation)

Statistics after intervention through project activities, the incidence of falls in 2017 show that the occurrence rate of falling decrease to 0.06% and the serious injuries from 15.79% to 0%. Further analysis for falling factors: floor slip from 34.2% to 23.1%, the use of sedatives reduced from 21.1% to 7.7%, orthostatic hypotension from 13.2% to 0% and gait instability from 10.53% to 7.7%.

#### Conclusions/Lessons learned

The project can effectively improve the incidence and severity for falling. In addition to the help and assistance of staff, the awareness of the patient's falling is also a major factor.

#### Comments

The program is therefore recommended to all wards with chronic psychiatric patients .

**Contact: CHERN Meei-Ling**

Chang Bing Show Chwan Memorial Hospital  
No.6,Lugong Rd.,Lugang Township  
Changhua, [kkmimi0507@hotmail.com](mailto:kkmimi0507@hotmail.com)

## An Investigation into the Effects of TRM on the Treatment Plan in a Rehabilitation Psychiatric Ward

**LI PEI-SHAN, LU HUEI-LANCHENG CHING-MING**

### Background/Problem/Objective

This study intends to enhance medical quality by using TRM as part of treatment plans in a rehabilitation psychiatric ward.

### Methods/Intervention

The techniques of TRM, which incorporate brief, objective plan, huddle, problem solving, debrief, and procedure improvement, are used in this study. The medical team an executive group and hold regular meetings, in which check-lists are designed, objectives are discussed, execution progress is tracked, and implantation conditions are checked. All the meeting minutes are later used for data analysis. An individual treatment plan is modified after the data analysis, so that is can be more suitable for patients and medical quality is thus enhanced.

### Results (of evaluation)

After the Background/Problem/Objective of TRM for ten weeks, four positive results are observed. First, the treatment plan is more specific for patients, because the entire medical team have fully discussed and carried out the plan. The execution progress advanced from 50% to 90%. Second, the medicine is simplified. The frequency of taking medicine once a day increases from 10% to 14%, twice a day increases from 36% to 70%, while the frequency of taking medicine three times a day decreases from 38% to 12%, four times a day decreases from 16% to 4%. The satisfaction rate in medicine taking surges from 58% to 92%. Patients also say that they feel better and capable of doing more things after medication adjustment. It is also easier for the patients to remember when to take medicine and its effects. Third, the overall satisfaction rate in medical care increases from 60% to 94%. Besides, the patients say in qualitative feedback that the medical team are more concerned about them, and that their problems are solved, and that their family have more confidence in medical care. The cooperative model not only helps patients and improves nursing quality, but the medical team members also gain achievements. To sum up, TRM has a positive effect on clinical nursing care.

### Conclusions/Lessons learned

The Background/Problem/Objective and employment of TRM inspire medical team members to participate and re-evaluate what leaves to be desired in terms of medical care. However, the key to successful execution is teamwork. It is imperative that the team members should think, aside from their own tasks, how to use the power and advantages of team work, so that medical quality can improve.

### Contact: LI PEISHAN

Jianan Psychiatric Center  
No.539, Yuzhong Rd., Rende Dist., Tainan City 717, Taiwan  
(R.O.C.), 717 Tainan, [peishan29@mail.cnpc.gov.tw](mailto:peishan29@mail.cnpc.gov.tw)

## The Effectiveness of Health Management to Community Low-income Households and Vulnerable Psychiatric Patients in Psychiatric Center Southern of Taiwan

**HSIEH Yi-chen, LU Huei-lan**

### Background/Problem/Objective

Low-income households are unable to pay for their fee of physical and mental illness due to financial hardship, health care management could provide low-income and psychiatric patients to facilitate regular medical treatment and to reduce the incidence of multiple chronic diseases, prevent premature disability and reduce the future financial burden and huge social costs. The purpose of this study was to explore the effectiveness of providing health management and follow-up care of the middle and low income families and psychiatric patients.

### Methods/Intervention

Subjects were 60 chronic psychiatric patients in a psychiatric center hospital southern Taiwan. The inclusion criteria included: 1. Consistent with low income to near-poor households. 2. Age over 65 years with incapacity and living alone 3. Psychosis accompanied by chronic diseases. Home visits, telephone visits, hospital referring were applied for understanding the lifestyles and self-care activities in community. Health management included regular follow-up visits, disease-related health education, health promotion and assist patient to visit doctor. Questionnaire was used to collect and analysis the effectiveness.

### Results (of evaluation)

The result showed that the regular rate of chronic diseases treatment increased from 40% to 95%, and the patients expressed that they have been cared and helped without having to worry about the disease, understand their own health, began to know how to take care of themselves and so on. The findings show that the use of health management to enhance patient self-care and medical treatment compliance, to achieve good results, regular treatment rate significantly increased 55%, the patient's initiative and self-care ability was significantly improved.

### Conclusions/Lessons learned

This study is to promote the health management for low and middle income patient. It can not only increase the patient's awareness of regular treatment, medication compliance and self-care, further reduce the recurrent episodes of mental patients, and enhance the care capacity and autonomy of patients and their families, adaptation to the community after returned, so that the mentally ill are no longer disadvantaged and look forward to proper care in both medical and social welfare.

### Contact: LU Huei-Lan

Jianan Psychiatric Center, MOHW  
No.80, Lane870, Zhong-shan Road, Rende District  
Tainan, [csha731@mail.cnpc.gov.tw](mailto:csha731@mail.cnpc.gov.tw)

## Exploring the Effectiveness of Applying Motivational Interviewing on Quitting Smoking in Psychiatric Patients

**TASI Yu-Chun, WANG Hsueh-Yin, LU Huei-Lan**

### Background/Problem/Objective

The purpose of this study was to explore using motivation interview theory to assist psychiatric patients to quit smoking, and three months smoking cessation success rate.

### Methods/Intervention

The quit smoking treatment subsidy program form has set up the motivation option for smoker by the National Health Administration of the Department of Health and Welfare. In this study, applied this program form to understand the motivation of the smoker to quit smoking and then use the theory of motivational interview and behavior modification intervention to track down cases for smoking cessation treatment three months after the success rate in 2016.

### Results (of evaluation)

A total of 358 smokers were enrolled. According to the data collection, motivation for smoking cessation included up to 35% of health factors, environmental factors was 23%, persuasion by health care workers was 22%, persuasion by family members was 15% and other factors was 5%. The individuality of the motivation helped to strengthen the effectiveness of smoking cessation treatment. After three months of smoking cessation, the success rate of smoking cessation improved from 35% to 42% and the smoking cessation satisfaction increased from 80% to 95% in 2015.

### Conclusions/Lessons learned

Smoking cessation educator use motivation interview theory to improve smoking cessation quit motivation and change smoking cessation behavior should be more effective in assisting smoking cessation success rate and quality of service, hope to have more specific application data to provide relevant reference for the relevant practitioners in the future.

### Contact: LU Huei-Lan

Jiannan Psychiatric Center, MOHW  
No.80, Lane 870, Jhong-shan Road, Rende District  
Tainan, [csha731@mail.cnpcc.gov.tw](mailto:csha731@mail.cnpcc.gov.tw)

## Promoting Nursing Information Project to Enhance the Integrity of Psychiatric Ward Nursing Record Forms

**CHEN Huizhen, CHEN Anan, CHENG Suzu, YAO Wenzhen, HUANG Tingzhong, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

### Background/Problem/Objective

Implement informational operations with a view to reducing omissions and error rates, and thereby enhancing the integrity of nursing record records.

### Methods/Intervention

A total of 110 records of psychiatric nursing in a hospital were inspected, and the completion rate was only 74%. Analysis found that nurses had inconsistent cognition of nursing record writing, no auditing system and no standard model, resulting in a low completion rate. Therefore the plan to promote nursing information combined with the project are the main reason for improvement.

### Results (of evaluation)

In this study, the nursing information promotion process was divided into five periods --- (1) Project Period: in 2015, ad hoc groups were formed, Confirmation of Information Specification Requirements, Form and Focus Template Establishment, Arrangement of Unit Nursing Seed Teacher, Development of Meeting Time and Line Groups. (2) Promotion Period: Three systems of education courses were conducted in 2016. The trial version of the Information System Trial, the official version of the Information System was used and adopted a double-track trial to collect the problems of a unified system for professional engineer correction. (3) Implementation Period: The official version of 2017 uses an information system and is fully mono-rail. Weekly conferences track and changes and update the version. (4) Audit Period: A monthly medical records audit to understand colleagues operating conditions and nursing records integrity. (5) Evaluation Period: January 2017. System operation satisfaction is 70%, October 2nd. Overall satisfaction degree of 85.05% and medical records audit integrity of 92.1%.

### Conclusions/Lessons learned

Continued promotion of computerized information systems will help integrate and streamline nursing care information to increase the time spent by health care workers in patient care.

### Comments

The hospital can implement early comprehensive electronic signatures and paperless forms as soon as possible, simplifying the printing of signatures and saving costs. Information is better able to be turned into information, the convergence of TCPI indicators is provided, and it is conducive to the improvement of patient care quality.

### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## The Effectiveness of Applying the Maslow's Needs Theory to Establish a Self-learning Model in a Psychiatric Rehabilitation Ward

**TSENG Yu-Kuei, LU Huei-Lan**

### Background/Problem/Objective

This purpose of this study was to explore the effectiveness of applied Maslow's theory to create a therapeutic environment in



a psychiatric rehabilitation ward, encourage patient to create a home-based safety and therapeutic environment by themselves, increase health self-management and problem-solving skills, hear their opinion through homeland self-governance meetings, learning self-financial planning and management and hold the family conference and other innovative measures to stimulate patients' rehabilitation potential and motivation, learn to be their masters to solve everyday problems, help them toward recovery road.

#### Methods/Intervention

62 psychiatric patients were recruited from a psychiatric center in southern Taiwan. The patients set up a family group to create a home-based safety and therapeutic environment together, self-health management and problem solving, and share their goals and rehabilitation plan. Regular to hold a season family meeting and empowered 2 patients be a leader in family meeting, arranged role playing to teach group member how to use effective problem solving skill in meeting. Self-design questionnaire investigate the effectiveness of meeting. SPSS 21.0 software package Chinese version was applied for data analysis and statistics.

#### Results (of evaluation)

The results show that the application of Maslow theory, so that patients learn to do their own masters of the model and characteristics of innovation programs, the result showed that the patient had the ability to find problems and solve their own problems, satisfaction was 74%. The results of family meeting satisfaction increased from 73% to 76%, money self-management satisfaction was 88%, 65% patients give positive recognition to the self-government meeting.

#### Conclusions/Lessons learned

Through the intervention of multiple programs in the rehabilitation could create a mutually supportive and empowered environment for the treatment of the simulated community, facilitate the return of mental disorders to independent living in the community in the future, maintain self-health management and promote early integration of patients with the community so that the individual's ability to act independently to achieve an independent life, and thus enhance their quality of life.

#### Contact: LU Hwei-Lan

Jianan Psychiatric Center, MOHW  
No.80, Lane870, Jhong-shan Road, Rende District  
Tainan, [csa731@mail.cnpc.gov.tw](mailto:csa731@mail.cnpc.gov.tw)

## The Effects of Drug Refusal and Violent Situation Simulation Training in Psychiatric Wards

**CHEN Huizhen, CHENG Suzu, ZHONG Shumei, YAO Wenzhen, WU Weixin, HUANG Tingzhong, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

#### Background/Problem/Objective

This study explored the effectiveness of psychotherapeutic personnel in enhancing their communication skills and ability to deal with violence after intervention through situational teaching.

#### Methods/Intervention

This study was conducted in a single group before and after the study. The study target was a total of 20 regional teaching hospital psychiatric nurses who accepted the "patient refused to take medicine" and "patient violence" situation simulation before the assessment, with a score of 0, 1, or 2 points, involving communication skills and violence to deal with situational simulation teaching, including watching videos, discussions and exercises, two weeks after the situation simulation test. SPSS19.0 data archiving and analysis, mining average, median, standard deviation, and paired T test were used for statistical analysis.

#### Results (of evaluation)

1.The average value of pre-drug tests less than 1.6 points, 5 items, situation simulation teaching average of more than 1.6 points, 2 items, average of 1 point, 2 items, but only no washing of hands needs to be strengthened; before violence measured less than 1.6 points, 5 items, improved after 4 items higher than 1.6 points, patient evacuation needs to be strengthened. 2.The overall effectiveness of the total average 1.44 points on drug abuse by the improvement to 1.78 points was significantly different; the overall average effectiveness of violence 1.52 points after intervention to 1.86 points was also significantly different. 3.Before the improvement the average age of drug refusal seniority will be higher than the senior seniority, years more than 21 years average 1.54 points, 1.35 points below 10 years, there are significant differences.

#### Conclusions/Lessons learned

Trainees participating in situational simulations said that they can apply the learned skills to clinical work. Especially for junior colleagues, their skill and cognition are obviously improved, and their satisfaction rate reached over 90%. All 20 nurses hope to continue to be trained in situational simulations.

#### Comments

Situational simulations can be performed in different hospitals or as an annual assessment of psychiatric routine or as a regular training course for new nurses to enhance their ability to care and reduce the fear and anxiety of violent clashes and increase the willingness of staff to stay.

#### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268, 201 Keelung,  
[chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Supportive employment services for mental disabilities to enhance healthy lifestyle

**FANG Chun-Kai**

#### Background/Problem/Objective

Employment can enable mental disabilities to recover their social function. However, it's very difficult for mental disabilities to find appropriate jobs and to keep working. Some mental disabilities hope to work in sheltered workshops, but some hope to work in general occupational places. The report showed how to provide the supportive employment services.

**Methods/Intervention**

The department of psychiatry, MacKay Memorial Hospital, had been authorized by New Taipei Government to provide Supportive employment services. From January to December 2017, the services included to find the general workplaces and to provide the work opportunities by two career counselors. In the services, mental disabilities included patients with psychotic disorders and patients with mental retardation. We observed the outcome of the services.

**Results (of evaluation)**

There were 30 general workplaces visited by career counselors, and 26 of them engage the mental disabilities. There were 41 mental disabilities participating the supportive employment services, including 18 patients with psychotic disorder (43.9%) and 23 patients with mental retardation (56.1%). The severities of disability were 56.1% mild, 31.7% moderate, 9.8% severe, and 2.4% profound. After the services, 39.0% (n=16) sustaining regular works, 34.1% (n=14) sustaining as trainee, 9.8% (n=4) transferring to vocational training centers, 12.2% (n=5) rejecting to work, 2.4% (n=1) transferring to mental rehabilitation center, and 2.4% (n=1) finding job by herself.

**Conclusions/Lessons learned**

Even people with mental disability, they were able to still work and construct their life style under the supportive employment services. Mental health providers need to consider setting the supportive employment services to keep patients' social function and let them return to communities.

**Contact: FANG Chun-Kai**

Mackay Memorial Hospital  
92, sec. 2, Zhongshan Rd, Zhongshan Dist.  
Taipei, [chunkai.fang0415@gmail.com](mailto:chunkai.fang0415@gmail.com)

## Persistently developing the sheltered workshop for the patients with psychotic disorders

**FANG Chun-Kai****Background/Problem/Objective**

A major barrier to employment for patients with psychotic disorders is limited access to supportive and non-discriminatory workplaces. In order to create an amicable sheltered workshop in a general hospital, the workers at the department of psychiatry have to work with the other department, for example, accounting office and cashier's office. Moreover, building the brand imaging and keeping the innovation will help the development of sheltered workshop. The article presents the track of a sheltered workshop.

**Methods/Intervention**

The sheltered workshop, Joy Café at Mackay Memorial Hospital, was established officially in 2006. Joy Café provided coffee, tea, and snacking. From 2011, a unique logo was designed and registered for Joy Café, and some innovated products were on sale. The purposes of all reformations were to increase the business volume and the average salary. The period of observation was from January 2010 to October 2017.

**Results (of evaluation)**

The total members with mental disability, almost diagnosed as schizophrenia, were 8 in 2010 and 2011, 12 in 2012, and 13 since 2013. The business volumes were around NT\$ 2 million in 2010, around 2.6 million in 2011, around 3.6 million in 2012, and over 4 million every years since 2013. (1 US\$= 30 NT\$) The average salaries of members were NT\$ 6,085/month in 2010, 7,064/month in 2011, and 7,744 in 2012. After 2014, the average salaries were over NT\$ 10,000/ month, and over 12,000/month in 2017.

**Conclusions/Lessons learned**

Vocational rehabilitation at a sheltered workshop in a general hospital is not a dream only but also practicable. Comparing to an independent sheltered workshop, a sheltered workshop provides more chance to communicate with general population. The increasing salaries will empower people with mental disability to enhance their motivation to return to the health life style.

**Contact: FANG Chun-Kai**

Mackay Memorial Hospital  
92, sec. 2, Zhongshan Rd, Zhongshan Dist.  
Taipei, [chunkai.fang0415@gmail.com](mailto:chunkai.fang0415@gmail.com)

## Preliminary study on the effectiveness of rehabilitation activities in chronic wards in Taiwanese psychiatric centers

**LIN LI-EN****Background/Problem/Objective**

Chronic wards are a type of group care aimed at active treatment and provide a wide range of rehabilitation activities. Chronic psychiatric patients have psychiatric symptoms, are not independent, and lack social skills. The Taiwanese government is actively promoting community-based psychiatric care and thereby enhancing inpatient rehabilitation training effectiveness of the re-entry of psychiatric patients into the community is a big challenge.

**Methods/Intervention**

Through literature review, the following intervention measures were concluded: 1. Re-plan rehabilitation activities in chronic psychiatric wards, including initiating diverse rehabilitation activities per patient needs and 8-week illness adaptation groups. Use Rehabilitation Certification Card and overall rehabilitation progress billboards were used, thus enhancing patient rehabilitation motivation. 2. Involve families in rehabilitation activities to strengthen the family's understanding of the patient's rehabilitation treatment and organize forums for families and Telephone follow to understand the difficulties and needs and improve care skills.

**Results (of evaluation)**

Fifty hospitalized patients participated in this activity spanning 9 months. Based on the inpatient rehabilitation evaluation scale, patient rehabilitation capability improved by 32.2%. Family involvement in care increased by 15 instances. Two persons were discharged, and one participated in vocational training.

**Conclusions/Lessons learned**

Through this activity, patient understanding of and motivation for rehabilitation activities and their likelihood of hospital discharge improved. However, many families still worry about patient discharge. Hence, services to prepare families for patient discharge need to be improved to enhance the success of patient re-entry into the community through the transfer of care from the hospital to the family.

**Contact: LIN LI-EN**

Bali Psychiatric Center, Ministry of Health and Welfare  
No.33, Huafushan, Bali Dist., New Taipei City 24936, Taiwan,  
R.O.C., 24639 Taipei City, [rainny660096@gmail.com](mailto:rainny660096@gmail.com)

## A KAWA Model-Based Group for People with Serious Mental Illness: the Life Narratives and Factors Related to Lifestyle

**HSIAO Han-Yi, KAO Ting, CHEN Po-Yen, TSENG Yen-wen, LU Huei-Lan**

**Background/Problem/Objective**

KAWA(aka river) model takes the river as a metaphor for life.(Iwama, 2005). By describing the life experience through drawing the river with water, driftwood, riverbed, and rocks, people's expectations, assets and limitations were discovered. Lifestyle factors exploring and lifestyle intervention are necessary for people with severe mental illness. KAWA model places the persons at the center of his/her story without stigmatizing them by their diseases or problems, therefore it can enhance the self-awareness and motivation to change with healthy lifestyle.

**Methods/Intervention**

This study used the KAWA model as a group intervention and examined their satisfaction of the group experiences. The narratives of their life journey were also explored. The 12-week group met for 90 minutes weekly. At the first four weeks, participants drew their life river and shared their life experiences. At the followed sessions, group members established goals for their own healthy lifestyle and made a discussion to develop the plans which meet the goals and implemented them.

**Results (of evaluation)**

10 participants attended and completed pretest/post-group evaluations. After every session, participants completed the questionnaire of group satisfaction which is a 6-point Likert scale (1~6, 6=strongly agree). Average scores for the item "willingness to draw/share" and "satisfaction of self and the group" were beyond 5; The study found the top two incentives to lifestyle(driftwood) were regular daily life and the support of rehabilitation medical team. The barriers to lifestyle(rocks) were external stigma of mental illness and family pressure.

**Conclusions/Lessons learned**

This research found that group based on KAWA model could improve active participation and reduce clients' defensiveness demonstrated by willing to tell life story from their perspectives in short term. The self-analysis of the drawings improved the therapist and participants' understanding of incentives and

barriers to lifestyle. It also facilitated participants' healthy behaviors.

**Comments**

The intervention may improve the understanding about incentives and barriers of participants' life, but not long enough to develop the healthy habits of the participants. However, the group satisfaction and narrative findings support that using KAWA model as a group intervention is an effective strategy for people with serious mental illness.

**Contact: HSIAO Hanyi**

Jianan Psychiatric Center  
71742 No.80, Ln. 870, Zhongshan Rd., Rende Dist.,  
71742 Tainan, [joanna10091117@hotmail.com](mailto:joanna10091117@hotmail.com)

## Exploring the Effectiveness of the Psychiatric Patient 's Participation in Safe Medication Education Practice

**CHIOU Hsiao-Tan, LIN YEN - CHUNLU Huei-Lan**

**Background/Problem/Objective**

The number of medication errors by nursing staff has increased in a teaching psychiatric center in southern Taiwan. Among them, 75% were mostly given to wrong patient, the cause and factor of medication errors by nurse were including noisy environment, patients can not cooperate, wrong response of identify by patient. The purpose of this study was to explore the effectiveness of enforcing psychiatric patient to participate in safe medication education by nursing staffs.

**Methods/Intervention**

A video named "Everybody is responsible in safe medicine taking" to provide 14 ward units to play in group education activity in the hospital, help nurses to encourage patients how to take a safe medication. Patient was invited to participate in this group health education, after video education, nurses discussed the content of video with patient, such as the importance of safe medication taking and patient's also have the responsibility in personnel identification check correctly. Offer of prizes for correct answers to increase the motivation in group participation.

**Results (of evaluation)**

14 units completed video broadcasting, offer of prizes for correct answers and reply to teach, a total of 448 mental patients involved in "Everybody is responsible in safe medicine taking" education activities. Results showed that patient's attention and perseverance accounted for 100%, 93.3% patient could understand content of the video and the 93.3% patient could correctly respond to the teaching. This video has 93.3% effectiveness on the medication safety of the patient. The medication error rate of nursing staff from 75% in 2015, down to 30.7% in 2016.

**Conclusions/Lessons learned**

The correct medication video can focus on short-term characteristics of psychiatric patients. Nursing staff to design and produce this video could transfer medication safety completely. Medication safety is the common responsibility of the medical staff and patients, the patient's also have own responsibility to

participate in; increase the safety of the nursing staff delivery process.

**Contact: LU Huei-Lan**

Jianan Psychiatric Center, MOHW  
No.80, Lane 870, Jhong-shan Road, Rende District  
Tainan, [csa731@mail.cnpc.gov.tw](mailto:csa731@mail.cnpc.gov.tw)

## Establishing the Self-harm Prevention Procedures to Reduce the Self-harm Rate of Psychiatric Inpatients in Southern Taiwan

**TSAI Hui-Ling, LU Huei-Lan**

### Background/Problem/Objective

According to the self-harm behavior investigating in 2016, the self-harm rate was 3.18% in psychiatric rehabilitation ward in southern Taiwan. The number one self-harm behavior was patients use head to strike the ward (88.8%), the reason of this self-harm behavior was lack of appropriate coping skill to the stress (44.4%). Therefore, building a better suicide risk assessment, preventive measures and safe care environment is not ignoring. The purpose of this study was to establish the self-harm prevention procedures to reduce the self-harm rate in psychiatric rehabilitation ward.

### Methods/Intervention

A total of 309 patients in rehabilitation ward were recruited to investigate by brief symptom rating scale (BSRS-5) during January to June in 2017. The BSRS-5 is an efficient tool for the screening of suicide ideation-prone psychiatric inpatients and is available in Taiwan, and a comprehensive strategy for self-harm behavior prevention would provide in clinical practice, included 1. Recognising self-harm warning signs by nursing staff, 2. Help patient to establish an appropriate coping skill with stress, 3. Arranged patient to attend a supportive psychotherapy group, and to compare and analyze the effectiveness of the strategy in preventing self-harm after three months.

### Results (of evaluation)

The result showed that 287 (92%) patient with Schizophrenia, 11 (3.6%) was diagnosed Bipolar disorder, Organic mental disorder patient was 8 (2.5%), and 3 (0.9%) patients with mental retardation. The self-harm rate decreased from 3.18% to 1.57%.

### Conclusions/Lessons learned

Psychiatric patients under the psychotic symptoms and emotional instability, prone to self-harm behavior, the seriousness of self-harm may endanger their lives, so how to avoid the self-harm and reduce the severity of injury in order to truly implement the purpose of patient safety.

**Contact: LU Huei-Lan**

Jianan Psychiatric Center, MOHW  
No.80, Lane 870, Jhong-shan Road, Rende District  
Tainan, [csa731@mail.cnpc.gov.tw](mailto:csa731@mail.cnpc.gov.tw)

## Applying innovative techniques to enhance psychiatric inpatient bathing completion rate

**YU Chun-Ti, CHANG Kuo-Jui**

### Background/Problem/Objective

For psychiatric patients, self-care ability is affected due to psychiatric positive symptoms and negative symptoms may lead to the patient unwilling to perform body cleaning. Therefore, causing the body to smell and affect the interpersonal interaction and social adaptation. The ward from January 1, 2015 to January 29 to check inpatients results show that the bathing completion rate was 75.2%. The objective of this project is to improve the completion rate of bathing in psychiatric inpatients from 75.2% to 90.0%.

### Methods/Intervention

1. Making bathing health education leaflets. 2. Every day at 14:30 and 19:00 play bath song broadcast to remind patients to take a bath song. 3. To organize bathing sanitation groups: Every Friday to assign a nurse to take a bath health education groups. 4. The installation of four-color LED temperature control shower to enhance the patient's bathing fun and motivation. 5. The visiting staff give certificates of credit and head nurse give a soap to promote bathing motivation

### Results (of evaluation)

The implementation of the project results show that: the completion rate of patient bathing from June 2015 to December could be increased from 75.2% to 96.3%, up to the target value. Outcome of maintaining results: The average for 2016 was 95.8%. In 2017, the average was 97.6%. Every Friday's bathing health education group that the average patient participation rate was 90%-95%. The implementation steps of this project will continue and become a nursing standard.

### Conclusions/Lessons learned

The project can set up psychiatric inpatients to take the initiative to complete daily bathing motivation and behavior, and effectively improve the patient's body cleaning problems, promote patient social adaptation and enhance the quality of care in psychiatric inpatients; but there are still some acute psychiatric symptoms Interfered with patients, for example: Positive symptoms, violent patients, although not taking the initiative to take a bath. But with the help of a number of staffs to complete the passive bathing behavior.

**Contact: YU Chun-Ti**

National Taiwan University Hospital  
No.7, Chung-Shan S. Road  
10043 Taipei, [003781@ntuh.gov.tw](mailto:003781@ntuh.gov.tw)

## Session P2.6: Mental health of patients and staff

### Effects of Mandala drawing on Emotion Adjustment and Psychological reaction in Patients with Chronic Mental Illness

**SUN Yu-En, CHU Che-Cheng, WU Chiou-Yu, CHIANG Wen-Hsiu**

#### Background/Problem/Objective

Chronic psychiatric patients often have emotional problems and emotional problems. Mandala drawing is a kind of art therapy. Combining with creation and psychotherapy techniques. Past studies have shown that mental disorders can be improved to alleviate the symptoms and stress of through the mandala drawing. However, the past lack of physiological and psychological research to verify its efficacy and physical and mental mechanism.

#### Methods/Intervention

The purpose of this study is to observe and verify the effect of mandala drawing on emotional adjustment and physiological and psychological index of chronic psychiatric patients through the involvement of the mandala drawing group. This study recruited 20 chronic mental patients in the day ward and participated in the mandala drawing group for 12 weeks. Before, during and after each group in 12 weeks group, we measured the participants' blood pressure, heart rate and simple physical and mental symptoms scale, visual analog scale to measure the participants' symptoms and emotional adjustment effect.

#### Results (of evaluation)

After participating in the mandala drawing group, it can significantly reduce the participants' heart rate and improve the negative sympathetic activity. In addition, the subjective rating scale also shows that after each participating group, the negative emotions can be decreased and the positive emotions improved. It shows that the mandala drawing have a good short-term effect on the emotional adjustment of chronic mental patients. In the Long Term Results section, there was no significant difference in all physical measures and the Simplified Physical and Mental Symptom Inventory.

#### Conclusions/Lessons learned

Although this study can not support the long-term effects of the mandala drawing community, supporting mandala drawing can be an effective short-term emotional adjustment technique for chronic mental health illness.

#### Contact: WU Chiou Yu

Kaohsiung Municipal Cijin Hospital  
33, Cigang Rd., Cijin Dist., Kaohsiung City 805, Taiwan (R.O.C.)  
805 Kaohsiung, [yuh3850@gmail.com](mailto:yuh3850@gmail.com)

## Newly employed nursing staff support groups for 10 years

**Yu Mei Tsai, Bao Chen Chen Pei Fang Chia**

#### Background/Problem/Objective

Hospital requirements for professionals continue to grow, newly employed nurses have to deal with anxiety, stress and social adaptation. Then they will want to resign from the job. The study found that nursing's peers support can increase the will of remaining in the post. A "Newly employed nursing staff support groups" has been set up to share working experiences and resources with each other and built up the support groups, in hopes of helping get through the adjustment period.

#### Methods/Intervention

The support groups will put every six to eight people a group, and have worked for ten years until 2017. The support groups will be conducted once a week for a total of 12 hours (public holidays) for six consecutive weeks. The activity uses positive motivational methods such as group cooperation, singing, self-understanding assessment tools, drawing, film appreciation, sharing experiences. The support groups establish safe trust relationship and the environment allowing people to express their emotions.

#### Results (of evaluation)

Satisfaction assessment is conducted with the "Support Group Satisfaction Self-Rating Scale" at the end of the activity. A total of 10 questions are rated on a 10-point scale. 10 points represent meeting expectation, and 1 point represents not. There are 756 participants taking part in support groups during these ten years. The results can reach more than 9.5 points. And the turnover rate of nursing staff was 15.06% in 2014, and decreased from 13.75% in 2015 to 7.44% in 2016.

#### Conclusions/Lessons learned

The newly employed nursing staffs believe that support groups can help individual's spiritual growth and develop strategies of adapting working pressure such as emotional management, self-preparation, mutual support and self-empowerment. In addition, support groups can indeed promote new recruits mental healthy. In order to strengthen the abilities of dealing with problems and easing stress in order to build up peer's support network. As a result, it is worthy of sustainable development.

#### Contact: YU MEI Tsai

Pingtung Christian Hospital  
Dalian Road on the 60<sup>th</sup>, 900 Pingtung,  
[meditation882@gmail.com](mailto:meditation882@gmail.com)

## Promoting Mindfulness-Based Stress Reduction to Enhance Resilience of Healthcare Workers in the Workplace



## HSUEH Jung-Hua, FANG Hu-Hui, LAI Fang-Tsu, CHEN Yi-Ching, LIU Fu-Jean, TSENG Yuan-Tsung

### Background/Problem/Objective

Stress and energy exhaust are common problems in the workplace. Our hospital conducted a survey on patient safety culture to understand staff workplace resilience. Statistics show that among the 1,093 questionnaires, the resilience score of "I feel exhausted at the end of a day's work" is relatively low at 45.6. Around the world, the theme "Mindfulness" has been proven to promote physical and mental health as well as quality of life. Therefore, this is the first time our hospital decided to introduce mindfulness-based stress reduction.

### Methods/Intervention

In this study, we designed 16 mindfulness-based stress reduction lessons, including theory explanations, on-site exercises, and group discussions. Staff, volunteers, and outsourcing contractors at the hospital participated in the study. Through 60 minutes of mindfulness group health education, pressure index scale from Health Promotion Administration, Ministry of Health and Welfare and after-class satisfaction surveys were collected. Satisfaction was calculated on a five-point method. A total of 317 questionnaires were collected, and SPSS 12.0 was used for data analysis.

### Results (of evaluation)

The top three psychological stress problems in the workplace were headache (53.0%), poor sleep quality (51.1%), and forgetfulness (45.7%). The top three satisfaction scores after intervention by mindfulness group health education were emotional stability with score 86.2, effectively relieving the pressure at 86.2, and willingness to participate in mindfulness activities at 85.6. All satisfaction scores were more than 80, indicating such use of mindfulness-based stress reduction in the workplace received positive feedback with relieving stress.

### Conclusions/Lessons learned

Promoting mindfulness-based stress reduction in the medical field received positive feedback in the overall satisfaction score. Stress may affect caregivers' resilience at the workplace, which should be given much attention. In the future, each participant will continue to focus on understanding of mindfulness and self-awareness of any difference before and after the lessons. We look forward to continuing to promote the mindfulness related concept and practice in everyday life to enhance staff's workplace resilience.

### Contact: TSENG Yuan-Tsung

Tainan Municipal Hospital, Taiwan (R.O.C.)  
No.670, Chongde Rd., East Dist., Tainan City 701, Taiwan  
670 Tainan, [b891040733@yahoo.com.tw](mailto:b891040733@yahoo.com.tw)

## Psychometric Comparisons of the QOLIBRI between Individuals with Mild and Moderate/Severe Traumatic Brain Injuries

CHANG Yu-Jun, LIN Mau-Roung, LIANG Wen-Miin

### Background/Problem/Objective

Traumatic brain injury (TBI) is a leading cause of impairments and disabilities in physical functions, emotional control, thinking ability, and social interaction. Health-related quality of life is important for evaluating the impact of TBI. Mild TBIs, frequently defined by Glasgow coma scale (GCS) scores of 13 to 15, account for 80-90% of all TBIs. Nonetheless, long-term consequences after mild TBI are seldom assessed. One important reason is that existing assessment tools are not validated specifically in patients with mild TBI.

### Methods/Intervention

This study compared psychometric properties of the Quality of Life after Brain Injury (QOLIBRI) between patients with mild and those with moderate/severe TBI. Of 683 participants, 548 sustained a mild injury with GCS scores of 13~15, and 135 had a moderate/severe injury with GCS scores of 3~12. The 37-item QOLIBRI comprises six domains of Cognition, Self, Daily Life and Autonomy, Social Relationships, Emotions, and Physical Problems.

### Results (of evaluation)

Rasch analysis results showed that two items of "Problems with seeing and hearing" and "Finding one's way about" were underfit in the mild TBI group, while the item "Problems with seeing and hearing" was also underfit and the item "TBI effects" was overfit in the moderate/severe TBI group. The largest differential item functioning between the mild and moderate/severe TBI groups appeared in the item "Energy", followed by items "Being slow/clumsy" and "Problems with seeing and hearing".

### Conclusions/Lessons learned

For both the mild and moderate/severe TBI groups, the two domains of Emotions and Physical Problems displayed strong ceiling effects, low person reliability and separation, and an incomplete range of the person measure covered by the item threshold ranges, while the remaining four domains had acceptable performances. Certain items of the QOLIBRI exhibited different functioning between patients with different levels of injury severity, and the suitability of the QOLIBRI for patients with mild TBI needs to be further investigated.

