



CLINICAL HEALTH PROMOTION

Research & Best Practice for patients, staff and community

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CLINICAL HEALTH PROMOTION

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Editorial

Pregnant smokers: Room for improvement

Hanne Tønnesen

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The issue of pregnant smokers is a social and health problem, which has not received substantial attention.

Smoking during pregnancy is associated with significant problems for the foetus, the child and the mother. Firstly, smoking increases the risk of ectopic pregnancies, spontaneous abortion, perinatal mortality, placental abruption, conjugate malformations as well as preterm birth, low birth weight, growth reduction, and sudden infant death syndrome. Secondly, the mother experiences more complications during pregnancy and delivery. Thirdly, maternal smoking has consequences for the child after being born, such as hospitalisation within the first year of life and behavioural disturbances and lifestyle problems during childhood. (1;2)

Smoking rates

Smoking during pregnancy is still a significant problem; even in a country with low smoking rates like Sweden about 8% smoke during pregnancy (3). On the plus side, many women quit smoking before getting pregnant, where as many as 50-60% of pregnant smokers successfully quit smoking in the three months period prior to pregnancy. However, about 10% of the pregnant women reporting to quit during pregnancy still have positive CO measurement indicating continuous smoking. The over-reporting increases late in the pregnancy to about 17% as reported among Canadian pregnant women (4).

Smoking cessation intervention

Quitting smoking before pregnancy or in the first trimester is followed by normalisation of the risk of smoking related fetal complications (1). This is the reason why many international, national and local policies and programmes actively target smoking during pregnancy.

Overall, the effect of smoking cessation intervention for pregnant women is as low as 6% (5). The more effective programmes include incitements (5) and intensive interventions over 6 weeks (6). The 6 weeks Gold Standard Programme is implemented as the standard intervention in Denmark and has recently showed similar high abstinence rates in pregnant compared to non-pregnant women. Overall, about 32% of the women had succeeded in not smoking from end of the programme to the 6 months follow-up.

Responsibility

Doctors, midwives and all other health professionals meeting women who are pregnant or planning for pregnancy have a strong responsibility to identify smokers and to offer the most effective smoking cessation programmes. This will allow both the child and the mother to benefit from early smoking cessation by avoiding the consequences associated with maternal smoking. Policy-makers are responsible for establishing the necessary policies for implementation as well as the relevant action plans and frameworks for implementation and quality assurance to follow-up its effects. The sooner, the better!

References

- (1) Cnattingius S. The epidemiology of smoking during pregnancy: Smoking prevalence, maternal characteristics, and pregnancy outcomes. *Nicotine Tob Res* 2004; 6:125-40.
- (2) Shi Y, De Groh M, Morrison H. Perinatal and early childhood factors for overweight and obesity in young Canadian children. *Can J Public Health* 2013; 104:69-74.
- (3) Baba S, Wilkström AK, Stephansson O, Cnattingius S. *BJOG* 2012; 120:456-62.
- (4) Tong VT, Althabe F, Alemán A et al. Accuracy of self-reported smoking cessation during pregnancy. *Acta Obstet Gynecol Scand* 2015; 94:106-11.
- (5) Lumley L, Chamberlain C, Dowswell, Oliver S, Oakley L, Watson L. Interventions for promoting smoking cessation during pregnancy. *Cochrane Database Syst Rev* 2009; CD001055.doi
- (6) Rasmussen M, Heitmann BL, Tønnesen H. Effectiveness of the Gold Standard Programmes (GSP) for Smoking Cessation in Pregnant and Non-Pregnant Women. *Int. J. Environ. Res Public Health* 2013; 10:3653-66.



Barriers to treatment adherence among stroke survivors attending outpatient physiotherapy clinics in North-western Nigeria

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Abstract

Objective: Adherence is the extent to which an individual closely follows a prescribed component of an intervention for a desirable outcome. This study investigated barriers to attendance at appointments and clinic-based exercises during physiotherapy management of stroke survivors.

Methods: A non-probability sampling method was used to purposively recruit consenting stroke survivors who met the inclusion criteria for the study from three specialist hospitals in Kano Metropolis, North-western Nigeria. Rating scales for appointment and barriers to keep appointment, self-reports, of barriers to clinic-based exercises were used to rate adherence. Data were analyzed using descriptive and inferential statistics.

Results: Participants were aged 55.3 ± 10.0 years. 44 (84.6%) were adherent to appointment keeping, while 33 (63.5%) were adherent to clinic-based exercises. The barriers to appointment keeping most reported were lack of accompanying person to hospital (29.3%) and financial constraints (27.6%). Fatigue and pain were the most reported barriers to clinic-based exercise adherence.

Conclusion: Family support and enhanced coverage of the National Health Insurance Scheme (a financial aid for healthcare in Nigeria) may improve appointment adherence for stroke survivors.

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Introduction

Adherence can be defined as an active voluntary collaborative involvement of a patient and a healthcare provider in a mutually acceptable manner to produce a desired preventive and therapeutic result (1). In physiotherapy, it is regarded as the extent to which a subject closely follows the prescribed component of a physiotherapy intervention (2). Patient adherence to prescribed rehabilitation protocols is considered to have a profound effect on achieving successful outcomes in physiotherapy (3-5). In other words, a significant relationship exists between high levels of exercise adherence and better treatment outcomes of pain levels, self-reported physical function and physical performance (6). A notable observation on adherence is that in most chronic conditions or disabilities, adherence is usually low (7).

The focus of adherence in this study surrounds individuals with the chronic condition stroke. Stroke is defined as a sudden loss of neurological function caused

by an interruption of blood flow to the brain (8). The age-standardized stroke mortality in sub-Saharan Africa is high and it range from 107 to 189 per 100,000 population in women and from 95 to 168 per 100,000 population in men in all countries except the Seychelles, where the stroke mortality rate is much lower (27 and 22 per 100,000 population in men and women, respectively) (9). To date, there are no reliable data in Nigeria. However, the result of a study conducted in Lagos, a metropolitan city in Nigeria, gave an overall crude prevalence rate of 1.14 per 1,000 (10). The increasing incidence of stroke in individuals from age 40 years (11), those who are still in the productive age group, indicates great necessity for rehabilitation. Therefore, the goal of rehabilitation is to discharge patients who have suffered a stroke as functional community-dwelling adults (12). The extent to which this goal can be achieved depends on the effectiveness of the treatment and the level of the patients' adherence with treatment procedures.



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According to Kolt et al. (13), the concept of adherence is multidimensional. It could relate to attendance at appointments, attitude to clinic-based exercises, following advice on home programs of exercises, or correct performance of prescribed exercises in terms of frequency and duration (4;14). In essence, many factors are liable to influence patient adherence to physiotherapy treatment, either positively or negatively. Thus, those factors which negatively influence patient adherence are referred to as barriers to treatment. Several previous studies on adherence to physiotherapy management have been on patients with musculoskeletal conditions (3;5;15-18). In general, very few recent studies have considered adherence in stroke survivors (14;19). This is also true in the case of Nigeria (20). The present study was designed to investigate barriers to adherence of stroke survivors to physiotherapy treatment in North-western Nigeria.

Participants and Methods

This was a cross-sectional study of stroke survivors attending outpatient physiotherapy clinics of Aminu Kano Teaching Hospital, Murtala Mohammed Specialist Hospital and Muhammad Abdullahi Wase Specialist Hospital in Kano. All three hospitals are referral centers for management of varied health conditions and are located in urban centers in Kano state, North-western Nigeria. The study was conducted from October 2011 to May 2012.

Purposive sampling technique was used to recruit participants, i.e. stroke survivors who met inclusion criteria for the study. Inclusion criteria were: ability of the patients to walk at least 10 meters on a level surface, either independently or with an assisted device, and lack of aphasia and memory loss. A short mental status questionnaire by Pfeifer, (21) was used to screen participants for memory, such that only patients who had 0-2 errors (i.e no cognitive impairment) were allowed to participate in the study. In addition, participants should be able to speak and understand either Hausa or English. Prior to the commencement of data collection, ethical approval was obtained from the University of Ibadan, the University College Hospital Ibadan research ethics committee, and all the institutional ethic committees of the hospitals from where participants were recruited. Informed consent was also obtained from all participants after explanation of the study procedure to them. Thus, only participants who fulfilled the inclusion criteria and signed the informed consent form participated in the study. For the purpose of this study, adherence to physiotherapy treatment was delimited to attendance at appointments and adherence to clinic-based therapeutic exercises. For each participant, data for adherence were taken for eight weeks and they were individually on prescribed and supervised clinic-based exercises of one session per week.

This was, however, augmented by a well-designed regular home-based exercise program (20).

Functional abilities of stroke survivors in the study

In this study, fourteen of the participants could walk only few steps independently but most of them walked up to 20 meters with the help of a relative. This group formed the light intensity exercise group. 23 participants were able to walk independently up to 40 meters but with slow gait speed and by using a walking aid such as a cane. This group made up the moderate intensity group 1. The last fifteen participants were able to walk more than 40 meters independently and made the moderate intensity group 2. All the clinic-based exercises were individualized by taking into cognisance patients' functional abilities and none of them were compelled to complete all the exercises if they were not able to.

The clinic-based exercises were:

1. General mat exercises
2. Task-oriented treadmill training
3. Strength training
4. Balance exercises
5. Walking exercises

General mat exercises

This involved activities such as range of motion and stretching exercises, assisted/resisted active upper limb exercises and weight bearing exercises on the affected upper limb. The exercises were conducted in both supine and sitting postures on the mat.

Task-oriented treadmill training

a) The light intensity group

The training intensity for the light intensity group, whose exercise capacity was up to 2.5 METs (22), was set at 45-55% of their respective heart rate reserves (using Karvonen Formula). The maximum speed of treadmill walking for this group at baseline was predetermined using the equation: $\text{Speed} = (\text{Vo}_2 - 3.5) / 0.1$ (gradient=0; $\text{Vo}_2 = \text{MET} \times 3.5$) that corresponds to a speed of 1.96mph, which was adjusted based on the heart rate response in order not to exceed the target heart rate. The frequency was once weekly. This frequency was augmented by a regular home based exercise program (20). The duration involved 30 minutes of exercise from series of 5 minutes exercise bouts with 2 minutes of rest in between bouts. The progression of treadmill exercises for the participants differed. It was progressed weekly by increasing the treadmill gradient at the same speed for some of the participants or by increasing the target heart rate, e.g. from 45-55% to 50-60%, then to 55-65% of the heart rate reserve and/or by increasing the exercise time dur-



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ing each bout say from 5 to 7 minutes of exercise before resting.

b) The moderate intensity groups 1 and 2

For both groups with an exercise capacity of 3-3.5 METs, target heart rate was 55-65% of heart rate reserve. The baseline walking speed for this group (at gradient of zero) corresponded to 2.6-3.3mph. The speed was adjusted during training so as not to exceed target heart rate. Exercise duration involved accumulation of 30 minutes of exercise from series of seven minutes exercise bouts with two minutes rest between bouts. Frequency was once a week. This was augmented by a regular home based exercise program (20). The progression varied in the same way as in the light intensity group.

Strength training

a) The sit to stand exercise

Each participant was asked to sit in a chair and stand from a sitting position as many times as possible in one minute. The maximum number of exercise repetitions performed in one minute was recorded to give pre-test maximum (PRM). The progression involved participants performing three repetitions of 60% of their individual PRM in the first two weeks, then to three repetitions of 70% of PRM the following two weeks and so on.

b) Pre-test for stepping exercise

Participants were asked to step onto and off a step as many times as possible in one minute. The maximum number of exercise repetitions performed in one minute was recorded to give PRM. This exercise was progressed the same way as the 'sit to stand' exercise.

Balance exercises

This involved the following:

- Walking exercise with visual cue manipulation, such as walking forward and taking a few steps backward on a straight walking line: Three repetitions.
- Picking up an object from the floor from a standing position: Three repetitions.
- Standing on one leg (the affected leg): Three repetitions.
- Performing cycling movement gently (around a gymnasium ball), into clock-wise and anti-clock-wise directions: Three repetitions.

Progression involved an increasing number of repetitions of the balance exercises according to the patient's ability.

Walking exercises

In this exercise, a patient was required to walk for two minutes at his/her own walking pace. The walking exercise was progressed by increasing the walking time.

Instruments

Appointment keeping rating scale

This rated attendance of participants with the aid of an attendance table used to record patients' attendance at physiotherapy out-patient clinics. The level of attendance was then calculated by dividing the total sum of appointment sessions attended by sum total of prescribed treatment sessions for each patient at the end of the study. The percentage score was then estimated. Adherence to appointments were determined as follows: Participants who had a minimum attendance score of six out of eight ($\geq 75\%$) appointments were classified as being adherent, while those with an attendance score of less than six out of eight appointments ($<75\%$) were classified as being non-adherent.

Barriers to appointment keeping rating scale

This was used to assess barriers to attendance at physiotherapy appointments. It is a 7-item scale adapted from previous studies on adherence to treatment of individuals with varied conditions (18;23-25). The items include factors perceived by individual stroke survivors as contributory to non-adherence of their physiotherapy appointments. These factors are: forgetfulness, no accompanying person to help the patient get to the hospital, financial constraints for transport and treatment, workplace constraints, previous treatment dissatisfaction, lengthy waiting times, and inconvenient treatment time. Each item was rated on a scale from 0 to 1, whereby 0 indicated "no" and 1 indicated "yes". The possible maximum score on the scale was therefore 7. During the study period, participants were asked to complete the questionnaire when they missed an appointment. Barriers to appointment were determined by estimating the mean scores on each item at the end of 8 weeks for each participant and then weighted in order of magnitude for all participants.

Modified Hopkins Rehabilitation Engagement Rating Scale (mHRERS)

This scale rated the level of adherence of stroke survivors during clinic-based rehabilitation. This was done by the physiotherapist at the end of each treatment session. The modified instrument selected 2 items from the original Hopkins Rehabilitation Engagement Questionnaire by Kortte et al. (26), and scoring was done on a 6-point rating scale ranging from 1 (Never) to 6 (Always) with a minimum score of 2 and a maximum score of 12. The level of adherence of a participant was calculated as the ratio of a participant's score to the highest score (i.e. 12) on the (mHRERS). Participants with a score of nine or more out of twelve ($\geq 75\%$) were rated as being adherent, while those with less ($<75\%$) were regarded



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as non-adherent. A mean score was then calculated for each participant at the end of the study to determine his or her level of adherence. Total mean scores were then calculated both for adherent and non-adherent participants. The internal consistency of the original instrument is ($\alpha=0.91$) and inter-rater reliability (ICC, $r=0.73$) [25]. The mHRERS was validated on 25 stroke survivors and a Cronbach's alpha of 0.74 was obtained.

