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Health counseling in Swedish health care

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Abstract

Background According to the guidelines by the National Board of Health and Welfare, systematic health counseling (HC) should be carried out at all levels of Swedish healthcare from 2011. Region Skane in the Southern Sweden further supported the implementation by extra re-imbursement for HC.

The aim of the present study was to analyze what characterized the patients that received HC regarding age groups, gender, diagnoses and primary or specialist care.

Methods A register study based on Region Skane's patient data registry for the year of 2012. It included 8,068,652 visits in primary and specialist care among 1,420,322 patients. Based on the diagnoses in the medical records this data register covered all healthcare units, primary and specialist healthcare, public and private in the region.

Results Only 269,511 visits among 174,172 patients included HC, so 12% of the patients and 3% of the visits included HC. More men than women received HC in both primary and specialist care; 1.32 (1.31-1.34) and 1.32 (1.31-1.34) respectively. Significantly more of the visits included HC in the specialist care; 1.52 (1.51-1.53). In both primary and specialist care the most common code for HC was the one associated with the economic incitement.

Conclusion In spite national guidelines and extra reimbursement systematic implementation of HC is still a challenge in both primary and specialized health care.

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Introduction

The present life expectancy in Sweden is high compared to international data; 80 years for men and 84 for women. Cardiovascular disease is the most common reason for death followed by cancer. They are responsible for almost 40% and 25% of all deaths in Sweden (1;2). The pre-ventable risk factors that contribute the most to the burden of disease in Sweden are tobacco use (10% of total burden of disease) obesity/overweight (7%), insuf¬ficient physical activity (2-4%), and risky use of alcohol (2%) (3).

In a report from the Public Health Agency of Sweden eight unhealthy lifestyle habits were investigated, these were daily smoking, daily snuffing, risky use of alcohol, sedentary lifestyle, obesity, insufficient intake of fruit and vegetables, hazardous gambling and use of cannabis. The majority of the Swedish population had at least one and a quarter had two or more of these unhealthy lifestyles (4). The same survey showed that many of them would like to get help to change their habits, e.g. 83% with sedentary lifestyle wished to get more physically active and 35% of them stated that they would like to get help to do so; 73% of smokers wished to stop and 30% would like help to succeed (5).

According to the guidelines by the Swedish National Board of Health and Welfare, systematic health counceling (HC) should be carried out at all levels of health care from 2011. The recommended counseling methods include three levels; brief advice (at all levels of), health dialogue (10 to 30 minutes) and advanced counseling (structured and/or theorybased framing such as motivational interviewing, cognitive behavioral therapy or stages of change/transtheoretical model of change) (6). For each unhealthy lifestyle habit the Swedish guidelines have graded the different levels of advice/counseling based on severity of the condition, evidence for changing lifestyle and cost- effectiveness from a public health perspective. (Table 1) (7).

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Table 1 The Swedish guidelines is grading counseling according to national conditions

Lifestyle habit	Recommended method
Tobacco use	Advanced counseling
Risky use of alcohol	Dialogue
Physical inactivity	Dialogue with special follow-up
Unhealthy diet	Advanced counseling

Region Skane in Southern Sweden has given priority to put patient-centred health promotion into reality since long. The Region was an early member of the International Network of Health Promotion Hospitals & Health Services (HPH) (8), and has implemented several HPH programs during the last decades. The regional health profile is given in table 2 (9).

Table 2 Health profile of the population in Region Skåne (%)

	Men		Women
Unemployed	-	10	-
Foreignerborn	-	18	-
Overweight/Obese	59		42
Daily smoking	12		12
Unhealthy diet	33		18
Exercise insufficient	15		33
Risky use of alcohol (two different measures have been used)	15-18		9-11

In 2012 Region Skane decided to further incite the regional implementation of the Swedish national guidelines by extra reimbursement of advanced HC with €50 (or 500 SKK) per patient undertaking HC as documented in the medical record system.The aim of the present study was to analyze what characterized the patients that received HC regarding age groups, gender, diagnoses and clinical setting, (i.e. primary or specialist care).

Method

Setting

Region Skåne had with a population of 1,263,088 whern data was collected in 2012. The region hold eight public and one private hospital as well as 170 primary healthcare units, whereof 60 privately available.

Data collection

The data was extracted from the regional patient data registry for the year of 2012. Based on the diagnoses in the medical records this data register covers all healthcare units, primary and specialist healthcare, public and private in the region. Specific activity codes were used for documentation of thw most common HC supported by the economic incitement, but other health promotion interventions also existed (table 3). Patients were identified by their Swedish ten digits personal identification-number (PIN) i.e. their birthday followed by a social security number.