### Contact: CHANG Yu-Jun

Changhua Christian Hospital  
135 Nanhsiao Street, 50006 Changhua,  
[june@cch.org.tw](mailto:june@cch.org.tw)

## The effectiveness of Art therapeutic group on clients with mental illness: a pilot study.

TSENG Yen-Wen, CHEN Po-Yen, LU Huei-Lan

### Background/Problem/Objective

Artistic creation is open, inclusive and unique. The art psychotherapy works with media, body and image, which focus on the process of self-healing. The process of creating is a series of self-consolidation. The thought process of clients with mental illness is mostly slow, under productivity, blocking, loosening and even unreality, which often reduce their expression. In this study, clients with mental illness were provided with artistic

creation group to reduce self-defense, improve mood release and re-organized their thoughts.

#### Methods/Intervention

The art therapeutic groups led by an occupational therapist were last for 3 months, once a week, 90 minutes per session, and total of 12 sessions. In the first to eleventh session, the topics of creation were discussed by group members in beginning of each session. The process of creating included drawing, paper folding, cutting and pasting, and salt painting. At the last session, the group members visited a gallery to experience the diversity of art presentation.

#### Results (of evaluation)

There were 12 participants (6 males and 6 females) finished this program. The participants were aged between 28 and 63 years old. Among 75% of their diagnosis were schizophrenia (n=9) and 25% were mood disorder (n=3). The questionnaire were written by the participants at the first, sixth and twelfth session to collect participants' expectation, feeling and feedback of the group. The overall satisfaction was 9.5(1-10 points) at sixth session, and 9.6(1-10 points) at the twelfth session.

#### Conclusions/Lessons learned

The participants were mostly satisfied with the program, and also felt challenging and full of imagination. Through the observation of the occupational therapist, the participants were more willing to express their feelings and thoughts. Their mood were more relaxed, and their thought process were more organized after experienced the process of creating, discussing, interacting and sharing in this group. Ultimately, this program assist the participant with mental illness to "self-healing." Standardized assessment were recommended in the future study

#### Contact: TSENG Yen-Wen

Jianan Psychiatric Center  
71742 No.80, Ln. 870, Zhongshan Rd., Rende Dist.  
Tainan City 717, [yenwen0930@gmail.com](mailto:yenwen0930@gmail.com)

## Association of Knowledge on Resuscitation Medications and the Stress Perception in Resuscitation Event in Post Graduate Year New Nurses

**CHEN SHU-LIN, CHEN CHIEH-FANLA Wen-Ter**

#### Background/Problem/Objective

Post graduate year new nurses face various stresses during their practice, especially in situations involving resuscitation that require sufficient competence. The insufficiency of knowledge about resuscitation medication might result in occupational stress and malpractice. The aims of this study were to evaluate Post graduate year new nurses knowledge of resuscitation medication and to investigate the association between this knowledge and their stress perception, self-evaluation, and obstacles in administering resuscitation medication.

#### Methods/Intervention

A cross-sectional and correlational study was conducted in a Metropolitan Teaching Hospitals in Southern Taiwan with Post

graduate year new nurses from January to December 2016. The knowledge of resuscitation medication was evaluated using a structured questionnaire after their enrolment and their stress perception was evaluated after 6 weeks of their clinical practice.

#### Results (of evaluation)

A total of 93 Post graduate year new nurses employed by the medical center were enrolled in the study. The average score on resuscitation medication knowledge was  $67.92 \pm 15.63$ . Nurses who had resuscitation training scored higher on resuscitation medication knowledge than nurses without the training. Only 5.3% of nurses believed that they had sufficient resuscitation medication knowledge and up to 88.6% believed that they lacked training. Six weeks later, 24 nurses encountered emergency resuscitation situations and 88.62% of them experienced tremendous stress. Stress perception was negatively correlated with resuscitation medication knowledge.

#### Conclusions/Lessons learned

The occupational stress from instances of emergency resuscitation in newly graduated nurses was correlated with the insufficiency of resuscitation medication knowledge. Pre-employment training may reduce occupational stress and mitigate the risk of malpractice.

#### Contact: SHU-LING Chen

Kaohsiung Municipal United Hospital (ROC)  
No.976, Jhonghua 1st Rd., Gushan Dist., Kaohsiung City 80457  
80457 Kaohsiung City, Taiwan (R.O.C.), [juno3180@gmail.com](mailto:juno3180@gmail.com)

## The survey to evaluate Happiness of our home medical care.

**TSUGIMATSU Taiga, SAITOH Fumihiko, MIKIHARA Misato, NAGASHIMA Kayo, SON Kazumi, TANAKA Sachie, KAWAKAMI Masami, NEGISHI Kyota**

#### Background/Problem/Objective

According to Ministry of health in Japan, The purpose of The community-based Integrated Care System is that elderly could live the rest of their lives in their own ways in environments familiar to them, even if they become heavily in need of long-term care. But there is no evidence to support their happiness. So we planned to evaluate happiness within home medical care,

#### Methods/Intervention

We used four items from the center for epidemiological studies depression scale (CES-D) based on Jame's study. We collected a questionnaire to patients and their family in our hospital from 1st Aug. 2017.

#### Results (of evaluation)

60 individuals from 100 questionnaires could be recovered. 8 persons (13.3%) are the most happiness. Except this, the higher CES-D, the more persons are. Persons whose happiness were low tended to become depressed. 12 individuals (22.6%) are over the cut off value of CES-D(16 points). The average mark was 5.6, lower than Jame's study(10.1-10.2)( $p < 0.01$ ).

**Conclusions/Lessons learned**

Our data showed that home medical care didn't always bring them enough happiness. A person, even health care workers, have a biased that the community-based integrated care system brings patients happiness as well as health. We have to study potential contributing factor for the aim of our home medical care.

**Contact:** SAITOH Fumihito

Oizumi Health Cooperative Hospital  
Higashi-Oizumi, 178-0063 Nerima, Tokyo,  
[fumisaitoh@gmail.com](mailto:fumisaitoh@gmail.com)

## A brief recovery program for patients with mental illness

**LEE Chia-Ying, LIN Shin- Ling, CHENG Jin-Shiung**

**Background/Problem/Objective**

The patients with chronic psychiatric illness was always functional decline inducing social withdrawn and lower social participation. They may feel worthlessness and incapacity. Illness Management and Recovery is designed to help people with severe mental illness achieving personal recovery goals and developing recovery strategies. The aim of this study was to investigate the effect of brief recovery program whether to promote their social function.

**Methods/Intervention**

A total of 15 patients suffering from chronic psychiatric at day ward were included in this study. The recovery program was administered over 8 weekly group sessions, 100 minutes at once a weekly. The program was semistructured and specific topic at once. Assessments including self-esteem, self-efficacy, life of quality took place at baseline and post-treatment.

**Results (of evaluation)**

After intervention of 8 weekly group sessions, the patients were more self-esteem, self-efficacy and quality of life than before. Although self-esteem, self-efficacy and QOL data did not differ significantly. The self-esteem was 17.67 (SD=6.1) at baseline and 18.58 (SD=6.5) at the end. The self-efficacy was 28.17 (SD=1.9) at baseline and 31.33 (SD=3.8) at the end. The quality of life (social-relation category) was elevated from 12.83 (SD=1.03) at baseline to 14.25 (SD=0.85) at the end.

**Conclusions/Lessons learned**

The result of brief recovery program intervention showed that the patients felt more empowerment. Patients who participated have more optimistic attitude toward their lives. The recovery program could be of considerable clinical importance and effective for patients of day ward, although the sample size was too small. A Additional study is needed to increase sessions and number of patients for future.

**Contact:** LEE Chia-Ying

[lichaiyin@gmail.com](mailto:lichaiyin@gmail.com)

## Health promotion activities to enhance the physical and psychological health care workers and the life quality impact

**CHENG Ling-Wei, YIN Yu-Ping, TSAI Mi-ao-Mei, SU Shung-Ti, LI Yu-Ju, CHUNG Hsing-Chi, CHEN Kang-Pan, CHENG Jin-Shiung**

**Background/Problem/Objective**

By diversity health promotion activities, aims to build up nurses' living quality including having exercise habit, enhancing physical fitness, expressing work pressure, realizing self-value, then increase the satisfaction of clinical working performance. At the same time, through the process of activities cannot only foster team interaction but also enhance interpersonal development and increase tacit understanding and improve the working atmosphere. Thereby enhancing the quality of medical services.

**Methods/Intervention**

The object of research included all nursing staffs in Adult Intensive Care Unit at the Southern Medical Center in Taiwan. The health promotion team is consisting of the nurse head and five members. From 2015 to 2017, the health promotion team has been planning various types of health activities promotions through mobile APP invitations, e-mail, by word of mouth or other way. After the activities, collecting attendees' feedback to make up the satisfaction survey.

**Results (of evaluation)**

A total of 78 questionnaires were sent out, 78 of them were collected, the complete rate of recovery was 100%. From the survey, 49 people participated in any health promotion activities (62.8%), 35% of them had regular exercise habits before participating in the activity, 66.7% lead to regular exercise habits, 59.6% of weekly exercise at least 1-2 above, 50% of body weight or body fat decreased; 84.6% after taking part in activities to express their work pressure consciously, 80.8%

**Conclusions/Lessons learned**

Nursing is a high-pressure job. If the fitness is inadequate, the staff's physical and mental health will be affected. With the support of the supervisor and the uninterrupted health promotion activities, the regular exercise habits of staff will be enhanced. It is suggested that medical institutions can provide places and equipment for healthy activities so that medical and nursing colleagues are conveniently located nearby to enhance their willingness to take part in health

**Contact:** CHENG Ling-Wei

[htsu@vghks.gov.tw](mailto:htsu@vghks.gov.tw)

## The Effectiveness of Relationship-focused Therapy in Suicide Caring Visiting-A Experience of a hospital in Tainan Taiwan

## LIAN Yi-Wen, HSU Fu-Nung, WANG CHEN-PANGLU Huei-Lan

### Background/Problem/Objective

The Case Hospital is a psychiatric hospital, has been connect with local health authorities to work together for suicide prevention and health promotion since 2010. The suicide rate in Tainan was higher than that of Taiwan in 2016. The community caring visitor applied Relationship-focused Therapy in Suicide Caring Visiting in 2017. Hope to provide case mental health and caring visits to improve mental health and reduce suicide rates within 30 days.

### Methods/Intervention

The community caring visitor applied Relationship-focused Therapy. From January to October 2017, the interpersonal relationship model using Relationship-focused Therapy to assist the case turned from negative to positive Relationship, select the interactive mode of health relationship, reduce the emotional and interpersonal distress, and analysis 2016 and 2017 suicide rate within 30 days.

### Results (of evaluation)

The result showed suicide rate within 30 days in 2016 was 3.02% (n = 1,389), which was the highest among all six nationalities in Taiwan. In January to October 2017, there were 1,595 people who were treated after the intervention of relationship-focused therapy followed by suicide rate 2.32% (N = 1,595) within 30 days, lower than Taiwan's suicide rate within 30 days of 5.3%. Before and after the intervention, the suicide rate decreased 0.7% within 30 days.

### Conclusions/Lessons learned

In the past three years, "emotional / human relations" ranked first in the causes of suicide in Taiwan. In order to effectively improve the psychological and interpersonal responses of cases, introduced the relationship-focused therapy to guide the internal forces of cases to deal with the problems. In 2017, and the rate of suicide has been reduced to a national average within 30 days. Perhaps the future application of relationship-focused therapy to development related strategies in suicide care visits.

### Contact: HSUEH-YIN Wang

Jianan Psychiatric Center, MOHW.  
No.80, Ln.870, Zhongshan Rd., Rende Dist.  
Tainan, [berylzaki@yahoo.com.tw](mailto:berylzaki@yahoo.com.tw)

## Using Religious Music as Stress Relief on Patients

### YEN CHIAMING

### Background/Problem/Objective

The purpose of this study is to examine the effectiveness of religious music relieving stress on patients. Patients in surgical waiting room often suffer from tremendous stress and anxiety. In this study, religious music, distributed by Buddhist Tzu Chi Institution, was served as stress relief to smooth patients in surgical waiting room. In order to get a clinical evidence for a close connection between environment and psychological

status, the researcher had assessments on patients in surgical room with religious music.

### Methods/Intervention

Heart Rate Variability (HRV) was used to examine patients' autonomic nerve system. HRV measures the physiological phenomenon of variation on patients in surgical waiting room. It measures their status of autonomic nerve system. Patients were informed about the study and granted their permission. 20 participants were randomly divided into two groups: experimental and controlled. Participants from the experimental group listened to religious music in waiting room; while participants from the controlled group had been in waiting room without religious music.

### Results (of evaluation)

The results proved that music distributed by Buddhist Tzu Chi provided relieving effects on patients. Patients in surgical room were examined to be much calmer and their measurements of HRV supported the effectiveness of music by Buddhist Tzu Chi.

### Conclusions/Lessons learned

The results of the study showed the overall effectiveness of using religious music as stress relief on patients. With religious music, the patients' stress was properly relieved. That is, religious music produced noticeable effects on patients in relieving stress.

### Contact: YEN CHIAMING

Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation.  
No.66, Sec. 1, Fengxing Rd., Tanzi Dist.  
42743 Taichung,  
[terryyen1974@gmail.com](mailto:terryyen1974@gmail.com)

## A study of the correlation between job satisfaction and burnout on the physicians of a Taipei hospital

### LIEN Hsin-Yi, CHEN Ming-Chen, WOUNG Lin-Chung, CHENG Jia-Jye, CHAO Kang-IHUANG Irving Yi-Feng

### Background/Problem/Objective

The aim of this study was to analyze the correlation between internal and external job satisfaction and burnout on the physicians of a Taipei hospital and to provide the evidence in promoting mental health of medical workplace under the impact of the changing of healthcare industry.

### Methods/Intervention

On the basis of a review of the literature and other relevant references, a research framework was formulated that makes use of a cross-sectional approach, with the utilization of a questionnaire survey to gather empirical data from the current physicians at the participated hospital. A total of 813 questionnaires were distributed; the return rate was 72.2%, and the valid questionnaire return rate was 71.6%.

### Results (of evaluation)

There were several groups with significant statistics and negative correlation between burnout and job satisfaction of physi-

cians. Groups include the physicians more than 40 years old, education level higher than bachelor degree, married, child-bearing, have management status, service for more than 11 years, and work hours below 70 hours.

### Conclusions/Lessons learned

The internal and external job satisfaction of the physicians were influenced by age, marriage status, education level, personality, working experience and working hours, which contrarily reflected on burnout and performance of the physicians. The hospital should plan well and improve the mental health condition of the medical staff and reduce the negative impact in workplace.

### Comments

The emotional labor supporting mechanism, empathy application, and trust building technique should be conducted for the physicians. Moreover, the quality of work, human resource and manpower, and workload reduction should also be reconsidered. A new health care value shall be reframed with the approach of holistic and comprehensive on suffering prevention, and establish agreement and receptivity between patient and physicians. Implement communication culture in teams and create methodology of humanistic value in physicians and the organization.

### Contact: LIEN Hsin Yi

Taipei City Hospital, No.145, Cheng Chou Road.,  
10341 Taipei City,  
[ella@tpech.gov.tw](mailto:ella@tpech.gov.tw)

## The Relationships Between Insight, Perceived Dignity and Depressive Symptoms in Patients with Chronic Schizophrenia

### HSU Hui Min

#### Background/Problem/Objective

If patients with schizophrenia the more understanding symptoms and treatment, they might have higher possibility of having depressive symptoms. Even receiving adequate treatment, the general public could still discriminate against the patients with mental illness, which resulting in damage of dignity. This study is to explore the correlation between depressive symptoms, insight and perceived dignity in chronic patients with schizophrenia.

#### Methods/Intervention

This study adopted a cross sectional design. Patients with schizophrenia in chronic wards of a psychiatric hospital in Taiwan and aged between 20 to 64 years were enrollment. A total of 200 chronic patients with schizophrenia were recruited. The self-reported questionnaires included a form for demographic data, the Dignity Instrument, and the Beck Depression Inventory (BDI-II), while the semi-structure questionnaire was the Schedule for the Assessment of Insight (SAI). The SPSS 18/Windows was used to analyze the data.

#### Results (of evaluation)

(1)Suicide history was significantly associated with depressive symptoms. (2)The depressive symptoms were more severe

when the SAI scored high .(3)The depressive symptoms were less severe when the Dignity Instrument scored high. (4)Evaluation of suicide history, overall insight and overall dignity in multiple logistic regression indicated that overall dignity and overall insight predicted the depressive symptoms.

### Conclusions/Lessons learned

(1)Regular follow up and evaluation emotional changes in patients with schizophrenia in order to detect early depressive symptoms and reduce the suicide risk;(2)In addition to establish the insight of illness during nursing care, the sense of dignity should be maintained to promote a better health for the patients.

### Contact: HUI-MIN Hsu

Bali Psychiatric Center Ministry of Health and Welfare  
No.33, Huafushan, Bali Dist., New Taipei City 24936, Taiwan,  
R.O.C., 24936 New Taipei City ,  
[bibby0709@yahoo.com.tw](mailto:bibby0709@yahoo.com.tw)

## Psychosocial work factors and mental health problems among nurses

### FREIMANN Tiina, FREIMANN Jane, MILIHINA Margarita

#### Background/Problem/Objective

Psychosocial risks in the workplace have been identified as significant emerging risks for the health and safety of employees. We aimed to explore the work-related psychosocial risk factors and their relationships with mental health problems (MHPs) among nurses at a university hospital in Estonia.

#### Methods/Intervention

A cross-sectional study was undertaken among nurses at Tartu University Hospital. All the full-time working registered nurses were invited to participate in the study. Psychosocial work factors and MHPs were measured using the Copenhagen Psychosocial Questionnaire (COPSOQ II). Descriptive statistics and Pearson's r correlation with sequential Bonferroni correction were used to analyse the data. Holm's sequential Bonferroni correction was used to account for multiple testing problems. The significance level was set at  $p < 0.05$ . For the analysis all the items of PS factors and MHP were scored from 0 to 100 points. The total score on a scale was the mean of the scores of the individual items. Cronbach's alpha was calculated to assess the internal consistency of the scales of the PS factors and MHP.

#### Results (of evaluation)

The analysis was based on 404 nurses (45% of the full-time working population of nurses), including 397 female and 7 male nurses. The highest scores for the possible risk factors studied were the demands for hiding emotions, work pace, cognitive and emotional demands. Stress and burnout showed the highest mean scores among the MHPs. After sequential Bonferroni correction, most of the 24 PS factors statistically significantly correlated with self-rated stress and burnout (15 and 16 correlations, respectively). Most significant positive correlations were revealed between quantitative demands and stress, burnout and depression symptoms, work pace and burnout, emotional demands and burnout. Most significant negative correlations occurred between rewards and burnout and social relationships at work and stress.



**Conclusions/Lessons learned**

Psychosocial work factors such as quantitative and emotional demands and work pace have significant positive relationships with MHP in nurses and may contribute to high levels of stress and burnout among nurses.

**Contact: FREIMANN Jane**

Tartu University Hospital  
L. Puusepa 1a, 50406 Tartu,  
[jane.freimann@kliinikum.ee](mailto:jane.freimann@kliinikum.ee)

**How are over 50s****ELISABETTA Santin, PORTOLAN Patrizia****Background/Problem/Objective**

The phenomenon of aging of nurses has been accentuated in the last decade. In all industrialized countries there is a general prolongation of work due to the shifting of the retirement age. "Healthy workplace" (Standard 1) to the point "psycho-emotional well-being", which provides for monitoring and updating through the self-assessment of individual well-being, has given the input to a survey on this phenomenon

**Methods/Intervention**

The survey took place using a questionnaire collected anonymously concerning the ergonomics balance between work and private life, Welfare enhancement of human resources, quality of work relations as a place for learning and leadership

**Results (of evaluation)**

The results show a healthy population, which is less absent, that appreciates its work and does not seek transfers or demotions, also believes it is taken into account by the nursing coordinator and is mostly available to teach younger co-workers

**Conclusions/Lessons learned**

The survey revealed that "a healthy workplace" can be promoted through the sharing of paths with young people, a lower consideration of career development and, for the worker, the promotion of good lifestyles to reduce the incidence of factors of risk

**Contact: PORTOLAN Patrizia**

Azienda Servizi Sanitari n. 5 Friuli Occidentale  
Via Montereale 24, Pordenone,  
[patrizia.portolan@aas5.sanita.fvg.it](mailto:patrizia.portolan@aas5.sanita.fvg.it)

## Employment Satisfaction and Maslow's Hierarchy of Needs then Expansion Theory by the Pastoral Care Department.

**STAWASZ sr. Mariola****Background/Problem/Objective**

In Taiwan, there are ten Catholic hospitals where around 80% of the workers' are non-Christians but they have to face the Catholic Hospital's Church vision and its mission development. This study investigates today's Cardinal Tien hospital's staff

work satisfaction survey and Pastoral Care department supportive system to help employees to deal with their difficulties and attain their happiness in the Maslow's theory.

**Methods/Intervention**

In year 2016 from September 1th to 30th a total of 1,437 questionnaires were distributed to physicians (t=239), nurses (t=440), technicians (t=251), nurse assistants (t=120), specialist nurse (t=69), administrative staff (t=318) in the Cardinal Tien Hospital (hereafter: CTH). As many as 786 surveys were returned, which amount to a valid response rate of 53.58% where the nurses are the highest reviews responses 74.77%, specialist nurse 33.33%, nurse assistance 60%, administrative staff 53.14% and the lowest are the physicians' responses are 26.36%. The questionnaire involved questions about: working environment and safety, salary and benefits, promotion system, education and training, decision-making leadership and hospital identity. This research is also included the record (t=780) of employees counseling by Pastoral Care Department.

**Results (of evaluation)**

The outcome of the sample survey shows that employees of CTH have much strong ability to manage and lead the hospital (73.18%) and there are opportunities to grow professional training and opportunity of the personal development (69.59%) empowered by the vision and mission of the hospital (66.92%). However, employees are not satisfied with the salary and welfare (66.69%) and feel lack of personal confidence (68.24%).

**Conclusions/Lessons learned**

From the perspective of hospital's pastoral care, the employees need to be continually nourished and supported to succeed the highest level of their "commitment". It is a process of self-transcendence which takes time, guidance and the willingness of employees. However, from the Maslow's Hierarchy of Needs at the present situation CTH employees' have difficulties to come upon it and requirements to pay more attention if CTH wants to fulfill its vision and mission.

**Contact: STAWASZ Mariola**

Fu Jen Catholic University Hospital, Pastoral Care Department  
New Taipei, Tajshan, Glejdz Rd., 69.  
24308 Tapei, [mariolka2007@gmail.com](mailto:mariolka2007@gmail.com)

## To analysis the impact of the MBSR training for the nursing staffs

### HUANG Main-ling, LIN Yi-Chia, WU Wei-Ting, HO Yu-ping, WU Tung-yun, CHIEN Sou-hsin

**Background/Problem/Objective**

With the populating of the NHIA, aged population, increasing of chronic disease and more complicated illness, the nursing service has become more diversity. With increasingly pressure on the nursing staffs, we have lost a lot of man power. These factors not only increasing the pressures on the nursing staffs, but also influence their physical and mental health. This research aims to understand how Mindfulness-based stress reduction (MBSR) lessons influence nursing staffs' work pressure, health conditions and perceptions.

**Methods/Intervention**

This research conducts quasi-experimental study, and taking single-group pretest-posttest design and the 4 months after-class exam. The research target will be the clinical nurses and nursing supervisors who has at least two-year working experiences and the ages are between 20 to 55 year-old. They need to attend the MBSR lessons for totally 30 hours and fill-in three constructional questionnaires to conduct research. We have totally collected 27 sets of three-time questionnaires and we use SPSS 19.0 to analysis data.

**Results (of evaluation)**

The result of research shows that the average ISI (Insomnia Severity Index) is down after MBSR exercises. MBSR exercises can increase the attention and awareness toward the current events. The work pressure reaction chart can be divided into mental aspect, physical aspect and behavior aspect. The average of first test is 21, second test is 10.78 ( $p < .0001$ ). The ordinary health scales include mental health and depression also can improve after MBSR. It shows that MBSR can improve the health problems of nursing staffs

**Conclusions/Lessons learned**

Under the pressure of workplace, work shifts, home stuffs and pregnancy, the nursing staffs are usually think about works so that the quality of sleep are deeply impacted. The demands from work make people exhausted and how big the pressure is depending on how we seeing the events. "Positive thinking" shows protective effective from pressure. How to make the nursing staffs can focus on the current event, and to reduce surrounding influences will change the evaluation of pressures. We find out that after learning MBSR, it shows great improvement in sleep, work pressure and physical and mental health.

**Contact: FANCHIANG Yu-Chen**

Buddhist Tzu Chi Medical Foundation  
No.88, Sec. 1, Fengxing Rd., Tanzi Dist.,  
Taichung City, [df173536@tzuchi.com.tw](mailto:df173536@tzuchi.com.tw)

## Session P2.7: Patient empowerment and involvement

### Outcomes of Promoting Medical Shared Decision-Making in a Regional Hospital in Taiwan

**SHU-HUI LIN, SHU-CHIAO SHEN, TZU-CHUAN HSUSHU-MEI LIN**

**Background/Problem/Objective**

To encouraging people to participate in shared decision-making (SDM) in medicine has been included in government policy to achieve patient safety in Taiwan since 2006. In 2015, Taiwan started the production and promotion of SDM tools. The objective of establishing the SDM culture in Taiwan. / Purpose: This study investigated the perceptions among medical staff and patients regarding the employment of the current SDM tools, in order to provide a reference for future revisions of the tools.

**Methods/Intervention**

The public version of the SDM tools was provided to patients and medical staff. A structured questionnaire was then applied to assess the outcomes of using these tools. The trial period for the public tools was between August and December 2017.

**Results (of evaluation)**

Thirty questionnaires were collected from medical staff and patients respectively. Regarding the use of the SDM tools, patients provided the highest scores for the following two items: "Help you understand the matters you care the most when making decisions," "Help organize your thoughts when making decisions." However, they provided low scores for the item "Help you make decisions. By contrast, they acknowledged that the SDM tools could increase patients' satisfaction with medical services and could avoid medical disputes.

**Conclusions/Lessons learned**

Patients should be invited to participate in the development of SDM tools to ensure that the design is patient-centered. Moreover, the prevalence of SDM tools can be increased and QR codes can be provided to enable the public to download information at any time to increase the tools' accessibility. Because most people in Taiwan still rely on medical professionals when making medical decisions, promoting SDM is conducive to establishing the culture of patient autonomy when making medical decisions.

**Comments**

SDM is conducive to patient autonomy when making medical decisions. However, patients' questions and perspectives should be included in the development of SDM tools to ensure that the tools effectively provide adequate medical treatment information to patients when implemented, thereby facilitating SDM promotion. Moreover, SDM should be diversified not only by watching videos, but also by including other written information or sharing clinical cases.

**Contact: SHUCHIAO Shen**

Taiwan Adventist Hospital  
424, Section 2, Bade Road, Songshan District,  
10556 Taipei, [a0926378192@gmail.com](mailto:a0926378192@gmail.com)

### Implementing and promoting an open electronic medical record system in our hospital: empowering patients by encouraging them to check their own charts

**SUGA Takako, EZEKIEL WONG Toh Yoon, TATEISHI Junko, MURATA Hirohiko**

**Background/Problem/Objective**

Since 2005, to encourage patients to actively take part in their medical and health care, our hospital introduced an open electronic medical record system (OEMR). This system allows patients to freely access their outpatient and inpatient medical records inside viewing booths set up within the hospital. In this presentation, we share our 12 years' experience with this system and our continuous effort to promote the use of this system among patients.

### Methods/Intervention

Patients who wish to access the OEMR system are given an individualized password after filling up a simple application form. They can then access their records using the OEMR viewing booths. Information that can be accessed through this system includes physicians' records, laboratory test results, imaging reports, prescription medication, discharge summary, content of referral letter etc. A brief history from the implementation of the OEMR system up to today's efforts to promote this system among patients will be presented.

### Results (of evaluation)

Presently, 6 OEMR viewing booths are available in both the outpatient area and inpatient wards. In 2009, when we started collecting data on OEMR password holders, about 12% of patients applied for a password but that number has been on a decline. Since 2015, physicians' permission as a prerequisite for password issuance was abolished, leading to a slight increase in the number of password holders. Hospital staff are also educated regularly to promote the use of this system among patients.

### Conclusions/Lessons learned

In Japan, there is still a strong tendency for patients to leave the decision making to healthcare professionals despite being the main characters of their medical "story". This is reflected in the low percentage of OEMR password holders even though the system has been introduced more than 12 years ago. We need to continue educating patients and promote the use of this system so that patients will be empowered to play an active role in the management of their health.

#### Contact: WONG Toh Yoon

Hiroshima Kyoritsu Hospital  
Hiroshima-shi Asaminami-ku Nakasu 2-19-6  
Hiroshima, [easybs@hotmail.com](mailto:easybs@hotmail.com)

## Offering Integrated Breast Care Services for Women – A Community Hospital Experience

**TSAI Chin-Hung, TSAI Yi Tsen, KUO Hsiu Feng, ZHUO Xiao-Lian, YUE Chia-Herng**

### Background/Problem/Objective

The incidence of breast cancer has increased annually in Taiwan. Sensitivity is one of the characteristics of women; thus offering private and integrated breast care services for women is critical. We set up Breast Care Center for female patients, and provide a friendly room as well as integrated services including screening mammography, counseling, medical consultation, diagnosis and treatment for breast cancer. Through a full-time registered nurse who offers services in an independent room, we expect to meet the needs of the female patients.

### Methods/Intervention

The service record from Jan 2017 to Aug 2017 was retrospectively analyzed including the demography, breast care information, screening information, emotional support and rehabilitation supplies. The patient satisfaction survey was executed in August to understand if the service we provided met the patient's needs. The questionnaire consists of appraisal of environment maintenance, professional information, emotional support, breast inspection, adverse effect management, and

rehabilitation supplies, etc., which are factors influencing a patient's perception.

### Results (of evaluation)

The responses from a total of 947 patients were analyzed. Patients aged 51-60 account for 43.4% of all enrollments. The common assistances that visitors required are breast care information (35.8%), rehabilitation supplies (24.1%) and emotional support (22.2%). Most visitors are breast cancer patients (87.3%). We collected 116 satisfaction questionnaires, and the survey revealed breast cancer patients have higher satisfaction in most aspects than non-breast cancer patients. Breast cancer patients and non-breast cancer patients were compared to explore the order of importance of services. The survey revealed similar results from these two groups. The process of the register and waiting time, professional information offering, emotional support and breast inspection are more important than other aspects of the patients.

### Conclusions/Lessons learned

By providing integrated services and a private room for breast cancer patients and their families, we can help them to better cope with medical and socioeconomic problems. Setup of a multifunctional breast medical center combined with a multidisciplinary team play an important role to offer services to meet patients' needs, and is worth to promote to other cancer clinics.

#### Contact: TSAI Yi Tsen

Tungs' Taichung MetroHarbor Hospital  
No.699, Sec. 8, Taiwan Blvd., Taichung City 435, Taiwan  
Taichung, [yitsen755310@gmail.com](mailto:yitsen755310@gmail.com)

## Using Bruner's Theories on Learning to improve foreign caregivers cognitive of prevention inpatient falls at rehabilitation ward

**HUNG Shu-Ping, HSU Chun-Chen, PAI Hui-Yui, CHEN Sung-Yun, TSAI Yi-Fan**

### Background/Problem/Objective

According to research, falls increase the duration of patients' hospital stay as well as their medical expenses, causing a burden for the patient, their family; furthermore, falls can even cause medical disputes. In the studied unit is a rehabilitation ward of regional hospital in northern Taiwan. We analysis revealed that the main cause of patients falling was that the caregiver lacked awareness of fall prevention. Bruner's theories on learning concern humans and their surroundings. They pertain to the process of humans internalizing external incidents into internal mental incidents through the mediation of awareness. Bruner emphasized active exploration, learning through observation, and reinforcement behaviors, which are not outcomes of an external agent but internal motivation. Studies have shown that applying his learning theories could increase learning effects. Our study expect using the Bruner's Theories on Learning to increase fall prevention awareness among foreign caregivers at rehabilitation ward.

**Methods/Intervention**

A working team was established to design innovative posters of daily clinical scenes in different languages to increase awareness of fall prevention and for fall prevention. When a patient was admitted to the hospital, their caregiver was instructed to observe the figures and objects on the posters, to make the association between the situations relevant to fall prevention. The QR codes that link to videos and contact information are provided on the ward walls.

**Results (of evaluation)**

During the implementation period from July to September 2017, study of 20 foreign caregivers whom were 100% able to successfully identify the key information on the poster. Each week, a Fall Prevention Ward Environmental Safety Check List was employed. Nurses found the foreign caregivers could implement correctly. The effectiveness of foreign caregiver's performance improved from 73% to 90% and knowledge from 52% to 86%.

**Conclusions/Lessons learned**

These innovative posters using Bruner's theories on learning were designed for external reinforcement: they stimulated appropriate fall prevention behavior, and in addition, the caregivers were given verbal praise and merit certificates as positive reinforcement. This was hoped to further internalize the concepts and importance of fall prevention into the motivation to effectively prevent falls.

**Contact: TSAI YI-FAN**

Taipei City Hospital, Young Ming Branch  
No.105, Yusheng St., Shilin Dist., Taipei City 11146, Taiwan  
10453 Taipei, [b1717@tpech.gov.tw](mailto:b1717@tpech.gov.tw)

## The effect of nursing instruction for patients to demonstrate well wound care by themselves before discharging from hospital.

**WU Shu-chun, CHUANG Fu-Lian, CHENG Jin-Shiung**

**Background/Problem/Objective**

There are some patients suffering from diabetes with some complications who have wound resulted from the negligence of care by themselves in our unit. After the medical treatment, they need to be taught how to take care of their wound at home by nurses before discharging from hospital. Nurses take a lot of responsibility to teach well those patients to improve the recovery of wound. The methods of nursing instruction become a very important issues in teaching those patients.

**Methods/Intervention**

30 patients were convenient sampling, and collected from 1/1/2016 to 7/31/2016. The methods of the combination of oral and written instruction and multi-media video were carried out to instruct patients how to do wound care by themselves. A check list (total score is 22 points) of skill was been used to check the effect of nursing instruction before and after in demonstrating the skill of wound care done by patients. .

**Results (of evaluation)**

15 female patients and 15 male patients were collected in this study. The average of their age were  $61.93 \pm 12.87$ . 5 (7.5%) of patients were illiterate. 23(76.7%) of patients were married. The score of the effect of nursing instruction in demonstrating the skill of wound care done by patients were  $15.7 \pm 5.01$  (before intervention) VS  $21.6 \pm 0.72$  (after intervention),  $p = .0$ .

**Conclusions/Lessons learned**

The methods of the combination of oral and written instruction and multi-media video were useful for patients' education in demonstrating the skill of wound care done by patients. Through the application of those methods, even patients with illiterate still learn well how to do wound care by themselves.