Patient Self-report of Barriers to Clinic-based Exercise

This is an 8-item self-report in which individual participants were asked to rate the difficulty encountered in a day while trying to undergo prescribed exercises. The items on this scale were derived from the work of Miller (12), Campbell et al., (15), Sluijs, (27). These items include: poor knowledge of the exercise, increased pain during exercise, exercise is not enjoyable, exercise is not helpful, patient gets tired very easily, number of exercises were too much, patient cannot do exercise for long, and patient is afraid of falling during exercise. Participants were asked to rate on a Likert scale (4: strongly agree; 3: agree; 2: disagree; 1: strongly disagree). Least possible score was 8, while maximum possible score was 32. A reliability test of the self-developed instrument on 25 stroke survivors yielded a Cronbach-alpha of 0.93. The scores obtained on each item were summed up and divided by the total number of the study participants ($N=52$) each week. This gave the weekly mean score of an item. At the end of the study for each participant (i.e. after eight weeks), the grand mean scores of each item in the scale were computed by adding all the weekly mean scores and dividing the total by eight. Items with greater grand mean scores in order of magnitude were those that posed greater barriers to clinic-based exercise adherence by the participants.

Data were analyzed with the aid of descriptives: mean, frequencies, standard deviation and percentages. Inferential statistics using Chi-square, Pearson's Correlation coefficient and unpaired t-tests were also done. Chi-square analysis was used to find the association between the dichotomized adherence scores (adherent and non-adherent) and each of the participants' socio-demographic variables (nominal and ordinal variables). Pearson's correlation was used to find the relationship between mean scores of clinic adherence and mean score of each barrier item (ratio variables).

Results

66 stroke survivors who gave their informed consent and met the inclusion criteria for this study were recruited through purposive sampling. 14 of them voluntarily withdrew their participation at varied stages of the study. The remaining 52 stroke survivors 27 males

(51.9%) and 25 females (48.1%) completed the the eight-week study. Mean age of participants was (55.3 ± 10.0), age range was 35-75 years. Ten (19.2%) had tertiary education and were employed by the government, while others were self-employed or non-employed at the time of the study. The range of time since the stroke of these participants ranged from 10-20 weeks (Table 1).

Table 1 Characteristics of participants in the study

Variables	n	%
Age (mean \pmSD) years		
Males (53.3 ± 9.9)	27	51.9
Females (57.6 ± 9.8)	25	48.1
Occupation		
Government employed	10	19.2
Self-employed	21	40.4
Not employed	21	40.4
Educational Level		
None	11	21.2
Primary/Secondary	31	59.6
Tertiary	10	19.2
Time since stroke (weeks)		
10	15	28.9
12	18	34.6
16	13	25.0
20	6	11.5
Side of Hemispheric affection		
Right	28	53.8
Left	24	46.2

Appointment keeping of stroke survivors

In this study, 19 (36.5%) of the participants had 100% attendance, 16 (30.8%) missed one appointment, 9 (17.3%) missed two appointments, while 8 (15.4%) missed 3 out of a total of 8 appointments. Thus, on the whole concerning appointment keeping, forty-four (84.6%) of the participants with a mean attendance score of (86.1 ± 13.5) were adherent, while 8 (15.4%) with a mean score of (67.43 ± 17.9) were not adherent.

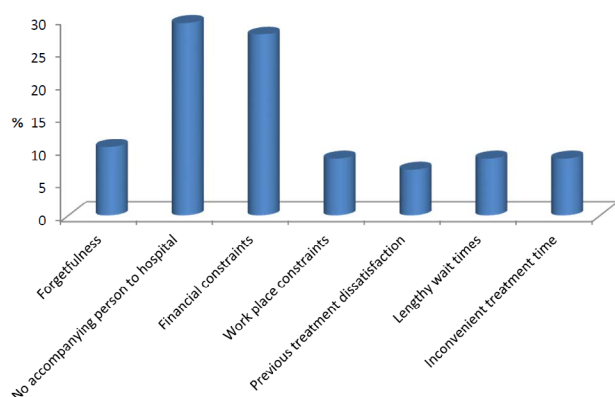
Reported barriers to appointment keeping

Barriers influencing adherence of stroke survivors to appointment keeping included: 17 (29.3%) lacked an accompanying person when going to the hospital, 16 (27.6%) had financial constraints, and for 6 (10.3%), forgetfulness was the most frequently reported barrier. (Figure 1)



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Figure 1 Reported barriers to appointment keeping for stroke survivors



Adherence during clinic-based rehabilitation

For clinic-based exercise adherence, 33 (63.5%) of participants with mean score of (77.5±12.4) were adherent while 19 (36.5%) with mean score of (48.3±8.5) were non-adherent. Factors reported by participants as barriers to clinic based exercise adherence had fatigue as the most frequently reported, closely followed by pain during exercise. Pearson's correlation analysis showed that a significant negative correlation ($P < 0.05$) existed between mean scores of barriers to clinic-based adherence and the following items on patient self-reported barriers to clinic based exercise: I cannot do much exercise because of my pain, I become tired very easily, I just do not enjoy doing exercise, exercise is too much, exercise duration is too lengthy. On the other hand, there was no significant correlation between mean scores of clinic-based adherence and the items: 'poor knowledge of exercise', 'fear of falling' and 'exercise will help me' (Table 2).

Table 2 Correlation between the scores of clinic based adherence and each item on patient self-report of barriers to clinic based exercise (N=52)

Barriers to Exercise	r-value	P-value
Poor knowledge of exercise	-0.4	0.21
I cannot do much exercise because of my pain	-0.78	0.02*
I am afraid of falling while exercising	-0.49	0.32
I become tired very easily	-0.71	0.05
I just do not enjoy doing any exercise	-0.56	0.04*
Exercise will not help me	-0.37	0.37
Exercise is too much	-0.85	0.01*
Lengthy exercise duration	-0.76	0.03*

* Statistically significant ($P < 0.05$)

Socio-demographic characteristics of participants and adherence to appointments and clinic-based exercise

A comparison of socio-demographic characteristics of participants such as gender, educational level and occupation using Chi-square analysis was found not to be significantly associated with appointment adherence

($P > 0.05$) (Table 3). In addition, Spearman's correlation analysis revealed that the time passed since the incidence of stroke ($r = 1.8$, $p = 0.2$) and the age ($r = 0.82$, $p = 0.56$) of participants were not significantly associated with adherence to appointment. Furthermore, socio-demographic characteristics of participants, such as gender and educational level, were not significantly associated with clinic-based exercise adherence. Also, the side of hemispheric affectation (either right or left) was not significantly associated ($p = 0.14$) with clinic-based exercise adherence.

Discussion

This study investigated factors which acted as barriers to treatment adherence among stroke survivors attending out-patient physiotherapy management in North-west Nigeria. The principal factors considered under adherence were appointment keeping and attitude toward clinic-based exercise. The observation in the study was that, judging by their mean attendance rate, stroke survivors were more adherent to appointment keeping than to clinic-based exercise, while about one-third of the participants were not adherent to clinic-based exercise.

Reported barriers to appointment keeping by stroke survivors

In this study, the most reported barriers to appointment keeping by stroke survivors, in order of magnitude were non-availability of accompanying persons to hospital, financial constraints and forgetfulness.

As stroke has been described as a leading cause of adult disability (28), the importance of family support on stroke survivors cannot be over-emphasized. This is because stroke survivors have difficulties performing day-to-day activities like dressing, eating and moving around and this reduced functional ability may last a considerable period of time (29). Family members, therefore, are under the obligation to provide essential support for these individuals with varied levels of cognitive and physical difficulty (30). In view of the hectic day-to-day life activities of individuals in the family in the modern day world, it may not be out of place that stroke survivors may sometimes find it difficult to adhere to treatment due to lack of accompaniment to the hospitals. Thus, families with a stroke survivor have to undergo a lot of stress in order to provide optimal support to the individual with stroke so as to meet this challenge. In essence, participants in this study who had good adherence to appointment keeping were able to do so because the family members made a lot of effort in accompanying them to the hospital for treatment.



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Table 3 Association of participants' characteristics with adherence to appointments and clinic-based exercise

Variables	Appointment Keeping			Clinic Based Exercises		
	Adherent	Non-adherent	P-value	Adherent	Non-adherent	P-value
	n	n		n	n	
Gender						
Male	21	6	0.25	18	9	0.84
Female	23	2		15	10	
Educational Level						
None	10	1	0.84	5	6	0.36
Primary/Secondary	25	6		21	10	
Tertiary	9	1		9	1	
Occupation						
Government employed	8	2	0.68	6	4	0.61
Self-employed	17	4		12	9	
Non-employed	19	2		15	6	
Side of Hemispheric Affection						
Right	24	4	0.56	16	12	0.14
Left	20	4		17	7	

Note: Only Fisher's exact test values are presented in the table because some of the cells in the association table have $n < 5$. Chi square values are used only when all cells have $n \geq 5$. n = number of participants; P = probability value.

The report of financial constraints as barriers to physiotherapy appointment adherence could be explained by the availability and accessibility of financial and social support for the stroke survivors. In this study, only few participants were employed under the Nigerian government civil service. The National Health Insurance Scheme (NHIS) is a provision of financial support for healthcare for individuals employed in civil service of the federal government of Nigeria. However, not all aspects of healthcare were covered by this scheme and not all individuals may access the healthcare support fund. Thus participants in self-employment and the unemployed were not capable of accessing this fund. Therefore, such individuals have been unable to meet up with the financial requirement that is necessary to adhere to physiotherapy treatment throughout the continuum of care required for their rehabilitation. However, self-employed stroke survivors who had lucrative private businesses or family members who were relatively financially buoyant may be able to pay for physiotherapy care for a longer duration as required. However, effort is being made presently to improve coverage of financial support of healthcare through NHIS for Nigerians. The result of this study on financial constraints as a barrier to treatment adherence is similar to those of previous researchers such as Forkan (31), Garcia Popa-Lisseanu et al. (18), and Marwaha et al. (23).

Although participants in this study were screened for memory problems, reports of forgetfulness as a barrier to adherence to appointment keeping were high.

This was probably more notable where family members were not always available to assist the patient to the hospital. Consequently, strategies geared toward reminding patients and relatives of the appointment dates, as telephone calls and text messages may improve adherence to appointments. Asvat also reported forgetfulness as a barrier to appointment adherence in physiotherapy outpatients (24).

Barriers to clinic-based exercise adherence

Stroke survivors in this study reported fatigue and pain most frequently as barriers to clinic-based exercise adherence. Fatigue is a common problem associated with stroke survivors and has been described as an important clinical determinant of a progressively disabling pattern of reduced physical activity after stroke (32;33). According to West and Bernhardt (34), the mere fact that most stroke survivors would usually have been inactive during their in-patient hospital stay, as part of the acute phase of rehabilitation immediately post-stroke, may also contribute to fatigue. Post-stroke fatigue may, therefore, interfere with the rehabilitation process with consequent negative impact on patient recovery. In essence, stroke survivors may therefore require exercise prescription, which is individually structured, closely monitored and carefully graduated in order to encourage adherence during clinic-based exercises. Previous studies reported a relationship of post-stroke fatigue with depressive symptoms in stroke survivors (35;36). However, participants were not assessed for depression in this study. Pain is also a common feature in stroke survivors, commonly re-



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ferred to as central post-stroke pain syndrome. It occurs when the stroke causes damage to parts of the brain that process sensory stimuli, so these areas of the brain fail to respond properly and, in effect, register all stimuli as pain (32). The resulting malfunctioning of sensory stimuli may thus lead to chronic and disabling pain, which prevents active involvement in clinic-based exercise adherence.

Socio-demographic characteristics of participants and treatment adherence

No significant differences were observed in adherence of male and female stroke survivors to appointment keeping. This result is similar to that of Asvat (24). In addition, no differences were found in adherence of male and female stroke survivors to clinic-based exercise adherence. This finding is similar to that of Kolt and Mc Evoy (16). Neither educational level nor occupation of participant stroke survivors reflected any influence on clinic-based exercise adherence. This may be due to the fact that many of the afore-mentioned factors played a more prominent role as barriers to treatment adherence compared to socio-demographic characteristics of this group of stroke survivors. It may also be due to the fact that the sample size of the population in this study is limited. This may therefore mean that the result pertaining to effect of socio-demographic characteristics on barriers to physiotherapy treatment adherence in stroke survivors in this study may not be broadly generalized.

Conclusion

Support of stroke survivors by family members in hospital attendance is highly essential. Wider coverage of the National Health Insurance Scheme in Nigeria to include individuals with chronic conditions as well as for individuals that are not employed by the federal government is advocated. This will improve available financial means for healthcare of the stroke survivors and hence may improve appointment adherence.

Competing Interests

None declared.

