

Smoking cessation in general practice: The effects of a quitline

Cecilia Boldemann, Hans Gilljam, Karl E. Lund, Ásgeir R. Helgason

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This cross-sectional study assessed changes between 1999 and 2003 in attitudes among Swedish general practitioners (GPs) toward smoking cessation activities and also assessed the effect of a nationwide quitline on GPs' smoking cessation activities. A random sample of 621 Swedish GPs answered a questionnaire mailed to their home addresses in spring 2003. When possible, the results of the present study were compared with results from a similar study conducted in 1999. Main outcome measures were GPs' self-reported activities, perceived barriers to engaging in smoking cessation, and referrals to the quitline. Between 1999 and 2003, GPs increased their overall smoking cessation activities and were more aware of the complexity of smoking cessation support. Significantly more GPs experienced smoking cessation support as "too time consuming" and preferred to refer smokers to counselors specializing in smoking cessation. GPs referring patients to the quitline were more likely to be active in other smoking cessation activities. One out of five GPs had advised their patients to use oral smokeless tobacco as a means to stop smoking. A paradigm shift regarding awareness of the complexity of smoking cessation support may be ongoing amongst Swedish GPs. The nationwide smoking cessation quitline appears to have had a positive effect on GPs' engagement in smoking cessation.

Introduction

Helping smokers to quit smoking is one of the most important steps needed to improve public health and reduce tobacco-related projected mortality and morbidity (Doll, Peto, Wheatley, Gray, & Sutherland, 1994; Peto et al., 2000; U.S. Department of Health and Human Services, 1990; World Bank, 1999). Despite the large number of patients with tobacco-related illnesses in primary care, Swedish general practitioners (GPs) often fail to discuss smoking cessation with their patients (Helgason & Lund, 2002). Several barriers to physicians' involvement in tobacco prevention and treatment in general practice have been identified; they include lack of time, lack of supportive resources, and meager outcome

(Cabana et al., 1999). In a study conducted in four Nordic countries (Iceland, Norway, Finland, and Sweden) in 1999, largely the same barriers to engaging in smoking cessation support among GPs were identified (Helgason & Lund, 2002). Shortage of smoking cessation experts for patient referral was identified as the most common barrier to systematic involvement in smoking cessation support. In short, the Nordic GPs were concerned and aware of the problem and were interested in integrating smoking cessation into the clinical routine. However, they did not have the time or training to engage in long-term professional smoking cessation treatment and consequently needed to be able to refer patients who needed more time-consuming support to smoking cessation experts. The nationwide free Swedish telephone helpline (quitline) for smokers (established in 1998) was suggested as a possible back-up for the GPs. Quitlines have proven to be both effective and cost-effective in helping people to quit smoking (Tomson, Helgason, & Gilljam, 2004; Zhu et al., 2002). However, several tobacco activists expressed worries that introducing a nationwide quitline might undermine efforts to develop professional tobacco cessation units at health care centers because the

Cecilia Boldemann, Ph.D., Hans Gilljam, M.D., Ph.D., Stockholm County Council, Centre for Public Health, and Department of Public Health Sciences, Karolinska Institute, Stockholm, Sweden; Ásgeir R. Helgason, Ph.D., Stockholm County Council, Centre for Public Health, and Departments of Public Health Sciences and Oncology, Karolinska Institute, Stockholm, Sweden; Karl E. Lund, Ph.D., National Institute for Alcohol and Drug Research, Oslo, Norway.

Correspondence: Ásgeir R. Helgason, Stockholm County Council, Centre for Public Health—CTP, Box 175 33, SE-11891 Stockholm, Sweden. Tel: + (46) 8-7373637; E-mail: asgeir.helgason@sll.se

quitline might be seen as a “quick fix” to the problem of smoking cessation support.

The purpose of the present study was to identify changes between 1999 and 2003 regarding GPs’ activities in smoking cessation and perceived barriers to engaging in this kind of work. Also, we wanted to investigate to what extent the GPs made use of a tobacco cessation quitline and how it affected their smoking cessation activities. This paper highlights the role of a quitline as an important adjunct to smoking cessation in general practice. Also, based on the results of the study, we discuss an example of how harm reduction arguments may result in clinical practice contrary to evidence-based methods (i.e., recommending oral smokeless tobacco instead of nicotine replacement therapy).

Method

A total of 1,000 GPs were selected randomly from a register comprising all Swedish GPs. In April 2003, the selected doctors received a letter explaining the study. The letter included an Internet address and a personal code to access an online questionnaire. Those not responding to the online questionnaire were sent a paper version of the questionnaire by mail 6 weeks later along with a stamped return envelope. To further enhance the response rate, three reminder letters were sent out. The questionnaire was a modified version of a module previously used to assess GPs’ perceived barriers to engaging in smoking cessation support for their patients in the Nordic countries in 1999 (Helgason & Lund, 2002).