**Contact: WU Shu-Chun**

Kaohsiung veterans general hospital  
No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City  
81362 Kaohsiung, [scwu@vghks.gov.tw](mailto:scwu@vghks.gov.tw)

## Implement new education material to empower caregivers and decrease the adverse events.

**HUANG Hsiao-Fang, CHEN Li-Chin, LI Yu-Tzu, HUANG Szu-Fen, LIU Hsiu-Yun, SUN Jui-Sheng**

**Background/Problem/Objective**

Caregivers play an important role in patient safety. Because the aging society and the demand of long-term care, people usually employ caregivers to help take care patients. Review the safety events in our hospital, the factors for patient falls were 22.6% related to their caregivers. Many caregivers come from other countries. Since the different languages, there usually has poor communication or misunderstanding between medical team and caregivers. This study implemented different education material to empower caregivers and decrease patient falls.

**Methods/Intervention**

This is a 2400 beds medical center in Taiwan. In 2016, we implemented new education materials about prevent patient falls which contain four kinds of languages, including Chinese, English, Bahasa Indonesia and Vietnamese. The education material are films record by Indonesia physicians, Vietnamese physicians and Taiwanese medical teams. All films also open to public. Caregivers can review all the time by using QR code. There also have exams and satisfaction questionnaires after viewing to measure the effectiveness of the material.

**Results (of evaluation)**

The number of page views of the films is 1428 from April 2016 to December 2017. According to the feedback of the viewers from Training Management System in our hospital, there are 84.76% viewers considered the education materials about prevent patient falls were helpful to their work. The most importantly, the number of patients falls decrease from 624 in 2016 to 565 in 2017, and the factors related to caregivers decrease from 22.6% to 21.4%.

**Conclusions/Lessons learned**

Effective patient education can have a significant impact on quality care and patient safety. This is a useful intervention to empower caregivers and decrease patient falls in our hospital. In the future, we may try some ways to increase the number of page views of the films to let more people see the films and know how to prevent patient falls.

**Contact:** HUANG Hsiao-Fang

National Taiwan University Hospital  
No.7, Chung Shan S. Rd. (Zhongshan S. Rd.) , Zhongzheng  
Dist., Taipei City 10002, Taiwan (R.O.C.)  
Taipei, [105307@ntuh.gov.tw](mailto:105307@ntuh.gov.tw)

## Shared decision making to support home care patient before end of life

**LIEN Hsin-Yi, CHEN Ming-Chen, SUN Wen-Jung, WOUNG Lin-Chung, HUANG Sheng-Jean**

**Background/Problem/Objective**

Shared decision making (SDM) in Taiwan's hospital has become an important element in health policy. However, using SDM to support home care patient before end of life was unclear. The aim of this study was to explore multi-disciplinary professionals' experiences of SDM before end of life in the home.

**Methods/Intervention**

This study was to explore the home care service before end of life from March to December, 2017 in Taipei city hospital. The home-based multi-disciplinary professionals include geriatrician, nursing and social worker. All professionals were qualified with palliative training before intervention. Palliative family meeting about "care plan", "resuscitation or not", "dying place", "spiritual needs" was held at home based on interview of patient and their relatives.

**Results (of evaluation)**

A total of 23 patients and their relatives were interviewed with professionals at palliative home meeting. More than half of patients had cognition impairment and SDM with professionals before end of life finally were made by their families. The study found patients and their relatives tend to communicate about death and dying with professionals if they had religious belief. However, few patients refused to talk about death and reported communication to be ineffective.

**Conclusions/Lessons learned**

The home-based multi-disciplinary professionals should initiate conversations with SDM about preferences for end-of-life care. It could realize what the patients and their relatives wish, promote quality care for patients at the end of life.

**Contact:** LIEN Hsin Yi

Taipei City Hospital, No.145, Cheng Chou Road.,  
10341 Taipei City, [ella@tpech.gov.tw](mailto:ella@tpech.gov.tw)

## LIC Donna project: take care for yourself beyond cancer illness

**RUBINI Giulia, PALERMO Rosalba, DI LEO Silvia, ABRATE Martino, RONDINI Ermanno, MANGONE Lucia, RABITTI Elisa, FERRARI Guglielmo, ZIRONI Francesca, COSTANTINI Massimo**

**Background/Problem/Objective**

Literature emphasizes the potential benefits of cancer patients' involvement in their clinical pathway both for increasing patient empowerment, and providing professionals with insights for improving the quality of the care provided. In this contribute we aim to describe the development and the components of LIC Donna project, established in 2014 by a group of healthcare professionals from the hospital and Italian League Against Cancer of Reggio Emilia Province, and to report user feedback about activities implemented in the last year.

**Methods/Intervention**

The main steps of the project are summarized, together with the rationale supporting the implementation of its components. Feedback from participants attending some of the activities was assessed by means of an ad hoc semi-structured questionnaire, exploring perceived usefulness of the attended activities, as well as strengths and weaknesses of the project as a whole.

**Results (of evaluation)**

Conceived as a meeting place gathering together women who are experiencing (or have experienced) cancer, relatives, professionals and local associations, LIC Donna has been initially structured in weekly encounters held by experts on four topics: self-care, assistance and research, patients' rights, cultural and leisure activities. Between 2016 and 2017 five experiential workshops (that are periodically repeated) and two permanent laboratories have been introduced, according to preferences expressed by users. Findings from questionnaires highlight the high perceived usefulness of the project.

**Conclusions/Lessons learned**

Moving from a global approach to human health, where female cancer is not only a physical illness but also a complex experience significantly impacting psychological, relational and spiritual quality of life, LIC Donna promotes and supports women' well-being, beyond cancer. Moreover, bringing together the different "actors" involved in the care process, it can bridge between the patients' and the healthcare professionals' world and perspectives, facilitating health communication and improving the quality of care within an informal and not medicalized environment.

**Contact:** RUBINI Giulia

AUSL ICRSS Reggio Emilia  
Viale Risorgimento, 80 Reggio Emilia, 42123 Reggio Emilia,  
[rubini.giulia@ausl.re.it](mailto:rubini.giulia@ausl.re.it)

## Inviting Patients to Read Their Doctors' Notes in a Pain Clinic: Physicians' Experiences



**BHANDARI Ashish, GILLIGAN Christopher,  
LEE Ji Hong, BHANDARKAR Manasi,  
WANG Victor**

**Background/Problem/Objective**

Inviting patients with chronic pain to read their doctors' visit notes via secure electronic portals may empower them and improve their understanding of their health condition. However, sharing the clinician's perspective on the psychosocial contributors to a patient's pain via transparent medical records could potentially lead to conflicts between patients and providers. Mirroring the OpenNotes study, we investigate and describe here the effects of increased clinic visit note transparency on physician experience in a large outpatient pain medicine clinic.

**Methods/Intervention**

We analyzed pre- and post-intervention questionnaire data from nine chronic pain medicine physicians over a six-month period, where patients were given full access to their clinic visit notes that were not previously available. Patients were able to contact the clinic via email and physicians responded either directly or with the help of nursing staff.

**Results (of evaluation)**

Patient experiences weren't directly captured, before the intervention 89% of the participating physicians "agreed" or "somewhat agreed" that their patients would worry more after reading their clinic notes. Following the intervention, 79% "agreed" or "somewhat agreed" that their patients did indeed worry more after having access. In pre-intervention survey, 89% "agreed" or "somewhat agreed" that patients would request changes. Following intervention, 44.5% of the physicians reported that they received 1 request for modification per month, 44.5% reported receiving 2-4 requests per month, and 11% received more than 5. Although 33% of participants were "moderately concerned" or "very concerned" that open notes would increase the average visit length, none of them felt that visit time was increased following the intervention.

**Conclusions/Lessons learned**

In this study, we found that previous concerns of the potential risks and workload concerns of open notes were not realized to the degree that the pain medicine providers had predicted but were more prevalent when compared data from primary care physicians.

**Contact: BHANDARI Ashish**  
Brigham and Women's Hospital  
75 Francis Street, 02115 Boston,  
[abhandari@bwh.harvard.edu](mailto:abhandari@bwh.harvard.edu)

**Improving the Quality of Patients' Care by Using the Patient Decision Aid of Shared Decision-Making**

**CHUANG Fu-Lien, WANG Shu-Ling, LIN Li-Hua, TANG Yi-Chen, CHENG Jin-Shiung**

**Background/Problem/Objective**

When clinical patients face the significant operation, they are always undetermined toward the operation. Patients cannot choose which of the operation is most appropriate for them when doctors propose a variety of methods of doing operation. Therefore, taking the prostate carcinoma surgical operation for example, the aim of this article is to utilize the evidence based medical and expertise as a tool of decision-making, assisting patients to choose the correct form of the operation.

**Methods/Intervention**

1.Set up a Shared Decision-Making website in order to advocate notion and views of medical communication. 2.Set up Patient Decision Aid for helping patients' decision-making. For instance, 「I am suffering from prostate carcinoma, which operation method I am going to choose?」 3.Establish functions of those suggestions given by doctors and QR Code to support patient online fill-in answers. 4.Make use of Patient Decision Aids to keep track of the utility.

**Results (of evaluation)**

1.The rate of completion of questionnaires by those who benefit from Patient Decision Aids for Prostatectomy of prostate carcinoma patients is about 70%, those being helped by Shared Decision-Making, they can complete the Patient Decision Aids questionnaire. 2.The perioperative nursing satisfaction of post Prostatectomy surgery, The Prostatectomy patients satisfaction equals using Patient Decision Aids to perform prostatectomy is about 90.0%: 97.8%.

**Conclusions/Lessons learned**

The hospital has promoted Shared Decision-Making since 2017. 81 Patient Decision Aids of shared decision-making are available online for various patients. For instance, Patient Decision Aids of Prostatectomy combined with information systems to provide patient disease information, feasible solutions, and to help patients. According to their concerns and preferences, together with the expertise of clinical health care, communication which help patients to think about their own appropriate choices, can increase patients' satisfaction and achieve better outcomes.

**Contact: CHUANG Fu-Lien**

Kaohsiung Veterans General Hospital  
No.386, Dazhong 1st Rd., Zuoying Dist., Kaohsiung City 813,  
Taiwan (R.O.C.), 81362 Kaohsiung,  
[flchuang@vghks.gov.tw](mailto:flchuang@vghks.gov.tw)

**Transforming Practitioners and Practice through Work-based Learning**

**FINN Frances**

**Back-**

**ground/Problem/Objective**

There is a growing imperative that both postgraduate nursing education develops both practitioners and practice. This research explores trajectories of change during and following work-based learning and asks 'how' different cultural tools and processes situated within work-based learning frameworks, in addition to social and



personal contributions, influences and sustains positive outcomes.

#### Methods/Intervention

A qualitative case study design was employed to investigate the influences and outcomes of work-based learning over time. Interviews with past students and support practitioners associated with one work-based learning programme were conducted across acute and community healthcare services in Ireland. Individual documentary analysis of student learning logs and portfolios was undertaken using process tracing methods, combined with a thematic analysis of all data sources.

#### Results (of evaluation)

Workplace affordances, versus constraints, in addition to the role of cultural tools and other people in scaffolding learning within the programme framework, combined with learner agency and intentionality revealed the duality of personal and social contributions required for successful work-based learning outcomes. Practitioner outcomes of knowledgeability, relational agency and reflexivity, were linked with sustained practice development outcomes, in the remaking of cultural practices. Examples of practice transformations include service user education and advocacy initiatives in mental health and health education workshops in child and adolescent health.

#### Conclusions/Lessons learned

Learning at, for and through work is a combined endeavour of individual intentionality, agency and engagement with work-based learning opportunities, tools and processes, in addition to the degree of social support and workplace affordances. The opportunity to promote health through practice development initiatives within primary care and acute health services is a significant potential of work-based learning in postgraduate nurse education.

#### Contact: FINN Frances

Waterford Institute of technology, [fynn@wit.ie](mailto:fynn@wit.ie)

## Session P2.8: Physical activity promotion

### The Effects of Health Promotion Activities on Body and Mind in the aging population

**LIN Pei-Ching, CHANG Ren-Huai, CHENG Ya- Ai, HUANG Hsiu-O**

#### Background/Problem/Objective

The aim of this research is to investigate the influence of HP activities on body and mind among the elderly and to propose design strategy for the activity of community-dwelling older adults.

#### Methods/Intervention

Twenty residents over 65 years old lived in the day care institution were recruited in the experiment. The subjects had completed a 16-week lower body fitness exercise for 30 minutes

twice a week. The measurements of physical fitness were evaluated before and after a 16 weeks lower body fitness exercise for all subjects, as the baseline and end line survey, respectively. The physical outcomes were conducted by statistical analysis.

#### Results (of evaluation)

Several measurements were evaluated at the begin and the end after 16 weeks intervention period, which includes the muscle strength and endurance (pre-test:17 times; post-test:17 times), lower limb softness (pre-test:1.8 cm; post-test:6.8 cm), balance function (pre-test:11.8 seconds; post-test:11.6 seconds), body coordination ability and physical flexibility (pre-test:8.8 seconds; post-test:8 seconds). Significant differences were found on the lower limb softness conducted by using the independent samples t-test. ( $p=0.002$ ).

#### Conclusions/Lessons learned

The results suggest that regular health promotion activities 16 weeks may be potentially helpful to improve the muscle power and endurance, balance function, body coordination ability and physical flexibility for older adults, to avoid increasing damage in accidents and to delay aging.

#### Comments

It is recommended that that lower body fitness exercise may be feasible as a exercise protocol in the health promotion on elders in community and it should be implemented as a regular exercise program in community.

#### Contact: PEI CHING Lin

I-Shou University-Graduate student, No.1, Yida Road, Jiaosu Village, Yanchao District, Kaohsiung, Kaohsiung City, [ed100711@edah.org.tw](mailto:ed100711@edah.org.tw)

## The Effects of Early Whole-Body Vibration Training for Rehabilitation After total knee arthroplasty (TKA)

**TSAI YI-CHUEH, LIU WEI-LIN, LIN SHIH-FENG, HUANG HSUAN-TI, CHEN TIEN-WENCHEN JIA-XIN**

#### Background/Problem/Objective

Early physical therapy can prevent contradictions or improve functional mobility after total knee arthroplasty(TKA). One treatment of physical therapy, Whole body vibration (WBV), have been confirmed with increasing muscle strength, balance and physical function in several treatment area. The purpose of this study is to understand the effects of early WBV training for rehabilitation after TKA.

#### Methods/Intervention

In present control study recruited 13 patients with unilateral TKA after 6 weeks postoperatively. Control group (n=5) received conventional rehabilitation, while WBV group (n=8) received 3 weeks (3 times/week) of WBV in addition to conventional rehabilitation. All subjects received assessment for quadriceps and hamstring strength, functional ability(Chinese version of the KOOS), balance(Biodex Balance System), walking ability(6-min walking test-6MWT) and knee range of motion(ROM) at

first and third week. Two-tailed T-test analysis of variance was used for statistical analysis.

### Results (of evaluation)

No adverse side effects were reported in both groups. There were significant increases in dynamic balance, ROM, walking distance and physical function (symptoms, activities of daily living and knee-related quality of life) for both groups ( $P < .05$ ). The WBV group demonstrated significantly better knee extensors performance and dynamic standing balance ( $P < .05$ ) than the control group.

### Conclusions/Lessons learned

Early WBV started from 6 weeks postoperatively was an effective training method which improved knee extensors muscle strength and dynamic balance than conventional TKA rehabilitation. The WBV might better to usual care as an early rehabilitation protocol after TKA. But future studies are necessary with larger sample sizes and long-term outcomes to be considered reliable.

#### Contact: TSAI YICHUEH

Kaohsiung Municipal Ta-Tung Hospital  
No.68, Zhonghua 3rd Rd., Qianjin Dist.  
80145 Kaohsiung City, [ptpanda@gmail.com](mailto:ptpanda@gmail.com)

## Effectiveness of Core Muscle Intervention Program for Musculoskeletal Disordered Workers in a Medical Center

### CHIU Hui-Ping, TSAI Pei-Shan, MA Hsien-jy-Jy

#### Background/Problem/Objective

The phenomenon of fewer children and an aging labor force is impacting development in Taiwan, thereby becoming an important social and economic issue. With the aging process, muscle strength and endurance are reduced, affecting physical performance, inducing musculoskeletal discomfort, and increasing the possibility of occupational injuries. In Taiwan, scholars report regular exercise improves muscle mass and strength, and therefore promote healthy workplace activity. In Europe, core muscle training is already used to prevent pain in the lumbar and cervical spine.

#### Methods/Intervention

The subject of the study are workers with musculoskeletal discomfort in a medical center in Taiwan. The study is a comparison of a "before" and "after" intervention. The intervention was education and core muscle training by exam questions, musculoskeletal symptom investigation, and physical fitness testing. The purpose of the study is to evaluate the effect of interventional training and core muscle training courses on musculoskeletal discomfort for the workers in a medical center in Taiwan.

#### Results (of evaluation)

Results showed 20 workers finished all the training. Following intervention, workers cognition rose from 40.0% to 94.5%. The neck, upper back, lower back, left shoulder, right shoulder, left knee, right knee, left ankle / foot, right ankle / foot and other parts, musculoskeletal symptoms were significantly improved ( $P$

$<0.05$ ). There were significant differences in Body Mass Index, skeletal muscle weight, waist, systolic blood pressure and physical fitness test ( $P < 0.05$ ).

### Conclusions/Lessons learned

Core muscles training program interventions in education and training have achieved remarkable results. However, three of the musculoskeletal discomfort related cases were not suitable for certain sports or due to certain sports patterns to exacerbate musculoskeletal discomfort due to old musculoskeletal injuries. Therefore, suggested that should invite physiotherapists and functional therapists to form a cross disciplinary staff health promotion team in order to promote the curriculum of musculoskeletal discomfort through communication, cooperation and integration to make the courses more professional and individual.

#### Contact: TSAI PeiShan

National Cheng Kung University Hospital  
4F.-1, No.63, Daqiao 1st St., Yongkang Dist., Taiwan (R.O.C.)  
71083 Tainan City, [p20071026@gmail.com](mailto:p20071026@gmail.com)

## Cost-performance Value between Corporate Allowances and Employees' Exercise Frequency - Pilot Study

### CHANG Chih-Ming, YEN Chia-Chi

#### Background/Problem/Objective

According to the 2016 National Survey on Sports Consumption Expenditures, more than 50% of citizens intended to increase sports consumption expenditures in the future. As promoting the leisure life and work efficiency of employees is an important corporate strategy, more and more companies have included the establishment of internal clubs in the welfare policy. The study aims to find out the effect of corporate allowances on the employees' willingness or frequency of exercise, so as to maximize the cost-performance value.

#### Methods/Intervention

The object is new employees of a regional hospital in South Taiwan in past six months. The questionnaire asked respondents their frequency of exercise first and then asked respondents to select the possible frequency of exercise if a monthly allowance of \$100NT - \$800NT is given by the hospital. The study obtained to calculate the minimum and the average allowance that first increased the frequency of exercise, and the average allowance that increased the frequency of exercise.

#### Results (of evaluation)

The number of valid questionnaires was 27, among which 22.22% male respondents and 77.78% female respondents; 44.44% had no exercise habits and 55.56% of the respondents originally had the habit; 27.04% were indoor activities and 18.52% were outdoor activities. The minimum allowance that could change the frequency of exercise was \$100 NT; the average allowance that first increased the frequency of exercise was \$408.33 NT; and the average allowance that increased the frequency of exercise was \$376.38 NT.

### Conclusions/Lessons learned

The average allowance that increased the frequency of exercise was \$376.38 NT, which means that most employees will consid-

er increasing the frequency of exercise if a monthly allowance of \$376.38 NT is given; however, few respondents could lead to insufficient validity; that possible sampling bias could exist in new employees should also be considered. In the future, researchers may include factors like gender and type of activities in addition to large and random sampling to make the study more complete.

**Contact: CHANG Chih Ming**

Kaohsiung Municipal Min-Sheng Hospital  
No.134, Kaisyuan 2nd Rd., Lingya Dist.  
80276 Kaohsiung, [1002851@kms.h.gov.tw](mailto:1002851@kms.h.gov.tw)

## Experience of sharing special population successful physical activity promotion--Longci Home for the Disabled in Taiwan as an example

**LIU Bie-Ching, WU Mei-Hui, LEE Hsiu-Hua, CHIU Ge-Lin, CHEN Yu-Wen**

### Background/Problem/Objective

Studies have confirmed that obesity will increase the incidence of disease and mortality. The basic mechanism of obesity is that calorie intakes more than consumption. Due to the special populations' conditional restrictions, the concept of health literacy is undefined to them, probably causing obesity. Longci Home for the Disabled in Taiwan is the institution of caring chronic mental patients and severe disability. Due to the physical and mental condition, drugs, and environmental impact, obesity is a common problem.

### Methods/Intervention

National Cheng Kung University Hospital(NCKUH) cares about the health of special populations, collaborated with Longci Home for the Disabled, to train caregivers to become a Physical Fitness Trained Teacher and set up a healthy exercise class. The Physical Fitness Trained Teacher Program contains 16 hours of classes, including warm-up exercises, choreography, relaxation exercises, teaching aids design. Healthy exercise classes are led by program trained teacher. The courses cover dance classes, exercise classes and walking.

### Results (of evaluation)

With the support of Dean of Longci Home for the Disabled, 11 care givers were trained as Physical Fitness Trained Teachers and set up a physical fitness class. 20 overweight residents ( $BMI \geq 24$ ) included in a 2-month fitness program designed for weight loss, totally weight loss in the class is 29 kg. Two of the weight-loss champions, who lost weight 3 kg and 2 kg respectively, successfully to lower BMI and waist circumference.

### Conclusions/Lessons learned

To enhance the motivation of disabilities and develop the habits of regular physical exercise is a common goal of each Welfare Institution. NCKUH promotes the physical activity in special populations via the education of the caregivers who have the closest life experience with the residents, by training them become Physical Fitness Trained Teachers. The teachers have the ability to lead their health fitness classes alone. This successful experience can be a reference for the promotion physical activities of special populations.

**Contact: BIE-CHING Liu**

Department of Nursing, National Cheng Kung University  
B1F., No.166, Dongfeng Rd., North Dist., Tainan City 704, Ta  
Tainan, [bcltainan@yahoo.com.tw](mailto:bcltainan@yahoo.com.tw)

## Effectiveness evaluation of the Health Promotion Program in Baduanjin Qigong Practice

**TSAI Chin-Chuan, CHENG Ya-Ai, YU Jung-Sheng, LIN Yuan-Ho, LIN Wan-Jung, CHOU Wei-Chen, CHEN Kuan-Tso, LIN Pei-Ching**

### Background/Problem/Objective

Aging is recognized as a critical issue in Taiwan and the health promotion strategies must be modified to face the demographic change. Baduanjin is one of the forms of Traditional Chinese Qigong has been practiced for a long time as a mind-body exercise which is easier to learn without limit in age, time and space. The objective of this research is to implement a health promotion program of Baduanjin to the community and to investigate the psychological and physiological effects.

### Methods/Intervention

The residents were received a 12-week Baduanjin training with 30 minutes once a week. Measurements which consist of Body weight, Waist circumference, Eye-opened and single-legged standing test, 3-meter walk test, 30-Second Chair Stand Test, Forward Flexion Test, and the 36-Item Short Form Health Survey (SF-36) were evaluated before and after a 12-week qigong program for all subjects, as the baseline and end line survey, respectively. The outcomes were conducted by using the paired t-test.

### Results (of evaluation)

A total of 66 community residents were recruited into the program, 47 participants have completed physical measurements and 49 have completed SF-36. Compared with the pre-test, significant differences at the 12th-week were found on the Waist circumference ( $p=0.003$ ), Eye-opened and single-legged standing test ( $p=0.003$ ), 3-meter walk test ( $p=0.008$ ), 30-Second Chair Stand Test ( $p=0.00$ ), Forward Flexion Test ( $p=0.003$ ). Scores for SF-36 scales improved significantly at physical functioning ( $p=0.016$ ), body pain( $p=0.000$ ), general health ( $p=0.003$ ), vitality ( $p=0.012$ ), social functioning ( $p=0.002$ ), mental health ( $p=0.002$ ).

### Conclusions/Lessons learned

The results suggest that Baduanjin qigong exercise is beneficial to improve physical and psychological activities among community residents. It is recommended that Baduanjin should be implemented as a regular health promotion program in community.

**Contact: CHENG Yaai**

I-Shou university  
Yanchao Campus, No.8, Yida Rd, Jiaosu Village, Yachao District  
82445 Kaohsiung,  
[yaai@isu.edu.tw](mailto:yaai@isu.edu.tw)

## Physical activity on prescription with counsellor support: a 4-year registry-based study in routine health care in Sweden

**ANDERSEN Pia, HOLMBERG Sara, LENDAHL Lena, NILSEN Per, KRISTENSON Margareta**

### Background/Problem/Objective

Public health gains from physical activity on prescription (PAP) depend on uptake in routine care. We performed an evaluation of the implementation, in a Swedish county council, of counsellors who give personalized support to PAP recipients aimed at facilitating PAP delivery. The study aimed at comparing differences in characteristics between PAP recipients and the health care population and between PAP recipients who used and did not use counsellors support. We also investigated professional belonging and healthcare setting of the prescribers.

### Methods/Intervention

Design: A registry-based study with data retrieved from electronic medical records. Setting: 31 primary care units and two hospitals in the County Council of Kronoberg. Subjects: All patients'  $\geq 18$  years who received PAP during 2009–2012. Outcomes: Patient and professional characteristics e.g. patients' registered diagnoses for the 12 months before prescription, all office visits and number of inpatient care occasions. Analysis: Differences between groups were tested with the chi-squared test. A p value  $\leq 0.05$  was regarded statistically significant.

### Results (of evaluation)

A third of the PAP recipients had diseases in  $\geq 5$  diagnostic groups and more than half had  $\geq 11$  office visits the year before PAP. One-third of all PAP recipients used counsellor support. Counsellor support users had more multiple diagnoses and office visits compared with non-users. Physicians issued 44% of prescriptions and primary care was the predominant setting. The number of prescriptions did not change over time but the proportion of physicians' prescriptions decreased while the proportion of nurses' prescriptions increased.

### Conclusions/Lessons learned

PAP recipients had high morbidity and were frequent healthcare attendances, indicating that PAP was predominantly used for secondary or tertiary prevention. Moreover, while the aim of the counsellor support was to reduce the clinical workload as a means of enabling higher numbers of prescriptions, overall prescription rates did not increase as intended. However, it is not possible to determine how the rates would have developed without implementation of the counsellors. Further qualitative studies are warranted to explore unanswered "why" questions.

### Contact: ANDERSEN Pia

Region Kronoberg, Department of Research and Development

35188 Växjö,  
[pia.andersen@kronoberg.se](mailto:pia.andersen@kronoberg.se)

## Application "Happy GO" Program to Improve the physical activity in Pediatric Oncology Inpatients

**LIN Fang-Ru, HSU Ping-Ying, FANG Mei-Chi**

### Background/Problem/Objective

It many types of cancer treatment, such as chemotherapy or radiotherapy, are often needed for cure. These treatment are potential to a negative impact on physical activity and on psychosocial well-being. There is evidence that physical activity programs can reduce fatigue and enhance psychosocial health. The purpose of this study was to develop a "Happy GO" program for children with cancer under the age of 18 and was to evaluate its effects in the behavioral responses during and after treatment.

### Methods/Intervention

May to December 2017, children with cancer, who were due to undergo cancer treatment at the pediatric oncology ward in children hospital. We worked out those methods: 1. Design "Happy GO" program for children: with rewards card, children earn points with every exercise children make. Children should participate in muscle-strengthening activities at least 60 minutes of physical activity. 2. Kids' perceptions to set up to develop child-friendly environments: we designed "kid gifts house" to motivate and stimulate children.

### Results (of evaluation)

The completion rate for physical activity in at least 60 minutes of physical activity per day, 3 days per week, were 100% and quality of sleep were increased from 2.31points to 4.35points after implementation of the program by 17 participants. Additional benefits were the satisfaction scores of caregivers, for "Happy GO" program, were increased from 71 to 97.4 points before and after the program.

### Conclusions/Lessons learned

Based on our results, we found "Happy GO" program what will help to reduce a child's negative psychological response to side effects of cancer treatment, minimizing fatigue, and will enhance muscle-strengthening and the quality of sleep in pediatric patients undergoing cancer treatment for cancer.

### Comments (of evaluation)

Advantages of having a benefit for kids' perceptions to motivate and stimulate children with cancer. The pediatric nurse or doctor needs to keep it as friendly as possible.

### Contact: LIN Fang-Ru

National Taiwan University Children Hospital  
No.8, Zhongshan S. Rd., Zhongzheng Dist., Taipei City 10041,  
Taiwan (R.O.C.), [linlyn0101@gmail.com](mailto:linlyn0101@gmail.com)

## Pilates exercise to reduce the incidence of senile falls

**CHEN Mingling**



**Background/Problem/Objective**

Fall is a long-term health effect that can lead to decreased physical function and activity, disability and even death. Pilates sports focus on the stability of the core muscles, emphasizing the waist and pelvis and torso muscle coordination control, help to promote physical balance, thus reducing the risk of falls. I provide these patients with Pilates exercise, increase their mobility and balance to reduce the incidence of falls.

**Methods/Intervention**

1.PubMed→Clinical Queries→key word: ( Prevention of falls AND Pilates exercise)→Search Therapy/Broad→Clinical Study Categories a total of 8 articles, →Systematic Reviews a total of 5 articles, read the abstract after3. 2.PubMed→Clinical Queries→key word: ( Prevention of falls AND Pilates exercise and older adults) Clinical Study Categories a total of 5 articles, read the abstract after 1.

**Results (of evaluation)**

Barker (2015) The method of integrated analysis was used to conduct a systematic review of the study. The results have a significant effect on balance, dynamic effects and dynamic static binding, with a significant reduction in the number of falls . Scholars say they can make a difference in determining Pilates's balance in the elderly. Rachel(2014) The study adopted a prospective and post-test approach, taking the Pilates exercise twice a week for 60 minutes each for eight weeks, statistically significant improvement, Thus reducing the risk of falls. Bullo et al.(2015) A systematic literature review was conducted with a comprehensive analysis of 10 studies. Literature analysis showed that Pilates exercise can enhance muscle strength, especially lower limb muscle strength, improve the balance between physical and mental ability and walking ability to enhance the functional independence of the elderly population and quality of life. Barker et al.(2016) Randomized controlled trials were used. The results showed that standing balance, muscle strength enhancement and mobility flexibility of the lower limbs were improved. That falls caused a 42% reduction in injuries and a 64% reduction in nociceptive falls.

**Conclusions/Lessons learned**

Pilates exercise emphasizes the stability and strength, balance and muscular coordination of the core muscles, improves the dynamic balance, posture stability and activity flexibility to a certain extent, and can be used for the elderly with potential risk of falls.

**Contact: CHEN Mingling**

Changhua Christian Hospital

Main hospital : 135 Nanshao Street, Changhua, 500 Taiwan

Changhua, [147251@cch.org.tw](mailto:147251@cch.org.tw)

## Session P2.9: Promoting health by ICTs and telehealth programs

### Relationship between physical activity and obesity: A smartphone-based intervention

OH Bumjo, OH Yun Hwan, LEE Chang Hee

**Background/Problem/Objective**

Recent studies on physical activity were analyzed by randomizing participants into either the intervention or control group. It is necessary to classify each intervention and control groups according to physical activity using the International Physical Activity Questionnaire (IPAQ). This was a pilot project for SmartCare Services. The intervention group, received obesity management services using a smartphone for 24 weeks, while the control group did not receive the interventions.

**Methods/Intervention**

Six anthropometric indices were analyzed: weight, BMI, waist circumference, body fat, systolic blood pressure (SBP), and diastolic blood pressure (DBP). Five laboratory tests, including fasting blood sugar (FBS), glycosylated hemoglobin (HbA1c), high-density lipoprotein cholesterol (HDL-C), total cholesterol (TC), and triglycerides (TG) were also assessed. The final 324 participants were categorized using the IPAQ questionnaire, and anthropometric indices and laboratory tests were analyzed for within-group and between-group changes from baseline to final visit.

**Results (of evaluation)**

Statistically significant decreases in the intervention group compared to the control group were observed in terms of insufficient activity(IA)(-1.6±3.03 kg vs. -0.1±1.94 kg) and moderate activity(MA) (-2.5±3.81 kg vs. -0.3±2.24 kg) for weight, IA(-0.7±1.14 kg/m2 vs. -0.2±0.93 kg/m2) and MA (-0.9±1.30 kg/m2 vs. -0.2±0.86 kg/m2) for BMI, and health-enhancing physical activity(HEPA) (-1.6±3.69 % vs. -0.1±3.15 %) for body fat. For HbA1c, HEPA in the intervention group showed significant decreases(-0.2±0.67 mg/dL vs. 0.0±0.34 mg/dL) compared to the control group.

**Conclusions/Lessons learned**

Anthropometric indices and laboratory test results were improved in the smartphone-based intervention group.

**Contact: OH Bumjo**

SMG - SNU Boramae Medical Center

20, Boramae-ro 5-gil, Dongjak-gu

07061 Seoul, [bumjo.oh@gmail.com](mailto:bumjo.oh@gmail.com)

## The Feasibility, Baseline Patient Characters and Clinical Utilization of Integrated Telemedicine as New Primary Care Model in Chronic Heart Failure in Current Era

CHEN Ying-Ju, HUNG Chung-Lieh, CHANG Wen-Ling, KO Shu-Hsiu, TSAI Jui-Peng, SUNG Kuo-Tzu

**Background/Problem/Objective**

Heart failure (HF) is a complex clinical morbidity that manifests primarily as debilitating symptoms and physical health. Herein, we present the data about the implementation of telemedicine in HF clinical care.

**Methods/Intervention**

We introduced serve models of combined vital signs monitoring and biochemical/electrical cardiac rhythm recordings, including blood pressure (BP), heart rate (HR), arterial oxyhemoglobin saturation (SaO<sub>2</sub>), blood glucose (BS), or electrocardiogram (ECG) for discharged HF patients. Telehealth nursing subspecialty provided phone call based education, data query and psychological support to patients or family members.

**Results (of evaluation)**

Enrolled 99 discharged HF patients (69% females; mean age, 75.3 years) for monitoring in the home from Jan. 2016 to Dec. 2017. Service Duration (mean 116.8 days), 2191 phone calls made (mean 22.0 times) with 49,460 data upload to cloud. Totally 23 rehospitalizations of any cause, including 7 HF rehospitalization and 3 deaths within 30 days. Death or rehospitalization from any cause was reduced by 59% (adjusted Hazard Ratio =0.41, 95% CI 0.26 to 0.66, p<0.001) for receiving regular phone calls.

**Conclusions/Lessons learned**

Home telemedicine care appears to be an emerging primary clinical service model, especially in elderly HF population. Patients who utilized more frequent phone call services in our Telemedicine center showed substantially better outcomes, indicating the requirement for phone-based activities as an alternative nursing model in such patient population.

**Contact:** CHEN Ying-ju

[ying-ju@mmh.org.tw](mailto:ying-ju@mmh.org.tw)

## Effectiveness of “Applying Multi Media materials handover in nursing shift changing” for the training of new nursing staff

**SHEN YA-LIN CHEN SHU-CHIN**

**Background/Problem/Objective**

Changing shifts is important in nursing clinical work. If handover were incorrect, incomplete information would affect the quality of nursing care and might endanger patients' life. In Taiwan, “Not knowing how to handover during changing shift” was the most common reason for new nursing staff to resign. We previously conducted an investigation on 50 new nursing staff through questionnaire: 72% was afraid of handover in shift changing and 68% have difficulties in handover. We conducted the study for improvement measures.