References

- (1) Meichenbaum D, Turk DC. Facilitating Treatment Adherence: A Practitioner's Guidebook. 2010; New York: Plenum Press.
- (2) Bassett SF, Prapaavessis, H. Home-based physical therapy intervention with adherence enhancing strategies versus clinic based management for patients with ankle sprains. *Phys Ther* 2007; 87:1132-43.
- (3) Brewer BW, Van Raalte, JL, Cornelius AE, et al. Psychological factors, rehabilitation adherence and rehabilitation outcome after anterior cruciate ligament reconstruction. *Rehabilitation Psychology* 2000; 45, 20-37.
- (4) Jack K, McLean SM, Moffett JK, et al. Barriers to treatment adherence in Physiotherapy outpatient clinics: A systematic review. *Man Ther* 2010; 15:220-8.
- (5) Al-Eisa E. Indicators of adherence to physiotherapy attendance among Saudi female patients with mechanical low back pain: A clinical audit. *BMC Musculoskeletal Disorders* 2010; 11:124.
- (6) Pisters MF, Veenhof C, Schellevis et al. Exercise adherence improves long-term patient outcome in patients with osteoarthritis of the hip and/or knee. *Arthritis Care Res* 2010; 62:1087-94.
- (7) Rone-Adams SA, Stern, DF, Walker, V. Stress and compliance with a home exercise program among caregivers of children with disabilities. *Pediatr Phys Ther* 2004; 16:140-8.
- (8) O'Sullivan SB, Schmitz TJ. *Physical Rehabilitation* (5th edition). Jaypee Brothers, New Delhi. 2007; 705-761.
- (9) Mensah GA. Epidemiology of stroke and high blood pressure in Africa. *Heart* 2008; 94:697-705.
- (10) Danesi M, Okubadejo N, Ojini F. Prevalence of stroke in an urban, mixed income community in Lagos, Nigeria. *Neuroepidemiology* 2007; 28:216-223.
- (11) Obiako OR, Oparah SK, Ogunniyi, A. Prognosis and outcome of acute stroke in the University College Hospital Ibadan, Nigeria. *Niger J Clin Pract* 2011; 14:3.
- (12) Miller KK. Adherence with physical therapy home exercise programme 1-6 months after discharge from physical therapy by individuals post-stroke [dissertation]. Indianapolis, School of Health & Rehabilitation Sciences Indiana University, 2009.
- (13) Kolt GS, Brewer BW, Pizzari T, et al. The sport injury rehabilitation adherence scale: a reliable scale for use in clinical physiotherapy. *Physiotherapy* 2007; 93:17-22.
- (14) Miller NH, Hill M, Kottke T. et al. The multilevel compliance challenge: recommendations for a call to action. A statement for healthcare professionals. *Circulation* 1997; 95:1085-90.
- (15) Campbell R, Evans M, Tucker M, et al. Why don't patients do their exercises? Understanding non-compliance with physiotherapy in patients with osteoarthritis of the knee. *J Epidemiol Community Health* 2001; 55:132-8.
- (16) Kolt GS, McEvoy JF. Adherence to rehabilitation in patients with low back pain. *Manual Therapy* 2003; 8:110-116.
- (17) Lyngcoln A, Taylor N, Pizzari T, et al. The relationship between adherence to hand therapy and short-term outcome after distal radius fracture. *J Hand Ther* 2005; 18: 2-8.
- (18) Garcia Popa-Lisseanu MG, Greisinger, A, Richardson, M, et al. Determinants of treatment adherence in ethnically diverse, economically disadvantaged patients with rheumatic disease. *J Rheumatol* 2005; 32:913-9.
- (19) Duncan, PW, Horner, RD, Reker, DM, et al. Adherence to postacute rehabilitation guidelines is associated with functional recovery in stroke. *Stroke* 2002; 33:167-77.
- (20) Ogwumike OO, Badru UM, Adeniyi AF. Factors influencing adherence to home-based exercise by Stroke survivors in North-West Nigeria. *IJTRR* 2014; 3:1.doi 10.5455/ijtrr.00000023
- (21) Pfeiffer E. A short portable mental status questionnaire for the assessment of organic brain deficit in elderly patients. *J Am Geriatr Soc* 1975; 23, 433-41.
- (22) Haskell WL, Lee IM, Pate RR, et al.. Physical activity and public health updated recommendation for adult from American College of Sports Medicine American heart association. *Circulation* 2007; 116:1081-93
- (23) Marwaha K, Horabin H, McLean SM. Indian physiotherapists' perceptions of factors that influence the adherence of Indian patients to physiotherapy treatment recommendations. *Int J Physiother Rehab* 2010; 1:9-18.
- (24) Asvat H. Adherence to attending appointments at Chris Hani Baragwanath hospital outpatient physiotherapy department. An unpublished dissertation submitted to the Faculty of Health Sciences, University of the Witwatersrand, in fulfilment of the requirements for the degree of Masters in Physiotherapy. 2011
- (25) Paterson BL, Charlton P, Richard S. Nonattendance in chronic disease clinics: a matter of non-compliance? *J Nurs Health Chronic Illn* 2010; 2:63.
- (26) Kortte KB, Falk LD, Castillo RC, et al. The Hopkins Rehabilitation Engagement Rating Scale: development and psychometric properties. *Arch Phys Med Rehab* 2007; 88:877-84.
- (27) Sluijs EM, Kok GJ, van der Zee J. Correlates of exercise compliance in physical therapy. *Phys Ther* 1993; 73:771-82.
- (28) Raina P, Dukeshire S, Lindsay J, et al. Chronic conditions and disabilities among seniors: an analysis of population-based health and activity limitation surveys. *Ann Epidemiol* 1998; 8:402-9.
- (29) Mayo NE, Wood-Dauphinee S, Cote R, et al. Activity, participation, and quality of life 6 months poststroke. *Arch Phys Med Rehab* 2002; 83:1035-42.
- (30) Cameron JI, Cheung AM, Streiner DC, et al. Factor structure and reliability of the Brain Impairment Behaviour Scale. *J Neurosci Nurs* 2008; 39:172-9.
- (31) Forkan R, Pumper B, Smyth N, et al. Exercise adherence following physical therapy intervention in older adults with impaired balance. *Phys Ther* 2006; 86:401-10.
- (32) Michael KM, Allen JK, Macko RF. Fatigue after stroke: Relationship to mobility, fitness, ambulatory activity, social support and falls efficacy. *Rehabil Nurs* 2006; 31:210-17.
- (33) Mead G, Bernhardt J, Kwakkel G. Stroke: Physical fitness, exercise, and fatigue. *Stroke Res Treat* 2012;2012:632531
- (34) West T, Bernhardt J. Physical activity pattern of acute stroke patients managed in a rehabilitation focused stroke unit. *Biomed Res* 2013;2013:438679
- (35) Van de Werf SP, Van de Broek HL, Anten HW. Experience of severe fatigue long after stroke and its relation to depressive symptoms and disease characteristics. *Eur Neurol* 2001; 45:28-33.
- (36) Glader E, Stegmayr B, Asplund K. Poststroke fatigue: a 2-year follow-up study of stroke patients in Sweden. *Stroke* 2002; 33:1327-33.



Research and Best Practice

Integration of health promotion in clinical hospital departments: standards fulfilment, documentation of needs and service delivery

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Abstract

Background Integrating health promotion (HP) in clinical settings has tremendous effects on treatment outcomes, patient safety and expenses on short and long-term. WHO-HPH standards and models are used globally - but publications on compliance and provision of HP remain rare.

Objective To evaluate WHO-HPH Standards compliance, identification of HP needs and related HP deliveries at hospitals, as well as to identify important factors for high level of service deliveries to patients in need of HP.

Methods 21 clinical departments, each with 50 patient records, were included in Taiwan. Standards compliance was recorded. The 1050 medical records were audited for documentation of patients' HP need (HPH DATA model) and HP service deliveries (HPH Doc Act model) regarding malnutrition, overweight, physical inactivity, smoking and excessive drinking.

Results The Standards compliance was high; 93% (88-98%). Identification rate was 46% (32-72%) and delivery rate to those with identified HP needs was 33% (22-40%). Of the total deliveries, 17% (5-24%) were given to patients documented as not having HP needs, and 46% (41-59%) to patients without information on HP needs. Modifiable factors of significance for high level of HP service delivery were Standards compliance and HP needs identification; OR 1.89-3.75 and 1.74-12.66.

Conclusion The compliance was high at organisation level, but lower at patient level. Most deliveries were given to patients without identified needs. Future research should include implementation strategies reaching out to the patients.

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Introduction

The burden of disease is closely related to smoking, alcohol, overweight and malnutrition as well as physical inactivity (1). In order to reduce this burden and increase public health, the focus worldwide is on the need for and access to health promotion (HP). In addition to the improved health long-term (2), more and more evidence exists on almost immediate beneficial effects of applying HP to clinical settings (3). It works by improving the direct clinical outcome, reducing expenses and increasing patient safety on very short term (4). Improvements to clinical results include faster recovery (5), better disease control (6-8), reduced surgical complications (9-11) and improved mental health (12). Therefore, HP should thus be considered a central issue in treatment quality (13-15). However, implementation of evidence-based HP in the clinical settings is still a challenge – in line with implementation of other evidence-based interventions.

To support and guide implementation of HP in clinical settings, the World Health Organization (WHO) and the International Network of Health Promoting Hospitals & Health Services (HPH) have developed and validated 5 standards with 40 measurable elements for HP in hospitals: I) management policy, II) patient assessment, III) patient information and intervention, IV) promoting a healthy workplace and V) continuity and co-operation (16;17). The International Society for Quality in Health Care criteria (18) were used for establishment of the Standards for HP in Hospitals. With the standards as a quality management tool, hospital organisations can monitor their HP implementation, including the structures that support the delivery of HP services (13).

To create the necessary in-detail framework for monitoring the implementation at individual patient level, two easy-to-use models for documentation of HP needs and related interventions in the medical records, have also been developed and validated internationally (19;20). These models monitor e.g. lack of physical activity and the following service deliveries, such as motivational counselling or participation in an exercise program. The HPH DATA and Doc-Act models monitor the documentation in the medical records of WHO-HPH Standard II and III.

HPH DATA model includes 9 questions for documenting individual patient needs for HP related to smoking, alcohol, overweight, malnutrition and physical inactivity (19). HPH Doc-Act model with 15 international codes documents HP activities provided to individual patients with HP needs (20). This model differentiates between brief intervention (BI), e.g. motivational counselling,

and HP intervention (INT) or rehabilitation programs.

Overall, the standards and models have been shown to be understandable, adequate and easily added to existing local procedures and systems (16-17, 19-20). They have been implemented to varying degrees by a large number of hospitals and health services worldwide – typically as an integrated element in the local and national quality management program. Still, however, publications on compliance with standards and HP service deliveries remain sparse (21;22).

The aim of the present study was to evaluate the compliance with the WHO-HPH Standards, the identification of needs and related service deliveries of HP activities in Taiwanese hospitals. A further aim was to identify important factors for high levels of HP service delivery.

Methods

This study used a cross-sectional design. The English project materials were translated into local languages by the Taiwanese HPH Network, which also supported the study process. The Danish Data Protection Agency for international studies confirmed that the project included no personal identification data, since the data were collected anonymously at source. The Research Board of Bispebjerg & Frederiksberg Hospital and the local ethics boards approved the project before start (ClinicalTrials.gov id: NCT01563575. Danish Data protection Agency J.nr: 2012-41-0152).

Participants and Setting

The inclusion criteria were departments responsible for patient treatment – both in- and out-patient clinics, and each hospital could only join with one department. Exclusion criteria were paediatric departments, palliative departments and nursing homes, owing to the fact that the standards and tools have not yet been validated for these patient groups.

Through an open call for participation 21 clinical departments from 21 different HPH hospitals in Taiwan were included in the study after informed consent from both the hospital management and the department management. There were 7 departments of internal or general medicine, 3 of rehabilitation, 2 of oncology, 2 of orthopaedics, 2 of endocrinology, 2 of surgery, 1 of geriatrics, 1 of psychiatry and 1 of cardiology. The departments represented accredited public, private, university, mid-sized and small rural hospitals (see Table 1 for characteristics).



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Table 1 Characteristics of 21 hospital departments included

		Number of departments
Status of hospital:	Public	7
	Private not for profit	13
	Private for profit	1
Type of hospital:	Community hospital	1
	Large teaching general	15
	University hospital	3
	Specialised hospital	2
Catchment area:	Rural	4
	Urban	14
	Mixed	3
Number of beds:	<200	2
	200 to 399	3
	400 to 599	3
	>599	13

Collection of Data

The departments received a project manual and technical support. They collected data through the self-assessment manual-based tools over 6-8 months, all anonymised at source. The monitoring of the WHO-HPH Standards was done at department level by categorising the measurable elements as either “yes” or “no” regarding fulfilment.

For the HPH DATA and HPH Doc-Act models the local staff performed a manual-based audit. They audited 50 consecutive anonymised patient records at each hospital from a specific date before the inclusion date. For each item in the models, the staff would then mark it either:

- “Yes” if categorisable information was available in the record, sufficient to determine a need for HP or a delivered service.
- “No” if categorisable information was available in the medical record, sufficient to determine no need for HP or no service had been delivered.
- “Unknown”: if information was not categorisable, such as lacking or insufficient to determine need for HP or whether a service had been delivered or not.

Analyses

The outcomes were fulfilment of the 40 measurable elements of the 5 WHO-HPH Standards; the patients identified with or without need for HP (smoking, alcohol, overweight, malnutrition and physical inactivity) as well as patients with said needs, who actually had related HP service deliveries.

The association between need for a specific HP service and the related delivery was calculated as univariate analyses controlled for confounders and effect modifiers and presented as odds ratio (OR) with 95% confidence interval (CI). This was followed by a final multivariate regression analysis. The results were considered significant if CI did not include the value 1.

Results

The hospital departments had a very high compliance with the 40 measurable elements constituting the 5 WHO-HPH standards; Standard I with 96%, II with 88%, III with 91%, IV with 93% and V with 98%. Overall, 15 of the 21 departments had 100% compliance; median value 40, ranging 20-40 (see Table 2).

Alltogether, data from $21 \times 50 = 1050$ medical records were analysed. The departments had a low level of documentation of needs or no needs for HP regarding malnutrition, overweight and physical inactivity (see table 3).

Relation between identified HP needs and service delivery

The association between needs for specific HP and related deliveries, for instance daily smoking and related delivery of smoking cessation intervention, was low (Table 4). The majority (68%) of those with identified needs for HP did not receive a related intervention. Interestingly, 17% in median (ranging 5-24%) of those identified as having no risk factors were given HP services. For all risk factors the highest absolute number of HP activities was delivered to patients with unknown and insufficient information about the related risk factor.

Overall, the multivariate analysis of important factors for HP deliveries of specific life-style factor interventions showed that identification of the risk factors, (except for malnutrition) and complete standard compliance were significantly associated with increased deliveries. Being a public hospital was associated with significantly lower delivery of interventions for all lifestyle interventions (table 5). HP activities targeting nutrition problems were associated with urban hospitals and hospitals with a mixed urban/rural catchment area. Intervention against physical inactivity was negatively associated with being a smaller size hospital and having an urban or mixed urban/rural catchment area, but positively associated with medical and psychiatric departments. On the other hand smaller size hospitals were significantly associated with both alcohol and smoking interventions. There was no difference between community hospitals and larger teaching/university hospitals concerning the HP deliveries.