Ethics

The project was approved by the Regional Ethics Committee in Lund, Sweden (Dnr 2012/437).

Statistics

Firstly, all patients with at least one of the six codes for HC were categorized in primary and specialist care, respectively. Many patients appeared more than once in the register, i.e. they had more than one visit that included HC. However, visits that included HC were organized so each patient was only included once.

The HC codes did not provide information on which kind of conducted counseling or the type of lifestyle involved, except for QX003, smoking cessation intervention (table 3). The most common diagnoses were identified using ICD10-codes (10). The results were presented as prevalence of HC for type of care, gender, age groups and diagnoses. In order to provide a more reliable comparison between men and women, the pregnancy related diagnoses Z30-39 were analysed separately.

When investigating prevalence rate ratios the 95% confidence interval (CI) was applied. Analyses were made for both number of contact/visits and number of individual patient. Significance was developed by CI not including the value 1.0 or by $p<0.05$. The SPSS was used for analyzing.

Table 3 The specific codes used for registration in the medical records

KVÅ-codes English translation	KVÅ-code in Swedish
Motivational interviewing (MI)	DU118 Motiverande samtal
Health counseling/dialogue	DV030 Hälsosamtal
Advisory counseling/dialogue	DV063 Rådgivande samtal
Information/education on health/illness	QV001 Information/undervisning om hälsa/ohälsa
Information/education on health problems	QV002 Information/undervisning om hälsoproblem
Smoking cessation intervention	QX003 Rökavvänjning

Results

Altogether, 8,068,652 visits took place in primary and specialist care among 1,420,322 patients. Of these only 269,511 visits among 174,172 patients included HC. In average, 12% of the patients received HC, and 3% of the visits included HC (details in table 4).

Table 4 Distribution of patient visits among men and women in primary and specialist care

	Primary care		Specialist care	
All visits	**Men**	**Women**	**Men**	**Women**
Number of visits	4.527.867		3.540.785	
Gender distribution	37%	63%	43%	57%
Visits including HC				
Number of visits with HC	130.512		138.999	
Adjusted for RRD	115.589		137.400	
Frequency of visits with HC	3%	3%	5%	4%
Adjusted for RRD	3%	2%	5%	4%
All patients				
Number of patients	790.000		630.213	
Gender distribution	43%	57%	41%	59%
Patients with HC				
Number of patients with HC	92.246		81.926	
Gender distribution of HC	11%	13%	16%	11%
Number of HC per patient				
Patients without HC	88%		87%	
Patients with 1 HC	9%		9%	
Patients with 2 HC	2%		2%	
Patients with 3 HC	1%		1%	
Patients with 4 HC	0%		1%	
Patients with > 5 HC	0%		1%	

(HC: Health Counseling; RRD: Reproduction Related Diagnoses)

The prevalence ratio of visits by men and women receiving HC was similar in primary and specialist care: 1.32 (1.31-1.34) and 1.32 (1.31-1.34) respectively. Nevertheless, significantly more of the visits included HC in the specialist care compared to the primary care: 1.52 (1.51-1.53).

In both primary and specialist care the most common code for HC was DV 030, which was the only one associated with the economic incitement. In Specialist healthcare it counted for more than 95% of all the documented HC. Second most common in primary care was QX 003 - smoking cessation intervention – but in specialist care less than 20 patients had this code.

In total, 22% of the contacts made by women were related to pregnancy, the most common diagnose group for young women. The highest frequency of HC was seen in group of 70-79 years of age for women and in the age group 90 years and older for men. A significant association between age and HC was seen among men, ($p<0.05$) but not for women (figure 1 a-d).

Men had a 32% larger chance to receive HC - increasing to 36% in primary care and 52% in specialist care after adjustment for reproduction related diagnoses.

The most common diagnosis associated with HC was diabetes, type 1 and 2 (table 5). Women had more musculoskeletal, pain diseases and psychiatric diseases, whereas men had more of addiction diagnosis and cardiovascular diseases. Young men more often had alcohol use disorders, while young women had obesity. Among middle-aged patients, the spectrum of diagnoses shifted towards more chronic and complicated lifestyle related diagnoses e.g. diabetes with complications.

Second most common in primary healthcare was QX003 - smoking cessation but not in specialist health care, when less than 20 patients in the entire region had specified documentation on HC aiming at smoking cessation. In Specialist health care more than 95% of the HC was documented as DV030 (figure 1a-b).