**Methods/Intervention**

The ISBAR to standardize handover model in shift changing were used as followings: 1. Background/Problem/Objective; 2. Situation – the current status of the patient; 3. Background – Important history, medication and treatment; 4. Assessment – The vital signs, laboratory data, and special tubes; 5. Recommendation – Follow-up and production of Multi Media materials. The Multi Media materials were posted on the hospital website. For those new nursing staff having difficulty in handovers, Multi Media materials provided further simulation to practice handover.

**Results (of evaluation)**

From August 1 to September 30, 2017, a total of 3 education and training programs were conducted. A sample of 50 new nursing staff were randomly selected to do the questionnaire survey. The questionnaire consisted of 12 items, of which, 86% felt helpful in their handover; 88% felt the teaching content were helpful in learning; 88% felt the teaching method were easier to understand. Overall satisfactory rate with “Applying Multi Media materials for handover in nursing shift changing” was 90%.

**Conclusions/Lessons learned**

After the ISBAR “Applying Multi Media materials handover in nursing shift changing” training program, the new nursing staff could handle the key points during handover and decreased their fear and anxiety. The efficiency of handover and nursing care quality of new nursing staff increased. Due to the remarkable effect, “Applying Multi Media materials for handover in nursing shift changing” is now official teaching program. The materials were posted on the hospital website for new nursing staff to simulate and practice.

**Contact:** CHEN Shu-Chin

Taipei Tzu Chi Hospital, The Buddhist Tzu chi Medi

Department of Nursing, Taipei Tzu Chi Hospital, The Buddhist

115 Taipei, [kmicu2002@gmail.com](mailto:kmicu2002@gmail.com)

## A Patient-centered Interprofessional Collaboration Computerized Platform

**CHEN Chia-Jung, LIU Chung-Feng, LIN Jing-Jia, LIU Tzu-Lan**

**Background/Problem/Objective**

Effective health care collaboration not only improves the outcomes of medical care provided to the patients, but also provides benefits to health care providers. A patient-centered communication platform is necessary and promotes interprofessional collaboration for optimal patient care.

**Methods/Intervention**

Chi Mei Medical Center organized a project to develop a patient-centered computerized platform to fulfill interprofessional collaboration needs. The platform features a spiral-shaped integrated care area and a communication area, allowing the medical team to look at the medical care that the patient receives within seven days and veritably shows whether the team members have read the communication messages. In addition, the platform also provides plentiful learning and training resources.

**Results (of evaluation)**

After a pilot adoption, the user feedback questionnaires also show a high positive appraisal of the platform.

**Conclusions/Lessons learned**

The interprofessional collaboration platform developed by Chi Mei Medical Center has been recognized by medical teams as an effective and convenient means for assisting clinical decision making. In the near future, Chi Mei Medical Center will start the migration of mobility and extend the two-way online mes-

saging functionality to achieve the ideal goal of a truly two-way interprofessional collaboration and communication.

**Contact: LIU Chung-Feng**

Chia-Na University

Taiwan, 704 Tainan, [fredliu@mail.cnu.edu.tw](mailto:fredliu@mail.cnu.edu.tw)

## A Study on the Benefits and Satisfaction of the Electronic Official Document On-line Submission and Approval System - A Case Study of a Medical Center in Southern Taiwan

**WU LIN KUN, CHEN SHIH YU , HSIA CHIA MEI, HUNG HSIU WEWU YI CHEN**

### Background/Problem/Objective

The official document is one of the most important tools to communicate opinions and promote public service for organization. In order to increase organization administration efficiency, electronic official documentation is one of the most important measures to reach the goal. This study focuses on the Cloud Document System which has been used at a hospital, exploring its user satisfaction and continuous usage intention by studying the factors of perceived usefulness, perceived ease of use, and both information and service quality.

### Methods/Intervention

A literature review and questionnaire survey has been adopted to develop a questionnaire to determine user perception and satisfaction. The target population of this study is based on the hospital workers using the Cloud Document System in southern Taiwan. Using a method of convenience sampling, 395 questionnaires have been given and a total of 147 valid ones were returned. SPSS for windows 22.0 is being used to process and analyze the information collected.

### Results (of evaluation)

Of all independent variables, usage frequency has a significant difference in perception attitude and user satisfaction. For the background variables of workers personnel, different position expresses significant difference to the dimensions of user perception and user satisfaction. User perception appears significant influence on user satisfaction. The hospital worker's perceptive attitude and satisfaction toward the Cloud Document System has a positive relationship with continuous usage intention.

### Conclusions/Lessons learned

The hospital workers agree that Cloud Document System help speed the document processing efficiency and have a strong intention to continue to use the Cloud Document System. Policies and strategies for increasing the frequency of usage are suggested to enhancing the quality of administration services and improving the happiness of workplace.

**Contact: WU Lin-Kun**

Kaohsiung Medical University Hospital

No.100 Tzyou 1st Road

807 Kaohsiung, [890005@ms.kmuh.org.tw](mailto:890005@ms.kmuh.org.tw)

## Assessing factors impacting the quality of a hospital-based telecare and telehealth service

**YANG Feng- Yueh , LAI Por, KUO Yen-Hung, YANG Feng- Nien**

### Background/Problem/Objective

This study aims to assess factors influencing the quality of telecare and telehealth service which has emerged as an important healthcare practice in the era of digital health and precision medicine.

### Methods/Intervention

In this study, we conducted a cross-sectional survey and used the Gaps Model of Service Quality for performing the Importance-Performance Analysis. During the period between Nov 2014 and Feb 2015, a total of 150 users of the hospital-based telecare and telehealth service, who had suffered from chronic diseases, were enrolled. The major vital sign monitored in this study was blood pressure.

### Results (of evaluation)

Respect to the Degree of Importance relating to the service quality, Assurance, showing a Mean=4.933, is the most concerned feature of the service, Tangibles with a Mean=4.320 is the least concerned. Degree of Satisfaction, Assurance shows the highest Mean=4.984, compared to the least Mean=4.693 obtained for Responsiveness. The Importance-Performance Analysis indicates that Assurance should be maintained continuously, and that Reliability and Responsiveness require further enhancement. The IPA also suggests that Tangibles and Empathy seem to be less critical.

### Conclusions/Lessons learned

The quality of the telecare and telehealth service appears to be generally satisfied as indicated in this study. However, service quality should be monitored regularly, as it may vary with diseases conditions and user characteristics. Potential impacts of social economic determinants on expectation and perception of the services by the users should be further investigated.

**Contact: YANG Feng-Yueh**

Kaohsiung Medical University Hospital

No.100, Tzyou 1st Road Kaohsiung 807, Taiwan

Kaohsiung, [sammivang8@gmail.com](mailto:sammivang8@gmail.com)

## The research about the service quality of registering by an operator via telephone affects people's decisions to seek medical care

**SU JIA-Chen, LIU Kun-Yi**

### Background/Problem/Objective

While people see a doctor, they will get medical service after registering in advance. Except registering at the counter and online, there are a lot of people registering by an operator via telephone. Before people see a doctor, an operator who helps

people register via telephone will be the first hospital staff. The research is about how the quality of registering by an operator via telephone influences people's willingness and right to seek medical treatment.

#### Methods/Intervention

500 questionnaires were issued to a random sample of people who came to the hospital and there were 142 people who never registered by an operator via telephone and did not finish filling out the questionnaire. Therefore, there were 358 valid samples and 142 invalid ones. The effective response rate was 71.6%.

#### Results (of evaluation)

Here are the top three shortcomings for registering by an operator via telephone according to the survey. First, 61 percent of people think that it is hard to get through to make a doctor's appointment because the phone lines are always busy. Second, 49 percent of people state that sometimes they can't get an appointment with their regular doctors or choose the appointment date and time. Third, 29 percent of people have unpleasant experiences with the operator. The result finds out that while people register by an operator via telephone, 80 percent of them will choose another time period; others will cancel the appointment or go to another hospital.

#### Conclusions/Lessons learned

Committee of Economic, Social and Cultural Rights passed through General Comment No. 14 which provides the health service for basic cure and recovery equally and timely in 2000. But if the hospital doesn't invest human resource in the hospital administration or service, people are hard to use medical resource. For example, if registering by an operator via telephone in this research doesn't content with people's need, it will lead some people change medical plan, and the hospital can't provide medical service timely.

#### Contact: SU Jia-Chen

Kaohsiung Municipal Ta-Tung Hospital  
No.68, Jhonghua 3rd Rd, Kaohsiung City, Taiwan  
Kaohsiung, [rebecca4026@yahoo.com.tw](mailto:rebecca4026@yahoo.com.tw)

## Personalized Preventive Healthcare Information Cloud Services in Taiwan

**LEE Chia-Hui, TING Hao-Yuan, CHIU Te-Hsun, CHIANG Shih-Min, CHIA Shu-Li**

#### Background/Problem/Objective

Personalized Preventive Healthcare Information Cloud Management Platform was launched in 2015 and upgraded in 2017 by Taiwan's Health Promotion Administration, Ministry of Health and Welfare. With the addition of customized health education information and reminding function of the next coming screening at public expense, this system dramatically improving public accessibility and applicability of health information.

#### Methods/Intervention

Main features: 1. People can upload their own Personal health data. 2. People can query their own data of "Preventive healthcare screening at public expense". 3. Alerts on patients missing health screening. Security mechanism: 4. We use a public and private hybrid cloud systems. Personal and confidential

data will be stored in more secure private cloud and will be encrypted before they are transmitted to IaaS. Usage: People can conveniently upload their health data by Internet of Things (IoT).

#### Results (of evaluation)

1. The world's first national PHR (Personal Health Record) platform, containing more than 100 million documents of preventive health care information and 24,000 active registered members (the feature that most people use is health score-card). 2. Open Access to Bluetooth technology to transmit health values to Preventive healthcare App and Web Platform, and in 2016 ran a Trial run on community transmission of blood pressure information, with an astonishing Satisfaction rate of 98 percent.

#### Conclusions/Lessons learned

1. Liberate the data: Taking into account of personal data security and building a supportive healthy environment, we provide query of personal health preventive screening results. 2. Empowerment: Providing customized health education information, to improve public awareness of health literacy. 3. Applying ICT (information communication technology) in the field of self-health management by combining hybrid cloud platforms, Open API and IoT technologies.

#### Contact: CHIU Xnger

Ministry of Health and Welfare  
No.36, Tacheng St., Datong Dist.  
103 Taipei City, [xnger2015@hpa.gov.tw](mailto:xnger2015@hpa.gov.tw)

## To improve the effects of medical education for inpatient and their families by utilizing QR-Code sound and vision system

**YANG WAN-ZHEN, HSU CHI-CHEN, CHIANG FANG-YING, WU TUNG-YUN, CHUANG SHU-TING CHIEN SOU-HSIN**

#### Background/Problem/Objective

Today due to the high-tech development, the video of health education can be input into QR-Code System to enable each inpatient and their families can feedback to the nursing staffs immediately and through the interaction mode to improve the effects of health education. The research focused on the comparison between the traditional way of health education and "QR-Code video System".

#### Methods/Intervention

First we have to record every health education files into QR-Code System to enable the health education become interactive mode. The inpatients and their families can make use of APP on their smart phone to download the QR-Code Software to learn medical education during their hospitalized period. We have develop questionnaires to collect feedback. The cases will be divided into two parties, one is traditional way and the other is by QR-Code Video System. The test will collect the satisfactory rate and the effects of their learning.

**Results (of evaluation)**

The result shows that the cognition effects of experimental group have been achieved 98.3% and their satisfactory rate is 95.6%, whereas the cognition effects for control group of traditional health education is 84.5% and the satisfactory rate is 88.7%.

**Conclusions/Lessons learned**

We can conclude from the above research that there is no problem to utilize "QR-Code Video System" and most of the testers feel interesting and high satisfactory rate by using their smart phone to learn. This means that it is workable to improve the effects of medical education to inpatients and their families during hospitalized period. We can manage the health of patients more efficiently by increase cognition of the patients and their families.

**Comments**

This research proceed by teaching experimental method so that there are some factors are difficult to resolve to influence the proceeding of such teaching experiment, such as the low participant wills. Therefore, we propose the following responses to improve the quality of traditional medical education. For example, we can have the attending doctors to demonstrate by themselves to increase the learning interests of the patients and their families. We can also set up a interaction platform to improve the quality of traditional medical education.

**Contact: HSU chichen**

Buddhist Tzu Chi Medical Foundation  
No.88, Ssc 1, Fengxing Rd, Tanzi Dist.Taichung,Taiwan.  
Taichung, [a0928508556@gmail.com](mailto:a0928508556@gmail.com)

## Information technology applications remind cardiovascular therapeutics are used in AMI Patients to Increase survival rates

**CHEN Li-Chin, HUANG Hsiao-Fang, CHEN Ying-Hsien, CHEN Yih-Shang, SUN Ching-Yaw, JERNG Jih-Shuin, HUANG Szu-Fen, SUN Jui-Sheng**

**Background/Problem/Objective**

Cardiovascular disease is the second most common cause of death in Taiwan. According to WHO statistics, the average death rate of acute myocardial infarction disease was 13.7-15.6%. Based on 2013 ACCF / AHA-STEMI guidelines, all STEMI patient who without contraindications suggested to be given beta-blocker and dual antiplatelet to prevent recurrence of AMI. Because of the lower rate of prescribing for AMI patient in our hospital, we called for analysis and improvement program.

**Methods/Intervention**

This was a quality improvement program, at the National Taiwan University Hospital, there are 350-450 inpatients with AMI, Physicians based on Evidence-based medicine proposed treatment guidelines, the patient must use Cardioprotective Medications and patient education. We monitor indicators for performance evaluation. Indicator 1: Beta-blocker prescribed during hospital, and indicator 2: dual antiplatelet prescribed at discharge.

Information Technology applications remind of prescribed in AMI, when patient just hospitalized, weekly, and discharge. The doctor fill in contraindications for patients who can't use.

**Results (of evaluation)**

Evaluation of the results : Measure indicator 1: Beta-blocker prescribed during hospitalization: 86.3% in 2015 increase to 94.5% in 2016 and 99.5% in 2017. Measure indicator 2: dual antiplatelet prescribed at discharge (aspirin + clopidogrel) 77.8% in 2015 increase to 88.1% in 2016 and 99.5% in 2017. The rate of drug use improve gradually. At the same time, patients receive medication education to improve the care quality.

**Conclusions/Lessons learned**

Information Technology applications remind cardiovascular therapeutics are used in AMI Patients. Informational prescription systems detect patient haven't use cardioprotective medications, and remind physicians to prescribe it. It is an effective intervention to enhance compliance of evidence-based medicine treatment guidelines (Class I, Level of Evidence B), to offer continuous care in hospital, and effective communication with medical teams. In addition, Physicians know his patient medication history and continually track compliance with medication use in outpatients to increase patient survival in AMI patients.

**Contact: CHEN Li-Chin**

[lichin@ntuh.gov.tw](mailto:lichin@ntuh.gov.tw)

## The Effects of Computerized Cognitive Training in Individuals with Stroke: A Single-Blind, Randomized Controlled Trial

**HO Hsiu-Yu, CHEN Ming-De**

**Background/Problem/Objective**

Cognitive function impairment is one of core symptoms in individuals with stroke. Given that the medical resources and manpower are becoming limited, computerized cognitive training (CCT) may be an alternative. Therefore, the purposes of this research are to examine the effects of CCT on different domains of cognition function and quality of life in stroke survivors, as well as to compare the effects of CCT with of conventional cognition exercises.

**Methods/Intervention**

A single-blind, randomized controlled design was used. Participants were recruited from the Department of Rehabilitation at Kaohsiung Municipal Ta-Tung Hospital, Kaohsiung City, Taiwan. Lumosity software was used in the CCT. Meanwhile, computer was equipped with touch screen to increase the computer accessibility. The control group had the conventional cognition exercises in the occupational therapy sessions. Participants in each group completed a total of 24 sessions. Each participant was evaluated at baseline, post-intervention, and 4 weeks after the end of intervention.

**Results (of evaluation)**

In cognitive tests, the CCT experimental group had significance difference in Backward Digit Span Test (DST) and Montreal Cognitive Assessment (MoCA) between the post-test and base-



line. Moreover, the CCT group had significance difference in attention item of MoCA and in Forward DST between the follow-up and baseline. In terms of quality of life, there were significance differences in emotion and participation items of Stroke Impact Scale(SIS) between the post-test and baseline. The control group had significance difference in delayed memory of MoCA between the follow-up and baseline. In terms of quality of life, there were significance in strength and communication items of SIS between the follow-up and baseline.

#### Conclusions/Lessons learned

Both of groups showed progress in cognition and quality of life test section. Through the intervention of Lumosity software, digit span and emotion could improve faster than the conventional occupational therapy during post-test phase. On the contrary, control group show progress in delayed memory, strength and communication until follow-up phase. The results of this study shed light on the best choice for cognitive training in stroke survivors and form a much appreciated basis for future studies in this regard.

**Contact: HO Hsiu-Yu**

Kaohsiung Municipal Ta-Tung Hospital  
No.68, Zhonghua 3rd Rd, Cianjin District, Kaohsiung City 80145,  
Taiwan, 80145 Kaohsiung, [r74159r74159@gmail.com](mailto:r74159r74159@gmail.com)

## The Implementation of Electronic Form of Clinical Pathway

**LIN Chia-Kuei, LI Yu-Tzu, HUANG Szu-Fen, CHEN Li-Chin, HSU Ya-Ting, SUN Jui-Sheng**

#### Background/Problem/Objective

Before 2015, we monitored clinical pathway by the staffs, who record on paper-based checklist. Every month, the records of patients from the wards are collected by Center for Quality Management. The center will then feedback the unit with statistical results of certain pathways. Since 2015, the Center started to change the hand-written pathway to electronic records. The aims of this project are to reduce unnecessary duplication of clinical records, use systematic audits to replace manual records, and instant feedback.

#### Methods/Intervention

Set the commonly used order package: Refer to the clinical pathway guidelines, coordinate with clinicians to set up order package of each pathway. Informatization daily care items: Interface different systems, collect data in a clinical pathway electronic record form. This form shows whether the care items are completed. Monitoring clinical pathway variation: After setting up order package and daily care items, we can monitor each patient entering clinical pathway. After discharge, we can export the electronic records, immediately feedback clinical units.

#### Results (of evaluation)

Convenience: The clinical pathway form can automatically collect data, thus clinicians do not need to record repeatedly. This has enhanced the willingness of clinicians using the clinical pathway form. Immediacy: Right after the patient receive clinical pathway order from the physician, the nurse can open the clinical pathway form in nursing system, to inquire whether the daily care items are completed. The frequency we aggregate

the statistical results of the patients' variations enhanced from monthly to weekly. Accuracy: In 2016, there were 14 clinical pathway transform to electronic form, and total 2,310 patients entered clinical pathways. The most common variation from the original path is "number of days in hospital". In general, the variations have a decreasing trend.

#### Conclusions/Lessons learned

The development of the electronic record form of clinical pathway enhanced the convenience of clinicians, immediacy and accuracy of the records. The number of patients who used clinical pathway effectively increased after we implement the electronic form. The additional value is that we cut paper waste and keep the records in the hospital-wide system so that healthcare staffs and check the records all the time. This model can also be applied to other hospitals.

**Contact: LIN Chia-Kuei**

[linck@ntuh.gov.tw](mailto:linck@ntuh.gov.tw)

## National Health Insurance electronic referral platform system

**YANG Chih Ya, YANG Pei Chen, CHEN Ying Hui, CHEN Wan Ling, LIU Yi-Lien**

#### Background/Problem/Objective

The government actively promoted graded medical care and two-way referrals. Sending minor disease cases to peripheral clinics, and serious illnesses to large hospitals through the "National Health Insurance Electronic Referral Platform" (NHIERP), thereby providing the most appropriate care for the patients. Before the Health Information System (HIS) was connected to the electronic referral platform, Physicians would reply the referral results within 90 days.

#### Methods/Intervention

After the official launch of the "NHIERP" system, the HIS system was opened and linked with the system information of the electronic referral platform. Now, the physician can fill out the referral field in the HIS system and then switch to the electronic referral platform to fill out the referral order again. This increases the referral willingness of primary clinics while enhancing the response rate of physicians in hospitals.

#### Results (of evaluation)

A total of 434 replies to the referral system from April to November 2017 were analyzed. Among them, 71 were manual replies before the system was connected. The response rate was 16.4%. In November, 154 replies were received after the system was shelved. The response rate was 35.5%. The overall number of replies increased by 53.9% and the response rate increased by 19.1%.

#### Conclusions/Lessons learned

In the past when a patient was referred to our hospital, a nurse had to ask the physician to reply to the referral demand. After implementation of the NHIERP system connection in November, the replying time was significantly reduced, so that the back-end referral institution can immediately learn about the information transfer to the hospital, improving the referral system performance.

**Contact: EVE Chiu**

Min-Sheng General Hospital, 168 Ching-Kuo Rd., 33044 Taoyuan City, [a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## Exploring the continuity of tele-healthcare: the experience from a medical system in southern Taiwan

**KUO Yen-hung, WENG Rhay-hung, CHEN Ling-sui, YEN Shu-Yu, LIN Ssu-yen**

### Background/Problem/Objective

With the highly prevalence of information and communication technology on the living life in Taiwan, it has been seen the foundation of developing technology enabled healthcare. Considering the enhancement of comprehensive on healthcare services, telehealthcare provides 24-hour monitoring and seamless service to make a better continuity of care. That is, the research purpose is to explore the continuity of tele-healthcare.

### Methods/Intervention

The research sample was enrolled based on the patients from the center of telehealthcare and the department of Neurology in a medical center in southern Taiwan. The data was collected with well-trained surveyors by a structured questionnaire. A total of 345 participants were enrolled in the study by the recruitment of volunteer patients with chronic diseases. This study has been registered in the clinical trial (KMUHIRB-20150007).

### Results (of evaluation)

The continuity of telehealthcare consists of four constructs, and sequentially are named "relational continuity (with a mean value of 4.24)", "team and cross boundary continuity (with a mean value of 3.95)", and "longitudinal continuity (with a mean value of 3.18)", and "flexible continuity (with a mean value of 1.67)". Through the multiple linear regression analysis, it shows the most effect of continuity of telehealthcare is the construct of the flexible continuity ( $r^2=0.92$ ,  $p=0.001$ ); relatively the least effect is the relational continuity ( $r^2=0.2$ ;  $p=0.001$ ). The perceived service satisfaction is full mediated by the continuity of telehealthcare.

### Conclusions/Lessons learned

Telehealthcare can enhance the patients' service satisfaction by improving the flexible continuity comparing to the regular healthcare. We provide some suggestion for further research.

**Contact: KUO Yen-hung**

Chia Nan University of Pharmacy and Science (CNU)  
No.60, Sec. 1, Erren Rd., Rende Dist.  
Tainan City 71710, [phielk@gmail.com](mailto:phielk@gmail.com)

## Feasibility of a novel tele-eye care protocol for ocular diseases detection among the disable in the community settings

**WOUNG Lin-Chung, TSAI Ching-Yao, TSAI I-Lun, CHEN Chung-Sen, CHUNG Hui-Chuan**

### Background/Problem/Objective

Tele-eye care can empower the abilities for remote ocular diseases detection and eye care, especially for the rural patients. Our study evaluates whether it is feasible to integrate mobile eye-screening devices with existing community-based services for the disabled at home visits in Taipei.

### Methods/Intervention

A collaborative service was established with our local communities and delivered with handheld screening equipment. Thirty-two subjects underwent the tele-eye protocol by the general practitioners and then rechecked by the ophthalmologists. The investigators reviewed and compared the exam results between the general practitioners and the ophthalmologists. Percentage agreement was calculated for the tele-eye protocol, focusing on the age-related eye diseases.

### Results (of evaluation)

Disabled and consenting patients at home visits were checked and enrolled. Our pilot study demonstrated excellent agreement between the general practitioners and the ophthalmologists. The percentage agreements for all kinds of age-related eye diseases were excellent.

### Conclusions/Lessons learned

Our preliminary data reveals that the novel tele-eye protocol for the disabled at home visits is feasible to conduct with fair agreement between the general practitioners and the ophthalmologists. Although, the study is limited by the small sample size, it provides justification of a larger study of a similar design in the future.

**Contact: WOUNG Lin-Chung**

Taipei City Hospital, NO.145, Zheng-Zhou Road, Taipei, Taiwan, R.O.C., Taipei, [wounglc@tpech.gov.tw](mailto:wounglc@tpech.gov.tw)

## Improving the Teaching Ability of Clinical Teachers on Making Teaching Materials: Using 3C Technology as an Example

**CHANG Li-Chen, LI Dai-Ni, YANG Hsin-Yi**

### Background/Problem/Objective

In order to help the clinical teachers to make teaching materials for the interns, the Media Center of our hospital provides a training program. This program, designed by the staffs of Media Center, includes taking photography, editing, and scriptwriting. This program aims to train the clinical teachers to use a mobile phone with the photograph function for making the teaching video materials. This study was conducted to determine satisfaction and expectation with the program among trainees.

### Methods/Intervention

A questionnaire survey was conducted from April to June 2017. A self-designed questionnaire according to a five-point Likert-type scale was used to obtain data. The higher the score, the

higher the level of satisfaction on courses. A total of 206 participants were collected, including 171 (83.0%) females and 35(17%) males. The job categories were 6 (2.0%) doctors, 53(25.7%) nurses, 53 (25.7%) medical personnel, 59 (28.6%) administration staffs and the others 35(17.0%).

#### Results (of evaluation)

1. Learning satisfaction analysis Respectively, average scale of satisfaction on teacher teaching factor was the highest, which is mean=4.44, course content factor was 4.40, self-assessment factor was 4.38, and that the mean on overall satisfaction was 4.44. 2. Understanding the needs regarding the training course Trainees' feedbacks on open questions shows their expectations for the courses, such as editing, soundtrack, documentary, and photography.

#### Conclusions/Lessons learned

In the hospital, there are many professionals in various fields who may also be the teachers, and the hospital may offer the necessary fields of practice. Arranging the cross-disciplinary and non-medical training courses is the good way to establish the inter-medical team relationships among colleagues. It is also profitable for improving the quality of teaching on different professions in the hospital.

**Contact: CHANG Li Chen**

CHIA-YI CHRISTIAN HOSPITAL

No.539,Zhongxiao Rd.,East Dist.,Chiayi City 60002,Taiwan(R.O

CHIA-YI, [changlichen7@gmail.com](mailto:changlichen7@gmail.com)

## Patient-centered automation system for cerebrovascular accident data-base

**WANG Hsuan-Yu, CHAO Kang-I, WOUNG Lin-Chung, HUANG Yin-Zhuang, YEH Yu-Yi, HSU Shih-Hsin, CHOU Hung-Lieh**

#### Background/Problem/Objective

Patient-centered healthcare (PCH) is one of the hospitals' aims, but medical practitioners who are increasingly working with more patients do not have more time to devote to each patient (Schlueter and DeSarra, 2000). A friendly and easily operating mode of healthcare information system can increase medical practitioners consultation time (Zhang et al., 2017). In order to provide a more convenient healthcare information system, this project proposes to develop an automation system for cerebrovascular accident database.

#### Methods/Intervention

This project was to develop the automation system for cerebrovascular accident database with the following Taipei City Hospital's frame. When the patient admitted to the Emergency Room due to cerebrovascular accident, the system can discriminate which patient was suspected to be cerebrovascular accident, such as unconscious, altered level of consciousness, etc.. Under the premise, the system will record in cerebrovascular accident database automatically.

#### Results (of evaluation)

This system can automatically complete the records from the beginning of the admission, medical practitioners can focus on treating the patient, and medical practitioners have to confirm

records afterwards. Taipei City Hospital has already started testing this system.

#### Conclusions/Lessons learned

The system is considered as a support that can assist the medical practitioners for all the paperwork. The complete data of cerebrovascular accident could assist future researches and promote quality for person-centered healthcare.

**Contact: WANG HSUAN-YU**

Taipei City Hospital

No.145, Cheng Chou Road.,

10341 Taipei, [hido1519@hotmail.com](mailto:hido1519@hotmail.com)

## The smart phone-modified health education mode

**LEE Yi-Lien, HU Ya-Han**

#### Background/Problem/Objective

The conventional health education mode usually with outlines or icons is monotonous and hardly appealing. Contemporarily, smart phones are fairly common. Thus, the smart phones-helped health multieducation mode for fitting the different community requisites and properties and concludingly promoting the participation and completion rate of health promotion activity attained the self care.

#### Methods/Intervention

The classified community health multieducation mode January 1 to June 30, 2017, entirely 6 months monthly, in the 120 cases was: conventional; smart phone-radiated. The difference in the rate of the program participation and satisfaction, and self care cognition test completion was compared monthly.

#### Results (of evaluation)

Statistically, the rate of the program participation and satisfaction, and self-care cognition test completion in the latter group was over 92%; that in the former group, only about 50%. In the groups, the age, occupation, and sex differed significantly ( $P<0.05$ ). Thence, the effect of the smart phone- diversified mode on developing the self care was striking

#### Conclusions/Lessons learned

The Taiwan smart phone owning rate was over 90%. The dependence rate augmented daily. Therefore, the mode for suiting the society alterations and community needs altered with the settings. The project accomplished the inpatient and outpatient health multieducation by the smart phones-provided instant messages and knowledge.

**Contact: LEE Yi-Lien**

Chi Mei Medical Center

No. 901 Zhonghua Road

Tainan, [su67015@gmail.com](mailto:su67015@gmail.com)

## A Research of Information System Implementation on Regulating the Prescription of Controlled Drugs-

## Case Study in a Regional Hospital in North Taiwan

**LI Ling-May, LIN Yu-wen, YANG Nan-ping, LIN Ching-feng**

### Background/Problem/Objective

People are under more pressure nowadays and their lives are becoming increasingly stressful. More and more people suffer from insomnia and relying on sleeping pills to maintain their sleeping quality. However, long-term use may cause people to become psychologically dependent on the medicine. The National Health Insurance Administration (NHIA), Ministry of Health and Welfare has set up "Inquiries on Specific Medical Information for Insurance Objects" from January 2012. Any hypnotic medication such as XemiNax and ZopliDem should be registered and given medical counselation.

### Methods/Intervention

This study aims to obtain a monthly descriptive statistics analysis of the number of XuremiNax, ZopliDem and the number of patients visiting doctors from the beginning of 2015. At the beginning of 2015, XuremiNax, ZopliDem and other two sedatives were registered online to ensure that the individuals have medicine left according to the information query system online.

### Results (of evaluation)

In 2015, due to the prescription of XemiNax and ZopliDem led to the number of 16,740 medical attendances. In 2017, the number of people seeking medical treatment was 13,465. Because of the information system, the prescription of XemiNax and ZopliDem dropped by 19.6%. In 2015, there were 1,635,752 cents of XemiNax and ZopliDem being prescript. In 2017, the number of prescription cents dropped to 1,114,204, a decrease of 31.9%.

### Conclusions/Lessons learned

Patients as being prescript XemiNax (ZopliDem) was set up before seeking medical treatment, information systems were used to inquire whether the sleeping pills were to be repeatedly prescript. This study shows that the annual number of patients receiving medical hypnotics and the number of sleeping pills dropped by year and year. Since drug abuse would cause health and social problems, the survey is worth of conducting and promoted continually.

### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268  
201 Keelung, [chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Development of a mobile application for tailored health behavior intervention to manage metabolic syndrome

**KANG Jiwan , KIM Jiye, KIM Harim, KO Juyeon, KIM Yuri, KO Kwangsuk , LEE Minsoo, KIM Hyekyeong**

### Background/Problem/Objective

Chronic diseases are major deaths and disability factors in Korea. As lifestyle risk factors for chronic diseases, health risk behavior factors are associated with other behavioral factors and represent cluster phenomena. It is therefore necessary to develop a coaching program that can deal with multifactorial factors. Since Korea has a high penetration rate of smartphones, mobile applications can be a suitable among the various mediation tools. The purpose of this study is to prevent and manage the metabolic syndrome by developing a coaching application for Korean adults based on the theory of health behaviors.

### Methods/Intervention

The multidimensional interventions for improving the behaviors of the individual were constructed based on the analysis results obtained from the examinees who visited the health screening centers in Korea. We developed the contents of application which based on health belief model, reasoned behavior theory, learning theory, self regulation theory as personal level and social cognitive theory for interpersonal level.

### Results (of evaluation)

The areas of improvement were selected as hypertension, diabetes, obesity, triglyceride, high density cholesterol and metabolic syndrome. Considering the level of intervention and the components of the health behavior theory, we developed recommendations for the diagnosis and management of the risk level of the subjects. Behavioral change targets were improving diet/eating behaviors and physical activity for healthy weight loss.

### Conclusions/Lessons learned

The developed application reflecting the factors of the health behavior of Korean adults will be useful for the prevention and management of the metabolic syndrome. We will apply the newly developed contents to Korean adult metabolic syndrome risk subjects as an intervention tool to improve lifestyle and health condition.

### Contact: KIM Hyekyeong

Ewha Womans University  
52, Ewhayeodae-gil, Seodaemun-gu  
03760 Seoul, [hkkim@ewha.ac.kr](mailto:hkkim@ewha.ac.kr)

## Session P2.10: Reorienting health services

### The Relationships among Perceived Risk, Brand Trust, Herd behavior and Help-seeking intention: The Case of A Hospital in Taiwan.

**LIN Yi-Hsuan**

### Background/Problem/Objective

Since the healthcare system of Taiwan was carried out in 1995, it has brought about significant changes in the structure of the medical industry. As The Department of Health and Health Insurance Bureau promotes transparency and access to public

information in the healthcare industry, the public are able to exercise choice among the variety of health service providers under the free-market healthcare. However, it has a profound impact on how hospitals are operated.

#### Methods/Intervention

This research is to reveal how Perceived Risk, Brand Trust, and Herd behavior are related to patients' intention to return for medical treatment from patients' point of view. Through the analysis of factors which influence patients' intention to return, the medical organizations can further implement quality improvement strategies in response to patients' need, and provide excellent healthcare services.

#### Results (of evaluation)

Based on the survey of 347 respondents, the study finds that in terms of the types of Perceived Risk, performance risk, psychological risk, physical risk, and time risk all have a strong negative correlation with help-seeking intention; in terms of Herd Behavior, normative and informational social influences are highly correlated to help-seeking Intention. On the other hand, considering Brand Trust as a mediator, the analysis of the survey also reveals that Brand Trust obviously mediates not only the relationship between Perceived Risk and help-seeking Intention but also the relationship between Herd Behavior and Help-seeking Intention.

#### Conclusions/Lessons learned

Considering the challenges the medical industry faces, it is no doubt that hospital administrators have to realize the importance of building brand trust and developing the trusting relationship with patients. As the research concludes, by using the influential factors which improve patient retention, hospitals can be managed more effectively

#### Comments

This research is to reveal how Perceived Risk, Brand Trust, and Herd behavior are related to patients' intention to return for medical treatment from patients' point of view. Through the analysis of factors which influence patients' intention to return, the medical organizations can further implement quality improvement strategies in response to patients' need, and provide excellent healthcare services.