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Table 2 Compliance with the WHO-HPH Standards for HP in hospitals, measured by 21 clinical departments in Taiwan

		Departments 1 - 21																					
Standards/Substandards		A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	Total
1.1.1.	Aims and mission include HP	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
1.1.2.	Minutes reaffirm agreement w HPH	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
1.1.3.	Quality/business plans include HP	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		20
1.1.4.	Personnel and functions ID'ed for HP	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
1.2.1.	There is a budget for HP	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		20
1.2.2.	HP procedures available	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x			19
1.2.3.	HP structures and facilities can be ID'ed	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		20
1.3.1.	HP intervention data captured	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		20
1.3.2.	Assessment of HP established	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		20
Total Standard 1: Management Policy																							96%
2.1.1.	Guidelines to ID lifestyle risk exist	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	20
2.1.2.	Guidelines have been revised	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x			18
2.1.3.	Guidelines to ID HP needs exist	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x					16
2.2.1.	Assessment is documented	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	20
2.2.2.	Guidelines for reassessing HP needs	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x					17
2.3.1.	Info from referring DR available in MR	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	20
2.3.2.	MR documents social/cultural background	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				18
Total Standard 2: Patient Assessment																							88%
3.1.1.	Information given is recorded in MR	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				18
3.1.2.	HP activities are documented in MR	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				18
3.1.3.	PT satisfaction assessment integrated in QM	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				18
3.2.1.	General health information is available	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
3.2.2.	Info about highrisk diseases is available	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	20
3.2.3.	Information on PT organizations available	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	20
Total Standard 3: Patient Information & Intervention																							91%
4.1.1.	Working conditions comply w N/R directives	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
4.1.2.	Staff comply w health and safety	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
4.2.1.	Intro training on HP policy given to new staff	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
4.2.2.	Staff aware of HP policy	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		20
4.2.3.	HP performance appraisal system exists	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x				17
4.2.4.	Practices made by multidisciplinary teams	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		20
4.2.5.	Staff involved in policy-making	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x		19
4.3.1.	Policies on health issues available for staff	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
4.3.2.	Smoking cessation programmes offered	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x				x		17
4.3.3.	Annual staff surveys are carried out	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	x		19
Total Standard 4: Healthy Workplace																							93%
5.1.1.	Regional policy taken into account	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
5.1.2.	List of partners available	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
5.1.3.	Collaboration based on regional health plan	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
5.1.4.	Plan for collaboration w partners available	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	20
5.2.1.	Follow-up instructions given	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		20
5.2.2.	Procedure for info exchange exists	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
5.2.3.	Receiving organization gets info on PT	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	21
5.2.4.	Rehab plan documented in MR	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		x	20
Total Standard 5: Continuity and Cooperation																							98%
Total Number of measurable elements (of 40)		40	40	40	40	40	40	40	40	40	40	40	40	40	40	40	39	38	35	31	24	20	
Total All standards																							94%



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Table 3 HPH DATA Model for assessing HP needs: The medical record audit results for the documentation of HP needs among 1050 patients

	Categorisable (%)		Not categorisable (%)
	"Yes" to HP needs (high risk)	"No" to HP needs (low risk)	Unknown
A - Is the patient at risk of illness-related malnutrition?	26	20	54
A-1 Is the patient's BMI below 20.5?	12	51	37
A-2 Has the patient lost weight in the past three months?	6	55	39
A-3 Has the patient had reduced appetite in the past week?	6	62	31
A-4 Is the patient severely ill? (i.e., stress-metabolic)	11	60	29
B - Is the patient overweight?	22	10	68
B-1 Is the patient's BMI above 25?	20	42	38
B-2 Has the patient's waist exceeded 80 cm (W) or 94 cm (M)?	5	20	75
C - Is the patient active less than 30 min/day? (Defined by moderate intensity with pulse increase, e.g., walking, cycling, training)	13	21	66
D - Does the patient smoke daily?	16	56	28
E - Does the patient's drinking exceed the recommend limits? (Defined as 7 drinks weekly for W and 14 for M)	7	62	31

(W: women; M: men)

Table 4 Distribution of the specific identified risk factors compared to the distribution of related intervention; brief intervention (BI) more intensive intervention (INT).

	Identification of risk factor	Related BI/INT	p-value
Risk Factor	n (%)	n (%)	
Malnutrition			
Risk	275 (26)	72 (30)	0.133
No Risk	212 (10)	58 (24)	0.083
Unknown Risk	563 (54)	110 (46)	0.006*
Total	1050 (100)	240 (100)	-
Overweight			
Risk	232 (22)	83 (34)	0.000*
No Risk	101 (10)	16 (7)	0.082
Unknown Risk	717 (68)	141 (59)	0.000*
Total	1050 (100)	240 (100)	-
Physical Inactivity			
Risk	132 (13)	68 (40)	0.000*
No Risk	171 (16)	32 (19)	0.364
Unknown Risk	747 (71)	70 (41)	0.000*
Total	1050 (100)	170 (100)	-
Smoking			
Risk	172 (16)	50 (37)	0.000*
No Risk	557 (53)	22 (17)	0.000*
Unknown Risk	321 (31)	62 (46)	0.000*
Total	1050 (100)	134 (100)	-
Excessive Alcohol			
Risk	72 (7)	12 (22)	0.000*
No Risk	602 (57)	3 (5)	0.000*
Unknown Risk	376 (36)	39 (53)	0.000*
Total	1050 (100)	54 (100)	-

* Statistically significant (P<0.05)

Discussion

We found that the present hospital departments from Taiwan fulfilled the WHO-HPH Standards almost completely and to a significantly higher degree than reported in previous studies (16;17;21;27). This very high compliance at organisational level was not followed by a correspondingly high degree of implementation at patient level. Overall, about half of the patients had their needs for HP evaluated and documented in the medical record, while the required HP services were delivered to less than one third of those patients identified with HP needs. These results are not quite different from other publications (19;20;22;23).

Another part of the results in the present study are the factors of significance for a high level of delivery in Taiwan. Both complete fulfilment of the WHO-HPH standards and having identified the risk factors were significant for delivery of all the related HP services. This is important, because these two factors can be modified relatively easy. Other significant factors, albeit not so changeable, are hospital size, urban catchment area and being a public hospital - amongst others. Furthermore, the university and teaching hospitals did not have higher delivery rates. Especially, the modifiable factors should be included in the future considerations of better implementation of HP targeting patients.

In principle, HP should ideally take place outside hospitals, such as in families, institutions, work places, schools and primary care. However, when entering hospitals about 80-90% of patients have at least one risk



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Table 5 Multivariate analyses on assoc. between HP deliveries and characteristics; OR: odds ratio; CI: 95% confidence interval; MN: malnutrition; OW: overweight

		Nutrition		Physical Inactivity		Smoking		Alcohol	
		OR	(CI)	OR	(CI)	OR	(CI)	OR	(CI)
Identified Risk vs No & Unknown Risk	MN:	0.98	(0.68 - 1.42)						
	OW:	1.74*	(1.22 - 2.49)	8.15*	(4.96 - 13.39)	4.22*	(2.65 - 6.71)	12.66*	(3.91 - 40.98)
Complete vs Incomplete Standard Compliance		1.89*	(1.23 - 2.93)	3.75*	(2.15 - 6.52)	3.66*	(1.76 - 7.61)	2.24*	(0.43 - 11.58)
Public vs Private Hospitals		0.25*	(0.16 - 0.38)	0.61*	(0.38 - 0.99)	0.19*	(0.10 - 0.34)	0.22*	(0.07 - 0.65)
Community vs teaching & University Hospitals		0.98	(0.16 - 6.19)	1.00	-	1.00	-	1.00	-
Urban & Mixed vs Rural Catchment		16.66*	(3.88 - 71.54)	0.16*	(0.06 - 0.45)	1.43	(0.53 - 3.89)	6.77	(0.51 - 90.78)
< 599 Beds vs > 600 Beds		1.15	(0.79 - 1.66)	0.17*	(0.10 - 0.30)	2.14*	(1.38 - 3.31)	31.40*	(10.51 - 93.78)
Med & Psych vs Surgical Department		1.80	(1.00 - 3.23)	17.63*	(5.53 - 56.17)	2.27	(0.92 - 5.59)	1.00	-

* Statistically significant (P<0.05)

factor, like smoking, excessive alcohol drinking, risk of malnutrition, overweight and physical inactivity, all of which can significantly reduce treatment outcome on short term and health gain on longer term (19-23). Nevertheless, it is possible to improve immediate outcome by adding HP services to patient pathways in surgery, internal medicine and psychiatry (4-12). A first significant step for this is to identify patients' needs for HP services.

From this study, it appears that such systematic recording of needs for HP is a key prerequisite to also delivering associated HP services systematically. Knowing the beneficial effect on treatment outcome on short term as well as the benefit on longer term (1-3), many hospitals and health services worldwide have adopted the tools assessed in this study to varying degrees (e.g. Denmark, Sweden, Ireland, Canada etc.). However, in order to harvest the benefits of outcome- and cost-effectiveness it is necessary to systematically implement effective HP services, and our study clearly showed the need for improved implementation at patient level. The focus should be on those in need of HP services. From the present study it seems that the highest numbers of activities were actually given to patients documented to either be without risk or without information on risk. Health policies, reimbursement strategies and agreements on specific standards and clinical guidelines are highly relevant, but seldom sufficient to secure implementation at patient level (24-25) and as a result the clinical implementation of evidence is often years delayed.

In addition to facilitating the implementation process with teaching and training of staff to be able to handle the new activities, also staff and managerial attitudes (27;28) and individual lifestyle are surprisingly important for successful implementation of HP (28). Interestingly, the patients are positive towards new interventions, and especially positive to being offered HP services

as an integrated part of patient pathways (29-32).

Bias and Limitations

Some bias and limitations apply to the present study. On one hand, the HP Services have been delivered by different staff groups across the hospitals, which may increase the variety. On the other hand, HPH members in Taiwan are evaluated by the WHO-HPH Standards when joining HPH as part of their local membership criteria. Overall, the data were collected by self-assessment, which may overestimate the compliance and deliveries. Another bias could arise from updates to the Standards over time (13). The present study used the latest edition. Further bias on the Standard compliance might originate from the settings, because the standards were developed for entire hospitals as organizations and this study included just singular clinical departments. It could be argued that it is more difficult to get an entire hospital to comply with a set of standards, than it is to get just a single department to comply. In practice, however, many of the topics dealt with by the standards are naturally applied to the whole hospital organization – especially for issues like overall policy, healthy work places, teaching and training of staff, common guidelines, general processes etc.

It is a strength that the study was performed under real life conditions; however, all participating hospitals were HPH members, which may limit the generalisation outside HPH and Internationally.

Perspectives

The perspectives of monitoring and improving the implementation and deliveries of HP in clinical settings are tremendous for the patient and society at large. They include better treatment results and increased health gain. From a clinical perspective, it is necessary to secure teaching and training regarding HP for staff and management in addition to offering the HP programs to support and fa-



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cilitate meeting the patients' needs for HP. Finally, the present study underlines the need for additional research on the topic of clinical HP implementation and related strategies in high quality designs.

Conclusion

WHO-HPH Standards are complied with to a high degree in the present study, but the identification of HP needs and related HP delivered to patients are lower. Important factors of high delivery levels the fulfilment of the WHO-HPH Standards and identification of risk. Additionally, about 17% of patients without HP needs and 46% of patients with no documented risk still received HP services. Development of effective implementation strategies, reaching out to patients, and evaluation in randomised trials are urgently required.

Contribution Details

Conception and design: JKS, HT, STC

Acquisition of data: STC, YLC, SHS, CHH, CYP, MNL, YHS, TW, SCW, TTC, LYH, YYK, CJW, RYY, HIY, YHC, MSC, HTC, YLC, DP, NPW, TCT, HCW

Analysis and interpretation of data: JKS, HT

Drafting manuscript: JKS, HT

Revising manuscript: STC, YLC, SHS, CHH, CYP, MNL, YHS, TW, SCW, TTC, LYH, YYK, CJW, RYY, HIY, YHC, MSC, HTC, YLC, DP, NPW, TCT, HCW

Competing Interests

None declared.

References

- (1) GBD 2013 Mortality and Causes of Death Collaborators. Global, regional, and national age-sex specific all-cause and cause-specific mortality for 240 causes of death, 1990-2013: a systematic analysis for the Global Burden of Disease Study 2013. *Lancet*. 2015; 385:117-71
- (2) Li G, Zhang P, Wang J, Gregg EW, Yang W, Gong Q, Li H, Li H, Jiang Y, An Y, Shuai Y, Zhang B, Zhang J, Thompson TJ, Gerzoff RB, Roglic G, Hu Y, Bennett PH. The long-term effect of lifestyle interventions to prevent diabetes in the China Da Qing Diabetes Prevention Study: a 20-year follow-up study. *Lancet* 2008; 371:1783 - 9.
- (3) Groene O, Jorgensen SJ. Health promotion in hospitals - a strategy to improve quality in health care. *The Eur J of Pub Health* 2005; 15:6-8.
- (4) Pedersen B, Hansen PE, Tønnesen H. Scand-Ankle: Cost-effectiveness of Alcohol Cessation Intervention in Acute Fracture Surgery. *Clin Health Promot* 2014; 2 suppl: 1-68.
- (5) Nielsen PR, Jørgensen LD, Dahl B, Pedersen T, Tønnesen H. Prehabilitation and early rehabilitation after spinal surgery: randomized clinical trial. *Clin Rehabil* 2010; 24: 137-48.
- (6) Gæde P, Lund-Andersen H, Parving HH, Pedersen O. Effect of a multifactorial intervention on mortality in type 2 diabetes. *N Engl J Med* 2008; 358:580-91.
- (7) Anderson L, Taylor RS. Cardiac rehabilitation for people with heart disease: an overview of Cochrane systematic reviews. *Cochrane Database Syst Rev* 2014 Dec 12; 12: CD011273.
- (8) Nikitovic M, Brenner S. Health technologies for the improvement of chronic disease management: a review of the Medical Advisory Secretariat evidence-based analyses between 2006 and 2011. *Ont Health Technol Assess Ser* 2013; 13:1-87
- (9) Thomsen T, Villebro N, Møller AM. Interventions for preoperative smoking cessation. *Cochrane Database Syst Rev* 2014 Mar 27; 3:CD002294.
- (10) Oppedal K, Møller AM, Pedersen B, Tønnesen H. Preoperative alcohol cessation prior to elective surgery. *Cochrane Database Syst Rev* 2012; 7:CD008343.
- (11) Nasell H, Adami J, Samnegard E, Tønnesen H, Ponzer S. Effect of smoking cessation intervention on results of acute fracture surgery: a randomized controlled trial. *J Bone Joint Surg* 2010; 92:1335-42.
- (12) Taylor G, McNeill A, Girling A, Farley A, Lindson-Hawley N, Aveyard P. Change in

mental health after smoking cessation: systematic review and meta-analysis. *BMJ* 2014; 348:1-22

(13) WHO, World Health Organization (2010). Implementing health promotion in hospitals: manual and self-assessment forms. WHO Regional Office for Europe, Copenhagen. http://www.euro.who.int/__data/assets/pdf_file/0009/99819/E88584.pdf

(14) WHO, World Health Organization (2013). Health 2020: A European policy framework supporting action across government and society for health and well-being. World Health Organization Regional Office for Europe, Copenhagen. http://www.euro.who.int/__data/assets/pdf_file/0006/199536/Health2020-Short.pdf

(15) WHO, World Health Organization (2013). Global action plan for prevention and control of non-communicable diseases 2013-2020. World Health Organization, Geneva. http://www.who.int/nmh/events/2013/revised_draft_ncd_action_plan.pdf

(16) Groene O, Jorgensen SJ, Fugleholm AM, Garcia Barbero M. Standards for health promotion in hospitals: development and pilot test in nine European countries. *Int J Health Care Qual Assur Inc Leadersh Health Serv* 2005; 18:300-7.