Discussion

Only a few percentage of the visits included any kind of HC. The number of patients being one of eight to nine was low compared to the health profile in the region. The patients that visited specialist healthcare received HC a little more often than the in primary care patients, which is probably not surprising as hospital patients often have more severe lifestyle-related illnesses.

These findings are in line with the results of previous studies (11-13). In addition, studies have shown that women have lower self-rated health than men (14), and they also visit healthcare more often (15), but men report having more unhealthy lifestyle habits. In Region Skåne six of ten men are overweight/obese compared to four of ten women, every third man and every fifth women had an unhealthy diet, while daily smoking was distributed similarly across gender at 12% (9). It is therefore possibly logic and adequate that men receive more HC than women.

Young men made the least number of visits to healt care and received fewest HC. It is possible that young men and their unhealthy lifestyle habits are more often overlooked since they are not in contact with healthcare to the same extent that women. It could possibly establish differences in how men and women understand their own health which might result in poorer health later in life when missing out opportunities for changing habits at an early stage. Since men in general have more unhealthy lifestyle behaviors, young men are an important target group for future efforts in this preventive work.

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Figure 1 Frequency of receiving HC in primary and specialist care distributed by age groups (Men 1a and 1b, Women 1c and 1d)

Figure 1a

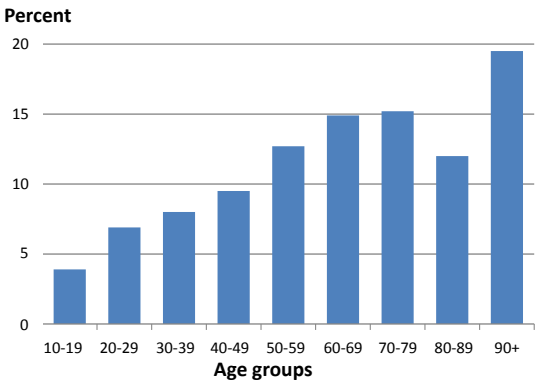


Figure 1b

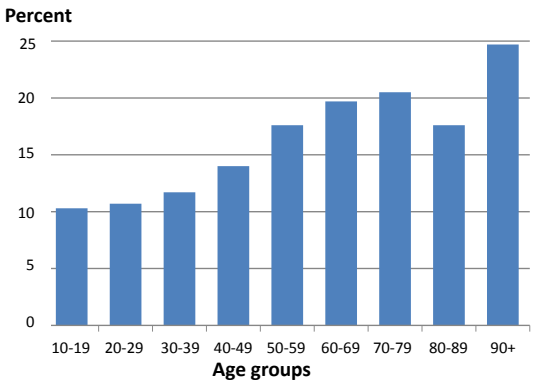


Figure 1c

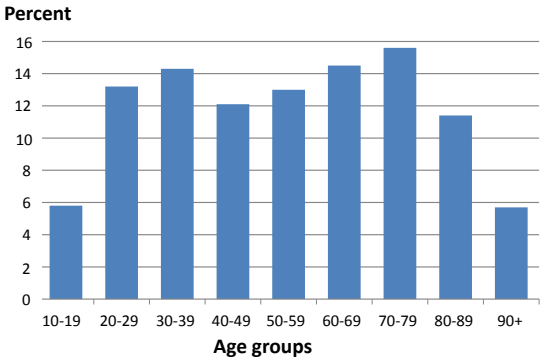
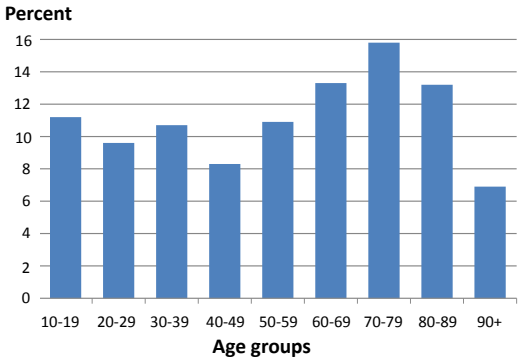


Figure 1d



The theory of social diffusion describes how people with large influence on others can promote ideas to spread within a group. Winett et al. describes this in a larger concept with HIV-prevention as model (16), but this theory can be applied on smaller groups as well. If a couple is expecting a child and the pregnant woman receives HC from the midwife resulting in a change of her unhealthy lifestyle habits, it is possible that her new lifestyle influences her partner so that both of them benefit from her HC session.

At first sight women's data is distributed relatively even over age groups which may look surprising since one would assume that young people are healthier than the elderly, but one of five visits among the young women related to pregnancy.