One question assessed the GPs’ ability to refer patients to professional cessation support at the clinic or externally, excluding the quitline service. Two questions explored the estimated percentage of patients whose smoking habits were assessed, and if they had symptoms judged by the GPs as possibly related to smoking versus if they did not have such symptoms. The response options for each question were “no never” and “yes in approximately ___ % of the cases.” Two questions assessed self-estimated total number of patients having received smoking cessation advice from the GP during the previous month and the total number of hours used for this activity during the assessed time period. The response option for each question was “approximately ___ patients and ___hour(s).” GPs were asked how many patients who wanted to quit smoking were offered each of the following types of support during the previous month: “provide self-help material,” “offer individual smoking cessation follow-up at the clinic,” “refer to a smoking cessation expert at the clinic,” “refer to an external smoking cessation expert,” “refer to the quitline,” “discuss a quit date with the patient,” “advise nicotine replacement

therapy,” and “advise oral smokeless tobacco for smoking cessation.” Response options were “no patient,” “1–5 patients,” “6–10 patients,” and “11 patients or more.”

The questions used to assess smoking cessation support offered to patients were followed by a question designed to identify perceived barriers to engaging in smoking cessation activity. The following potential barriers were suggested in addition to one open option: “this kind of work is not worth the effort since too few smokers give up smoking despite support,” “discussions regarding smoking tend to be to time consuming,” “I would prefer to be able to refer smokers to counselors who are specialized in helping smokers to quit smoking,” “I feel that I lack knowledge on the subject,” “I do not perceive assisting people to stop smoking as being a part of my job,” and “if other reason, please specify.” Possible responses to each suggested barrier were “totally agree,” “tend to agree,” “tend to disagree,” and “totally disagree.”

Additional questions assessed whether the GPs had ever received education or training or had otherwise attempted to increase their skills in helping people to quit smoking. The response alternatives were “no,” “yes, I have attended a course/lecture(s) on smoking cessation methods shorter than half a day,” “yes, I have attended a course/lecture(s) on smoking cessation methods longer than half a day,” and “yes, I have acquired knowledge on the subject by other means.” In our analysis, we defined three levels of education: No education, for those answering no to the question; medium/low education, for those answering that they had attended a course/lecture(s) on smoking cessation methods shorter than half a day or acquired knowledge on the subject by other means; and high education, for those who had attended a course/lecture(s) on smoking cessation methods longer than half a day.

At the time of the study, the Swedish quitline operated 51 hr/week through three to four telephone lines. All smokers signing up for cessation support at the quitline are registered in patient records subject to common rules of confidentiality. The records are computerized to ensure that information is retrieved efficiently when patients make repeated calls. Thus treatment follow-up is possible without burdening the patient with repeated background questions. Printed material tailored to the patient’s motivation to quit (stages of change) is offered free of charge. All counselors are trained health professionals with an additional 6 months of training in smoking cessation methods. The treatment protocol is best described as a mixture of motivational interviewing, cognitive-behavioral therapy, and pharmacological consultation. The clients are offered a choice between a proactive treatment in which the quitline counselors

offer scheduled callbacks or a reactive treatment in which the client initiated all contacts with the quitline.

Odds ratios with 95% confidence intervals and two-sided *p* values were calculated to test for statistical significance when appropriate. We used the SPSS software package to analyze the data.

Results

Of the 1,000 GPs originally selected, 33 were excluded because they did not work with adult patients at the time, leaving 967 GPs. Answers were retrieved from 621 GPs (64%), of which 341 (55%) were men and 280 (45%) women. We found no statistically significant difference in response rate between the sexes.

Smoking behavior was reportedly screened in 97% (95% *CI*=96–98) of patients with smoking-related symptoms, compared with 92% (95% *CI*=90–94) in 1999; and in 51% (95% *CI*=47–55) of patients with no symptoms, compared with 39% (95% *CI*=35–43) in 1999. The average time spent during the past month on smoking cessation activities was 1.4 hr (*SD*=2.67), compared with 0.9 hr (*SD*=4.60; *p*<.05) in 1999.

Changes in attitudes toward the role of smoking cessation in clinical practice were statistically significant between the 1999 and 2003 studies for all aspects assessed (Table 1). A major change was seen in the self-assessed attitude regarding knowledge on smoking cessation methods. In the 1999 study, only 31% of GPs stated that they lacked knowledge on how to assist patients with smoking cessation, whereas the corresponding number for 2003 had risen to 75%. Still, of doctors stating that they had sufficient knowledge on how to assist patients in smoking cessation in the present study, 49% (74/152) reported that they had no education or training in smoking cessation methods.

Approximately 8 out of 10 GPs had advised at least one patient to use nicotine replacement therapy (NRT) during the previous month, and almost 6 in

10 had discussed a quit date with a smoker (Table 2). However, only a minority had engaged in other forms of cessation support activities assessed. Reflecting the unique Swedish tobacco market, one in five Swedish GPs reported that they advised patients to use smokeless tobacco (snus) as a method for smoking cessation (Table 2).

GPs who referred their patients to the national quitline were generally more likely to engage in other aspects of smoking cessation support, such as providing self-help material, offering follow-up at the clinic, referring to external smoking cessation experts, discussing a quit date, and advising nicotine replacement therapy (Table 3; variables were dichotomized as no or yes).