(17) Groene O, Alonso J and Klazinga N. Development and validation of the WHO self-assessment tool for health promotion in hospitals: results of a study in 38 hospitals in eight countries. *Health Promot Int* 2010; 25:221-9

(18) www.isqua.org

(19) Tønnesen H, Svane JK, Lenzi L, Kopecky J, Suurorg L, Bukholm IRK, Hsu ST, Hübner M, Krogerus S, Kellner-Rechberger S, Masiello MG and the HPH Networks in Tuscany, Italy; Spain; Ontario, Canada and Germany. Handling Clinical Health Promotion in the HPH DATA Model: Basic Documentation of Health Determinants in Medical Records of tobacco, malnutrition, overweight, physical inactivity & alcohol. *Clin Health Promot* 2012; 2:5-11.

(20) Tønnesen H, Christensen ME, Groene O, O'Riordan A, Simonelli F, Suurorg L, Morris D, Vibe P, Himel S and Hansen PE. An evaluation of a model for the systematic documentation of hospital based health promotion activities: results from a multicentre study. *BMC Health Services Research* 2007; 7:145

(21) Svane JK, Raisova B, Stanecka Z, Dolezel Z, Richter M, Chalikova J, Vlachova M, Opocenska M and Tønnesen H. Clinical Health Promotion in the Czech Republic: Standards Compliance and Service Provision. *Clin Health Promot* 2014; 4:15-21.

(22) Oppedal K, Nesvåg S, Pedersen B, Skjøtskift S, Aarstad AKH, Ullaland S, Pedersen KL, Vevatne K, Tønnesen H. Health and the need for health promotion in hospital patients. *Eur J Public Health*. 2011; 21:744-9.

(23) Tønnesen H, Rosswal N, Odgaard MD, Pedersen KM, Larsen KL, Mathiasen, B, Farlie R, Elbirk A, Hüttel M, Danborg L, Vestermark V, Petri AL, Ebbehøj N, Frederiksen M, Hejgaard T. Basic registration of risk factors in medical records. Malnutrition, overweight, physical inactivity, smoking and alcohol (English abstract). *Ugeskr Laeger* 2008; 170:1747-52.

(24) Shaw CD, Groene O, Botje D, Sunol R, Kutryba B, Klazinga N, Bruneau C, Hammer A, Wang A, Arah OA, Wagner C; on behalf of the DUQuE Project Consortium. The effect of certification and accreditation on quality management in 4 clinical services in 73 European hospitals. *Int J Qual Health Care* 2014; 26 Suppl 1:100-7.

(25) Botje D, Klazinga NS, Sunol R, Groene O, Pfaff H, Mannion R, Depaigneloth A, Arah OA, Dersarkissian M, Wagner C. Is having quality as an item on the executive board agenda associated with the implementation of quality management systems in European hospitals: a quantitative analysis. *Int J Qual Health Care* 2014; 26 (Suppl 1):92-9.

(26) Miseviciene I and Zalnieriaitiene K. Health promoting hospitals in Lithuania: health professional support for standards. *Health Promot Int* 2012; 28:512-21

(27) Guo XH, Tian XY, Pan YS, Yang XH, Wu SY, Wang W and Lin V. Managerial attitudes on the development of health promoting hospitals in Beijing. *Health Promot Int* 2007; 22: 182-90.

(28) Zabeen S, Tsourtos G, Campion J, Lawn S. Type of unit and population served matters when implementing a smoke-free policy in mental health settings. *Int J Soc Psychiatry* 2015 (e-pub ahead of print: Mar 12)

(29) Pedersen B, Oppedal K, Egund L, Tønnesen H. Will emergency and surgical patients participate in and complete alcohol interventions? A systematic review. *BMC Surg* 2011;11:26.

(30) Møller AM, Villebro NM. Preoperative smoking intervention: What do patients think? A qualitative study. *Ugeskr Laeger* 2004; 166: 3714-8. [Abstract in English]

(31) Thomsen T, Esbensen BA, Samuelsen S, Tønnesen H, Møller AM. Brief preoperative smoking cessation counselling in relation to breast cancer surgery: a qualitative study. *Eur J Oncol Nurs* 2009; 13:344-9.

(32) Lindström D, Sundberg-Petersson I, Adami J, Tønnesen H. Disappointment and drop-out rate after being allocated to control group in a smoking cessation trial. *Contemp Clin Trials* 2010; 3:22-6.



Outcome of information and coping skills training for relatives of drug abusers: A randomised controlled study

Ulla Zetterlind¹, Susanna Kovac¹

Abstract

Background Substance abuse often has a severe influence on family members and relatives and thus, the health of the relatives is also at risk. The aim of the study was to compare two programmes on coping skills and well-being in relatives/good friends of persons with drug use disorders.

Method Forty-three relatives to drug abusers were randomly assigned to one of two interventions: a Coping Skills Training programme (CST) or a Standard Information programme (SI). The CST consisted of one SI-session plus four monthly CST sessions. Five different self-report scales were used to measure symptoms (SCL 90/GSI), coping, social interaction, alcohol and drug use. Follow-up periods were 12 and 24 months.

Results Ninety-eight per cent of the participants completed the first follow-up and eighty-eight per cent the second follow-up. Both groups (CST and SI) showed a decrease in symptoms and coping values after 24 months with a significant better overall coping in the long term for CST.

Conclusion Both programmes led to decreased symptoms and improved coping. The significant lower value on overall coping after 24 months indicates that a long-term intervention programme might be more efficient.

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Introduction

Despite increasing interest in research on relatives of people with alcohol problems in recent decades, there have been few international studies, including a Swedish study on relatives of people with drug use disorders. However, knowledge obtained from studies of relatives of alcohol abusers might be a good starting point for measures directed towards relatives of people with drug use disorders.

It is well-documented that the well-being and coping of these relatives are influenced by their partners' alcohol problems. Several papers have shown that a person's alcohol problems also have a negative effect on other members of their family (1-3). Some of the papers in this field are looking at the effect of including spouses in specific treatment programmes when dealing with reduction of their partners' alcohol intake (4-6). In these studies, the outcomes were generally positive, i.e. a significantly larger

proportion of the abusers made appointments for treatment or entered treatment programmes. However, some studies mainly focus on relatives, their health, stress and ability to cope (7-11). These papers indicate that a coping strategy chosen by relatives may be as important for their own health as for the rehabilitation of the abuser. Thus, improving the family's overall situation is an important subject when working on health promotion.

According to Orford et al. (12;13) tolerant-inactive coping seems to have a negative influence on relatives' health. The same applies to engaged coping, even though there is a lower correlation. The randomised studies presented by Zetterlind and co-workers (7) and by Hansson et al. (8) showed that different types of interventions reduced symptoms, but also that long-lasting intervention programmes had the most positive results in a two-year perspective.



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In this paper, we have compared two intervention methods for relatives of persons with drug use disorders. One intervention focuses on a single standard information session including a dialog with the relative, and the other uses the same standard information session, which is then followed by four coping skills training sessions. The structure of the study is similar to that used in previous studies (7;8). The aim was to investigate the outcome of short- and long-term intervention for relatives of persons with drug use disorders.

Materials and Methods

Study design

Relatives/close friends were randomly assigned to either the intervention consisting of a single standard information session (SI) of 90 minutes, or the intervention of SI plus four 90 minutes monthly sessions of individual coping training (CST). Follow-up periods were 12 and 24 months. A number of self-report scales were filled out at baseline and at each follow-up period. The flow chart of the procedure is shown in Figure 1.

Patient enrolment

Information about the study was given in oral and in written form to the staff at the Addiction Centre, Malmö University Hospital, the Outpatient Drug Department in Lund, the Social Services in Malmö and Lund and to other Social Services in the area. The study was advertised in local newspapers and staff magazines, where it was explained that the researchers were looking for persons who were affected by illegal drug abuse by relatives or close friends. The period of information took about two months.

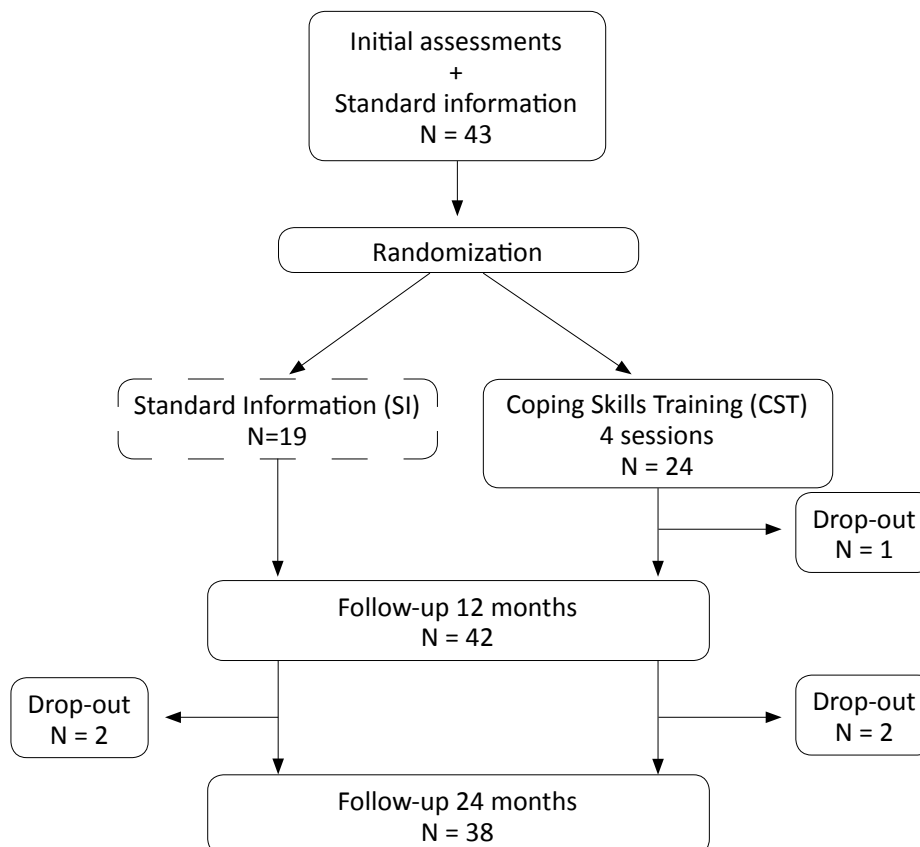
Inclusion criteria

Relatives or friends of illicit drug abusers with a present drug related problem. The minimum age for subjects was set at 18 years.

Exclusion criteria

Participants who themselves have a drinking or drug addiction, participants with severe domestic violence in the relationship, participants with ongoing psychosocial

Figure 1 Flow chart: Intervention for relatives/close friends of persons with illicit drug abuse problems





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treatment and participants with major psychiatric disorders were all excluded from the study, as it was believed that participation in the study might further deteriorate the situation of the family.

Enrolment of participants

All participants were first screened by the author in a telephone interview. All relatives were carefully informed about the purpose and the design of the study orally and in written form. All accepted the randomization assessments. Most of the attendants (37 persons) responded to the advertisements in the local newspapers and staff magazines. Others were recommended from the social services (2 persons), Addiction Centre (3 persons) and Malmö University Hospital (1 person). In cases where more than one relative from the same family wanted to attend the study, they were individually included and offered the same type of programme. Five relatives, two in the SI session and three in the CST intervention, were included this way. The reason for offering the same programme for relatives from the same family was that we did not want to complicate the family coping situation.

Procedure

The standard information session started with a presentation of the study. This was followed by a structured face to face interview including questions on family situation, drug-problem history, time of living with the drug-problem, the situation of the drug abuser, the participants own situation during child- and adulthood, as well as physical and mental well-being of the participants. Participants were assessed with different self-reporting scales: The Symptom Checklist 90 (SCL 90), Coping Behaviour Questionnaire, The Alcohol Use Disorders Identification Test (AUDIT), The Drug Use Identification Test (DUDIT) and The Interview Schedule for Social Interaction (ISSI). All scales are described below.

General information of the study took place after the assessments. The allocated time for the initial assessment and the information was 90 minutes. All participants in the study received a booklet with written information in addition to the 90 minute session. At the end of the information session participants were randomly assigned to either SI or CST.

The study was approved by the local ethics committee, Lund University.

Randomization

After the completion of baseline assessment, the randomisation process was carried out by an administrative coordinator with no other involvement in the study. The randomisation was done with the use of sealed black envelopes from different boxes based on different strata

(14). Stratification was made for relative category and for the drug abuser's main drug, heroin.