Surprisingly for elderly men, the prevalence of HC was significantly higher than for women in the same age groups. It is well-known that elderly men have more unhealthy lifestyle compared to elderly women, which could be an explanation (17). Even though it is never too late to change lifestyle, one can discuss the meaning of putting large efforts in giving lifestyle interventions to patients who are over 80 years old if the aim of this intervention is to prevent future illness exclusively. However, HC for patients improves the immediate results of medical and surgical treatment (18;19). Elderly patients therefore have the same right to evidence-based health promotion as younger patients.

Over all, the large groups of diagnoses related to lifestyle in the present study are relatively predictable, being lifestyle related and generally common; thus hypertension was the single largest diagnose. The cardiovascular risk increases 2-3 folds with hypertension, and patients with hypertension are more likely to also have diabetes or ischemic heart disease (20). Another possible reason for hypertension being common in relation to HC, is the fact that the first step in anti-hypertensive guidelines in Sweden is change of lifestyle (21).

It would be preferable to increase the HC overall in the healthcare as the unhealthy lifestyles are responsible for the majority of the preventable burden of diseases (22). Another important consequence of healthy life-

Table 5 The ten most common 1 digit ICD-codes across primary and specialist care

	All patients	%	Men	%	Women	%
1	Endo crinological diseases, E	17.58	Type 2 Diabetes, E11	10.80	Type 2 Diabetes, E11	6.33
2	Diseases of the musculoskeletal system and connective tissue, M	14.55	Type 1 Diabetes, E10	5.88	Type 1 Diabetes, E10	4.46
3	Diseases of the cardio vascular system, I	11.07	Hypertension, I10	4.34	Hypertension, I10	4.42
4	Factors influencing health status and contact with health services, Z	9.61	Ischemic/atherosclerotic heart disease, I25	2.99	Dorsalgia, M54	3.01
5	No diagnose	8.56	Dorsalgia, M54	2.21	Versions of pain, M79	2.53
6	Mental behavioral and neuro development disorders, F	7.85	Alcohol depence, harmful use of alcohol etc., F10	2.02	Versions of obesity, E66	2.43
7	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified, R	6.12	Obesity, E66	1.92	Osteoarthritis of the knee, M17	1.89
8	Diseases of the respitorial system, J	4.94	Osteoarthritis of the knee, M17	1.74	Lifestyle issues, incl. alcohol, tobacco, gambling, lack of physical activity etc., Z72	1.60
9	Diseases of the genito urinary system, N	3.28	Control examinations after surgery or fractures, Z09	1.67	Depression, F32	1.45
10	Diseases of the digestive system, K	2.81	Atrial fibrillation and flutter, I58	1.43	Other anxiety disorders, F41	1.36

style among patients the better treatment results for most diagnoses – with or without lifestyle relation - obtained by lifestyle intervention integrated in the patient pathways. Good examples on this evidence-based practice are the so-called smoke-free and alcohol-free surgery (23;24)

Limitations and bias

An important limitation is the relatively small number of variables in the data set. From previous studies it was clear that many factors can influence likelihood of receiving HC such as social class and ethnicity amongst others (25-27). However, the relatively small number of patients receiving any HC at all, would limit the relevance of more detailed awareness. As this study investigated the first whole calendar year 2012 after the new national guidelines of HC for all in need were launched together with the local economic incitement, is it possible that not all healthcare professionals were yet familiar with them. Underreporting of counseling is therefore possible. On the other hand, the new reinbursement of HC might lead to overreporting- similar to what was has been experienced for reinversement for diagnose related groups (DRG) (28). This risk of bias could be revealed if similar analyzes are done after the introduction of new lifestyle-specific codes from 2013. Furthermore, the patient registry does not contain data on the effect of the HC, which makes it impossible to follow-up a possitive effect of HC.

Future studies should include more details on the specific lifestyles included in the documented HC as well as the effect of the given HC and factors known from the literature to influence the lifestyle intervention, such as ethnicity, social class, unemployment and other social factors. It would be very interesting to perform a similar study like ours but with this type of variables included.

Conclusion

In spite of national guidelines and extra reimbursement, systematic implementation of HC is still a challenge in both primary and specialized health care. Thus, only a fraction of the patients that could benefit from it, were given the op¬portunity for improved treatment results on short term and better health gain on longer time.

Contribution details

Conception and design: All
Analysis and interpretation of data: HR, FS
Drafting the manuscript: HR
Revising the article: HT, FS
Approval of article: All

Competing interest

None declared

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