#### Contact: LIN Yi-Hsuan

Kaohsiung Municipal United Hospital  
No.976, Zhonghua 1st Rd., Gushan Dist., Kaohsiung City 804,  
Taiwan (R.O.C.), Kaohsiung, [s87108011@gmail.com](mailto:s87108011@gmail.com)

## From female viewpoint to construct female-friendly medical environment

**FU Zi-Zhen , LAI Chun-Huang, HUANG Chi-Cheng, CHEN Jin-Yun , SUN Feng-Qing, SUN Wei-Qing LAI Wen-De**

#### Background/Problem/Objective

Along with female movement in Taiwan to fight for their own rights actively, our hospital share experience of promoting female-friendly medical and hope more hospitals can implement female-friendly medical. We construct female related

health policy from female medical treatment viewpoint and execute policy from top to bottom to comprehensively promote female-friendly environment. Hope medical field can create friendly medical environment by promoting female-friendly medical to offer female proper cure and care.

#### Methods/Intervention

1.Hospital representative and female group together to form a committee, support to construct female-friendly medical environment, female members above 2/3. 2.Hire female people to act as secret guest and audit secretly non-timed. 3.Periodically implement satisfactory questionnaire survey, target on female medical treatment and hospital volunteer. 4.Obstetrics and Gynecology, Breast Surgery Clinic Waiting room and Breast feeding room provide opinion boxes and special line service. 5.Set female-support group to hold female-group seminar related activities and learn each other by opinions exchange.

#### Results (of evaluation)

1.Female get medical advice environment satisfactory survey twice/year, average satisfactory rate is 86.12% 2.Female complaint incident average 0.67%, decreased 0.25%. 3.Hold 11events/year of female-related health education and training to employees, 1504 attendants, satisfactory rate 90.82% 4.Set female health-promotive support group(Breast cancer, diabetes, menopause female group), seminar of group opinions exchange are held 15 events/231 persons, satisfactory rate 97.0%

#### Conclusions/Lessons learned

Except emphasis of value from female viewpoint to check if meet the needs of female, listen to female voice and develop the female-friendly medical environment more implemented, polybasic and creative, our hospital has all employees taking on-the-job education, to enhance the knowledge of female-friendly medical environment. We also attend the city government evaluation on female-friendly medical environment so that to act as basis for improving shortage on both hardware and software of hospital.

#### Comments

To understand female medical experience from female viewpoint can provide female more humanized medical environment and satisfy female with full knowledge, autonomy and respect right during medical process.

#### Contact: HUANG Chi Cheng

Kaohsiung Municipal United Hospital  
No.976, Zhonghua 1st Rd., Gushan Dist  
80457 Kaohsiung, [gracsweet@yahoo.com.tw](mailto:gracsweet@yahoo.com.tw)

## Apply the Strategy of Propaganda By Walking Around to Enhance Staff's Awareness of Health Promotion Policy in Changhua Christian Hospital

**CHEN Pei-Jyun, HUANG Pei-Ju, NIEN Yu-Ting, TSAI Yi-Fang, CHEN Li-Ya, HUANG I-Ling**



**Background/Problem/Objective**

We offered health promotion monthly by e-mail and electric poster in Changhua Christian Hospital, Taiwan. According to the questionnaires investigation about personnel health behavior and management in 2016, ratio of awareness of health promotion policy occupies 85.4% in Changhua Christian Hospital. We plan to apply the new strategy of propaganda by walking around to enhance staff's awareness of health promotion policy in changhua christian hospital.

**Methods/Intervention**

There was total 319 departments in Changhua Christian Hospital. We made billboard for health defense and health promotion policy propaganda on phone by occupational health care division, including maternal health promotion, abnormal workload to promote disease prevention, human injury prevention program, unlawful invasion prevention program and psychological counseling services program. After propaganda by walking around, we held sweepstakes to improve staff's interest and provided face-to-face consultation of health policy.

**Results (of evaluation)**

According to statistics, the propaganda by walking around extended to 1026 staffs within 70 departments in 2017. We held the questionnaires investigation about personnel health behavior and management during Sep. 2017 to Oct. 2017. The result revealed that the ratio of awareness of health promotion policy occupies 91.94%. Compared with 2016, it was increased 6.54%.

**Conclusions/Lessons learned**

Workplace health promotion is increasingly valued in Taiwan. We applied the strategy of propaganda by walking around to enhance staff's awareness of health promotion policy. The result showed that proactive engagement with employees is effective. We will keep the strategy in the future.

**Contact: CHEN Pei-Jyun**

Changhua Christian Hospital, Taiwan  
135 Nansiao Street, Changhua, 500 Taiwan  
500 Changhua, [eyu139@yahoo.com.tw](mailto:eyu139@yahoo.com.tw)

## The comprehensive effort to apply health promotion concepts across all areas of the first citizen-initiated public hospital to be opened in 2019: the project report of HPH Task Force Team of Seongnam Citizens Medical Center

**AHN Misook, KIM Inja, SHIN Yongju, JI Sungil, JUNG Taebong, LEE Jeongwon**

**Background/Problem/Objective**

As the first citizen-initiated hospital, Seongnam Citizens Medical Center (SCMC), a 500 - bed general hospital, is expected to play leading roles in public care sector. In an effort to perform the roles, SCMC joined HPH network in March and set out Task Force Team (TFT), followed by setting 5 missions with different goals each year. For 2017, the goal was to increase awareness

of HPH concepts and health status of a pre-opening working group of all 61 staffs.

**Methods/Intervention**

To increase awareness of HPH concepts, TFT provided education programs three times. For staffs, first, anti-smoking education for all staffs and a 3-month smoking cessation program for 8 smokers were delivered. Second, a video-guided 15-minute exercise program was provided in the afternoon everyday for two months. Lastly, flu vaccination and designation of Health zone with self-taking blood pressure kit were done. To evaluate those works, Online questionnaire survey was conducted.

**Results (of evaluation)**

The survey showed that 40 of 49 respondents were aware of the necessity of applying health promotion concepts to SCMC, and 45 staffs hoped to participate in health promoting works. Continuous education and program participation were most answered as ways for increasing awareness. While 30 people were satisfied with education program, the number of smokers who were satisfied with smoking cessation program was 4 out of 6 smoker respondents. Also, daily exercise program was the best program of the year.

**Conclusions/Lessons learned**

In conclusion, with the systemic effort of HPH Task Force Team (TFT), it seems that concepts of HPH started to seep into mind of staffs, which is a starting point to put the concepts of HPH into action. With the advantage of a pre-opening hospital, SCMC will do its best to proliferate HPH concepts and strategies to its organization and culture so that SCMC is born to be a genuine health promoting hospital.

**Contact: AHN Misook**

[icare@naver.com](mailto:icare@naver.com)

## Supporting good hospital climate

**VLACHOVÁ Marie, NOVÁKOVÁ Jana, POLÁŠKOVÁ Klára**

**Background/Problem/Objective**

We are successful in creating the healthy climate in the hospital thanks to involving suitable activities for patients, visitors and employees. The most popular activities are the walks within the Prague surroundings, the chorus AkorD performances, setting up libraries in the hospital area and other similar activities. We are happy to support the tradition which is successfully being established around these projects and activities.

**Methods/Intervention**

The walks are organized regularly every second Saturday in the month, plan of the route is issued together with the transportation information. Each walk is led by one of the employees as a guide. We cooperate with the secondhand bookshop to improve our libraries. We regularly supplement our four libraries and we are working on creating more upon request. The chorus AkorD regularly meets once a week, the public performances are organized monthly. The evaluation of this project is done by questionnaires filled in by patients and employees.

**Results (of evaluation)**

The project will be finished in November 2018 and we will be able to evaluate the benefit of the activities. Our aim is to create a pleasant atmosphere within the hospital but also

when meeting outside of work. For example when patients can listen to choir performances, in general these activities help to release patients, visitors and employees from their current problems. Employees improve their mood during the walks. In December 2017 we organized special thematic walk for employees's children. The chorus also had special Christmas performance with carol singing.

#### Conclusions/Lessons learned

These projects and activities help to create friendly atmosphere in the hospital. The regular walks help to improve physical condition of the employees - they are alternative or additional physical activity for the employees and their families. The libraries are being more and more popular, the books are used also by the hospital volunteers when they read to the patients. We are highly motivated for more similar projects which enhance the good hospital climate. As our hospital is the biggest in the Czech Republic, all these activities extensively help to make the community of patients, hospital visitors and employees closer.

**Contact: NOVAKOVA Jana**

Motol University Hospital

V Úvalu, 15006 Praha 5, [klara.lesage@gmail.com](mailto:klara.lesage@gmail.com)

## Project "Visitare": Promoting quality and safety in health care through professionals' involvement

**MASTRANGELO Stefano, VERCILLI Francesco, BACCARANI Erica, CAROLI Roberto, COSTI Dorella, GENTILE Cinzia, MARMONTI Rossana, ZAMBONELLI Vilma**

#### Background/Problem/Objective

Professional's involvement in promoting safety is a basic element for improving quality of care. This project, is based on Frankel's Safety walk-around model. It entails a series of "visits" that the clinical risk manager, the quality manager and health workers undertake in order to identify gaps related to safety and quality of care. The aim of this project was to reduce the gap between recommendations on safety in health care and the professionals' actual adherence. Specific objectives were: i) to promote the connection between security networks in the organisation; ii) to verify the level of implementation patient and health worker safety recommendations, iii) to identify any critical issues related to adverse events and risk factors, iv) to favour communication and interdisciplinary relationship between health professionals.

#### Methods/Intervention

A professionals team, identified by the board management, made concerted visits to selected hospital units, during which, using checklists and structured forms, information was gathered, through direct observation and interviews addressed to on site health workers. Observations focussed on the main recommendations for patient safety and good practices for health workers safety. At the end of the visits, feasible measures to improve patient safety were identified and shared with professionals involved.

#### Results (of evaluation)

In 2016 and 2017, 5 visits were made to the wards of medicine, long-term care, surgery and orthopaedics. The recommendations explored were: right patient identification, safety drugs management, surgical site infection prophylaxis, transfusion/blood component accidents prevention, falls risks prevention, bed sore prevention, workers' safety for devices uses (needles, sharp, etc.), actions to promote adherence to hand hygiene. The information gathered in the "visitare" project allowed to define improvement actions. Out of 25 improvement actions, 16 were implemented, 4 are going to be implemented and 5 postponed.

#### Conclusions/Lessons learned

The project, steadily supervised by the risk manager, contributed to improve the level of quality and safety for patients and workers. As many critical issues need to be addressed in a multidisciplinary way, the project strategy promoted teamwork and offered the opportunity for the team to work together to promote patient safety. Finally, this project contributed to improve the culture safety among workers.

**Contact: MASTRANGELO Stefano**

Azienda Unità sanitaria di Reggio Emilia

Via Amendola, 2, 42121 REGGIO EMILIA,

[stefano.mastrangelo@ausl.re.it](mailto:stefano.mastrangelo@ausl.re.it)

## The Optimization Strategies to Promote The Hospital-based Cancer Screen

**LIAO YI-HUNG, HSU LU-YIN, LI DIAN-KUN, HUNG CHAO-CHEN, LO CHING-HSUANCHIEN SHOU-HSIN**

#### Background/Problem/Objective

Cancer is the leading cause of mortality in Taiwan. The government set the annual target number of cancer screen and quality control policy for every hospital and inspected the results of cancer screen every year. To promote the cancer screen in our hospital we developed the optimization strategies in the cancer screen of colon cancer, oral cancer, cervical cancer and breast cancer.

#### Methods/Intervention

For the process optimization, we set the automatic computerized system which is real time connecting to the cloud system of national Health Promotion Administration. The system checked the screen criteria, including gender, age and cancer risk for inpatients and outpatients immediately and print the screen sheet. We set up the referral protocol including registration, appointment, and guiding and cancer screen counters at the main lobby, administration, and outpatient clinic. The referral were managed by specialists. We also cooperated with the department of community medicine and supported the public health education. We joined the activities of quality control circle and total quality management held by the department of patient safety to improve our cancer screen. There was a new board of cancer screen to guide and monitor the work of cancer screen.

**Results (of evaluation)**

The case number of cancer screen increased from 13000 in 2010 to 23000 in 2016. The case number of positive cancer screen increased from 581 in 2010 to 1326 in 2016. The number of confirmed cancer patients increased from 20 in 2010 to 54 in 2016. The 72 percent of confirmed cancer patients were carcinoma in situ, stage I and stage II.

**Conclusions/Lessons learned**

We implanted different kinds of optimization strategies to promote the cancer screen in our hospital. These works improved the efficacy of cancer screen. And more early stage cancer patients could be diagnosed earlier.

**Contact: LO Ching-Hsuan**

Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical  
No.88, Sec. 1, Fengxing Rd., Tanzi Dist., Taichung City  
42743 Taichung, [tc1292001@tzuchi.com.tw](mailto:tc1292001@tzuchi.com.tw)

## Analysis on the Change of Complaint Pipelines used by Patients: Taking a Regional Hospital in Southern Taiwan as an Example

**JAO Chih Yuan, CHANG Li-Chen, LIN Wu-Pin, YANG Hsin-Yi, CHEN Solomon Chih-Cheng**

**Background/Problem/Objective**

Along with the rise of consumers awareness of rights, the expectations of the public for medical care have surpassed the medical profession itself. While they have some questions or dissatisfactions with medical process, they look forward the hospital to give timely or immediate answers. How to understand the general public's needs and provide efficient response that hopes to establish a more friendly communication between the hospital with the general public is one major task of the hospital customer service department.

**Methods/Intervention**

The objective of this study was to analyze the change of general public using the grievance system. We conducted a prospective study from 2011 through 2016, and analyzed the reports of the public comments that were recorded by a customer service department in a regional teaching hospital located in southern Taiwan.

**Results (of evaluation)**

The average number of the general public complaints was 2,787 per year. There are six complaint channels including opinion sheet, telephone, letters, on site, e-mail and fax. The trend of change among various complaint pipelines were: decreasing percentages of opinion sheet from 72.5% to 63.4%, increasing percentages of telephone from 11.5% to 23.1%, increasing percentages of on-site from 1.7% to 3.4%. The percentages of the others including letters, e-mail and fax were relatively low.

**Conclusions/Lessons learned**

According to the results of the study, we realized that the ways of the general public's complaint had changed. In the past, the general public expressed their opinions by opinion sheets which

usually waited for response passively. Recently, the general public tend to use phone and on-site expression which can get immediate response. Accordingly, we suggest to establish a more friendly and active interaction mechanism with the general public, as well as to design the abnormal event notification system.

**Contact: JAO Chih Yuan**

Ditmanson Medical Foundation Chia-Yi Christian Hospital  
No.539, Zhongxiao Rd., East Dist., Chiayi City  
60002, Taiwan (R.O.C), 600 Chiayi City, [13155@cych.org.tw](mailto:13155@cych.org.tw)

## Integration of health and welfare promotion into home care for older people and informal care in all age groups

**HYTYIÄ Arja, ALANNE Soili, REKIARO Mat-tiSAARINEN Anneli**

**Background/Problem/Objective**

The strengthening of everyday services, medical care and care provided by relatives for patients living at home was included in the programme for Prime Minister Juha Sipilä's government published in 2015, and the need for customized support, preventive measures and personalized service chains is emphasized all the more in regions with an ageing population and high dependency ratio. Home care service chains and guidance of older people and informal care should be supplemented with preventive measures, and the promotion of health and welfare should be systematically organized in an interdepartmental, multiprofessional and essentially practical manner.

**Methods/Intervention**

A multiprofessional, interdepartmental working group is able to rely on experience as well as expertise and can use this to achieve integration and a patient-centred approach. It is also possible for working groups to coordinate their activities in order to support each other. In this way it is possible to add a preventive aspect to patient guidance, gerontological social work, outsourced services, home care for the elderly, persons caring for relatives of all ages, home rehabilitation, home child care, computer and technological services and housing and to support the adoption of such measures by means of media campaigns.

**Results (of evaluation)**

Case-based approach has made it possible to achieve greater efficiency in the planning of customized services. Decision-making and the adoption of the basic areal model at the local and regional government levels can be supported through the media and by means of working groups.

**Conclusions/Lessons learned**

It is the government's aim in this respect to promote health and reduce discrimination. The reorganization of services, the adoption of consistent practices, the achievement of regional equality and reduction of the demand for medical and social services all require bold strategic choices to be made.

**Contact: HYTYIÄ Arja**

[arja.hyytia@epshp.fi](mailto:arja.hyytia@epshp.fi)

## Employment rate and predictors of return to work in European cancer survivors: a systematic review

**COSTI Stefania, PALTRINIERI Sara, FUGAZZARO Stefania, BERTOZZI Lucia, BASSI Chiara, PELLEGRINI Martina, VICENTINI Massimo, MAZZINI Elisa**

### Background/Problem/Objective

Cancer incidence and survival are both increasing. Patients treated for cancer experience pain, fatigue, cognitive dysfunction, and mood disorders that may adversely affect social participation. Over 1/3 of cancer survivors (CSs) are in their working age. Systematic reviews show a 64% employment rate for CSs, with high variability in different contexts (range 24% - 94%). This systematic review searched for recent data on the return to work (RTW) rate of CSs in Europe, investigating factors associated.

### Methods/Intervention

Bibliographic search covered the period from January 2010 to April 2017, with no language restrictions. European population-based studies assessing RTW rate after cancer diagnosis were included. We excluded studies focusing on a specific cancer diagnosis. This study was supported by the Chamber of Commerce of Reggio Emilia, GRADE Onlus, and Local Health Authority-IRCCS of Reggio Emilia (Italy).

### Results (of evaluation)

Twelve observational studies, conducted in North-Western and Central Europe, were selected. The cohorts investigated included 280 to 46720 individuals diagnosed with cancer from 1987 to 2010. The median time frame between diagnosis and RTW verification was 2 years (0.2-23.4 years). RTW rate of CSs ranged from 39% to 77%. Among individuals employed at the time of diagnosis, RTW fluctuated from 60% to 92%, the latter registered in a sample with good prognosis. Factors associated with RTW cover the crucial areas of personal factors, work-related factors, cancer-related factors, and embrace support strategies that facilitate reintegration to work.

### Conclusions/Lessons learned

There is urgent need for data from Mediterranean and Central Europe, to understand whether RTW is problematic in CSs and whether socio-rehabilitative interventions are required to mitigate the potential negative impact of cancer on individuals and society.

**Contact: PALTRINIERI Sara**  
AUSL-IRCCS of Reggio Emilia  
Umberto I n.50, Reggio Emilia,  
[sara.paltrinieri@ausl.re.it](mailto:sara.paltrinieri@ausl.re.it)

## Session P2.11: Promoting a tobacco free environment

### The short-term success rate of smoking cessation at 3 months post discharge

**LIU Yi-Lien, WEN CHIN-HISHIN, YANG Pei Chen, CHEN Wan-ling, CHEN Yi -Tin**

### Background/Problem/Objective

According to the latest 2016 data from the Taiwan Ministry of Health and Welfare, among the top 10 causes of cancer deaths are lung cancer. Smoking has been reported in the literature to lead to prolonged length of hospital stays, an increase in medical expenditure. Therefore, a smoking cessation case manager was sent to the ward to provide quit smoking health education to smoking patients.

### Methods/Intervention

The nursing staff investigates the smoking history of the patient. It is referred for smoking cessation by the nursing division's system, and screening for oral cancer will be performed by physicians. The patients enrolled in the program were 95.6% of males, 4.4% of females, department of cardiology accounting for 42.7% of the bulk, followed by orthopedics at 32%. Patients aged 41-50 years accounted for 37.7% of the total, followed by the 51-60 years old at 34%.

### Results (of evaluation)

From January to June 2017, the number of health education occurrences was 110, and the number of admitted persons was 66. A success rate of 37.8% was recorded at three months. The number of guardians from July to September was 205, and the number of admitted persons was 88. At 3 months recorded success rate was 39%. Ward health education increased by 86%, the number of cases increased by 33.3%, and the 3-months recorded success rate increased by 3.1%.

### Conclusions/Lessons learned

Due to the implementation of ward smoking cessation program, the success rate at 3 months, the number of health education occurrences and the number of people who received the medical examination all significantly increased. Keywords: Ward health education, success rate.

**Contact: EVE Chiu**  
Min-Sheng General Hospital  
168 Ching-Kuo Rd., 33044 Taoyuan City,  
[a000695@e-ms.com.tw](mailto:a000695@e-ms.com.tw)

## World No Tobacco Day

**KHAW Hui Wern, NG Teik Kee, LEW Ya Hui**

### Background/Problem/Objective

Prevalence of smokers is 22.8%, where a third of them are adolescents aged 13-15 years old. The popularity of electronic

cigarettes also rises sharply from 0.7% (2011) to 10% (2015). This project was aimed to advocate smoke-free environment in secondary schools by increasing the awareness and knowledge on the adverse effects of smoking and vaping among the adolescents.

#### Methods/Intervention

We conducted World No Tobacco Day project in six different high schools throughout the month of May. Activities included demonstration on how a burning cigarette turned the white litmus paper into brown which resembled our lungs, display of cancer-affected lung specimen, health talk by Public Health doctor, Q&A session, posters display and video. Small gifts were awarded to students who were able to answer question correctly. Pre- and post survey were conducted to evaluate the project's impact.

#### Results (of evaluation)

In total, there were approximately 1400 students aged 13-15 benefited from this project. This two-way interactive teaching and learning approach have drawn the attention and active participation of the students. Based on the findings of pre- and post questionnaires, students' awareness and knowledge have increased by 11.9% (from 72.2% to 84.1%) and 2.0% (from 79.7% to 81.7%) respectively.

#### Conclusions/Lessons learned

This project has brought students a good insight into effects of smoking and vaping. Imparting knowledge by interactive approach through visual and auditory successfully brought positive outcome among the students. This reflected the effectiveness of our campaign.

**Contact: KHAW Hui Wern**

Penang Adventist Hospital  
465, Jalan Burma, Georgetown  
10350 Pulau Pinang, [healthpromotion@pah.com.my](mailto:healthpromotion@pah.com.my)

## Action stop smoking clinics

**CHAN Hsin-Lung, KAO Wang-Hsin,  
HWANG Wei-Hsin, LU I-Jung, HUNG Ta-Chuan**

#### Background/Problem/Objective

Smoking is the number one killer of Taiwan health hazards. About 70% of smokers have ever tried smoking cessation. In 2005, the success rate of smoking cessation in Taiwan was about 26.3%. However, due to the long hours of work by modern people, they can't effectively coordinate with out-patient smoking cessation time. So that those who want to quit smoking have been unable to effectively utilize the resources of Taiwan smoking cessation project. Thus, the action smoking cessation clinic would be a great blessing for busy working people who want to quit smoking.

#### Methods/Intervention

With the City Health Bureau to provide flexible, point-of-service approach, the professional medical team to take action to quit smoking clinic leading to the workplace, providing quarantine accessibility and convenience services to improve staff willingness to quit smoking, hoping to reduce smoking Rate and increase use of smoking cessation services. The procedures and contents of the Cessation Outpatient Clinic are mainly divided

into the following aspects: 1. Establishment of a contract medical team 2. Promotion of the workplace and confirmation of the list of participating vacancies in the project 3. Plant protection briefing session 4. Registration for free fee payment 5. Registration fee application 6. Review the application information is correct, write-off closed.

#### Results (of evaluation)

The action stop smoking clinics is divided into three visits. The total number of visits was 22; on the first time, the average number of cigarettes smoked was about 11-20 cigarettes per day and on the second time the average number of cigarettes smoked per visit was about 1-10 cigarettes per day. A total of 5 people quit smoking successfully 1 month later, 8 people quit smoking successfully 2 months later, a total of 8 people quit smoking successfully 3 months later, and the 3-month point quit smoking success rate is 36%.

#### Conclusions/Lessons learned

Action Smoking Cessation Clinic Let smokers who want to quit more convenient and there are registration fee relief measures to allow smokers more motivated to quit smoking. However, as many as eight people successfully quit smoking 3 months later, there have been marked increases compared to passive smoking cessation. This shows that those who quit smoking, with the encouragement of medical staff and their peers, will promote the successful rate.

**Contact: CHAN HSIN-LUNG**

MacKay Memorial Hospital  
No. 45, Minsheng Rd., Tamshui District,  
25160 New Taipei City, [lunglung2000@gmail.com](mailto:lunglung2000@gmail.com)

## How hospital counsel school to promote prevention of tobacco-hazard in health impetus mode

**LAI Chun-Huang, HUANG Chi-Cheng, SUN  
Feng-Qing, HSUEH Wei Chun, LIN Shu  
Ling, FU Zi Zhen**

#### Background/Problem/Objective

Research shows the younger to smoke and smoke longer, the more influence and addiction. Junior and senior high school students smoke behavior increased by age so that tobacco-free environment is still not practicable. About juvenile smoke problem, prevention education is the most important except relative campus tobacco-forbid regulation set by law. Therefore, we cooperate with school by counseling to set the issue of campus prevention of tobacco-hazard for promoting health.

#### Methods/Intervention

1. Hospital medical group of smoke-quit together with school club to design guideline for student prevention of tobacco-hazard. 2. Control by roll for smoke students, provide clinic of smoke-quit, smoke-quit coach class, specific hygiene education teacher for smoke-quit counseling and special line to call. 3. Set smoke-quit week to enhance propaganda, research and develop teaching material or tool for learning activities, hold creative competition and reinforce motive of juvenile smoke-quit.



**Results (of evaluation)**

1. Rate of willing to accept smoke-quit for smoking students is 72%. 2. The degree of satisfaction for smoke-quit activities 86.09%. 3. Success rate of accepting six months smoke-quit students is 41.37%, CO rate of improving is 51.04%. 4. Acknowledging rate of accepting tobacco-hazard education students is 91.66%. 5. To hold competition activities of tobacco-refuse creative poster and there are 51 attendances.

**Conclusions/Lessons learned**

Join school organization with hospital smoke-quit service group to attend the smoke-quit education plan in school and also together draft student education plan. Hold tobacco-hazard prevention classes, smoke-quit counseling, smoke-refuse activities, train school smoke-quit teacher by hospital and provide smoke-quit hygiene education counseling as well as referrals service platform. Through administrative norm of school can promote more effectively campus comprehensive smoke-forbid policy and environment.

**Comments**

Suggest that school can promote tobacco-free campus plan by the school features and current situation combined with hospital resources. To execute various interfering strategies step by step such as activities of community relationship operation, strive for parents support, promote tobacco-free family authentication, form tobacco-free community alliance, etc.

**Contact: HUANG Chi Cheng**

Kaohsiung Municipal United Hospital  
No.976, Zhonghua 1st Rd., Gushan Dist  
80457 Kaohsiung,  
[gracsweet@yahoo.com.tw](mailto:gracsweet@yahoo.com.tw)

## Promoting Smoke-free Hospital Service in Taiwan

### CHANG Fang-Lun, CHOU Yi-Jiun

**Background/Problem/Objective**

The hospital utilizes policy, environment, active smoking cessation drug treatment and health education services to promote a smoke-free hospital. The usage circumstances of smoking cessation clinic services as well as the rate of successful smoking abstinence among smokers at three months and six months of smoking cessation are monitored. In addition, daily visits are made to wards for smoking inpatients, and health education admonishments and advice are provided.

**Methods/Intervention**

Our aims are to create a smoke-free and friendly medical environment, to improve the effectiveness of smoking cessation services, to formulate policies and operational standards, and to implement a comprehensive ban on smoking in the environment. We have taken the initiative to provide smoking cessation services and health education, and regularly monitor the effectiveness of smoking cessation treatment.

**Results (of evaluation)**

The number of people treated through outpatient smoking cessation services in 2017 was 173. Using telephone interviews with smoking cessation patients who had taken smoking cessation therapy for up to three months, achieving a three month smoking cessation success rate of 44.4% (68/153). Of those interviewed by telephone who had taken smoking cessation

therapy for up to six months, achieving a six month smoking cessation treatment success rate of 42.5% (62/146).

**Conclusions/Lessons learned**

Comparing the effectiveness of smoking cessation outpatient treatment in 2017 with 2016, despite a declining trend in outpatient drug treatment and health education sessions, and in the three-month smoking cessation success rate, the actual number of people using smoking cessation services and the number of people successfully treated for smoking cessation were both higher in 2017 than in 2016. The number of people using smoking cessation services in 2017 increased by 35, while the number of people who had completely quit smoking at three months increased by four, and the number of people who had completely quit smoking at six months increased by 13. The number of inpatients who received smoking cessation medication and health education showed an increase in 2017 compared with 2016, by a total of five people.

**Contact: CHANG Fanglun**

Tungs' Taichung MetroHarbor Hospital  
No.699, Sec. 8, Taiwan Blvd.  
435 Taichung, [t10926@ms.sltung.com.tw](mailto:t10926@ms.sltung.com.tw)

## Result of Creative Anti-smoking Health Education in the Smoke-free Hospital

### CHANG Mei-Yen, TSAI Chia-Jung, YU Chiu-Hsia, YEN Chia-Chi

**Background/Problem/Objective**

Smoking is harmful for health and costs higher health care expense. It also influences the smokers' family, society, and even the national economy and development. However, it is hard for smokers to quit smoking. Some studies showed that anti-smoking health education could help smokers quit smoking. After brainstorming, our health educators came up with an idea of creative anti-smoking health education in the hope of helping smokers quit smoking.

**Methods/Intervention**

To increase the successful rate of quitting smoking, our health educators have started to implement the creative anti-smoking health education from January, 2017 to August, 2017 by referring outpatients or inpatients who were smokers (total n=280) to the anti-smoking health education. The creative education aims to change the smokers' habits, such as teaching them taking an empty cigarette case to decrease the frequency of smoking and casting the changes into the case instead of buying cigarettes. After three months, the smokers were interviewed by telephone for their progress (success or fail). The whole project ended in November, 2017. The results of telephone interview were then compared with those without creative education but with only oral advice in November 2016 (total n=316).

**Results (of evaluation)**

The successful rate of quitting smoking after receiving the creative anti-smoking health education for three months in 2017 was 34% (n=95). Those with only oral advice had only 12% (n=38) quitting rate in 2016. There was a growth of 22% successful rate after receiving creative education.

**Conclusions/Lessons learned**

The smokers in the hospital increased their intention to quit cigarette after receiving the creative anti-smoking health education for three months. Applying creative anti-smoking health education is an effective way for the hospital to cease smoking and promote a healthier life.

**Contact: MEI YEN Chang**

Kaohsiung Municipal Min-Sheng Hospital  
No.134, Kaixuan 2nd Rd., Lingya Dist., Kaohsiung City 802,  
80276 Kaohsiung, [dog-small@yahoo.com.tw](mailto:dog-small@yahoo.com.tw)

## Smoke-free hospital quality service enhancement program

**YANG Shih-Chen, KUO Chia-Yi, TSAI Hui-Hua**

**Background/Problem/Objective**

A literature review was carried out to verify socio-environmental factors that are associated with smoking cessation behavior, including societal support, sociocultural factors, and smoking cessation policies, etc. The smoking cessation rates of patients who completed telephone smoking cessation counseling at conclusion are significantly higher than the smoking cessation rates of patients who did not complete telephone smoking cessation counseling. The use of smoking cessation drugs in combination with smoking cessation counseling has the highest success rate for smoking cessation.

**Methods/Intervention**

Set up a "Smoking patrol groups" ; Inside the hospital, smoking cessation advocacy activities, seminars, and posters are carried out. Smoking cessation outpatient consultation, counseling, and health education are also provided. The hospital cooperated with schools, workplaces and the community . An outpatient smoking cessation reminder system is implemented in outpatient clinics, Bedside smoking cessation services and prescription and health education counseling enrollment for smoking cessation in hospitalized patients is carried out by family physicians and senior health educators at the wards.

**Results (of evaluation)**

In 2017, the degree of awareness of smoke-free policy was 99.8%, staff smoking rate was 2.7%, and success rate of smoking cessation in staff was 28%. From June 2016 to December 2017, a total of 104 patrols were carried out and 143 people were counseled. From 2013 to 2017, a total of 647 people participated in smoking cessation outpatient treatment services. From 2014 to 2017, a total of 55 relatives staying with pregnant women underwent smoking cessation health education.

**Conclusions/Lessons learned**

If clinicians can spend 3-5 minutes during daily consultation or health counseling to enquire, suggest, evaluate, assist, and arrange follow-ups, cooperate with medical staff and smoking cessation health educators, and carry out medication-assisted treatment, psychotherapy or cognitive behavioral therapy, the smoking cessation success rate will be greatly improved. This can also decrease medical costs and reduce socioeconomic losses.

**Contact: YANG Shih Chen**

Taipei City Hospital Zhongxing Branch  
No.145, Zhengzhou Rd., Datong Dist., Taipei City 103, Taiwan  
(R.O.C.), 103 Taipei, [B1713@tpech.gov.tw](mailto:B1713@tpech.gov.tw)

## The smoking ban in the hospital structures of the Pavia ASST

**SOTTOTETTI Elisa , SCARPINI Gian Carlo, TORTI Carluccio**

**Background/Problem/Objective**

In Italy, Legislative Decree no. 6, which transposes the Directive 2014/40/CE on the approximation of the legislative provisions concerning the processing, presentation and sale of tobacco products and related products, entered into force on 12/01/2016. The purpose of the new legislation is to ensure a high level of health protection through the Background/Problem/Objective of more restrictions and warnings to deter tobacco users. Among the innovations introduced for the protection of people and in particular of children in terms of tobacco consumption, there is a ban on smoking in the external appurtenances of hospitals.

**Methods/Intervention**

The ASST of Pavia has implemented the legislation by setting up a working group composed of doctors, technical staff and the Prevention and Protection Company Service and has prepared a resolution to implement the regulation for the prohibition of smoking. This regulation, which extends the smoking ban to the external buildings of all the ASST premises in Pavia, involves all the staff of ASST of Pavia, the hospitalized persons, the users, the students, and all the people who access any title to the ASST of Pavia. Exceptions to the ban are the outdoor areas identified by the presence of smoking boxes, prefabricated structures with roofing and ashtrays that, properly marked inside the structures, identify the areas where smoking is allowed, protecting non-smokers from passive smoking.

**Results (of evaluation)**

The ASST of Pavia has also prepared specific training courses on the topic of smoking, entitled "helping smokers to quit" in which 2024 people participated, out of a total of 2953 employees in the company, an initiative that will also continue Current year.

**Conclusions/Lessons learned**

The identification of areas dedicated to smokers outside hospitals and adequate staff awareness of the importance of smoking in the vicinity of the hospital areas has helped many of the people involved in the initiative to reduce the amount of cigarettes smoked during the day in favor of cleaning the hospital and everyone's health.

**Contact: SOTTOTETTI Elisa**

AO Pavia, Via Castellaro, Torrazza Coste,  
[elisa\\_sottotetti@ospedale.pavia.it](mailto:elisa_sottotetti@ospedale.pavia.it)

## Applying KAWA model to promote teenager tobacco control in campus

## WANG Wei-Ju, SU Pei-Chi, LO Yu-Tai, LIOU Wen-Chin, YANG Yi-Hua

### Background/Problem/Objective

According to Taiwan's 2016 Survey on Smoking Behavior among Adolescents, smoking rate among teenager students is 13%. Smoking by peers and parents has a big impact on smoking among teenagers. We engaged a tobacco control program and proactively recruited adolescents who had smoking behavior in campus nearby St. Joseph Hospital. Through professional case management services by nurses and the intervention of KAWA Model, we helped young smokers raise awareness for the health risks of smoking and prevent further tobacco abuse.