Self-report scales

Coping Behaviour Scale by Orford (3) consists of 56 questions concerning different ways of coping for relatives of people with excessive drinking or drug use. The structure of coping is described in three broad coping positions: tolerance, engagement, withdrawal. In this study, a short developed version of the Coping Behaviour Scale (12;13) with 30 questions was used for self-assessment, measuring coping actions over the previous three-month period. According to Orford, family members' experience of health is generally associated with low coping values.

The Symptom Checklist 90, SCL-90 by Derogatis (15) is a 90 item self-report symptom inventory. It is primarily designed to reflect the psychological symptom pattern of psychiatric and medical patients and includes a Global Severity Index (GSI) for overall mental well-being. The questionnaire has been regulated for a Swedish population by Fridell and co-workers (16) using the reference mean value of 0.6 for women and 0.4 for men.

The Alcohol Use Disorders Identification Test (AUDIT) (17-19) is a 10 items screening questionnaire for identification of hazardous and harmful alcohol use. Bergman et al. (19) tested the scale on a Swedish population with an internal consistency of Cronbach's alpha = 0.95.

The Drug Use Disorders Identification Test (DUDIT), developed by Berman and co-workers (20), is a parallel instrument to Audit for identification of persons with drug-related problems.

The Interview Schedule for Social Interaction (ISSI), developed by Hendersen and co-workers (21), measures social support. In this study, we have used a brief Swedish version of ISSI by Undén & Ort-Gomer (22). This scale has been validated for a Swedish population by Eklund et al. (23). A higher index value on the scale indicates more relations to family, friends, neighbours and colleagues.

Treatment programme design

Both SI and CST were manual-based and conducted by one therapist (Ulla Zetterlind) with experience of working with relative support and research in this field. The treatment programme is described in table 1.

Follow-up examination after 12 and 24 months (90 minutes)

Interviews concerning the living situation were performed by co-author Susanna Kovac.



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Table 1 Intervention

Control group: SI

- Clarification of the problem of being family/friend to a drug abusing person via a discussion between the therapist and the participants
- Obtaining of baseline data, using interview and questionnaires (1;12-22)
- Feedback according to the Coping behavior questionnaire (12;13)
- Delivering of a booklet with information about the study, usual patterns, own coping, discussed, changes and course of action if the drug abusing relative wanted to enter treatment
- Information on follow-up and randomization of the participant to either a Standard Information session group or to a group including additional 4 coping training sessions

Content of CST

Session	Themes	Homework
1	Family adjustment Family roles Relationships	- Describe yourself and your relatives in positive terms and note 5 adjectives for each person. - Read the book "Coming off Drugs" (24) - Make 5 notes to discuss at next session
2	Isolation Social network	- Watch a video film "Hidden Sign" (25) - Make 5 notes to discuss at next session
3	Family dynamics Family communication Dependence/independence	- Do something for the participants own satisfaction - Make at least 5 notes to discuss at next session
4	Repetition of the 3 sessions Definition of future goals	

The interviews included information of the living situation of the participants as well as of the drug abusers. The questionnaires from the beginning of the project were filled in by the participants again.

Statistical methods

The Mann-Whitney's U-test was used to study changes between the groups at 12 and 24 months follow-up. The Statistical Package for Social Sciences (SPSS) 22.0 was used for the statistical analysis.

Power analysis

The calculation was based on parametric statistics (26) assuming a standard difference of 1.0. This value was previously used by Guyatt (26), but values close to 1.0 have also been obtained in our previous investigation on spouses of alcohol dependent persons (7;8), a study with a similar approach as the present one. Using a standard difference of 1.0, a power of 0.90 and a p-value of 0.05, the number of attendants needed would be approximately 43.

Results

Background characteristics for the relatives and friends

No significant differences were found between the two groups except for the Interview schedule for social in-

teraction (ISSI) total (Table 2). Regarding relatives' own alcohol behaviour, 2 (11%) in the SI (1 sister, 1 partner) and 4 (17%) in the CST-group (1 sister, 2 mothers and 1 close friend) scored above the traditional cut off points on AUDIT (6 for women and 8 for men).

Table 2 Background characteristics of the relatives by treatment group/number (range/%)

	SI n= 19	CST n= 24	Total n= 43
Women/Men	17/2	21/3	38/5
Age	52 (19-64)	49 (19-69)	51 (19-69)
Marital status			
Married	9/19 (47%)	16/24 (67%)	25/43 (58%)
Type of relative			
Parent	11/19 (58%)	17/24 (70%)	28/43 (65%)
Sibling	4/19 (21%)	4/24 (17%)	8/43 (19%)
Partner	4/19 (21%)	2/24 (8%)	6/43 (14%)
Good friend	0/19 (0%)	1/24 (4%)	1/43 (2%)
Education			
12 years or more	12/19 (63%)	17/24 (71%)	29/43 (67%)
Employment			
Full time	9/19 (47%)	13/24 (54%)	22/43 (51%)
Present duration of drug abuse estimated by the relative	6 (0.5-25)	8 (1-38)	8 (0.5-38)
Drug abuse in other family members	84%	71%	77%



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The characteristics of the abusing persons' drug abuses and social situations

The 43 attendants in the study were relatives/friends of 38 persons with illicit drug problems. The average age of the drug abusers was 28 (range 16-51 years). 66% of them had earlier sought treatment but they had all relapsed in drug abuse. For the SI group, according to the relatives, the main drugs used were: heroin (5 persons), amphetamine (2), cannabis (9) and pharmaceutical preparation (1). Parallel figures for the CST group were heroin (7 persons), amphetamine (6), cannabis (5), pharmaceutical preparation (2) and cocaine (1). Overall, 28 (74%) of the drug abusers had a mixed drug abuse. In 5 of these cases, the mixed drug abuse also included alcohol.

The majority of the drug abusers were unemployed (74%), 21% were students, and 5% were in work ability training via a social services programme. 26% of the

drug abusers were steadily living together with relatives, 26% were homeless and lived sometimes at their parents' home and sometimes with friends, while 47% were living with a partner or in a flat of their own. All of the abusers had regular contact with their relatives/good friends, either in person or by telephone.

Follow-up

The participant flow is shown in Figure 1. The drop-outs did not want to give information about their reasons for dropping out of the project.

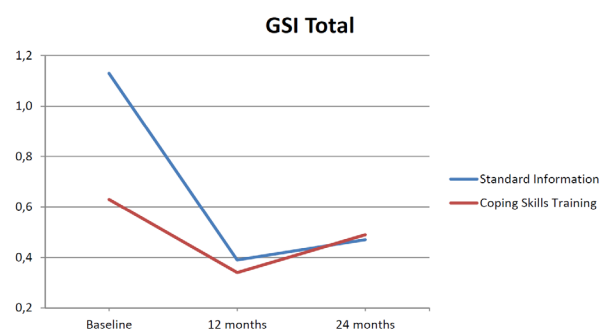
Changes between the SI group and the CST group over time are shown in Table 3. At the 24 months follow-up, the CST group differed significantly from the SI group ($p = 0.02$), with respect to overall Coping. No significant difference was detected for the GSI. The symptoms measured by ISSI were significantly different between the groups, both at baseline and after 24 months.

Table 3 Results for Standard Information and Coping Skills Training after 0, 12 and 24 months (median and range)

	SI 0 months	CST 0 months	SI 12 months	CST 12 months	SI 24 months	CST 24 months
SCL 90/GSI-total	1.13 (0.13-3.31)	0.63 (0.21-1.83)	0.39(0.02-2.81)	0.34(0.02-1.98)	0.47(0.09-1.98)	0.49 (0.09-1.78)
Coping total	44.00 (17.00-69.00)	37.00 (17.00-61.00)	16.50 (7.00-55.00)	24.00 (9.00-55.00)	24.00 (12.00-46.00)	15.00 (0.00-54.00)*
Engagement	24.00 (0.00-39.00)	19.50 (0.00-34.00)	6.00 (0.00-34.00)	11.00 (0.00-31.00)	9.00 (0.0-24.00)	3.50 (0.0-42.00)
Tolerance	11.00 (1.00-22.00)	10.00 (0.00-20.00)	3.50 (0.00-15.00)	4.00 (0.00-19.00)	2.00 (0.00-20.00)	2.00 (0.00-15.00)
Withdrawal	9.00 (2.00-18.00)	8.50 (0.00-21.00)	7.00 (3.00-16.00)	10.00 (5.00-21.00)	9.00 (2.00-19.00)	7.00 (0.00-14.00)
ISSI total	18.50 (4.00-26.00)*	23.00 (7.00-30.00)	21.00 (9.00-30.00)	26.00 (6.00-30.00)	17.00 (9.00-26.00)*	23.00 (4.00-30.00)
AUDIT total	2.50 (0.00-22.00)	2.00 (0.00-12.00)	3.00 (0.00-28.00)	2.00 (0.00-12.00)	2.00 (0.00-22.00)	2.00 (0.00-11.00)
DUDIT	0.00 (0.00-8.00)	0.00 (0.00-4.00)	0.00 (0.00-0.00)	0.00 (0.00-6.00)	0.00 (0.00-0.00)	0.00 (0.00-10.00)

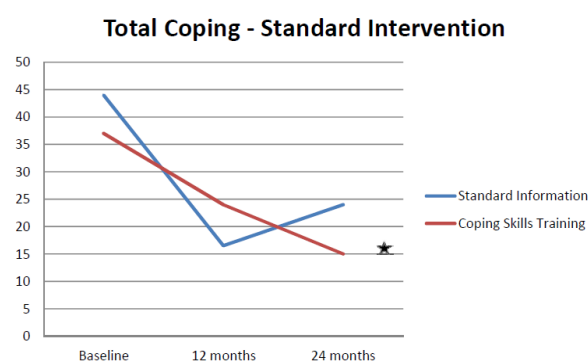
* Statistically significant ($P < 0.05$)

Figure 2 Changes in GSI (SCL-90) for both groups at baseline, 12 and 24 months follow-up.



There were no significant difference between the two groups at 24 months.

Figure 3 Changes in total coping behaviour between the two interventions at baseline, 12 and 24 months follow-up.



The CST-group differed significantly from the SI-group at 24 month ($p=0.02$).



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In the 24 months AUDIT total 4/17 (24%) for the SI group and 2/21 (10%) for the CST group scored higher than the cut-off points at 6 for women and 8 for men. The figures were close to baseline and 12 months follow-up.

Discussion

The only difference between the two groups (SI and CST) was a significant better Coping total, for the CST group in the long term. This could be due to the extended training in coping for this group. This result differs from a previous very similar study on spouses of persons with alcohol problems conducted by Hansson and co-workers (7). In the previous study, there was no significant difference between the SI and the CST group after 24 month.

In this study the GSI- total value was lower for the CST group than for the SI group but the difference was not significant. In the present study, the reason for an insignificant difference in GSI between the SI and GSI groups after 24 months may well depend on the fact that GSI-values for the two groups are close to the normal mean values for men and women in the Swedish population (16).

One difference in the present study compared to the study of spouses of persons with alcohol problems mentioned above is that in the latter investigation, the GSI-value for the SI group increased between 12 and 24 months while it continued to decrease for the two more longstanding interventions. An intervention for relatives also seems to have a positive outcome for the abusers. A majority of the abusers, 71% in the SI group and 52% in the CST group, showed improvements in their drug abuse at the 24 months follow-up.

Taking into consideration the present results as well as previous experiences from studies in this area (1;2;7-10), it is clear that relatives are strongly affected by the drug abuse. Thus, from a health promotion perspective, it seems important that relatives of people with alcohol or drug use disorders get the opportunity to receive professional support.

The strengths and weaknesses of the study

The strengths of the present study are that we have used validated questionnaires combined with structural interviews in a randomized controlled trial, that the follow-up period has been relatively long (24 months) and that the percentage of drop-outs has been relatively low (12%). Furthermore, blinded follow-up examination was accomplished by a clinical experienced investigator (SK) and most of the outcome variables were manual-based, all of which may reduce the risk of bias.

There are other features in our study which can be discussed. Firstly, we had only one therapist for both types of intervention, which might increase the risk for therapist factors. The use of several therapists is generally preferable because, in many studies, differences in outcomes are explained by therapist factors rather than technique factors (27;28).

However, the manual-based model used here should, at least in part, compensate for this weakness. Furthermore, since the power calculation was based on a relatively high minimal relevant difference, there is a risk of overlooking minor differences between the two groups (type-2 failure). From a clinical point of view, alcohol and drug problems are still hidden problems and getting in touch with participants within a reasonable time frame create difficulties in this type of studies.

Conclusions

In the study, both the SI session and the extended CST programme led to decreased symptoms and improved coping. The significant lower value on Coping total after 24 months indicates that a long-term intervention program might be more efficient.

Acknowledgements

This study was supported by grants from The Swedish National Drug Policy Coordinator [Mobilisering mot narkotika]. The authors would like to thank Roland Johnson for assistance on information and recruitment of relatives/good friends in the start of the project. In addition, we would like to thank Professor Mats Berglund for valuable advice during the time of the project and Professor Hanne Tønnesen for valuable comments. Special thanks to Secretary Eva Skagert at the Clinical Health Promotion Centre.

Contribution Details

Both authors have drafted, revised and approved the manuscript and met the ICMJ criteria for authorship. UZ designed the study, analyzed and interpreted the results. SK carried out the 12 and 24 month follow-up interviews.

Competing Interests

None declared.



Research and Best Practice

References

- (1) Dittrich JE. A group program for wives of treatment resistant alcoholics. In: O'Farrel TJ editor. Treatment alcohol problems. Marital and family interventions. New York: Guilford Press; 1993. p. 78-116.
- (2) Moos RH, Finney JW, Cronkite RC. Context, process, and outcome. New York, NY, US: Oxford University Press; 1990.
- (3) Orford J, Guthrie S, Nicholls P et al. Self-reported coping behaviour of wives of alcoholics and its association with drinking outcome. *J Psychiatry* 1975; 128:318-39.
- (4) Barber JG, Crisp BR. The 'pressures to change' approach to working with the partners of heavy drinkers. *Addiction* 1995; 90:269-76.
- (5) Miller WR, Meyers RJ, Tonigan JS. Engaging the unmotivated in treatment for alcohol problems: A comparison of three strategies for intervention through family members. *J Consult Clin Psychol* 1999; 67:688-97.
- (6) Meyers RJ, Mille WR, Smith JE et al. A randomized trial of two methods for engaging treatment-refusing drug users through concerned significant others. *J Consult Clin Psychol* 2002; 70:1182-5.
- (7) Hansson H, Zetterlind U, Åberg-Örbeck K et al. Effects of coping skills training, group support and information for spouses of alcoholics: A controlled randomized study. *Nord J Psychiatry* 2001; 55:257-62.
- (8) Zetterlind U, Hansson H, Åberg-Örbeck K et al. Two- years outcome of coping skills training, group support and information for spouses of alcoholics: a randomized controlled trial. *Alcohol Alcohol* 2004; 39:135-40.
- (9) Copello A, Templeton L, Orford J et al. The relative efficacy of two levels of a primary care intervention for family members affected by the addiction problem of a close relative: a randomized trial. *Addiction* 2008; 104:49-58.
- (10) Velleman R, Orford J, Templeton et al. 12-month follow-up after brief interventions in primary care for family members affected by the substance misuse problem of a close relative. *Addict Res Theory* 2011; 19:362-74.
- (11) Halford KW, Price J, Kelly AB et al. Helping the female partners of men abusing alcohol: a comparison of three treatments. *Addiction* 2001; 96:1497-1508.
- (12) Orford J, Natara G, Davis J et al. Tolerant, engage or withdraw: a study of the structure of families coping with alcohol and drug problems in South West England and Mexico City. *Addiction* 1998; 93:1799-813.
- (13) Orford J, Natera G, Velleman R et al. Ways of coping and the health of relatives facing drug and alcohol problems in Mexico and England. *Addiction* 2001; 96:761-74.
- (14) Wickers AJ, Altman DJ. Practical statistics for medical research. Boca Ranton, FL: Chapman & Hall/CRC; 2001.
- (15) Derogatis LR. SCL 90. Administration, scoring & procedures manual-1. For the R(evised) version and other instruments of the psychopathology rating scales series. Baltimore: John Hopkins University School of Medicine; 1977.
- (16) Fridell M, Cesarec Z, Johansson M, et al. SCL 90. Svensk normering, standardisering och validering av Symptomskalan [Swedish standardization and validation of the Symptom Check List]. Stockholm: Statens Institutionsstyrelse; 2002.
- (17) Saunders JB, Aasland OG, Babor TF et al. Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption – II. *Addiction* 1993; 88:791-804.
- (18) Reinert DF, Allen JP. The Alcohol Use Disorders Identification Test (AUDIT): a review of recent research. *Alcohol Clin Exp Res* 2002; 26:272-9.
- (19) Bergman H, Kallmén H, Rydberg U et al. Tio frågor om alkohol identifierar beroendeproblem. Psykometrisk prövning på psykisk akutmottagning. [Ten questions about alcohol as identifier of addiction problems. Psychometric tests at an emergency psychiatric department]. *Läkartidningen* 2007; 95:4731-5.
- (20) Berman A, Bergman H, Palmstierna T. DUDIT-E - The Drug Use Disorders Identification Test - E-manual. Version 1.1. Stockholm: Karolinska Sjukhuset; 2007.
- (21) Hendersen S, Duncan-Jones P, Byrne DG et al. Measuring social relationships. The Interview Schedule for Social Interaction. *Psychol Med* 1980; 10:723-34.
- (22) Undén AL, Orth-Gomer K. Development of a social support instrument for use in population surveys. *Soc Sci Med* 1989; 29:1387-92.
- (23) Eklund M, Bengtsson-Tops A, Lindstedt H. Construct and discriminant validity and dimensionality of the Interview Schedule for Social Interaction (ISSI) in three psychiatric samples. *Nord J Psychiatry* 2007; 61:82-188.
- (24) Ditzler J & Ditzler J. Coming off drugs. London: Papermac/Macmillan Publishers Limited; 1986.
- (25) Tona Infomedia. DOLDA tecken - en förälders berättelse om sitt barns drogproblem [Hidden signs – a parent's story about their child's drug problem.]. Video tape. Uppsala, Sweden: Tona infomedia; 1998.
- (26) Guyatt, GH, Townsend, M, Kazim, F et al.. A controlled trial of ambroxol in chronic bronchitis. *Chest*, 1987; 92:618-20.
- (27) Lambert MJ, Barley DE. Research summary on the therapeutic relationship and psychotherapy outcome. In: Norcross JC, editor. Psychotherapy relationships that work. Therapist contributions and responsiveness to patients. Oxford: Oxford University Press; 2002. p. 17-21.
- (28) Lambert MJ, [ed] Bergin and Garfield's Handbook of psychotherapy and Behaviour Change, 5th edn. New York, John Wiley & Sons Inc., 2004.



Research and Best Practice - Recommendations

Recommendations on smoking cessation intervention from Malmö International Strategic Seminar

Hanne Tønnesen, Luke Clancy, Paul Aveyard, Hans Gilljam, Matz Larsson, Mette Rasmussen, Johanna Adami, Peter Friberg, Göran Boëthius on behalf of the participants.

On April 19, 2015, International researchers and practitioners met in Malmö for a strategic seminar on effective smoking cessation intervention in Sweden. As a result of the seminar a set of recommendations were outlined.

A. Smoking Cessation Intervention (SCI) in Health Services

Patient safety: Offering SCI should be integrated into daily routines. Smoking is most prevalent among the socially vulnerable and disadvantaged. Thus, the recommended systematic approach would reach out to those with greatest needs for effective SCI:

1. All smokers who interact with the health services must be identified
2. They should be informed about effects of quitting smoking and implications for their treatment
3. SCI should be presented as part of any treatment

Compliance with A1-3 is considered best practice

B. Quality Assessment

The effectiveness and cost-effectiveness of SCI should be systematically evaluated in a "real life" Swedish quality registry in line with Denmark and England for the following reasons:

1. To promote health and prevent disease and progression of disease
2. To ensure high quit rates and value for money
3. To learn, compare and transfer knowledge of best practice
4. To ensure accountability and promote transparency

C. Education

A health promoting attitude must be included at pre- and postgraduate level for health professionals:

1. The theoretical and practical aspects of smoking cessation should be a mandatory part of clinical training
2. Prevention and health promotion aspects of tobacco control should be integrated into all medical curricula and be an examinable topic.
3. Students who smoke should be supported by institutional policy and offered SCI

D. Community Actions

The WHO Tobacco Convention for Tobacco Control (FCTC) lists all the actions to be taken to reduce smoking, but few of those have been fully implemented in Sweden. In contrast, several nations have decided on a Tobacco Endgame strategy.

1. The health care service has not been able to create a real smoke-free environment, and legislation on this is overdue
2. The Government and Parliament should within the next few years legislate for "Smoke-free Sweden 2025" - defined by a smoking rate < 5% by year 2025
3. Healthcare professionals should support the community actions through their knowledge and clinical experience of the harmful effects of smoking.

About the Seminar

The seminar was held in Skåne University Hospital in Malmö Sweden.

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The Seminar was organised by collaboration between:

- Network of Swedish Tobacco Researchers
- The Swedish Society of Medicine
- Tobacco facts – Independent Think Tank (Sweden)
- Doctors against Tobacco (Sweden)
- Clinical Health Promotion Centre, Health Sciences, Lund University
- International Network of Health Promoting Hospitals and Health Services (HPH)
- WHO-Collaborating Centre for Evidence-based Health Promotion in Hospitals & Health Services



News from the International HPH Network

A sense-making framework for grass-roots HPH networks

Jennifer A Boyko¹, Shannon L Sibbald^{1,2}, Ross Graham³

ABSTRACT

The Ontario Health Promoting Hospitals Network (OHPHN) is a grass-roots network that has engaged in various efforts to advance clinical health promotion among its members over the past two decades. In the absence of formal government support the network used a 'sense-making framework' to enable collaboration and knowledge exchange among its member hospitals. While the framework proved to be a useful tool in the network's early phases of development, system-level challenges have brought the OHPHN's efforts to a halt. This article describes the sense-making framework used by the OHPHN and reflects on the role of knowledge translation tools in overcoming challenges related to functioning and effectiveness in health promoting hospitals networks.

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Canada has a rich history of involvement in the development of health promotion concepts and practices. This includes supporting the advancement of the settings approach to health promotion and the reorientation of hospitals towards health promotion. However, implementation of these concepts has proven challenging (1). For example, only two provinces (out of 10 provinces and three territories) have networks to support the advancement of clinical health promotion concepts. These two networks, located in Ontario and Québec, are very different from one another perhaps due to the fact that health care in Canada is largely a provincial responsibility.

The Québec Network of Health Promoting Institutions (formerly called the Montreal Network of HPH) was created in 2005 shortly after the integration of Québec's health and social service systems. It now has 38 member organizations and is situated within (and supported by) the provincial Ministry of Health & Social Services (2). The Québec Network has worked to advance clinical health promotion concepts by creating and publishing various resources including: a) a guide for supporting the implementation the World Health Organization's International Network of HPH standards (3);

and, b) a report that compares different organizational approaches for clinical health promotion quality assessment (4).

The Ontario Health Promoting Hospitals Network (OHPHN) was founded in 1994 after a group of interested health care workers met to discuss clinical health promotion concepts. It is now a seven member 'grass-roots' association with no direct governmental support. Since its formation, the OHPHN has offered workshops, published newsletters to support others to learn about and adopt clinical health promotion concepts, and engaged in various projects to advance the state of health promotion in its member hospitals, such as the development of a workplace wellness program at Toronto's Sick Kids Hospital (5).

An important distinction between the Ontario and Québec HPH networks, is that the Québec network is situated within (and supported by) government. The Ontario network has been maintained voluntarily by member hospitals, without direct support from government. While both networks have faced challenges advancing clinical health promotion, this commentary describes a 'sense-making framework' used by the OHPHN as a strategy to advance the state of health



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promotion among its members from the 'bottom up'. This article will be of interest to other grass-roots HPH networks that operate without formal government support. This article also aims to contribute to the growing interest in understanding HPH network functioning and effectiveness (6).

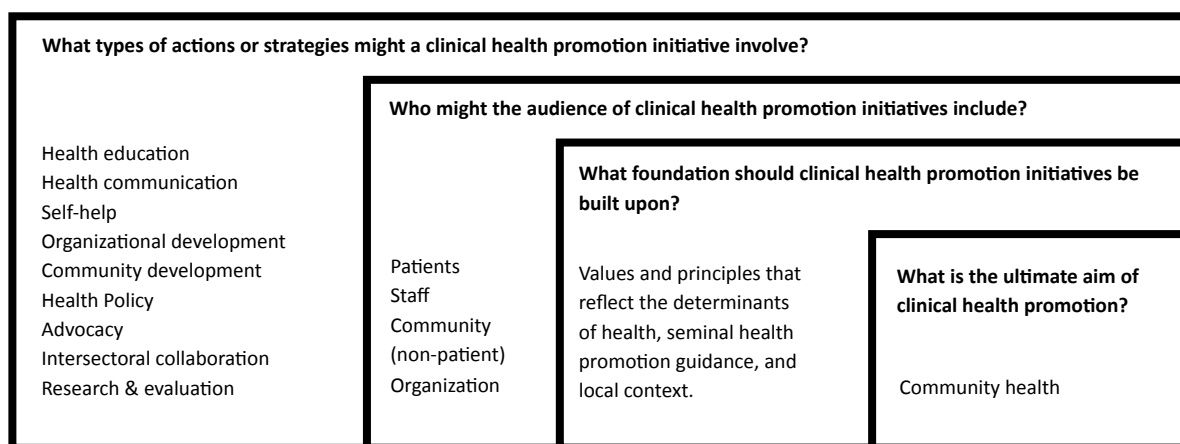
Sense-making Framework

Knowledge translation aims to support the application of knowledge (through synthesis, dissemination or exchange efforts) in order to improve and strengthen individual health, as well as health care organizations and systems (7). Early on, the OHPHN recognized a need to share knowledge about the health promotion activities occurring in their institutions in order to foster collaboration among its members, and promote its aim to senior decision-makers. As a first step, the network commissioned the development of a conceptual 'sense-making' framework (see figure 1) for the classification of clinical health promotion activities. Sense-making refers to a diverse set of knowledge translation approaches that support greater understanding and successful implementation of new interventions (8). According to Jacobson et al. (9) knowledge users' understanding of the issue in question is a key factor in the knowledge translation process.

These consultations were held as part of the network's monthly meetings to gather feedback about the representativeness of the draft framework in relation to the current activities in their hospitals. The input received from network members was integrated into a revised framework. Finally, the framework was pilot-tested among members of the OHPHN. Network members were asked to compile an inventory of current health promotion initiatives within their organization by using the framework as a guide. This was done by sending network members an inventory package to complete and return on behalf of their organization. The package included a survey that incorporated questions based on the framework. As part of the inventory process, network members were asked to review the framework to gain an understanding of the various audiences and activities that may take place within hospitals. Input and findings from the pilot test were integrated into a final version of the framework. Additional information about the inventory is available upon request from the corresponding author.

The goal of the framework is not to explain how to plan or develop programs. Rather, the framework is meant to help 'make sense' and gain a better understanding of the breadth of clinical health promotion activities.

Figure 1 A 'sense-making' framework for the classification of clinical health promotion activities



The framework was developed by first carrying out a literature search for peer-reviewed articles that described health promotion initiatives implemented by hospitals, as well as papers about theoretical approaches to understanding health promotion in a hospital setting. Relevant information was extracted pertaining to types of clinical health promotion activities and from this a draft framework was created. Next, consultation took place with professionals working in the area of health promoting hospitals who were also members of the OHPHN.

The framework does this by prompting users to answer four key questions. The first question (What is the ultimate aim of clinical health promotion?) prompts users to think about why a particular project or initiative is being done. All health promotion should have the ultimate goal of improving health status through the creation of favourable political, economic, social, cultural, environmental, behavioural and biological conditions. The second question (What foundation should clinical health promotion initiatives be built upon?) encourages



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users to think about the values and principles on which clinical health promotion practice should be built. The determinants of health, reduction of health inequities, seminal WHO documents (10-15) and the context in which the activity occurs integrate to form a solid foundation on which clinical health promotion should be based. The third question (What types of actions or strategies might a clinical health promotion programme involve?) encourages users to think about nine specific activities dominant in the literature (health education, health communication, self-help, organizational development, community development, health policy, advocacy, intersectoral collaboration, and research and evaluation) (16-18). Finally, the fourth question (Who might the audience of clinical health promotion programmes include?) prompts users to think about the range of audiences that health promotion within or by hospitals, programs or services may be directed towards (i.e., patients, staff, the community, and the organization itself).