### Methods/Intervention

Twelve Smoking cessation classes were held from May to June 2017, with each session lasted 50 minutes and students' CO level were monitored. From session 6 to 12, students were first encouraged to draw KAWA model pictures, and then underlying concepts of relevance were discussed: the current environment (riverbed walls), barriers (rocks), and the influencing factors (driftwood). Participants interpreted the elements individually so they not only found their own disturbs but also figured out solutions by themselves through group discussion.

### Results (of evaluation)

Fourteen senior high students participated with a mean age of 16 y/o and 79% of male. Their average CO level was 11.93ppm. 56% of participants had family smokers and 81% made friend with smokers. The participants' average amount of smoking before and after the application of KAWA model was 17.5 and 8.64 cigarettes per day respectively, with a 50.6 % of reduction. The overall satisfaction was 92.6% and 80% of the participant entered the stage of contemplation of quit smoking.

### Conclusions/Lessons learned

Tobacco control program should design differently for various age groups. Through education and case management, young smokers learn about the impact of smoking on themselves, and the impact of secondhand smoke on their family and friends. The intervention of KAWA model enables teenager smokers think more about themselves through the process of painting and sharing, which facilitate a better understanding of their own smoking, recognize the obstacles they encountered in quitting smoking, and increase their motivation of quit smoking.

### Contact: WANG Yi Ching

Joseph st. Hospital  
No.352, Jianguo 1st Rd., Lingya Dist.,  
80288 Kaohsiung City, [chocolatemusic0914@gmail.com](mailto:chocolatemusic0914@gmail.com)

## Session P2.12: Tobacco cessation

### Evidence-Based Smoking Cessation Practices of Health Promoting Hospi- tals for Korean Soldiers

**KWON Eunjoo, NAH Eun-Hee, CHO Seon,  
SHIN Young-Jae, KANG Pil-Su, JEONG Jun-  
Won, HAN Saehee**

### Background/Problem/Objective

Tobacco is the single greatest preventable cause of disease and premature death around the world. Cigarette smoking causes about 20% of deaths in the United States each year. Smoking was also a national health issue in Korea. The smoking prevalence among male aged 19-29 was 38.7% in Korea, 2015. Smoking prevalence of soldiers was related to male smoking prevalence, because all men must complete the military service, Korea. Thus, multidirectional practices were necessary to reduce smoking rates of Korean soldiers.

### Methods/Intervention

This study was conducted to describe successful practices of smoking cessation practices for Korean soldiers performed by Korea Association of Health Promotion (KAHP) as Health Promoting Hospitals in 2017. The smoking cessation practices were sponsored by Ministry of Health and Welfare (MOHW), supported administratively by Ministry of National Defense (MND) and Korean National Police Agency (KNPA). This practice was based on theoretical evidence and results of smoking cessation intervention.

### Results

The theoretical evidence of smoking cessation practices was Transtheoretical Model(TTM) and 5A's approaches. TTM was utilized in personalized approaches of smoking cessation. The 5A's was applied to the counseling of smoking cessation clinics for soldiers. The research evidence of smoking cessation practices was the results of evaluation on effectiveness of smoking cessation intervention by KAHP until 2016. The cessation rates of smoking soldiers who joined smoking cessation clinics at 3-month, 6-month follow up was 70.4%, 34.6% respectively in 2016.

### Conclusions/Lessons learned

Application of the TTM and 5A's approaches provided useful strategies for the smoking cessation practices in military camps. In addition, creating research evidence is required for successful smoking cessation intervention by evaluating on effectiveness of smoking cessation practices. KAHP is going to make a greater effort to support smoking cessation for Korean soldiers consistently.

### Contact: KWON Eunjoo

Health Promotion Research Institution  
350 Hwagokro, Gangweo-gu  
Seoul,  
[4ever35@hanmail.net](mailto:4ever35@hanmail.net)

## Promoting the implantation of in- tensive smoking cessation counsel- ing program in hospitalized patients

**LEE Chun-ying, LEE Chiou-mei, HUANG  
Bo-Cheng**

### Background/Problem/Objective

Evidence showed that intensive interventions for smoking cessation start during the hospital stay increased smoking cessation rates after discharge. We found that the inpatient smoking cessation program was underused in a 1200-bed tertiary hospital in Kaohsiung, Taiwan. Fifty-two registered nurses had been trained to be as an intensive smoking cessation counselor concurrently as in their daily nursing practice,

but only 0.2% of hospitalized patients had ever received an intensive smoking cessation counseling. We tried to improve the delivery of the smoking cessation counseling program on hospitalized patients who are regular smokers.

#### Methods/Intervention

We analyzed the cause of underuse of inpatient smoking cessation program in the hospital, little time for counselors to perform the program in their daily nursing practice is the primary cause. To promote the inpatient smoking cessation program, we improved the process of service delivery by following strategies: 1. Screen all hospitalized patients for tobacco use as they admitted to the hospital; 2. Mark the regular smoker on the hospitalized patient-list with a cigarette symbol which is links to a smoking cessation program system on electronic devices, so counselors can easily find a target patient and perform the program; 3. Encourage counselors to implement the program on patients who are regular smokers by increasing incentives, such as give a point whenever accomplish one intervention program to a target patient, and then counselors will be rewarded according to the accumulated points.

#### Results

There were around 20% of hospitalized patients were regular smokers, estimated 4% of them had received intensive smoking cessation counseling intervention initially. After modifying the service delivery process, the proportion of hospitalized patients who were smokers received smoking cessation intervention was increased to 28.5% in 3 months.

#### Conclusions/Lessons learned

It was time-consuming to execute a smoking cessation program for most of the counselors, due to their principal work was inpatient nursing care. Improve the identification of target patients, establish an adjunctive system for counseling program for counselors, and enhance motivation for counselors to perform the program are effective in promoting the implantation of intensive smoking cessation program in hospitalized patients.

#### Contact: LEE Chun-ying

Kaohsiung Medical University Hospital  
No.100, Tzyou 1st Road  
80756 Kaohsiung City, Taiwan,  
[cying@ms19.hinet.net](mailto:cying@ms19.hinet.net)

## Effect of smoking cessation with acute myocardial infarction on reducing rate of recurrent significant stenosis of coronary artery Experience in North Taiwan

### LEE Chia-Wen

#### Background/Problem/Objective

Acute myocardial infarction is a fatal disease with high mortality rate around 44-50%. Smoking is a risk factor to increase morbidity and mortality in patients with myocardial infarction. The patients with smoking had risk of recurrent myocardial infarction for 3 times than the ex-smokers. To know the benefit of smoker cessation on reducing rate of recurrent significant stenosis of coronary artery with acute myocardial infarction

may peruse these patients to concern the importance of smoking cessation.

#### Methods/Intervention

The aim of the study is to investigate the effect of reducing rate of recurrent significant stenosis of coronary artery in patients with acute myocardial infarction on smoking cessation.

#### Results

This is a retrospective study. Patients with myocardial infarction and smoking cessation 6 months were enrolled from Department of Cardiology, Far East Hospital between October 2015 to May 2016. The criteria of recurrent stenosis of coronary artery disease is that patients received another percutaneous occlusive balloon angioplasty or coronary artery disease bypass grafting within the duration of follow-up, which proved progressive stenosis of coronary artery.

#### Conclusions/Lessons learned

107 smokers with acute myocardial infarction joined the study. Post integrated team care model for 12 months, rate of recurrent stenosis of coronary artery on smoker and ex-smoker were 42.8% and 7.9 %, respectively (Odds ratio was 5.54).

#### Comments

Smoking cessation had a strong effect to decrease the risk of recurrent significant stenosis of coronary artery. The benefit is better than pervious study which revealed 3 times in smokers ex-smokers. Under the finding, specialist can provide patients with robust evidence. When patients concern the importance of smoking cessation, intent of behavioral change may execute easier.

#### Contact:

[lovelee620611@gmail.com](mailto:lovelee620611@gmail.com)

## The Research on Smoking Behavior, Anti-smoking Attitude and Anti-smoking Self-efficacy of Teenage Smoking Cessation Students

### HU YI-FEN, CHOU CHIEN-CHI, HUANG WEN-HOTSENG YUAN-TSUNG

#### Background/Problem/Objective

Cigarette is the top killer to health, which causes at least twenty thousand deaths in Taiwan every year. According to the smoking survey in 2015, the smoking rate of junior high school students is 3.5% and high school ones 10.4%, which means smoking cessation on teenagers shows its importance. This study wants to examine the factors of the behavior, attitude and anti-smoking self-efficacy of smoking cessation students and based on the findings, suggestions are provided for future teenager cessation promotion.

#### Methods/Intervention

Purposive sampling was adopted from 2016 to 2017 and those from eight southern high schools and universities, joined eight-hour smoking cessation course and finished CO examination three months later on were our main objects with 112 in total. The content validity index(CVI) of the research is 0.91 and Cronbach  $\alpha$  is 0.94. The variables include demography, smoking

situation of relatives and friends, smoking behavior of the study objects, anti-smoking attitude and anti-smoking self-efficacy.

### Results (of evaluation)

The average age of the cases is 16.8 with 83.9% male, 42% from single-parent family, 69.6% with smoking family members, 94% with smoking friends, which shows the influence from peers. The average score of anti-smoking attitude is 3.3 and anti-smoking self-efficacy is 3.06 (Likert scale), which are neutral to positive. As for CO(>7) pretest-posttest result, the smokers occupy from 23.21% to 19.64%.

### Conclusions/Lessons learned

Smoking cessation students hold positive attitude toward anti-smoking and self-efficacy and there's 83.9% willing to quit. Most of high school students are just in trial period while 68.4% of university students are already nicotine addicted. Thus, we should emphasize our smoking cessation education on teenagers. Smoking cessation needs support from family and society and only fully implement tobacco hazards prevention we can improve this problem.

### Contact: TSENG Yuan-Tsung

Tainan Municipal Hospital, Taiwan (R.O.C.)  
No.670, Chongde Rd., East Dist., Tainan City 701, Taiwan  
670 Tainan, [b891040733@yahoo.com.tw](mailto:b891040733@yahoo.com.tw)

## Smoking Cessation with Non-pharmacological Counselling in Inpatients Admitted with Acute Coronary Syndrome

**TSAI Chung-Hung, WANG Min-Fu, HUANG Shou-Cheng**

### Background/Problem/Objective

Tobacco smoking is a major risk factor for acute coronary syndrome (ACS), while quitting smoking is associated with a 36% reduction in risk of all-cause mortality among patients with coronary heart disease. However, quitting smoking is difficult. Studies have shown that half of the patients continue to smoke despite a life-threatening event. Several pharmacological interventions are used for smoking cessation in patients admitted with ACS and show improvement compared with placebo. In addition, a Cochrane review states that, for cardiovascular inpatients, intensive counselling intervention begins in hospital and continued with supportive contacts after discharge delivers an increase in smoking cessation rates.

### Methods/Intervention

The study population included patients aged 18 years and over who were hospitalized for troponin positive ACS in the period between January, 2017 and December, 2017. Since the patients admitted, the nursing educators were informed immediately by phone message and then visited the patients within 24 hours. Successful quitters was defined as patients who reported abstinence accompanied by a quit date at 6 months of follow-up.

### Results (of evaluation)

A total of 36 subjects were enrolled into this study, and the average age was 55.3 years old. Among the inpatients admitted

with the diagnosis of ACS, 11(30.6%) patients with ST elevation myocardial infarction (STEMI), 23(63.8%) patients with non-ST elevation myocardial infarction (NSTEMI), and 2(5.6%) with unstable angina. The average of cigarette consumption was 1.2 pack per day, and their mean score of the Fagerstrom Test for Nicotine Dependence (FTND) was 5.7. At 24th week follow up, a total of 8 patients successfully quit, and the abstinence rate was 22.2%.

### Conclusions/Lessons learned

The abstinence rate of non-pharmacological counselling in inpatients admitted with ACS is lower than usual pharmacological treatment. However, regarding to potential cardiovascular risk of smoking cessation drug, intensive counselling intervention beginning in hospital is still an effective way to increase smoking cessation rates, though the long term abstinence rate need to be investigated in the future.

### Contact: TSAI Chung-Hung

An Nan Hospital, China Medical University  
No 66, Sec. 2, Changhe Rd., Annan Dist.,  
709 Tainan City, [chunghong.kuanyin@gmail.com](mailto:chunghong.kuanyin@gmail.com)

## Use of bonuses to reward employees to enhance the effectiveness of smoking cessation

**LIU Yen-Tze, CHEN Pei-Jyun, NIEN Yu-Ting, HUANG I-Ling, TSAI Yi-Fang, CHEN Li-Ya, YANG Yu-Wen, LIN I-Ching**

### Background/Problem/Objective

According to the results of the annual health examination of our hospital staff from 2013 to 2016, there were 7 smokers. Although the health promotion center continue to make telephone calls twice a year to smokers, their willingness to quit is not high. Based on the literature review, the most recognized incentive was giving bonuses to employees for quitting smoking. In order to enhance staff willingness in 2017, we encourage employees to quit smoking by providing bonus awards.

### Methods/Intervention

This strategy was held from 2017 to 2018. We let participants to sign a consent and be witnessed by a colleague. We uses the carbon-monoxide-monitor for testing. We also provide them a exercise-card. If the smoking cessation succeeded for 6 consecutive months, NT \$ 6,000 was rewarded. We will test CO value each quarter in 2018. The participate will be rewarded with NT \$ 1,000 if maintained. Otherwise, the bonus received in 2017 will be withheld.

### Results (of evaluation)

Through telephone interviews and promotion by walking around, a total of two employees participated, and the participation rate was 28.57%. After six months, two employees successfully quit smoking, the success rate is 100%. Employees who successfully quit smoking share the experiences as following: 1. Exercise could ease the cravings; 2. Quitting smoking can improve workplace interpersonal relationships; 3. Get rid of the body burden of coughing with sticky sputum.



**Conclusions/Lessons learned**

The effectiveness of smoking cessation by giving bonuses rewards and sports card to employees is better than previous strategies, such as telephone interview or tobacco cessation lecture. Therefore, we suggest that our hospital may give bonuses to employees who quit smoking in the future. In addition, we will continue to monitor the staff's carbon monoxide value to prevent employees from smoking again.

**Contact: LIU Yen-Tze**

ChangHua Christian Hospital  
135 Nanshao Street  
Changhua, [144084@cch.org.tw](mailto:144084@cch.org.tw)

## Increase the Effectiveness of Smoking Cessation with Creative Health Education

**WU Mei-Yu TSAI CHING-MEI****Background/Problem/Objective**

Yunlin, an agriculture county with much labor residents in Taiwan, always has a large population of smoker. According to the national survey in 2016, the adult smoking rate of Taiwan was 15.3%. However, in the same year, the adult smoking rate of Yunlin was 18.4%. For helping more smokers to quit smoking, National Taiwan University Hospital Yunlin Branch not only provided counseling and pharmacotherapy, but also established a smoking cessation support group to enhance the success rate of smoking cessation.

**Methods/Intervention**

The smoking cessation support group, called "Dandelion Club", was established in 2015. Smokers who received smoking cessation service in our hospital were encouraged to join the club voluntarily. Members' willpower to quit smoking would be strengthened through success experience sharing. The club also provided activities and lessons such as breathing method in Kung Fu, gardening, cooking, and Chinese chess to help members establishing a healthy life style to replace the habit of smoking.

**Results (of evaluation)**

The six-months smoking cessation success rate in National Taiwan University Hospital Yunlin Branch was 16% in 2014. After the establishing of smoking cessation support group in 2015, the success rate increased to 40% in 2015, 48% in 2016 and reached 57% in 2017 (from January to November), higher than the requested 25% by our government. The club attracted around 15~20 smokers to participate every year, and they were all satisfied with the activities provided within the club.

**Conclusions/Lessons learned**

The establishing of smoking cessation support group enhanced members' willpower to quit smoking and learn healthy life style. With interactive discussion within the club, the members could get rid of the nicotine withdrawal symptoms and psychological dependence. It could not only increase the effectiveness and satisfaction of smoking cessation from patient's aspect but also boosted the sense of achievement and confidence from medical staff's perspective to reach the goal of preventing diseases and promoting health together.

**Contact: WU MEI-YU**

National Taiwan University Hospital Yunlin Branch  
No. 579, Sec. 2, Yunlin Rd  
Douliu City, [m0952585706@gmail.com](mailto:m0952585706@gmail.com)

## Do you want to quit smoking? We will support you.

### VLACHOVÁ Marie, CSEMYOVÁ Soňa, POLÁŠKOVÁ Klára

**Background/Problem/Objective**

On the one hand we have new valid legal rules on the other hand we see the everyday reality. The number of smokers is not decreasing despite difficult conditions (reduction of smoking spots, ban on cigarettes sale in the hospital). The support during tobacco cessation is essential. Therefore we plan activities which are good starting point to quit smoking. Discount on supportive devices in the hospital pharmacy, counselling at the workplaces, workshops, outpatient department for tobacco cessation in the main building.

**Methods/Intervention**

This project started in 2017 and will continue in 2018. Methods: Workshops led by doctors from Centre for tobacco addiction treatment. Leaflets for patients and employees. Smoking cessation Day for public. Short interventions and informing about the Centre contacts. Counselling of the doctors from the Centre at workplaces. Outpatient department of the Centre for tobacco addiction treatment in the main building. Instructing the new employees during the entrance informative meeting. Focusing on patients smokers prior to a scheduled surgery.

**Results (of evaluation)**

The hospital environment is for patients and their families a good starting point to quit smoking. We sense certain humbleness at our patients in the hospital environment and we would like to work with it. Thanks to informing patients about possibilities of smoking cessation we can influence their families as well. We will evaluate the whole project in November 2018 and we will objectively assess the results and feedback. So far we register increased interest in these activities among patients and employees.

**Conclusions/Lessons learned**

Motivated nurse (nonsmoker) supports the patients during smoking cessation, she/he can properly and credibly inspire patients and colleagues. The ongoing workshops at the Clinics and educating of the nurses in short interventions have proven that the project is aiming the right direction. When we are able to influence the patient about smoking cessation prior to the planned surgery, we can have very good results. The patient heals much better and the risk of complications lowers.

**Contact: NOVAKOVA Jana**

Motol University Hospital  
V Úvalu, 15006 Praha 5, [klara.lesage@gmail.com](mailto:klara.lesage@gmail.com)

## The combination of medication and behavioral counseling improves the cessation rate in Taiwan

**WANG Ying-Wei, HUANG Gobin, CHUEH Chen-Han, CHIN Yi-Hua, LO Shu-Ying, YU Li-Hui**

### Background/Problem/Objective

In 2012, the "second generation cessation service payment scheme"(SC-2) which includes smoking cessation medication, health education and behavioral counseling, case management, etc. was launched in Taiwan to improve the accessibility of smoking cessation services and reduce the economic barrier for people. Smokers can receive cessation service in hospitals, clinics, and community pharmacies. Service users only need the maximum copayment of NT\$200 (about US\$6.8). To verify its efficiency, we monitored the cessation rate of different cessation models.

### Methods/Intervention

The smoking cessation survey is based on patients who participate the SC-2. This study aims to evaluate the impact of service content and intensity to the 7-day point prevalence abstinence rate (PPAR) at 6 months of the service users.

### Results (of evaluation)

The PPAR of service users received 4-8 times of medication (36.8%, 95%CI=35.6%-38.0%) is higher than those received 2-3 times (32.3%, 95%CI=31.3%-33.3%) and even higher than those received 1time (22.9%, 95%CI=22.1%-23.7%). The PPAR of service users received behavioral counseling is similar. The PPAR of service users received both medication and behavioral counseling (31.1%, 95%CI=30.4%-31.9%) is higher than those received only medication (28.1%, 95%CI=27.3%-28.9%) and even higher than those received behavioral counseling (25.0%, 95%CI=24.1%-26.0%).

### Conclusions/Lessons learned

The SC-2 in Taiwan is based on the scientific evidence and international best practice. According to the result, it is important to encourage the healthcare professionals to provide both medication and behavioral counseling to quitters and to follow up service users to remind them to come back regularly so as to raise the possibility to quit.

**Contact: HUANG Gobin**  
[gobinhuang@gmail.com](mailto:gobinhuang@gmail.com)

## Analysis of the results among chronic disease and pregnant woman tobacco control

**SHIEH Ying-Hua, CHEN Li-Chuan, LU Chung-Ying, CHIEN Hsiung-Fei**

### Background/Problem/Objective

There are about 4.5 million smokers in Taiwan and more than 17,000 people die from tobacco-related diseases each year. The

promotion of smoking cessation has a crucial impact on the health and environment of smokers.

### Methods/Intervention

From January to November 2017, a questionnaire was conducted by a total of 1158 respondents. The rate of respondents having correct smoke-free knowledge had reached 96.1%, while setting 100% as targeted goal. Throughout the year, a total of 9 lectures attended by employees with 2770 participants; 5 communities lectures with 1049 participants; and 9 School lectures with 262 participants, with 100% goal achievement.

### Results (of evaluation)

For chronic patient service results for the DM, AMI, COPD, CKD patients, 428 smokers were identified, 182 received smoking cessation education with education rate of 38.3%. Among them, AMI was listed as a hospital index, and a special care team groups was set up. Immediate interventions identified 48 smokers and the education rate was 100%. Moreover, for pregnant women, questionnaire was set up for first trimester pregnant women.

### Conclusions/Lessons learned

From January to October, a total of 697 surveys were recruited, 32 participants had smoked prior to pregnancy, with rate of 4.59%, of which 7 participants had completely stopped smoking 3-6months before pregnancy. A total of 25 people had stopped smoking or continued to smoke within 3 months of pregnancy, accounting for 3.59%, 21 people had kept to stopped smoking, and 2 people had smoked continuously but reduced the amount by 5 cigarettes. It was proved that they remarkable results had achieved.

**Contact: LU Chung-Ying**  
Taipei Medical University Hospital  
#252, WuXing St., XinYi District,  
11031 Taipei, [145006@h.tmu.edu.tw](mailto:145006@h.tmu.edu.tw)

## Experience of Delivering Smoking Cessation Clinic Accompanied with Health Promotion Activities

**WANG Min-Fu, HUANG Shou-Cheng, CHEN Li-Yu, TSAI Chung-Hung**

### Background/Problem/Objective

Tobacco smoking is the leading preventable cause of disease, and it harms nearly every organ of our body and increases mortality from all causes in human. In the past decades, Taiwan has made remarkable progress on decreasing the smoking rates in adults from 27.0% to 17.1% between 2002 and 2015. However, the use of smoking cessation service is still limited in most smokers in Taiwan. There are some barriers beyond the smokers searching for quitting aids. Even if the smokers knew the health risk of tobacco use, but they still had low motivation to seek for smoking cessation service if the service could not be offered timely. In order to increase the accessibility of smoking cessation service, it should be reached by smokers who had the motivation at the same time. Therefore, it may be a good way to delivering smoking cessation service as outpatient clinic accompanied with the health promotion activities such as lecture speech and screening.

**Methods/Intervention**

Between 19th and 23rd June, 2017, our hospital held a 5-day health promotion activities related to smoking cessation, included lecture speech and disease screening. At the same period, we established the temporary smoking cessation clinic in the same place. Smoking cessation professionals included medical doctor and nursing educators joined the program and provided pharmacological intervention or face to face behavioral counselling. The participants who were smokers would be referred during the activities carried out.

**Results (of evaluation)**

A total of 447 participants joined the 5-day activities (included cancer screening, Chinese herbal speech, heart disease speech, osteoporosis screening, and kidney disease screening). A total of 38 smokers visited the smoking cessation clinics, and their mean age was 48.2 year-old, mean pack-year was 15.1, and mean scores of Fagerstrom Test for Nicotine Dependence is 5.3. At 12 week follow up, 8 smokers quit smoking successfully.

**Conclusions/Lessons learned**

To deliver smoking cessation clinic accompanied with the health promotion activities increased the accessibility of smoking cessation service. However, the abstinence rate at 12 week follow up is lower than usual service, but the long term effect need to be investigated in the future.

**Contact: TSAI Chung-Hung**

An Nan Hospital, China Medical University  
No 66, Sec. 2, Changhe Rd., Annan Dist.,  
709 Tainan City, [chunghong.kuanyin@gmail.com](mailto:chunghong.kuanyin@gmail.com)

## The Improvement Program of Enhancing the Acceptance Rate of Smoking Cessation Health Education on Cardiology Outpatients

**CHEN Huei-min, DAN MO Peir**

**Background/Problem/Objective**

The Taipei Municipal Gan-dau Hospital which provides in family medicine and thoracic department for outpatient smoking cessation treatment and follow-up service. In 2016, a total of 62,543 services. There were 1,928 smokers from the cardiology clinics, and the prevalence of smoking was 53%; however, the acceptance rate of smoking cessation health education is 0%. We needed to promote the acceptance rate of smoking cessation health education on cardiology outpatients from 0% to 10%.

**Methods/Intervention**

According to the analysis of circumstances and the verification of documents, we made up the strategies as following: 1.Enhance the doctors' referral of every department in important meetings 2.Arrange the smoking cessation health education counselor to the clinic 3.Improve the system and print out the smoking cessation informing slip automatically 4.Place the smoking cessation health education leaflets at cardiology clinics 5.Put up the smoking cessation posters at cardiology clinics 6.Hold out outpatient health seminar during the cardiology session

**Results (of evaluation)**

After the implementation of the project strategies, the acceptance rate of smoking cessation health education in cardiology clinics rose from 0% to 11%, which had reached the target of the project.

**Conclusions/Lessons learned**

The harm of cigarette-smoking is well known, and especially for the patients with chronic disease, it is more important to realize the disease and the harm of smoke. We found that the patients often hesitated to smoking cessation and needed more clinical support. Under the pressure of rapid care in outpatient clinics, the medical staff was not able to take the initiative to patients about the smoking cessation; we needed teamwork would enhance the continuity of the project.

**Comments**

The top 10 causes of death in Taiwan all attributed to smoking, including cancer, heart disease, and stroke. Due to the rate of the smoking cessation health education on the patients of cardiology department was 0%, the Taipei Municipal Gan-dau Hospital would implement the project From January to October, 2017, there were 1,817 smokers from cardiology outpatient clinics enrolling in healthcare through the identification system. As a result, the acceptance rate rose from 0% to 11%, which already reached the goal of the project.

**Contact: CHEN hueimin**

Taipei Municipal Gan-Dau Hospital  
No.12, 225 Lane, Zhi-Sing Road, Taipei Taiwan, 11260  
Taipei,  
[chenhm2582@gmail.com](mailto:chenhm2582@gmail.com)

## Effectiveness of behavior interventions in adolescent smoking cessation

**YU Tzu-Ying, CHIEN Meng-Fen, HSU Yi-Chi, KUO Tsung-Huai, SHIH Ai-wei**

**Background/Problem/Objective**

Adolescence is a critical stage of development. Teenagers may initially contact cigarettes for releasing stress or peer recognition. WHO declares every day more than 3,200 people younger than 18 try their first cigarette. By 2011-2015 statistics of Taiwan's National Health Service in counseling of adolescent smoking cessation, about 50% of seekers had smoking duration  $\leq 3$  years, implying relationship between short contact time and less physical dependence. We aim at this period to help young people get rid of tobacco.

**Methods/Intervention**

By implementing the ENSH-Global Standards, we collaborated with Changhua City East District Health Center on 11 smoking high school teenagers. Tobacco-free activities were provided for three months of each year, including smoking health education courses on smoking harms and use of portable carbon monoxide monitor. Through role-playing ways, introducing positive thinking techniques to work under pressure, and mode of Alcoholics Anonymous to share experience, we made efforts to help them maintain their physical and mental health, then quit smoking habit.

**Results (of evaluation)**

After two consecutive years providing interventions of health promotion and phone tracking every two months, the average level of carbon monoxide detected in these 11 smoking teenagers dropped from 4.64 ppm to 2.15 ppm. Besides, the average amount of smoking per day reduced from 2.27 cigarettes to 0.72 cigarettes after continuous counseling service of smoking cessation. These teenagers became more confident and willing to refuse tobacco use. Among them, 7 of 11 teenagers quit smoking completely.

**Conclusions/Lessons learned**

Smoking can cause teenagers addicting to nicotine, reducing lung function, and even more affecting brain development. These harmful effects can be lessened if we apply cessation skills and activities to change teenagers' behavior. Thus we arranged group activities and tracking mechanism to fortify teenagers' mental energy; they can face their own problems but not escaping reality by smoking. By improving self-confidence and learning self-control, teenagers will no longer be slaves of tobacco, nor mistakenly believe smoking can increase personal charisma. By enhancing their self-control ability, learning techniques to confront troubles and deal with problems, they become more willing to quit smoking.

**Contact: CHAI WEN Lai**

Show Chwan Memorial Hospital  
No.6 Lane 61, Nanping St.1, Nanyao Village Changhua, Taiwan 500  
CHANGHUA, [chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## Effectiveness of a 6-week school-based smoking cessation program in a senior high school

**LEE Chiou-mei, LEE Chun-Ying, HUANG Bo-cheng**

**Background/Problem/Objective**

Previous studies have shown that tobacco use in adolescence is associated with both physical and social consequences. Smoking at an early age is more likely to lead to nicotine addiction than starting at a later age. However, there is no smoking cessation medications are FDA approved for use in children or adolescents. We conducted a non-pharmacological school-based smoking cessation program in a senior high school, Kaohsiung, Taiwan.

**Methods/Intervention**

The school teachers helped to invite the students who had ever smoke in recent one month to the smoking cessation program. It was a 6-week smoking cessation grouped-intervention program contained following sessions: How tobacco harm health; Why is tobacco addictive; Why should I quit smoking; What I can do to stop smoking; How do I control my body weight while I am quitting smoking; and Exercise helps quit smoking. In each session, we recorded the cigarette amount of the participants used in recent one week and measured the CO level for the participants. We acknowledged the efforts the participants had made to stop smoking cigarette in each meeting. We also performed a test for the knowledge regarding cigarette smoking (with full score 100) before and after the program.

**Results (of evaluation)**

There were 33 participants in this program at the beginning, 4 of them did not finish the program. The average CO level was 4.6 before the program, and it went down to 2.6 at the last session measurement. At the end of the program, 86.2% of the participants had reduced the amount of cigarette smoking, and 51.7% of the participants smoke no cigarette at the last week. The average score of the pre-program knowledge was 72.6, and it was 86.5 at the post-program knowledge.

**Conclusions/Lessons learned**

The 6-week school-based smoking cessation program which empowered the senior high school students with improving recognition to tobacco and ability of self-control showed effectiveness in reduction of cigarette smoking. However, the long-term effect requires further investigation.

**Contact: LEE Chiou Mei**

Kaohsiung Medical University Hospital  
No.100, Ziyou 1st Rd., Sanmin Dist., Kaohsiung City 80756,  
Taiwan (R.O.C.), Kaohsiung, [chmeli@cc.kmu.edu.tw](mailto:chmeli@cc.kmu.edu.tw)

## The effect of Giving up cigarette from hospital team at workplace

**HUANG Hui-chuan**

**Background/Problem/Objective**

Smoking prohibition is now a major public health issue. Smoking prevention is significant factor for prevent diseases, and smoking at workplace causes staffs not only health but finance damage. What's the solution for quitting smoke? Nowadays, we provide effective ways such as group therapy, medicine therapy and individual counselling, quitting smoking phone number. We hope we can stay in smoking free workplace in 2019, so with the hospital team for assisting staff to quit smoking and promote smoking free rate hopefully.

**Methods/Intervention**

Now we offer quitting cigarette class on traditional factory, particularly focus on smoking person who would like to quit it. It's almost two years, 1-2 hours per time a week, and finish within 5 weeks. We measure CO and smoking amount. Our team consist of family physician, pharmacist, case manager, nutritionist, and physical therapist. During our courses, we use nicotine combination instead of medicine, with individual counselling, diet adjustment and relax exercise. After, having a personal phone call is to understand the rate of success.

**Results (of evaluation)**

It was successful by two years since 2016. Sixteen staffs are willing to quit smoking and all of them are men. It's about 5-10 people per time because of shifts. They are smoking probably average 23 times everyday before the quit smoking course, the age of smoking is 21 years. The breath test of CO is up to 32 ppm. We use individual counselling for first year, and the rate of success is up to 40 percent. For second year, it's almost reaches out 66.7 percent by nicotine combination instead.

**Conclusions/Lessons learned**

The hospital team eager to help staffs to quit smoking at workplace with individual counselling, nicotine combination instead, and supporting by workplace would promote the rate of successful. Now, because of workplace supporting, we can contin-

ually make effort for staffs and hopefully up to smoking free workplace in 2018.

**Contact: HUI-CHUAN Huang**

Chi Mei Hospital ,Chiali

No.606, Jialixing, Jiali Dist., Tainan City 722, Taiwan (R.O

Tainan, [hhc6277@gmail.com](mailto:hhc6277@gmail.com)

## The study of five protection section promote tobacco cessation environment

**ZHUYIN Yao-Yi, CHOU Ling- Ling, WU Shih-Shiung, SHIUE Guang –Jin, CHENG Jin-Shiung**

### Background/Problem/Objective

Since the law on Tobacco Hazards Prevention Act January 2009 in Taiwan, the awareness of "no-tobacco" people has risen. 88.5% of the public have affirmed the improvement of a no tobacco environment. The accept of health promotion and prevention has improve, with the advocacy of tobacco cessation, Through the establishment of no smoking Self-inspection, Effective Persuasion and Assisting Smokers, refer to case manager, to create a smoke-free environment.

### Methods/Intervention

The five-section protection method (a)posting non-smoking slogan:we post slogan in smoking hot spot (b)The hospital scheduled radio announcements:The use of the hospital broadcasting system, time-based radio broadcast. (c)District responsibility area inspection interactive persuasion:The hospital is divided into a number of areas of responsibility, assigned colleagues to inspect and persuade, and referral. (d)to enhance volunteer participation in inspections:To encourage volunteers to participate in this hospital and conduct side-by-side inspections. (e)Innovation Remote Monitoring Instant Broadcasting Persuasion:

### Results (of evaluation)

(a) Effectiveness of no-tobacco inspections.After pluralistic persuasion, the number of smokers decreased, in 2015 was 1909 members, in 2016 was 566 members, in 2017 was 453 members. (b) Employees support for smoke-free environment to enhance.The superintendent leading medical & administration directors, openly activities sign for supporting smoking cessation.In order to promote a no-tobacco hospital, Our superintendent leading medical administration openly and intimately sign the policy of no-tobacco hospital so employees can understand the no-tobacco environment policy and increase their support.

### Conclusions/Lessons learned

(a) multi-model intervention can achieve the effect of no-tobacco advocacy and effectively create a no-tobacco environment By means of multiple interventions and advocacy, patients and their families are made aware of the prevention and control of tobacco smoke and effectively create a smoke-free environment. (b) Innovative Interactive Broadcasting can effectively persuade smokers The courtyard in some areas to watch the photography system and found smokers immediately

broadcast advice, most smokers can immediately extinguish the cigarette butts,to discourage very good.

**Contact: WU SHIH HSIUNG**

No tobacco environment

No.386, Dazhong 1st Rd., Zuoying Dist., Taiwan (R.O.C.)