Framework Application

OHPHN members used the sense-making framework to identify, organize and share information that would support their decision-making related to clinical health promotion programs and activities. For example, the OHPHN used the framework to compile a reference list and annotated bibliography of relevant clinical health promotion literature by using key words from the framework and then classifying the results according to intended audiences and health promotion activities reflected the framework. The pilot-test of the framework (described above) helped the OHPHN identify and catalogue their clinical health promotion activities, so that members could identify opportunities for collaboration and learning. The OHPHN identified 137 examples of health promotion practices within their member organizations, which were then classified and organized according to the framework's components. Members of the OHPHN were able to use the reference list, annotated bibliography and inventory to argue the case for pursuing clinical health promotion activities in their local contexts. Additional information about these resources is available upon request from the corresponding author. Efforts were made for a period of 2-3 years to keep these resources up-to-date.

The sense-making framework was purposely designed to support knowledge translation and decision-making in other ways as well. For example, it could be used as the basis for organizing an evidence repository that would allow network members to access timely and relevant information. Such a repository could include

clinical health promotion related research evidence, grey literature, or examples of innovative practice from network members. The repository could also be used to collect information about health promotion activities over time including links to communities of practice to help support those with similar clinical health promotion interests. Another way the framework could be used is to perform an organizational needs assessment related to clinical health promotion. An inventory of existing activities could be carried out to identify the health promotion needs of patients, providers and staff, which could then be used for quality improvement purposes. For example, examination of health promotion across an organization may reveal a gap in terms of self-care support provided to patients upon discharge, which could then be the focus of targeted process improvements to ensure the patients are receiving the health promotion activities. At least one of the OHPHN member hospitals used the framework in this way, but at the time of writing this article it is not clear whether any others did.

Discussion: Importance of Knowledge Translation

Chu et al. (19) stress the importance of knowledge translation in HPH networks: "... for the settings approach to health to be successful it is paramount that partnerships and networks be developed that can both facilitate the effective use of knowledge and resources and foster coordinated action to promote health." (p. 156) Although research evidence is increasingly available to support clinical health promotion practices, it is still unclear how best to share information within HPH networks and share information to non-member senior organizational and policy decision-makers who may have little or no prior experience with clinical health promotion or HPH concepts. In hospitals, it may be that more high-level research and dissemination of the findings are needed in order to encourage policy-makers and health service administrators to invest resources in clinical health promotion (20) or it may be that hospitals need to better share local knowledge about what works and does not work in their unique system contexts.

Efforts to help organizational decision-makers search for local evidence would facilitate an important knowledge translation strategy known as user-pull. According to Lavis, Lomas, Hamid & Sewankambo (21), user-pull strategies can enable decision-makers to more easily access and understand research evidence. One approach to facilitate user-pull among managers in hospitals may be to support a more organized and systematic approach to analyzing clinical health promotion research.



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Such an approach might entail a decision-support tool that could be used to understand the theory and practice underlying health promotion programs and then identify evidence about the effectiveness of specific clinical health promotion activities. However, to our knowledge no guidance exists to assist hospital managers in decision-making related to clinical health promotion. While theoretical guidance exists to help define clinical health promotion initiatives (16) the intent of such guidance is not to support decision-makers in using evidence related to clinical health promotion, but rather to develop the conceptual basis of the field from an academic point of view.

Guidance to support decision-making related to clinical health promotion would be a useful and time-saving resource for developing programs or business cases for new policies. The sense-making framework used by the OHPHN represents an attempt to develop a tool to share local knowledge about 'who is doing what' in order to improve collaboration among its members. Their efforts to build a cohesive network founded on knowledge exchange, partnerships, and resources paid off when they became the second Canadian member of the International HPH Network.

Conclusion

The field of clinical health promotion has been developing over the past two decades, but there is room for improvement in regard to translating knowledge about clinical health promotion into action. The framework we presented in this paper is just one tool for supporting clinical health promotion in practice by helping to identify, organize and share knowledge. The OHPHN used the framework in various ways to support collaboration and knowledge exchange among their member hospitals. However, system-level challenges have brought the OHPHN's efforts to a halt. We encourage others to share their experiences in attempting to overcome similar challenges in their HPH networks.

Acknowledgements

The framework was developed by Dr. Jennifer A Boyko as part of a project between St. Joseph's Centre for Ambulatory Health Services (Hamilton, ON, Canada), The Ontario Health Promoting Hospitals Network and the University of Toronto MHS in Health Promotion Program.

References

- Hancock T. Moving beyond healthcare: The role of healthcare organizations in creating healthy people in healthy communities in a healthy world. *Healthc Q* 2001; 4:20-6.
- Graham R, Boyko J, Sibbald S. Health promoting hospitals in Canada: a proud past, an uncertain future. *Clinical Health Promotion* 2014; 4:70-75.
- Gosselin C, Villeneuve D, Sissoko H et al. Guide for Integrating Health Promotion into Clinical Practice. Montreal, Quebec: Agence de la Sante et des Services Sociaux de Montreal; 2010. Available from: http://hps.santemontreal.qc.ca/fileadmin/hps/boite_outil/isbn978-2-89510-695-1.pdf.
- Déraps S, Alarie F, Côté F. A Comparative Analysis of the International Network of Health Promoting Hospitals and Health Services (HPH) and Planetree Inc. [Internet]. Québec, Québec : Agence de la Santé et des Services Sociaux de Montréal; 2009. Available from: <http://hps.santemontreal.qc.ca/fileadmin/hps/autre/isbn978-2-89510-595-4.pdf>.
- HPH In Action [Internet]. Ontario Health Promoting Hospitals & Health Services Network; 2014. Available from: <http://ontariohph.com>.
- Pelikan JM, Dietscher C, Schmied H. Health Promotion for NCDs in and by Hospitals: A Health Promoting Hospital Perspective. In: D. V. McQueen (Ed.), *Global Handbook on Noncommunicable Diseases and Health Promotion*. New York; Springer; 2013. p. 441-60.
- Grimshaw J. A Guide to Knowledge Synthesis. Canadian Institute of Health Research. [updated April 8, 2010, cited July 11, 2014]. Available from <http://www.cihar-irsc.gc.ca/e/41382.html>
- Jordan ME, Lanham HJ, Crabtree BF, Nutting PA, Miller WL, Stange KC & McDaniel RR. The role of conversation in health care interventions: enabling sense-making and learning. *Implement Sci* 2009; 4:15.
- Jacobson N, Butterill D, Goering P. Development of a framework for knowledge translation: Understanding user context. *J Health Serv Res Policy* 2003; 8:94-9.
- World Health Organization (WHO). Ljubljana charter on reforming health care. Proceedings of the Ljubljana Conference, 1996 June 19; Ljubljana, Europe.
- World Health Organization (WHO). (1986). Ottawa Charter for Health Promotion. Proceedings of the first International Conference on Health Promotion, Ottawa, Ontario, November 17-21, 1986.
- World Health Organization (WHO). Declaration of Alma-Ata. Proceedings from the International Conference on Primary Health Care, 1978 September 6-12; Alma-Ata, USSR.
- United Nations Educational, Scientific, and Cultural Organization (UNESCO). Budapest declaration on World Heritage. Proceedings of the Convention Concerning the Protection of the World Cultural and Natural Heritage, 2002 June 24-29; Budapest, Hungary.
- World Health Organization (WHO). Vienna recommendation on Health Promoting hospitals. 1997 April 16; Vienna, Austria.
- World Health Organization (WHO). Standards for health promotion in hospitals. Who Regional Office for Europe. 2004. Europe.
- Johnson A, Baum F. Health promoting hospitals: a typology of different organizational approaches to health promotion. *Health Promot Int* 2001; 16: 281-7.
- Kahan B, Goodstadt M. The interactive domain model of best practices in health promotion: Developing and implementing a best practices approach to health Promotion. *Health Promotion Practice* 2001; 2: 10.1177/152483990100200110
- Hancock T. The healthy hospital: A contradiction in terms? In: Scriven A, Hodgins M, editors. *Health Promotion Settings: Principles and Practice*. London: Sage Publications Ltd; 2011. p. 26-139.
- Chu C, Breucker G, Harris N, et al. Health-promoting workplaces – international settings development. In: *Health Promotion International* 2000; 15:155-167.
- McHugh C, Robinson A, Chesters J. Health promoting health services: A review of the evidence. *Health Promot Int* 2010; 25:230-7.
- Lavis, JN, Lomas J, Hamid M et al. Assessing country-level efforts to link research to action. *Bulletin of the World Health Organization*. 2006; 84: 620-628.



News from the International HPH Network

Congratulation to the Estonian HPH Network

The National HPH Network of Estonia celebrated their 15 year Anniversary as a network. The event took place in Tartu on November 19, 2014.

About the The National HPH Network of Estonia

The Estonian HPH Network consist of 22 member hospitals and health services.

The Network was established in January 2000.

National Coordinator for the Estonian HPH Network is Dr. Tiiu Härm



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We would like to use the opportunity to congratulate the Estonian HPH Network. We have had a talk with National HPH Coordinator Tiiu Härm about the Estonian Network and their success.

How was the Estonian HPH Network established and what have you done to make the network what it is today?

The proposal of setting up a movement of health promoting hospitals in Estonia was made by Dr. Anu Kasmel, Director of Estonian Centre for Health Education and Promotion (ECHEP) and Dr. Katrin Saluvere, Deputy Chancellor of the Ministry of Social Affairs in Estonia. The two then inspired me to establish the National HPH Network in Estonia and join with the International HPH Network.

The HPH movement was initiated by Tallinna Järve Hospital, where I had just started working as a physician of internal diseases and as an educator of the hospital staff. I was invited by Mila Garcia Barbero to participate at 7th HPH Conference in Swansea, Wales.

Upon my return, we started the pilot project "Järve Hospital - a Health Promoting Hospital". In 1999, we organised the International Conference "Culture and Health in a Changing World" in collaboration with the UNESCO headquarter in Estonia.

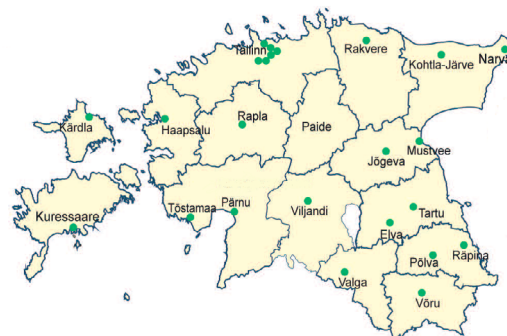
The Estonian HPH Network was established on the 25th January 2000 and we joined the International HPH Network the same year. In the beginning, the HPH programmes was met by resistance by some health care providers, who had difficulties seeing how the HPH member hospitals differed from other hospitals

and we were also without financial support for the first year.

We arranged meetings and workshops with hospitals' staff in every county. We focused on also inviting hospitals managers, politicians as well as representatives from local government. The first 2-3 years was a lot of hard work, and we were fortunate to receive support from a long list of entities and partners: the WHO Country Office in Estonia, the Estonian Ministry of Social Affairs, the Estonian Hospitals' Association, the Estonian Medical Association, Estonian Nurses' Union, the Health Insurance Fund, etc. The Estonian HPH Network's Coordinating Centre is the National Institute for Health Development in Estonia.

We established contact with community institutions and key persons. The key word was COOPERATION at all levels.

Today, the HPH Network is very popular among hospitals, as the staff experience how the network supplies a channel for communication with other health professionals, for sharing experiences, getting models of good practice and to see how Health Promoting strategies are implemented in other hospitals both on national and international level.



The members of the Estonian HPH Network are spread out in all of the regions of Estonia



News from the International HPH Network



Group photo of the participants at 15 years Anniversary in Tartu, Estonia.

You now have 22 member hospitals in Estonia. How is the network organised, and how does it work?

In January 2015, Järvamaa Hospital joined the Estonian HPH Network and became the 22nd member hospitals. The Estonian HPH Network covers all three Estonian regional hospitals, all four central hospitals, ten county general hospitals, the Medical staff of Estonian Defence Forces, two local hospitals, and a private hospital. In total, we cover more than 19,000 staff members and a great force of interested in Health Promotion.

We do a lot of work to keep the Network active. Of the many events and initiatives organized during our 15 years, I would like to mention a few:

- Eight summer schools and 1 autumn school.
- Ten national HPH conferences + two international conferences on tobacco.
- Publication of two books: '5 years of Estonian HPH Network' in 2004, and '15 years of Estonian HPH Network' in 2014.
- Establishment of the Tobacco Cessation Counseling Clinics networking on the bases of HP hospitals. The service is free of charge and accessible for all smokers or tobacco users in Estonia. We have trained > 500 health care workers on tobacco.
- Each year the Estonian delegation of about 20 participants at the International HPH Conferences.

For the Estonian HPH Network, it is very important to support our hospitals in having strong coordinators and a strong teamwork. The coordinators are doctors, nurses, quality managers and other health promoters.

Their work on Health Promotion is understandable for hospital managers and politicians and HP is written in hospitals' development plans.

How often do the Estonian HPH members meet? And how do you arrange these meetings?

In the national network we have 3-4 annual meetings. In March we gather the members for assessment of the last year's work. At the meeting we set up goals and a strategy for the following year. Around Summer we organise a HPH Summer School with different topics. We have an annual national HPH Conference in November each year. And we also meet in November/December to build up the plan on what the Estonian delegation will present at the next International HPH conference.

Among our newest initiatives are:

- Age-friendly hospitals and age-friendly health care.
- Health Promotion in Mental Health settings.
- Tobacco-free health care services, incl. tobacco-free surgery, tobacco free maternity, etc.
- Health literate health care organisation.

How do you see the future for the Estonian HPH Network?

I think that the HPH network in Estonia is a continuing and successful process, and I expect the network to become even stronger in the future. In two years time, we have to find a new National HPH Coordinator as I will retire. But I am confident, that we will find a competent candidate, as our team is strong and consist of many brilliant health care professionals.