Kaohsiung, [wisdom988801@gmail.com](mailto:wisdom988801@gmail.com)

## Repeated treatment of tobacco dependence: 12 months abstinence rates

**STEPANKOVA Lenka, KRALIKOVA Eva, ZVOLSKA Kamila, PANKOVA Alexandra, ADAMCEKOVA Zuzana**

### Background/Problem/Objective

Background: Tobacco dependence is a relapsing disease, often requiring retreatment. Aim: To evaluate the success rates (12-months abstinence rates, CO verified) and characteristics of the first and second (repeated) intensive tobacco dependence treatment in the same setting.

### Methods/Intervention

Outcomes of 4,415 nicotine dependent smokers were evaluated. Then separately outcomes, length and type of pharmacotherapy in first and second course of treatment were compared for 183 repeatedly treated patients between 2012-2016. Intensive treatment included 2-hour intervention and pharmacotherapy: type of medication and its duration was also compared. The proportion of change between the first and the second treatment was tested by McNemar test for paired nominal data, the difference between length of pharmacotherapy was tested by pair samples T-test.

### Results (of evaluation)

Overall abstinence rate was 35% (1528/4415). From total number of 183 patients, who completed two cycles of treatment, 64 (35.0%) were successful in first treatment cycle, while 65 (36%) were successful in the second treatment course. No statistically significant change in the success rate ( $p = 0.913$ ) in both treatments was found. 59% and 66% respectively was treated by CHampix. Pharmacotherapy duration was 2.88 (SD 3.77) vs. 3.02 (SD 3.70) months, the length of treatments did not significantly differ ( $p=0.657$ ).

### Conclusions/Lessons learned

No statistically significant differences were found in the treatment outcomes, length and type of pharmacotherapy between the first and second course of tobacco dependence treatment. The success (CO verified one-year abstinence) of the first course of treatment is not a predictor for the success of the second course of treatment. It is important and valuable to provide a possibility of retreatment in case of relapses. Supported by the project PROGRES Q25/LF1

**Contact: STEPANKOVA Lenka**

General University Hospital, Charles University

Karlovo namesti 32

12800 Prague, [lenkastepankova@seznam.cz](mailto:lenkastepankova@seznam.cz)



## Medical professionals provide brief advice on the effectiveness of health education

**WU Chia-Yu, CHENG Su-Fen, HUANG Meei-Jyhi, HSUEH Kuang-Chieh, CHENG Jin-Shiung**

### Background/Problem/Objective

Most of the top 10 causes of death in Taiwan are related to smoking, including cancer, heart disease, stroke and chronic lung disease. There are still quite a few people who make some cognitive mistakes about the dangers that cigarettes can cause. The wrong ways to quit smoking. Quit smokers often frustrated. Hospital health staff to use smoking in the disease caused by smoking cessation motivation to provide verbal tobacco harm propaganda education, awaken patients attention to quitting smoking. The success rate of smoking cessation three to six months after the guardianship is expected to reach 33% and 25% respectively.

### Methods/Intervention

1. Inpatient: Patients admitted by the ward physicians and nursing staff verbal advice, the next day by the dedicated quit smoking teachers take the initiative to the ward face to face quit smoking education, to provide detection of carbon monoxide and lung age, hospitalization during the quarantine staff to take the initiative to visit Patient, caring for their smoking status until discharged. 2. Outpatient Clinic: Clinicians provide brief oral admonitions while visiting doctor's office for medical treatment, follow-up care of smoking status of outpatient nurses, and if necessary, refer them to quit smoking and education staff to provide carbon monoxide or lung age test.

### Results (of evaluation)

From January to June 2017, 1550 oral health education students were enrolled, with a 40% success rate in three months and a success rate of 34% in six months.

### Conclusions/Lessons learned

Put yourself in an understanding of the case and try to persuade individuals to quit smoking in the most suitable way so that smoking cessation ideas can sprout in their minds so that smokers have the right idea of smoking to effectively change their smoking behaviors and use their patients to seek medical treatment by different professionals. Many face-to-face quit smoking advice, can improve the patient's attention to smoking cessation and have satisfactory results.

### Contact: CHENG Su-Fen

Kaohsiung Veterans General Hospital  
No.386, Dazhong 1st Rd., Zuoying Dist  
813 Kaohsiung, [ssfcheng@vghks.gov.tw](mailto:ssfcheng@vghks.gov.tw)

## Tobacco cessation – as we want it! An interview study with young people.

**EDVARDSSON AURIN Ingrid**

### Background/Problem/Objective

Teenage smoking is still common and about every third smoker states that they want to quit smoking. There are no obvious evidence-based methods for tobacco cessation for young people, and therefore, the same methods are used for young people as well as adults. The aim was to study what support young people need to quit smoking in intention to develop a model /method for tobacco cessation for young people through interviews with the target group.

### Methods/Intervention

Young people who smoked were interviewed in focus groups. The material was analysed using content analysis.

### Results (of evaluation)

Five groups of boys and girls were interviewed, a total of 25 young people, 16-29 years old. The content analysis of the text resulted in eleven subcategories. Based on these, four main categories were developed. Four categories related to the young people's opinions on and experiences of tobacco cessation were found: Approach to their smoking indicates what makes them start smoking and that they were unaware of their addiction. Relationship importance, what the parents say is important - but the influence of a friend has greater impact. Reflexion about quitting, where the young people reflected on what support they would like if they would quit smoking. The 4<sup>th</sup> theme was prevention strategies, considered the young people, availability and age limits for purchasing tobacco are important to reduce smoking.

### Conclusions/Lessons learned

The results showed that smoking started in a social context and young people were afraid to be out of the group if they would quit. Therefore they also want to quit smoking in a social context - together with a friend – a stop-smoking-dou!

### Contact: EDVARDSSON AURIN Ingrid

County Council Kronoberg  
Region Kronoberg, 35188 Växjö,  
[ingrid.edvardsson@kronoberg.se](mailto:ingrid.edvardsson@kronoberg.se)

## Session P2.13: Staff training and education to improve health

### Factors affecting hospital physicians' Performances- Take a municipal hospital as an example

**CHENG WeiTing**

### Background/Problem/Objective

The individual job performance of physicians is closely related to the income growth of hospitals. The research purpose was described as below: 1.Adopt social demographic and environmental variables to conduct the survey and explore whether different variables may influence job performances of physicians.2.Conduct thorough interviews to understand influential factors relating to job performances.

### Methods/Intervention

The research adopted mixed methods of the survey. The respondents were current physicians. 40 surveys were sent out

and retrieved, and 40 surveys were valid after being arranged and were analyzed through SPSS 18.0 version. The interviewees were comprising 2 representative attending physicians and 2 chief physicians separately.

#### Results (of evaluation)

That demographic variables "including gender age, post, education, department, years of services, total years of practice" had no significant influence, and environmental variables "medical equipments, clinic environment, administrative procedures, medical malpractice, continuing education and incentive systems" had no significant influence, promotional channels had significant influence ( $p < 0.05$ ).

#### Conclusions/Lessons learned

The research received the real reasons for uninterpretable quantitative information from the comparison and contrast in quantitative data and qualitative information collected and designed through triangulation, hoping to provide the future medical institution administrators with references and improvement for the purpose of increasing job performances of physicians based on the results of the research.

#### Comments

The influential aspects were as blow: The hospital should establish a system of regular renovation, evaluation and replacement. Integrate medical operational system and software for Physicians. In terms of administrative procedures, physicians emphasized working phenomena in the organization. Offer continuing education and medical malpractice. In terms of incentive systems, hospital should focus on the impartiality and rationality of incentives. Proper medical marketing may help physicians treat patients.

#### Contact: CHENG WEI TING

Kaohsiung Municipal Meng-Sheng Hospital  
No.134, Kaixuan 2nd Rd., Lingya Dist., Kaohsiung City 802,  
Taiwan (R.O.C.), 806 Kaohsiung City,  
[may89251009@gmail.com](mailto:may89251009@gmail.com)

## The Outset research on the Job Course Model for Nurses in Public Health Institutions in Korea

### LEE DONGWONYANG INSUK

#### Background/Problem/Objective

Because many people expect high-quality health care, the training and education of health care providers in charge has become a matter of every minute. Korea has 38 regional public hospitals and its key workforce is about 45.3 percent as nurses. Therefore, it has become an important task to analyze the educational environment and the educational needs of these nurses and select a common curriculum with a higher priority.

#### Methods/Intervention

With reference to BENNER's clinical expertise level, the subjects were divided into three groups : novice, experienced, and expert ; and the duty bottle constants were identified as less than 300 or higher. Regarding the educational environment, we asked 1) Whether to complete the vocational training, 2) how to select the objects, 3) how long to train, 4) how to participate, 5) how to assess 6) what kind of evaluation.

#### Results (of evaluation)

In responses to the educational environment were 1) Completion rate of job training is 89 %, 2) Course selection was based on experience 64 %, demand focused 23.7 %, and 3) participation outside working hours 85.6 % and 4) Compulsory attendance was 52.8 %. 5) Generally, 55 % of lectures are lectures. Top answers to educational needs were, 1) Communication, responsibility and duty, standard guidelines, and improvement of teamwork in basic care 2) Cardiovascular nervous system diseases in the area of disease knowledge 3) In the professional nursing field, emergency, seriously ill, diabetes, and cancer 4) In nursing, her preference was for shock, injury, and safety. Based on these results, the criteria for selecting standard were 1) The top 30 % of all items need 2) The results are lower than the top 30 %, but more related to actual work. 3) As a final content, nurse insight, communication skills, shock care, wound care, safety care, cardiovascular care, and emergency critical care, diabetes care were selected as common courses.

#### Conclusions/Lessons learned

We know from this study that the education most of the subjects received was mainly forced upon the form of instruction during working hours and did not reflect their needs. And in both less than 300 beds and more, within all groups of beginners, technicians, and experts, The high demand for nurse insight, communication skills, shock care, wound care, safety care, cardiovascular care, emergency and diabetes care led to the selection of important contacts as curriculum.

#### Contact: LEE Dong Won

Korea Association of Regional Public Hospitals  
#806, Keumsan Bldg. 17-1, Youido-Dong  
150-727 Seoul, [hl2xpn@hanmail.net](mailto:hl2xpn@hanmail.net)

## Reducing the Incidence and Injury Rate of Falls in Gastroenterology Ward by Means of an Interdisciplinary Quality Improvement Project

### YU-LAN Lien, TRUEY-YEH Song

#### Background/Problem/Objective

Fall prevention has been an important issue of medical institutions. The fall incidence and injury rate were 0.03% and 75% in gastroenterology ward, significantly higher than our inpatient unit the average reported rate were 0.02% and 37.7% in 2014. The aim of this project was to lower the fall incidence and injury rate among gastroenterology ward inpatients.

#### Methods/Intervention

Applied the Root Cause Analysis on the collected data in January, 2014, we identified the contributing factors, such as lack of knowledge about preventing fall of patients and caregivers, lack of education and training of nurses, lack of effective health education tools and audit system. We then develop a series measures for improvement in February, 2014 included team approach, physician participate in patient fall prevention education, develop of fall prevention DVD with the contents such as 1. attentions for living (attention for footwear, attention before sleeping, attention for getting on and off bed) 2. arrangement for hospitalizing environment (settings of daily

utensils, ground, lights) 3. attentions for actions (attentions for walking and using assistives like wheelchairs, canes and walking-assisting device) , fall prevention handbook with color graphic, educational poster exhibition, design the patient out of bed warning devices, consult with Rehabilitation Physicians for exercise training, and staff education.

#### Results (of evaluation)

The policy effectively reduced incidence and injury rate of falls from 0.03% and 75% to 0% and 0% in our gastroenterology ward in January to December, 2015. The awareness of falling among patients and caregivers increased from 40.8% to 81.2%.

#### Conclusions/Lessons learned

Interdisciplinary cooperation was central to this project and the principal reason for the reduction in incidence and injury rate of falls in gastroenterology ward. It not only enhanced professional competence, but also improved the quality and patient in hospital.

**Contact: YU LAN LIEN**

SHIN KONG WU HO-SU MEMORIAL HOSPITAL  
No. 95 Wenchang Road, Shilin District, Taipei City  
TAIPEI, [R004285@MS.SK.H.ORG.TW](mailto:R004285@MS.SK.H.ORG.TW)

## Project to Enhance the Integration of In-hospital Resuscitation in a Ward

**FU ZIH-JHEN, LIN BO-SYUN, LA Wen-Ter, CHEN Shu-lin**

#### Background/Problem/Objective

In-hospital resuscitation, an urgent and complicated procedure, is often carried out by a multidisciplinary team. Resuscitation accreditation as a routine does not guarantee that team members can complete such task cooperatively. Incomplete cardiopulmonary resuscitation will increase mortality and result in more medical disputes. The study described a project to enhance the completeness of in-hospital resuscitation by exploring problems of resuscitation process, improving rescue knowledge, and facilitating cooperative teamwork.

#### Methods/Intervention

After analysis, the completion rate of performing resuscitation in our neurology ward was only 56.77%. Percentage of correct response on resuscitation knowledge was 42.78%. Group interviews and causes analysis were used to identify problems, which included four aspects: (1) preparation of rescue devices; (2) usage of medical equipment; (3) drugs delivery; and (4) team cooperation. A project was implemented to solve these problems step-by-step, including making a matrix map, creating a standardized procedure, establishing responsibilities and accountabilities, and performing simulation-based drill activities. In particular, a tip of reminder cards was designed to prompt teamwork cooperation. Content in these cards included responsibilities comparison chart, pictures of ambulance drugs and medical material, demonstration of defibrillators and ECG monitors, and drug pictures with reminders.

#### Results (of evaluation)

After implementing the project, average score of resuscitation knowledge increased from 86.76 out of 100 to 93.23 Average

score of resuscitation completion has significantly increased from 63.52 out of 100 to 86.93.

#### Conclusions/Lessons learned

This project improved the performance of in-hospital resuscitation. Moreover, it effectively enhanced skills and knowledge among rescue team members. This results can serve as a reference for improving the quality of resuscitation.

**Contact: SHU-LING Chen**

Kaohsiung Municipal United Hospital (ROC)  
No.976, Jhonghua 1st Rd., Gushan Dist., Kaohsiung City 80457  
Taiwan (R.O.C.), [juno3180@gmail.com](mailto:juno3180@gmail.com)

## Preliminary Study of Using the Simple Operation Cards with Mnemonic Phrases to Improve Learning Effectiveness among Newly Employed Registered Nurses for Operating Noninvasive Ventilators

**LU Wen-Chuan, HSU Li-Ling, CHEN Sung-Yun, TSAI Yi-Fan**

#### Background/Problem/Objective

Our hospital was a regional teaching hospital in northern Taiwan with total 286 beds. Unfamiliarity in operating the relevant medical equipment or insufficient knowledge about ventilators is likely to endanger patient safety. Statistics from the hospital indicate that patient safety events caused by unfamiliarity in operating ventilation devices accounted for 15.2% of all patient-safety-related events in hospital. This study applied imagery instruction (which combines images and mnemonic phrases) as supplementary assistance for operation practice. The purpose of this study was to assist learners in maintaining long-term learning memory, thereby increasing the effectiveness of practicing Noninvasive positive pressure ventilation (NIPPV) and ensuring and maintaining patient safety.

#### Methods/Intervention

We administered the evaluation questionnaires to collect data on teaching needs. Then, we used the data to set design instructional contents. The methodology involved the use of information processing theory, mnemonic instruction, and the motor skill training proposed by Paivio (1986), as well as the production of 90×55-mm cards for NIPPV operation procedures containing operational descriptions, diagrams, and mnemonic phrases to aid memorization. These cards were used to instruct newly employed registered nurses and easy to carry-on for reading anywhere.

#### Results (of evaluation)

We designed a pretest to assess nurses NIPPV knowledge and operating skills, we found the correct rate were 62.1% and 65.4%, respectively. After intervention for six months later, they were evaluated through a post-test, with the correct response rate of the knowledge test section being 97.4% and the average passing rate of the skill test section being 98.5%, demonstrating statistical significance. We found the number of patient safety events caused by unfamiliarity in operating ventilation devices was reduced to zero.

**Conclusions/Lessons learned**

Our study confirmed the NIPPV operating procedures with diagrams and mnemonic phrases could effectively improve the accuracy technology and the effectiveness of learning NIPPV for newly employed registered nurses. Our study also can effectively simplify the clinical guidance, and maintain long-term memory, thus ensuring the patient safety and enhancing the quality of care, ultimately creating a healthy supportive environment.

**Contact: TSAI YI-FAN**

Taipei City Hospital, Young Ming Branch  
No.105, Yusheng St., Shilin Dist., Taipei City 11146, Taiwan  
10453 Taipei, [b1717@tpech.gov.tw](mailto:b1717@tpech.gov.tw)

## The “Osservare” Project: Engaging health professionals to improve the safety surgery check list implementation

**MASTRANGELO Stefano, VERCILLI Francesco, SONCINI Francesco**

**Background/Problem/Objective**

Since 2008, WHO recommend the adoption of Safety Surgery Check List (SSCL) in the operating theatres, as a tool to support teams in carrying out safety checks aimed to reducing the probability of errors and adverse events. The SSCL entails three phases: i) sign-in; ii) time-out; iii) sign-out. Emilia-Romagna Region has promoted the use of SSCL through the "Safe Operating Room Network". The "Osservare" project aimed at verify the actual implementation of the SSCL in the operating room of selected hospitals in the Azienda USL of Reggio Emilia. Further objectives of the "Osservare" project were i) to identify gaps and to favour of the correct use of SSCL; ii) to improve communication and synergy among the surgical teams' members; iii) to increase the awareness among staff of safety issues in the operating room.

**Methods/Intervention**

Direct behaviour observation is a qualitative research method that can be applied in health care setting. A specific training was addressed to targeted professionals in order to teach them how to conduct observations. Trained professionals (2 surgeons, 1 anaesthetist, 2 nurses, 1 medical resident) made direct observations of surgical teams during application of the three SSCL phases. The observers, through the aid of an observation form, recorded any breach for SSCL use. The observations were made without any previous announcement. The observers didn't interact with the components of the surgical team during the interventions but only afterwards.

**Results (of evaluation)**

Overall 105 observations were made in selected hospitals of the Azienda USL of Reggio Emilia: 75 concerned general surgery units and 30 orthopaedics. The observations showed that over 70% the SSCL were not fully implemented. In particular, in about 50% of cases, professionals of the team were not present at the sign-in phase and in 30% of cases, and patient identity and surgical site weren't correctly verified. In the sign-out phase, about 40% of the items were not correctly verified.

Feedback on observation findings will be provided to professionals involved.

**Conclusions/Lessons learned**

The Osservare project, in accordance with other literature studies, highlighted a discrepancy between administrative data flows, which show high adherence to the SSCL, and observations data aimed at verifying its correct application. In particular, there was a lack of compliance in the SSCL for the sign-out phase checks. The project allowed to engage the surgical teams to compare data and to share improvement actions.

**Contact: MASTRANGELO Stefano**

Azienda Unità sanitaria di Reggio Emilia  
Via Amendola, 2, 42121 REGGIO EMILIA,  
[stefano.mastrangelo@ausl.re.it](mailto:stefano.mastrangelo@ausl.re.it)

## A pilot study to evaluate the efficacy of reducing legs edema of bed ridden inpatients by use of elastic bandage and stocking

**JANE Yu-Shan, CHEN Sung-Yun, HSIAO Lan-Fang, TSAI Yi-Fan**

**Background/Problem/Objective**

The studied unit was a regional hospital in northern Taiwan with total 46 beds in the internal medicine department. Inpatient tended to have lower legs edema (25.3%) because of long time bed ridden. Except prescription (diuretic), the most common way to reduce legs edema is leg elevation. We want to find other non-invasive intervention to improve the stasis of fluid volume in leg. The objective of the current study was to evaluate the reduction of legs edema with the use of elastic bandage and stocking.

**Methods/Intervention**

Inpatient with heart failure was excluded in this clinical trial. Finally, a total of 30 inpatient s (60 legs) were enrolled in this study from January to June in 2017. Two groups with EB (elastic bandage) and ES (elastic stocking, 30mmHg) were measured and recorded at 10 AM everyday by researchers. Reductions of legs circumference and skin thickness were the major outcome. We assessed two groups at the same time to reduce bios before and after 7-day intervention.

**Results (of evaluation)**

Subjects in EB and ES group could both reduce volume of legs (EB group-12.6% [95%CI 13.8-17.4], ES group-13.8% [95%CI 12.4-16.8]). Reduction of legs circumference and skin thickness, ES were more than EB group significantly ( $P<0.05$ ). We found usage of elastic bandage and stocking could both reduce legs edema in bed ridden inpatients.

**Conclusions/Lessons learned**

Use of elastic bandage and stocking could both reduce legs edema in bed ridden inpatients. It could provide the evidence of clinic practice and promote the quality of care.

**Contact: TSAI YI-FAN**

Taipei City Hospital, Young Ming Branch  
No.105, Yusheng St., Shilin Dist., Taipei City 11146, Taiwan  
10453 Taipei, [b1717@tpech.gov.tw](mailto:b1717@tpech.gov.tw)

## The Analysis of 72- hour return visits risk factors to pediatrics emergency department in Taiwan

**CHEN Shu-Lin, CHEN Chieh-Fan, LAI Wen-Ter**

**Background/Problem/Objective**

In the field of emergency care, the return rate of child-related emergencies is an important index to evaluate the quality of pediatric emergency care. The current study aimed to probe into risk factors affecting the use of pediatric emergency and subsequent return visits, serving as the reference for improvement in regulating pediatric emergency quality indexes.

**Methods/Intervention**

This study adopted a retrospective design and secondary data analysis. Data was collected from medical records of a district hospital in southern Taiwan from 2017/01/01 to 2017/12/31. A total of 9962 pediatrics emergency medical records were collected, among which 273 were 72-hour return visits in pediatric emergency.

**Results (of evaluation)**

The average rate of 72-hour emergency return visits of the case hospital from the first quarter to the third quarter in 2015 was 3.67%, in which children under the age of 6 accounted for 78.3%. The risk of return visit of children below the age of 1 was 1.79 times higher than that of elder children. Children with fever had higher risk of return visit than those without fever by 1.77 times. Infections and parasitic diseases resulted in higher risk of return visit than the commonly-seen respiratory diseases by 1.49 times. Return visits on weekdays (Monday to Friday) led to higher risk than those during the weekend (Saturday and Sunday) by 1.54 times. Risk of return visit during the day shift was 1.46 times higher than that during the night shift. The results revealed that children below the age of 1, with fever, infections and parasitic diseases were the high-risk groups in return visits in pediatric emergency.

**Conclusions/Lessons learned**

It is suggested that more health education be given to caregivers of high-risk groups to enhance the quality of pediatric emergency care.

**Contact: SHU-LING Chen**

Kaohsiung Municipal United Hospital (ROC)  
No.976, Zhonghua 1st Rd., Gushan Dist., Kaohsiung City 80457  
80457 Kaohsiung City, Taiwan (R.O.C.),  
[juno3180@gmail.com](mailto:juno3180@gmail.com)

## Study of the cognition, attitude and behavior of the nursing staff and the supervisors toward the infection control of LTCFs

**CHUANG Shu-Ting, CHANG Mei-Fang, TSAI Shu-Fang, HO Yu-Ping, CHIEN Sou-Hsin**

**Background/Problem/Objective**

With more aged population increasing rapidly and the demand the care of long term care facilities (LTCFs) is increasing. Infection issue in LTCFs should be paid more attention. Yet, in Taiwan, there is still lack of study of the cognition, attitude and behavior of the nursing staff and the supervisors toward the infection control of LTCFs. The study design will be focus on how impact the cognition, attitude and behavior of the nursing staffs and supervisor toward the infection control of LTCFs.

**Methods/Intervention**

The research will employ cross-section questionnaire survey. Based on the characteristics of the current domestic LTCFs, we decide the quantities of the LTCFs and the number of nursing staffs to be studied. We make research through structural questionnaire and we collect back totally 304 questionnaires. We utilize SPSS 19.0 version to process the data statistics and analysis, and including descriptive statistics and inferential statistics.

**Results (of evaluation)**

The results of research show that the integrated cognition toward infection prevention and control process is 3.42 points (the top mark is 4 points), and the integrated cognition toward the importance of enforce prevention precaution is 4.65 points (the top mark is 5 points). We find out that there is no big difference between the nursing staffs and supervisor of nursing home and LTCFs. As for the attitude toward infection precaution enforcement, the supervisor and nursing staff of the nursing home feel more important in many aspects than those personnel in LTCFs. We need to do more advance research to find out the differences.

**Conclusions/Lessons learned**

The results of research show that there are high associativity between the integrated cognition toward infection prevention and control process. The length of service and whether such nursing staffs or supervisor is charge of the institute will influence their cognitions, attitudes and behaviors. The results can be references for the policy set-up and enforcement of infection prevention of LTCFs.

**Contact: FANCHIANG Yu-Chen**

Buddhist Tzu Chi Medical Foundation  
No.88, Sec. 1, Fengxing Rd., Tanzi Dist.,  
Taichung City, [df173536@tzuchi.com.tw](mailto:df173536@tzuchi.com.tw)



## A Probe into the Correlation between Medicine Simplification and Enhancement of Inpatients' Medicine Knowledge

**YANG SHIOU-JIN, LI PEI-SHAN, LU HUEI-LANCHENG CHING-MING**

### Background/Problem/Objective

Hospitalization in rehabilitation wards aims to enhance inpatients' capability of daily self-care, which is the basis for their future transition to communities. The simplified medication of this ward mainly intends to increase inpatients' knowledge of drugs, and further ensure their compliance with medicine taking. Besides, simplified medication reduces nurses' frequency of medicine administration, and as a result, it increases their time spent on caring for inpatients and medication safety. In this way, nursing quality is improved.

### Methods/Intervention

The study was prepared from January to March, 2017 and carried out from April till now. The frequency of inpatients' medicine taking is calculated. The subjects of this study are 50 inpatients in a rehabilitation ward of a psychiatric center. The instruments used include Medicine Knowledge Questionnaire, Medicine Taking Statistics, and Medicine Taking Recording Sheet. They are introduced in a retrospective research of clinical records. Also, the Satisfaction Survey of Medicine Taking, the Pretest and Posttest of Accuracy Rate in Medicine Taking, and Qualitative Feedback Sheet are used as performance indicators.

### Results (of evaluation)

The result indicates that the frequency of inpatients taking medicine once a day increases from 10% to 14%, twice a day increases from 36% to 70%, while the frequency of inpatients taking medicine three times a day decreases from 38% to 12%, four times a day decreases from 16% to 4%. The satisfaction rate in medicine taking surges from 58% to 92%. The pretest and posttest of medicine taking reveals that the accuracy increases from 68% to 96%. A significant overall improvement is observed. As far as qualitative feedback, inpatients say that after simplified medication, they are more aware of when to take medicine and what their medication is.

### Conclusions/Lessons learned

This study is conducted with a view to enhancing nursing quality and inpatients' compliance with medicine taking. After proper assessment, inpatients' medicine can be simplified and thus the frequency of medicine administration is reduced. Meanwhile, nurses have more time to take care of inpatients. The project of medicine simplification can keep inpatients' condition stable, enhance medication safety, and build on correct medicine knowledge.

### Contact: LI PEISHAN

Jianan Psychiatric Center  
No.539, Yuzhong Rd., Rende Dist., Tainan City 717, Taiwan  
(R.O.C.), 717 Tainan, [peishan29@mail.cnpc.gov.tw](mailto:peishan29@mail.cnpc.gov.tw)

## Experience of Team Resource Management Model in Blood Transfusion Safety

**TU Chi-Chao, LEE Pei-Ning, WU Tung-Huan, WU Meng-Ting, LIN Yu-Wen, YANG Nan-Ping, LIN Ching-Feng**

### Background/Problem/Objective

The clinical process involved in transfusion is very complex and high risk that requires multidisciplinary coordination and teamwork. To prevent error during the processes, teamwork education and training might play an important role. We wished to evaluate the efficacy of implementing a Team Resource Management (TRM) program on transfusion safety and the behaviors of the team members involving in the process.

### Methods/Intervention

We implemented a TRM model for the transfusion team members of the Keelung Hospital. This 3-years intervention included TRM education and training courses for the transfusion team members, integrate information system, and case reviews with feedbacks. Teamwork culture was evaluated, all transfusion cases were reviewed and the causes of blood wastage and blood transfusion reaction were investigated to evaluate the application of TRM model during the actual processes.

### Results (of evaluation)

During the intervention period, teamwork framework concept was the most prominent dimension that showed improvement from the participants for training. The team members showed a variety of teamwork behaviors during the process of transfusion. The wastage rates of frozen plasma and blood product were 0.26%, 0.05% and 0% respectively from 2015 to 2017. The error rate of blood typing test was 0% and the transfusion reaction rate was decreased by using leucocytes-reduced blood and filter. None of the recipients was transfused with an incorrect blood. No error in communication or patient identification was noted during review of the case records.

### Conclusions/Lessons learned

Implementation of a Team Resource Management model improves the teamwork culture as well as patient safety in transfusion.

### Contact: LIN Ching-feng

Keelung Hospital Ministry of Health and Welfare  
Shin-Erh Road 268  
201 Keelung, [chingfeng01@gmail.com](mailto:chingfeng01@gmail.com)

## Designing Instructional Scaffoldings for New Nurses Self-Regulated Learning Task-Based Situational Awareness Modular Curriculum on In-Patient Resuscitation and Care

**HUANG Chun-Chao, HSU Man-Ying Fang**

**Background/Problem/Objective**

Perceiving critical conditions of patient dying and activating resuscitation are the keys to save patient's life. The most difficult part for new nurses is understanding the meaning of changes of patient's vital and physiological signs, and this part has not yet been incorporated into the resuscitation training program. The objective of study is to design instructional scaffoldings to assist new nurses self-regulated learning a task-based situational awareness on changes of in-patient vital and physiological signs(SACVPS) modular curriculum.

**Methods/Intervention**

Data collected via reviewing literature, focus group and action research method through clinical observation in three stages 12 steps on medical and surgical ward, new nurses were practitioners.

**Results (of evaluation)**

The results are: (1) learning difficulties and (2) instructional scaffoldings of SACVPS modular curriculum. Developed instructional scaffoldings in this study has proved to be able to overcome learning difficulties and enhance learning outcomes and self-regulated learning. It also improves new nurses not to fear and able to recognize while patient is sleeping or conscious change. It enhances new nurses' confidence to grasp the situation, and the outcome increases nurses' willingness to stay, and improve patient safety as well.

**Conclusions/Lessons learned**

Developed instructional scaffoldings for the modularized SACVPS curriculum enhanced new nurses' self-regulated learning competencies and understanding of procedural and conceptual knowledge of modular curriculum units. Further study may (1) test in different ward and continuing develop relevant tools; (2) develop different job tasks and RCT in different wards; (3) set technological information for leading and relieving nursing staffs; (4) strengthen action research and job tasks for preceptor training; (5) design more instructional scaffoldings for other job tasks.

**Contact: HUANG Chun-Chao**

68 An-Le Road, Jung-He  
235 New Taipei, [chunchao@me.com](mailto:chunchao@me.com)

## Applying Team Resource Management Model to Reduce the Rate of Patient Fall Incident in Psychiatric Acute Ward

### TASI SHU-FEN, CHIU HSIAO-TAN, CHANG SHU-MINLU HUEI-LAN

**Background/Problem/Objective**

Patient fall incident was the ranked second of patient safety incipient in 2016 in Taiwan. There were 72 time (0.68%) fall incident occurred in a psychiatric center acute ward in 2016, therefore team resource management model was applied to improve the fall incidence. The purpose of this program was to understanding the effectiveness of applying team resource management in improving the fall incident in psychiatric acute ward.

**Methods/Intervention**

The Team Resource Management Mode was applied for improving the patient fall incident, these interventions included: (1) Leadership: briefing the high risk falling of patient to team member; and (2) Communication: Hand off the information. (3) Mutual Support: to callout other team members when there is an increased risk of falls, such as physicians providing physical assessment and medication adjustment, social workers contacting family to support care, providing lower extremity muscular exercise by physical therapist. (4) To maintain a safety environment.

**Results (of evaluation)**

After the medical team conducted the Team Resource Management mode, the number of falls has decreased from 74 to 64; fall incident rate decreased from 0.68% to 0.56%, improvement rate was 21%.

**Conclusions/Lessons learned**

Team Resource Management (TRM) can be a powerful safety culture in the psychiatric acute ward. The professional team member together to provide patients with individuality and completeness of medical care can more effectively improve the incidence of falls, enhance the medical quality and teamwork ability

**Contact: SHU-FEN TASI**

Jianan Psychiatric Center, Ministry of Health and Welfare  
No.539, Yujhong Rd., Rende Dist., Tainan City 717, Taiwan  
(R.O.C.), 717 Tainan, [ppeeble@gmail.com](mailto:ppeeble@gmail.com)

## Chronic ward urinary tract infection improvement program by community hospital~Taiwan experience

### YEN Kuei Hua, CHANG Jui Feng, HUANG Jia Wen, KAO Li Chueh

**Background/Problem/Objective**

According to the monitoring data, the average infection rate in 2016 was 3.83 ‰ (the threshold was 2.7 ‰). Only 56.3% of the nurses performed catheter care integrity. Only 67.1% of caregivers performed perineal care on patients. The project was to reduce the incidence of urinary tract infections (UTI) from 3.83 ‰ to 2.7 ‰ (our hospital threshold). The integrity of nurses' catheters care from 56.3% to 85%. Caregivers' catheters and perineal care was raised from 67.1% to 85%.

**Methods/Intervention**

Improvement team was set up in March 2017. Develop solutions based on decision matrix analysis. From staff education, development of care standards, making health education leaflets and incentives for start. (I) To educate nursing staff and caregivers about urinary tract infections. (B) The development of urinary catheter and perineal care norms. (C) Produce "perineum care standard cards" in all languages and set up incentives.

**Results (of evaluation)**

(A) The urinary tract infection rate averaged 1.49 ‰, reached the target of 207% and improved by 61.1% (B) 20 nurses attending 2 stages of UTI education, 86 people completed the

assessment, the integrity of 89%, reached the target of 114% and improved by 58.1% (C) 68 caregivers attending 9 stages of UTI education, and 24 of them received the "Pass Card" incentive. "There were 64 caregivers the integrity of 90%, reached the target of 128% and improved by 34.1%.

#### Conclusions/Lessons learned

Through this project, nurses and caregivers will be able to understand the importance of safety of the pipeline and perineum care to patient safety. Indicating that patients with UTI may increase the risk of prolonged hospitalization or death. Nurses should teach caregivers the correct skills and attitudes to be effective helpers and affirmed by their patients and their families. The effect of this project still needs more time to verify, so this ward will continue this project.

#### Contact: SIOU LING jhong

Taipei Municipal Gan-Dau Hospital  
No.12, Ln. 225, Zhixing Rd., Beitou Dist., Taipei City 112,  
Taipei, [sljhong@gandau.gov.tw](mailto:sljhong@gandau.gov.tw)

## Analysis of people's behavior pattern of drug concept

**JU-FANG Wu, CHEN-YING Su, PO-CHUEN Shieh, WEN-DE Lai**

#### Background/Problem/Objective

In order to improving drug safety and reinforcing medication knowledge, in 2012, the Food and Drug Administration, MOHW, suggested that consumers should possess the knowledge of 「five core capabilities for drug safety」 which emphasized the establishment of the core ability in correct drug usage. This study aimed to investigate the knowledge and experience of the five cores capabilities for drug safety in the outpatient people with chronic disease. Results of this study will provide recommendations to the health education regarding drug safety.

#### Methods/Intervention

Utilizing Cross-sectional research design as the theoretical framework, this study employed a questionnaire to sample the views of 215 patient, and a test to measure how would you refuse if your friends and family lobbied you to buy drugs that were not from hospitals or medicine bureaus? Data for the study come from a survey of there is at least one chronic disease and a continuous prescription for the patient, aged 30~70 years. Statistical analysis was performed using SPSS software (version 20)

#### Results (of evaluation)

How would you refuse if your friends and family lobbied you to buy drugs that were not from hospitals or medicine bureaus? the major findings are (a) 36.4% the ability to be absolutely rejected; (b) 29.9% have 70% ability to refuse (c) 29.9% Have a little ability to refuse (d) 29.9% no ability to refuse at all. Will you persuade friends and family to buy drugs that are not from hospitals or drug bureaus? the major findings are (a) 14.3% the ability to be absolutely rejected (b) 33.8% have 70% ability to persuade (c) 45.5% Have a little ability to persuade (d) 6.5% no ability to persuade at all. How would you refuse a friend to buy an unidentified drug to send you? the major findings are (a) 16.9% the ability to be absolutely rejected (b) 28.6% have 70%

ability to persuade (c) 50.6% Have a little ability to persuade (d) 3.9% no ability to persuade at all.

#### Conclusions/Lessons learned

The date presented in the paper may have significant drug safety advocacy value, with respect to will you persuade friends and family to buy drugs that are not from hospitals or drug bureaus?

#### Comments

The study highlights the importance of promoting awareness of friends and family lobby to buy unknown drugs bravely refused in Taiwan. If the improper use of drugs will endanger their own health, pharmacists must be on the front line for the people to use safety.

#### Contact: JU FANG Wu

Kaohsiung Municipal United Hospital  
No.976, Zhonghua 1st Rd., Gushan Dist  
80455 Kaohsiung City, [wdoris0110@gmail.com](mailto:wdoris0110@gmail.com)

## Session P2.14: Miscellaneous

### International conference – Development of health promoting activities and quality of care in healthcare facilities

**STEJSKALOVÁ Veronika, KALVACHOVÁ Milena**

#### Background/Problem/Objective

The Ministry of Health of the Czech Republic (MoH) seeks for extensive and aimed qualified enlightenment. Therefore the MoH in cooperation with WHO Country Office in the Czech Republic and HPH General University Hospital (GUH) organized the first annual International conference which was held on October 2017 under the auspices of the Minister of Health in the premises of the lecture hall of GUH in Prague. Conference was led by national coordinator of HPH program of the Czech Republic.

#### Methods/Intervention

Aim of the conference was raise awareness of healthcare providers and others professionals about importance and benefits of rightly applied principals of health promotion in hospital's systems of healthcare quality and patient safety management, further especially sharing of experiences and best practices. Program was split in two days. First day included almost 20 presentations of Czech and foreign professionals, second day was stipulated for excursion in Reference Centre for Tobacco Dependents which was led by national coordinator of ENSH program.

#### Results (of evaluation)

In total, over 50 professionals from more than 25 healthcare facilities was participated. During the conference was conducted and shared very important experiences by all hospital's representatives (HPH hospitals even non-HPH). Many new contacts have been created and existing contacts have been deepened. The MoH consider this move forward to professional

like a huge step for future development of Health Promoting principals in Czech Republic, especially in area of expansion of Czech National HPH Network and Czech National ENSH Network.

#### Conclusions/Lessons learned

Czech even foreign participants have been very glad for this conference. Organizers received many very positive feedbacks and thanks for active attitude in this problematic. Very positively has been evaluated conference's content, high level of presentations and friendly and inspiration ambience for meeting with health promoting-focused colleagues and sharing knowledge and experiences.

#### Comments

Similar activities on government level has a huge contribution for practice of Health Care facilities and is very important, because leads to increase and deepening of cooperation and down-to-earth communication between MoH and Health Care's representatives. Ministry of Health of the Czech Republic would like to continue in these activities for future.

**Contact: STEJSKALOVA Veronika**

Ministry of Health  
Palackého náměstí 4, 128 01 Prague,  
[veronika.ste@seznam.cz](mailto:veronika.ste@seznam.cz)

## Shorten Picking Material Work Time at Regional Hospital Central Storage

**LIU Chiung Fen, CHEN Fang chi**

#### Background/Problem/Objective

The central storage site material placed in accordance with the order of the material number and the reference material volume shelves planning in the new hospital. Did not take into account the moving line, often using the material ... and other factors. In 2013, the average picking time per person per day was as high as 9.6 hours. In the past three years in the limited space, system, manpower ... and so on, the operating practices needed to re-examine and improve.

#### Methods/Intervention

With brainstorming, Fishbone Diagram, the rule of thumb, descriptive statistical analysis, the three actuals, Sangen Shugi, to confirm the reasons for picking material time too long. Action Strategy: 1. Statistics In the first quarter of 2016, the projects with high materials requisitioned rate and consuming large amount of material are the basis for re-planning the storage. 2. Use EIQ analysis to adjust material storing place and Storage order. 3. Statistics similar to the storage of packaging materials, planning separate storage.

#### Results (of evaluation)

After improvement, average daily picking material time: 8.9 per person per day reduced to 6.6 hours per person per day in the third quarter of 2016. Additional benefits: 1. Sorting picking material work moving distance, significantly lower than 20%. 2. Due to the wrong material and counting materials, two factors caused stock shortage or more to the ratio has been reduced to less than 1%.

#### Conclusions/Lessons learned

According to a number of researches, the survey found that the average cost of medical materials accounts for about 30% to 40% of the total operating costs. Therefore, the management of medical materials plays a crucial role in hospitals. Medical material management is related to the quality of hospital medical services. Correct medical material management of hospital can provide hospital safety and security services. Inventory management will continue to improve.

**Contact: LIU Chiung Fen**

Kaohsiung Municipal Ta-Tung Hospital  
No.68, Jhonghua 3rd Rd, Cianjin District, Kaohsiung City 80145, Taiwan (R.O.C.)  
Kaohsiung,  
[998319@ms.kmuh.org.tw](mailto:998319@ms.kmuh.org.tw)

## Using PDCA procedure to improve inpatient completion rate of examination in neuro-electrical examination room

**CHEN HUI-JU, LAI CHIOU-LIAN, CHEN CHUN-HUNG, HUANG I-FANGHUANG PO-YING**

#### Background/Problem/Objective

There are a large number of Neurology inpatient examinations, 9 kinds of neuro-electrical examination for the most, accounting for 53% of it. On average, each neurology patient takes 3 neuro-electrical examinations during hospitalization and spends about 30mins each neuro-electrical examination. Before improving online system (January 1 to March 31, 2017) On average, each patient was hospitalized for 7.1 day. However after improving internal hospital system, the number of hospitalization days (April 1, to July 31, 2017) was increased to 7.5 days. Neurological examination room inpatient total 251 patients, 209 patients were delayed for examination, 35 patients were delayed discharge due to incomplete examination. The rescheduled examination time and the actual examination time were total delay of 540 minutes. The delay factors as following, 72% of the staffs had not time to take patient to examination, 8% of the service staff was not familiar with the examination process.

#### Methods/Intervention

1.To ward nurses and all service colleagues in-service education, about the time required, procedures and the items need to be carried for the electrical examination. 2.Ward nurses, service colleagues and electrical examination room colleagues apply an instant messenger group "Line" to facilitate timely communication of the examination. 3.Electrical examination room's staff input next day examinations to the hospital online schedule system at 17:30 daily. 4.Ward nurses will write next day examinations on whiteboard and adjust immediately if there is any conflict on schedule. 5.Ward nurse log in hospital online system to set up time which remind colleagues 10 minutes earlier patients' examination. 6.Ward nurses give examination notes to patient and remind patient time of examination.

**Results**

After the improvement statistics from August 1, to September 30, 2017, the number of days of hospitalization decreased from 7.5 days to 6.3 days, the total number of inpatient in Neuro-electrical examination room was 175, the total delay time Shortened to 140 minutes, with an average delay of 0.98 minutes per patient, no patients were delayed discharge.

**Conclusions/Lessons learned**

Standardize the examination process, made of Neuro-electrical examination room operating procedures manual.

**Contact: CHUNG Hsin-Ling**

Kaohsiung Municipal Siaogang Hospital, Taiwan  
No.482, Shanming Rd., Siaogang Dist.  
Kaohsiung city 12, Taiwan (R.O.C.), [920361@kmuh.org.tw](mailto:920361@kmuh.org.tw)

## The Effectiveness of Implementation of Betel Nut Cessation Strategies – A Single Center Experience

**TSAI Chin-Hung, TSAI Yi Tsen, KUO Hsin Yi, LI Mei-Huei, KUO Hsiu Feng**

**Background/Problem/Objective**

Betel nut is a stimulant and a known carcinogen linked to oral cancer. However, betel nut chewing is deeply ingrained in society and is viewed as a way to establish friendship among some people in Taiwan. Thus, to decrease the incidence of oral cancer, government and experts have developed a series of intervention strategies for quitting betel nut and applied the strategies on patients by trained case managers. To promote patient's health, we are making an effort to carry out the intervention plan, and the aim of this study is to evaluate the effectiveness of the intervention program.

**Methods/Intervention**

The intervention program includes three parts: policy establishment for health promotion hospital, group patient education, and individualized education program. Six times of group patient education were held at the hospital or communities from January 2017 to September 2017. There were 124 betel nut users participating in the individualized education program. The participants are required to accept four times interventions including face to face interview at the first time and three times phone call interviews. The case manager recorded the characteristics of participants, smoking and drinking status and the process of interventions. Finally, 71 participants completed the betel nut cessation plan and were enrolled in this study.

**Results (of evaluation)**

The median age is 45. Man and woman account for 94.4% and 5.6%, respectively. Around 70% of participants have been smoking and around 80% of participants have been drinking. The median age of starting betel nut chewing was 20 years old, and the median duration of betel nut chewing was 20 years. The main reason for betel nut chewing was friends' invitation (54.9%), and the half (50.7%) of all participants take betel nut as the refreshment. After interventions, 35.2% of participants had quitted betel nut, and 64.8% of participants had reduced the amount of betel nut chewing.

**Conclusions/Lessons learned**

Betel nut chewing is an important health issue in Taiwan. Thus, primary prevention has been introduced in the hospital to help employees, patients and their families to get rid of betel nut. By applying various and strategical methods, we integrated different task forces to implement the interventions to improve their health. The successful experience will inspire us to maintain the effort and expand our intervention program to other communities.

**Contact: TSAI Yi Tsen**

Tungs' Taichung MetroHarbor Hospital  
No.699, Sec. 8, Taiwan Blvd., Taichung City 435, Taiwan  
Taichung, [yitsen755310@gmail.com](mailto:yitsen755310@gmail.com)

## Using SDM to improve the rate to accept tracheotomy for those ICU patients who are prolonged mechanical ventilation-dependent (PMV)

**HO Yu-Ping, HSIEH Pei-Chi, SHEN Huan-Ting, CHUANG Shu-Ting, CHIEN Sou-Hsin**

**Background/Problem/Objective**

If those ICU patients who are prolonged mechanical ventilation-dependent (PMV) can have tracheotomy much earlier, they not only can withdraw their life sustaining support, but also can be prevented from all kinds of infection due to long-term exist of mechanical ventilation-dependent in patients' trachea. However, due to wrong cognition and negative thoughts toward tracheotomy, there is very low rate for those ICU patients who are prolonged mechanical ventilation-dependent to agree to have tracheotomy.

**Methods/Intervention**

ICU team members make use of cross-occupation cooperative education models and SDM method to increase the positive knowledge of family of those ICU patients so that the rate of tracheotomy can be increasing.

**Results (of evaluation)**

This research started from 2017 July 15th to 2017 December 20th. There are totally eight ICU patients agree to participate the research. At the end of completion of medical education, there are 6 patients decide to take tracheotomy and three of them successfully withdrawing the PMV during their stay in ICU.

**Conclusions/Lessons learned**

Due to the standardization process development tool, it enable the nursing team can make its medical education process more standardized for patient to understand the pros and cons to choose either tracheotomy or PMV so that they can make better treatment choice for patients. Therefore, we have to add this standardization process into the regular ICU nursing care routine.

**Comments**

Charles (1977) mentioned about SDM method to improve mutual respect and communication between the Doctor-Patient Relationship. This project can make obvious improvement as well by using same pattern. However, if the leading doctor acts more passive, then it will be difficult to integrated.



The team members shall be discuss more times and combine the following caring plan, then we can let the families of patients understand the purpose of tracheotomy so that there won't by mythos toward tracheotomy.

**Contact: YU-PING Ho**

Taichung Tzu Chi Hospital, Buddhist Tzu Chi Medical Foundation  
Department of Nur  
Taiwan, [tc201300@tzuchi.com.tw](mailto:tc201300@tzuchi.com.tw)

## The research of Patients Satisfaction at an Emergency Department in Southern Taiwan

**SU Jin-Ming, CHEN Chieh-Fan, LAI Wen-Ter, CHEN Shu-Lin**

### Background/Problem/Objective

The purpose of this study was to determine the relative importance of several components of patient satisfaction with emergency department care and services.

### Methods/Intervention

We performed a prospective cohort study of 180 patients 14 years of age and older presenting to an urban regional hospital emergency department from April 15th to 28th, 2017. Patients were contacted within one hour before discharge. In a follow-up satisfaction survey, the patients were asked to rate emergency department environment, waiting time, treatment, and service attitude on a 5-point Liker scale. Frequencies, t-test, Pearson correlations, and a multiple regression were performed to describe the demographic and medical characteristics of the patients, to examine the relationships among the variables, and to determine which variables might predict overall satisfaction with the emergency department care.

### Results (of evaluation)

The mean age was 42 years old and 51% of the respondents were male. The overall average satisfaction score was 3.77, between average and satisfactory. Service attitude and treatment were associated with satisfaction; waiting time and emergency department environment were associated with dissatisfaction. Patients' emotional distress was significantly and negatively related to waiting time and treatment. The factors influencing the emergency department patient satisfaction include emergency department environment, treatment process, age, and time spent waiting.

### Conclusions/Lessons learned

Results show that the interaction between patients and staff had the greatest impact on satisfaction. Significant improvements in patient satisfaction might be realized by providing emergency department staff members training on how to improve interpersonal interactions. Furthermore, every effort should be made to find ways to shorten emergency department patient waiting time.

**Contact: SHU-LING Chen**

Kaohsiung Municipal United Hospital (ROC)  
No.976, Jhonghua 1st Rd., Gushan Dist., Kaohsiung City 80457  
80457 Kaohsiung City , Taiwan (R.O.C.), [juno3180@gmail.com](mailto:juno3180@gmail.com)

## Reduce the duration of ICU transfer delay

**KUO YA-FENSUE Cha-Ying**

### Background/Problem/Objective

Literatures show that patients who can be discharged from the Intensive Care Unit(ICU) but have not been transferred out within 8 hours are defined as transfer delays.ICU is costly;Transfer delay ICU contributes to an increase in hospital expenses, complications and increase in mortality. From January to March 2015, the Unit has an average occupancy rate of 90.1%,42.2% of transfer delays.By exploring in depth for the reasons behind transfer delays,that patients in urgent need may receive ICU treatment.

### Methods/Intervention

1.Review "ICU discharge and utilization principle". 2.Arrange the discharge time with family members before the transfer. 3.Patients should be isolated and moved to the same ward for care.Increase the use of beds. 4.Implement discharge preparations,handle discharge formalities ahead of time. 5.Based on ICU attending physician assessment, patients transferred to ward, proceed to Dialysis Room for treatment. 6.Review bed allocation mechanism and initiate Rapid Response Team mechanism in order to reduce the rate of unforeseen first aid treatment required by inpatients.

### Results (of evaluation)

After implementation, the rate of ICU transfer delays beyond 8 hours reduced from 42% to 10.7%. The effect has maintained till 2017, and patients can be transferred out of the ICU within 4 hours.

### Conclusions/Lessons learned

ICU transfer delay need to be continuously monitored and controlled. By utilizing team resource management, colleagues can be united through the consensus of cooperation, and team communication can be stimulated through pre-event reminder and post-event discussions. This can enhance hospital bed utilization and improve the quality of ICU care.

**Contact: KUO YA-FEN**

National Taiwan University Hospital Yun-Lin Branch , Taiwan  
No.579, Sec. 2, Yunlin Rd., Douliu City, Yunlin County 640,  
Taiwan (R.O.C.), Yunlin, [P630131@gmail.com](mailto:P630131@gmail.com)

## Enhance the Efficiency and Satisfaction of Material Management by Using 5S and Ergonomics

**LU HSIN-YI, CHEN SHU-CHUAN, WU CHIOU-YUCHEN IA-LING**

### Background/Problem/Objective

The purpose of this project was to utilize 5S strategies and the concept of how environmental strategies improve the management of medical devices and materials per nursing station, reduce inventorying and accessing time of nurses, and promote work efficiency. On average, a nurse spends 20 minutes on

inventorying, as well as 4 minutes and 1.16 minutes on accessing medical devices and expendable materials respectively. The satisfaction in material management is only 48%. After a situation analysis, the reasons for inefficient time use were as follows: 1) Medical devices are placed without proper spatial planning; 2) The materials are not returned to their original locations after use; 3) A system for device use management has not been established; and 4) The logging for the use of medical devices and materials is not rigorously implemented.

#### Methods/Intervention

To tackle these issues, the following changes were made. The areas for collecting used devices were divided by "Figure" and "Color". Ventilator pipelines were grouped by "a set a basket". Correspondence between device number and sickbed number were correctly recorded. Used beds were registered. Finally, systemic device management rules were drawn up and examined regularly.

#### Results (of evaluation)

The results showed that satisfaction in material management increased from 48% to 82%, and achieve the expected objectives.

#### Conclusions/Lessons learned

The use Ergonomics and 5S management practices can improve the efficiency and employee satisfaction.

#### Contact: WU Chiou Yu

Kaohsiung Municipal Cijin Hospital  
33, Cigang Rd., Cijin Dist., Kaohsiung City 805, Taiwan (R.O.C.)  
805 Kaohsiung, [yuh3850@gmail.com](mailto:yuh3850@gmail.com)

## Achievements from and future challenges to attending International HPH Conference - Analysis of presentation titles and plenary themes over the last 6 years (J-HPH Network)

**HATA Norihiko, FUNAKOSHI Mitsuhiro, NEGISHI Kyota, ITO Masahiro, OGATA kazuhiko, SHIMANOUCHI Norio**

#### Background/Problem/Objective

Japan HPH Network was formed in October 2015. Currently its membership is 80, and growing rapidly as the third largest network. Ever since the foundation, it's been successful with annual events such as Spring Seminars, International HPH Conferences, and national conferences. J-HPH has been sending a delegation to the International HPH Conference for six years in a row since even before the network was formed. The achievements and future challenges on this effort are reviewed.

#### Methods/Intervention

A review was made over the types of participants of J-HPH delegation and tendency of their presentation themes and contents submitted at the last six conferences, namely the 20th to 25th International HPH Conferences.

#### Results (of evaluation)

In the last six years, J-HPH brought 135 participants and 84 presentations to the International HPH Conference. The delegation consisted of diverse profession, and even community residents were represented. For presentations, major focus was placed on socioeconomic background and causes, HP practice and evaluation by community people, quality review of HP, and efforts to establish Japan network and follow-up on its development. Additionally, publication of "Japanese" conference program and use of interpreters at the conference helped to achieve such results.

#### Conclusions/Lessons learned

Clearly, a variety of HP activities unique to J-HPH were introduced at the international HPH conferences by our attendance and presentations. Conversely, our learnings from the plenaries and discussions of six conferences resulted into the establishment and development of a national network in Japan. In order to achieve our mid-term and long-term development strategy and goals, it is important to take part at the international conference continuously in satisfactory way with improvement of presentation in quality and quantity.

#### Contact: HATA Norihiko

Japan Federation of Democratic Medical Institution  
7F, Heiwa-to-Rodo Center, 2-4-4 Yusima, Bunkyo-Ku  
113-8465 Tokyo, [n-hata@min-iren.gr.jp](mailto:n-hata@min-iren.gr.jp)

## Patient-centered Coordinated Health Care Services Integrating Chinese Herb Medicine into Weight Management Program - Experiences in a Community Hospital in Taiwan

**TSAI Yi-Wen, CHENG Yiu-Hua, WANG Mei-Wen, LAI Shih-Han, CHEN Yi-Chuan, CHEN Chien-Tzung**

#### Background/Problem/Objective

Prevalence of overweight and obesity has increased worldwide and raised global public health concerns. In Taiwan, the prevalence of overweight and obesity population increased up to 43%, which remained the highest in Asia. Hence a patient-centered coordinated integration health care service emphasizing on weight management and health promotion is important to reduce the obesity related complication such as cardiovascular comorbidities and insulin resistance.

#### Methods/Intervention

We developed a coordinated, patient-centered health care strategy in order to arouse patient's motivation for weight management since Sep. 2016 in Chang Gung Memorial Hospital at Keelung. In addition to the bio-psycho-social evaluation, dietitian counseling, exercise suggestion and lifestyle modification and plus FDA approval anti-obesity pharmacotherapy if indicated, we also immersed the traditional Chinese medicine, such as pulse taking, a 20-minute course of acupuncture laser therapy and fat reducing tea one pack per day into the weight management program. Each patient was invited to check body-

impedance analysis to monitor changes of body composition during per visit every two weeks.

#### Results (of evaluation)

We have successfully helped 33 obese patients reduce the weight with the maximum loss of 17 kilograms in 3 months and the average 76% of fat mass reduction in each person. The returning rate was around two thirds of the patients after first visit, which was almost the same as the international clinical trials in weight reducing programs. The factors that influenced the returning rate included the patient's perseverance of motivation to maintain the weight reducing program, the high self pay medical expense and the worries about the safety/side-effects of the weight reducing pharmacotherapy. Among these factors, the perseverance of one's motivation adherent to the weight loss program influenced the most. Therefore, how to amplify an obese patient's motivation to reduce weight and enhance his/her perseverance became the cornerstone to the success of body weight reduction.

#### Conclusions/Lessons learned

Through integration of Chinese herb medicine, which traditionally believed to be more natural than pharmacotherapy based on the cultural aspects in Asia, into the weight management program, we successfully helped obese patients reduce weight and regain the faith, health and social vitality.

#### Contact: CHEN Chien-Tzung

Chang Gung Memorial Hospital, Keelung  
222, Maijin Road, Keelung, Taiwan, [ctchenap@cgmh.org.tw](mailto:ctchenap@cgmh.org.tw)

## Research on the Relationship between Nursing Staff's Performance and Patient Satisfaction

LI Ya-Ling, TSAI Meng-Chuan, SHIH Ai-wei

#### Background/Problem/Objective

Patient-centric health care is the trend of medical services today. Nursing staff's performance in health education and general functions will directly affect patient's prognosis and family perception. This study addresses the following two research questions: 1. What is the relationship between nursing staff performance of patient-centered healthcare function and patient satisfaction? 2. What is the relationship between nursing staff performance of health education Ability and patient satisfaction?

#### Methods/Intervention

This study adopts the paired way of purposive sampling method and Likert 5-point scale to survey. The method of assessing the performance of nursing staff in the form of one nursing supervisor and five patients was investigated in a regional teaching hospital. We are analysis of the "Patient-centered Healthcare Function" and "Health Education Ability" two variables that were evaluated by nursing supervisor, and "Patient Satisfaction" one variable that was evaluated by patients. Finally, total of 366 valid questionnaires were collected.

#### Results (of evaluation)

The results showed: (1) There is a significant related between the "Patient-centered Healthcare Function" and "Patient Satisfaction". (2) There is a significant related between the "Health Education Ability" and "Patient Satisfaction".

tion". (2) There is a significant related between the "Health Education Ability" and "Patient Satisfaction".

#### Conclusions/Lessons learned

The results of the study supported the correlations that the nursing staff's healthcare function and health education ability are related to patients' satisfaction. To patients, the medical staff is most contact with the nursing staff. The nursing staff professional healthcare functions and health education ability can promote the good medical care for patients. And their professional healthcare knowledge and skills make patients to have a good medical service experience.

#### Comments

Nursing staff's health education function can enhance the awareness of patients and their families about medical knowledge and treatment. Therefore, according to the needs of different departments, the nursing professional functions and education capacity of first-line nursing staffs should be strengthened. Medical institutions should increase the functions of professional healthcare and health education training capacity investment costs. It can improve the medical services quality.

#### Contact: CHAI WEN Lai

Show Chwan Memorial Hospital  
No.6 Lane 61, Nanping St.1, Nanyao Village Changhua, Taiwan 500  
CHANGHUA, [chd7203270@hotmail.com](mailto:chd7203270@hotmail.com)

## The experience in utilization of portable ultrasonography for urological conditions in a home care setting

KO Ming-Chung, HUANG Sheng-Jean, CHIU Yi-Chun, WOUNG Lin-Chung

#### Background/Problem/Objective

A substantial proportion of homebound, disabled people have urological conditions including voiding dysfunction, urinary infections or calculi. Portable ultrasound may be used as a tool for evaluating urological conditions including urinary calculi, prostate, or residual urine amount. This article aims to present the experience in utilization of portable ultrasound on urological tract in a home care setting.

#### Methods/Intervention

A portable ultrasound machine was used to evaluate urological conditions including prostate, residual urine amount measurement, presence of intra-vesical blood clot, or urinary calculi. All the ultrasonography was performed by an urologist among home based medical care recipients.

#### Results (of evaluation)

The first case was an 80 year-old male and he received home palliative care due to advanced staged congestive heart failure. The urological condition was urine retention, repeated urinary tract infection and the patient received indwelling urethral catheterization for 6 months. He complained of urethral discomfort due to irritation of urethral catheter. For removing the urethral catheter successfully in a home setting we performed ultrasonography, with a portable ultrasound machine, to evaluate

ate prostate volume, content, and degree of intra-vesical growth in addition to digital rectal examination. After optimizing the medications we planned to remove the urethral catheter. The urethral catheter was removed at 7 am and self-voiding after removing the catheter was recorded by his wife. We performed ultrasonography to evaluate residual urine with a portable ultrasound machine at 2pm and it revealed the residual urine amount as 110 ml. we repeated bladder scan 2 days later and the residual urine amount decreased to 50 ml. Urine analysis was done 3 days later and no evidence of urinary infection was noted. Additionally we have applied portable ultrasonography to evaluate urinary calculi, the presence of intra-vesical blood clot.

#### Conclusions/Lessons learned

Portable ultrasonography can be used to evaluate urological conditions including residual urine measurement, prostate, and urinary calculi in a home care setting.

#### Contact: KO Mingchung

Taipei City Hospital, No 145, Zheng Zhou Road, Datong District 10341 Taipei, [mingchung77@gmail.com](mailto:mingchung77@gmail.com)

## Norwegian Healthy Life Centers - an overview of results from studies on participant characteristics and health outcomes

### SUNDAR Turid, SKARPAAS Inger Merete

#### Background/Problem/Objective

Current health challenges demand health-promoting and preventive efforts in health services, and better collaboration between services and sectors. A Healthy Life Centre (HLC) is a municipal health service that provides support for behavioral change, individually and group-based. The target group is people with increased risk for a disease, or who already have a disease and are in need of help. The approach is based upon principles from Motivational Interviewing, which have proven effective in supporting change. HLCs cooperate with other health services and sectors. The Guide for municipal healthy life centers describes recommendations for organization, content and quality of the HLCs.

#### Methods/Intervention

The study is based upon searches in 14 databases, both Norwegian and international. Twenty-one Norwegian studies were extracted, including seven prospective intervention studies, one cross-sectional study, one review, and eight qualitative studies.

#### Results (of evaluation)

Findings show that participants often have several diagnoses, lower physical fitness, are more often on sick leave or unemployed, and have on average lower levels of education compared to the general population. The most common reasons for referral are musculoskeletal disorders, overweight and physical inactivity. Mean BMI is 30 kg. 61-80 % of the participants are women and average age is 51 years. The participants achieve significantly increased physical activity, improved physical fitness, reduced weight and improved HRQOL after 3 months. The health benefits are partially maintained after 6-12 months. The social support they receive is perceived to be of great importance to motivation for behavior change.

#### Conclusions/Lessons learned

HLCs are used by the target group as described in the "Guide for municipal HLC". The service seems to result in significantly increased physical activity, physical fitness and health related quality of life. More research on the effects of participation in Norwegian HLCs is needed.

#### Contact: SUNDAR Turid

Norwegian Directorate of Health, Universitetsgt. 2, 0164 Oslo Oslo, [turid.sundar@helsedir.no](mailto:turid.sundar@helsedir.no)

## Analysis on the behavior pattern of people's choice of drugs

### JU-FANG Wu, CHEN-YING Su, PO-CHUEN Shieh, WEN-DE Lai

#### Background/Problem/Objective

Study on the knowledge and experience of the five cores capabilities for drug safety in the outpatient people with chronic disease. In order to improving drug safety and reinforcing medication knowledge, in 2012, the Food and Drug Administration, MOHW, suggested that consumers should possess the knowledge of 'five core capabilities for drug safety' which emphasized the establishment of the core ability in correct drug usage. Results of this study will provide recommendations to the health education regarding drug safety. Participants of this study were recruited from the outpatient department of a local hospital in Southern Taiwan.

#### Methods/Intervention

Utilizing Cross-sectional research design as the theoretical framework, this study employed a questionnaire to sample the views of 215 patient, and a test to measure should choose to get the medicine. Data for the study come from a survey of there is at least one chronic disease and a continuous prescription for the patient, aged 30~70 years. Statistical analysis was performed using SPSS software (version 20).

#### Results (of evaluation)

Should choose to get the medicine, the major findings are: (a) 77.6% Consult a physician or pharmacist; (b) 9.7% Drugs introduced by friends and family; (c) 3.7% Watch TV commercials buy medicine; (d) 0.4% Listen to the radio to buy medicine; (e) 0.4% Buy medicine at the park or market; (f) 1.5% Buy medicine at touring and sightseeing stations; (g) 1.5% Buy medicine at touring and sightseeing stations; (h) 4.5% Drugs brought back abroad; (i) 1.5% The medicine introduced by the massage therapist.

#### Conclusions/Lessons learned

The overarching conclusion of the paper is that people's knowledge and living standards improve, in the choice of purchasing drug evaluation decisions, the public will listen to the proportion of professional physicians or pharmacists accounted for the majority of changes in the previous consumption patterns such as radio advertising, parks, temples, market purchase.

#### Comments

In Taiwan, there are a lot of pharmacy and pharmacy stores, so it is very convenient to buy drugs. If the purchase or improper use of drugs will endanger their own health, so pharmacists must be on the front line for the people to use safety, for the

people to use safety control, to create a public peace of mind to consume drugs environment.

**Contact: JU FANG Wu**

Kaohsiung Municipal United Hospital  
No.976, Zhonghua 1st Rd., Gushan Dist  
80455 Kaohsiung City, [wdoris0110@gmail.com](mailto:wdoris0110@gmail.com)

## What Role Do Hospital Play for People with Disabilities : Patient-Centered Care Perspective

**HUANG\* Tzu-Hui, CHIANG Hsiu-Chu, TSAI Tien-Sheng, LIN Kuo-Hsing**

### Background/Problem/Objective

The population of disabled people is about 1.17 million people in Taiwan by 2017, equivalent to 4.97% of the population; and the population with disabilities has a tendency of increasing year by year. Patterns of impairment are differ between disabled people, so they need multiple types of professional interventions. Hospitals are playing roles of disabilities assessment, we are in desperate need to know more about how to provide high-quality information and advice services, promote a friendlier environment for engaging disabled people. The aim of this study was therefore to investigate the needs of various types and process of people with disabilities, and build a suitable support network.

### Methods/Intervention

This is a structured interview study. Qualitative data from 362 participants who seeking for help for their ICF assessment at a regional teaching hospital in Kaohsiung City were interviewed, using ICF (International Classification of Functioning, Disability and Health) assessment schedule. The data from January 2017 to September 2017 were analyzed using theory of "stage of sickness" as a time frame for data analysis.

### Results (of evaluation)

The main findings of this study are as follows: (1) Participants who coping with their disability involved four major tasks - physical, psychological, social, and spiritual; (2) Participants who are in acute phase are still in crisis for their I impairment, providing emotional support and disease-related education will help to adapt; (3) Participants who are in chronic phase are worrying about how to maintain their life, encouraging participants and caregivers to link social resources will reduce caregivers' caring burden and promote participants' social participation.

### Conclusions/Lessons learned

From the results of this study, it shows that if hospital can effectively play the role of emotional supporters, disease-related educator and resource providers, discuss the care plan with disabilities and their families, it will be helpful for theme to adapt to the disease, maintain family functions and achieve a quality life.

**Contact: TSAI Tien-Sheng**

Kaohsiung Municipal Hsiao-Kang Hospital  
No.482, San-Ming Rd., Hsiao-Kang Dist  
812 Kaohsiung City, [h9471303@gmail.com](mailto:h9471303@gmail.com)

## A policy to cooperate with the government to provide athletes with integrated medical care combining health service and health promotion

**LEE Pei-Hsuan, ZHONG Ming-Gu**

### Background/Problem/Objective

Sports injuries were a great detriment for athletes. If the injuries did not receive follow-up of good treatment and rehabilitation, will be affect the performance of their subsequent matches. Therefore, Kaohsiung Municipal Siaogang Hospital planned to cooperate with Kaohsiung City Government, and try to protect our athletes in Kaohsiung city. We wanted to provide the good environment to our athletes, not only provide the professional treatment but also provide exercise and medical knowledge for them.

### Methods/Intervention

This plan was co-operated by Education Bureau of Kaohsiung City Government and Department of Sports of Kaohsiung City. The plan started from 2016, we provided single window booking services line and without registration fee if they need medical treatment. The object included the top players in Kaohsiung City of the National Game of 2017, the athletes (including the players during training) of National Game of 2018, and the National High School Athlete Game of 2018 and 2019.

### Results (of evaluation)

We provided medical services for 749 athletes in this plan, since 2016 to 2017. Analysis the patient from those athletes, most of the injuries were muscle sprain, muscle strain and fracture. We combined Kaohsiung Medical University and resources of Orthopedics and Physical Medicine and Rehabilitation in our hospital. Setting up Kaohsiung City Excellent Athletic Injury Prevention Clinic, Rehabilitation Special Training Clinic, Emergency medical services of National Game. To provided physical therapist based on the needs of players to adjusted, customized the rehabilitation content, and set up different functional goals. And we also emphasized the concept of the prevention is better than cure, organized some health promotion classes and Injury Prevention Courses. The hospital also subsidized medical expenses for outstanding players in the economically disadvantaged.

### Conclusions/Lessons learned

Under the excellent performance, they not only need to practice hard but also have correct concept to prevent their own sports injuries. We hoped to provide the complete of medical services and rehabilitation by this plan. Prevent second injury, we wish them had excellent performance in an athletic field.

**Contact: LEE PEI- HUSAN**

Kaohsiung Municipal Siaogang Hospital  
No.482, Shanming Rd., Siaogang Dist., Kaohsiung City 812,  
Taiwan (R.O.C.), [cych12488@gmail.com](mailto:cych12488@gmail.com)



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