Of those answering the question on education in smoking cessation methods, 63% (390/617) had never attended a course in smoking cessation, 19% (115/617) had attended a half-day course, 11% (68/617) had attended a course that lasted longer than a half-day, and 7% claimed to have acquired knowledge by other means.

Level of education in smoking cessation was related to self-reported smoking cessation activities for all assessed variables with the exception of advising smokeless tobacco as nicotine replacement (Table 4). The observed differences were statistically significant for providing self-help material, offering patients follow-up for cessation support at the clinic, discussing a quit date, and advising nicotine replacement therapy (Table 4).

Discussion

Cessation activities

The observed increase from 1999 to 2003 in smoking cessation activities is difficult to explain based on the present data. One possible explanation may be that in the years between the studies, the Swedish Council on Technology Assessment in Health Care issued a detailed review of the scientific evidence regarding smoking cessation methods (SBU, 1998). The report

Table 1. Percentage partly or totally agreeing with the statements identifying barriers for general practitioners' engagement in tobacco cessation in primary health care in 1999 compared with 2003.^a

Barriers for engaging in tobacco cessation activities	Agree 1999, % (<i>n/N</i>) ^b	Agree 2003, % (<i>n/N</i>) ^b	Relative risk (95% confidence interval)
This kind of work is not worth the effort since too few people manage to give up smoking despite support	45 (266/587)	39 (238/609)	0.862 (0.755–0.985)
These discussions are too time consuming	56 (328/587)	63 (384/612)	1.123 (1.022–1.234)
I prefer to refer smokers to counselors who are specialized in smoking cessation	82 (476/577)	90 (587/609)	1.089 (1.040–1.140)
I lack knowledge on the subject	31 (183/585)	75 (452/605)	2.388 (2.100–2.716)
I do not perceive assisting people to quit smoking as a part of my job	21 (121/585)	27 (163/607)	1.298 (1.057–1.595)

Note. *n*, number of subjects; *N*, total sample. ^aThose answering "totally agree," "tend to agree," or "tend to disagree." ^bDenominators vary owing to missing information.

Table 2. General practitioners reporting that they gave patients who smoke different kinds of support for smoking cessation during the previous month in 2003.^a

Type of support	None, ^b % (number of subjects)	1–5 patients, % (number of subjects)	At least 6 patients, % (number of subjects)
Provide self-help material	69 (430)	25 (157)	5 (34)
Follow-up, by general practitioner	61 (378)	34 (211)	5 (32)
Follow-up, by others at the clinic	66 (413)	27 (166)	7 (42)
Refer to external cessation experts	80 (497)	18 (113)	2 (11)
Refer to the quitline	75 (469)	19 (115)	6 (37)
Discuss a quit date	43 (267)	45 (282)	12 (72)
Advise nicotine replacement therapy	22 (136)	61 (376)	18 (109)
Advise oral smokeless tobacco	80 (497)	18 (111)	2 (13)

Note. ^aPercentages may not add up to 100% due to rounding. ^bUnanswered question was assumed to be equivalent to "none."

Table 3. Proportion of patients receiving smoking cessation support during the previous month (as reported by the general practitioners [GPs]), comparing GPs referring to the quitline with those not referring to the quitline.

Type of support	Does not refer to the quitline, % (n/N)	Refers to the quitline, % (n/N)	Relative risk (95% confidence interval)
Provide self-help material	24 (104/440)	56 (84/149)	2.756 (2.097–3.624)
Follow-up, by the GP	36 (159/436)	54 (80/148)	1.698 (1.286–2.243)
Follow-up, by others at the clinic	34 (149/441)	34 (50/146)	1.015 (0.755–1.365)
Refer to external cessation experts	17 (73/441)	32(48/150)	1.828 (1.383–2.416)
Discuss a quit date	55 (242/438)	68 (103/151)	1.518 (1.123–2.050)
Advise nicotine replacement therapy	77 (339/442)	90 (134/149)	2.229 (1.360–3.653)

Note. *n*, number of subjects; *N*, total sample.

was followed by a pamphlet highlighting evidence-based methods for tobacco cessation that was widely distributed to health centers in Sweden. Also, a heated debate in the media on legislation banning smoking in bars and restaurants may have increased GPs' awareness of the need to incorporate smoking cessation in general practice.

Perceived barriers

All assessed barriers to engaging in smoking cessation work had changed between the studies, and all changes were statistically significant. In the 2003 survey, fewer doctors agreed with the statement that engaging in smoking cessation activities was not worth while, but a larger proportion found smoking cessation to be to time consuming. Also, more doctors preferred to refer patients to counseling

specialists and more agreed with the statement that they did not perceive working with smoking cessation as a part of their job. The biggest change was in the way the GPs perceived their capacity to help patients stop smoking. In 1999, only 3 out of 10 Swedish GPs admitted that they did not have sufficient knowledge or training in smoking cessation methods (Helgason & Lund, 2002), compared with almost 8 out of 10 in the present study. This major change in insight regarding the need for more education and training is probably related to the observed increase in tobacco cessation activities. The change is so dramatic that it could be termed a paradigm shift in how Swedish GPs view the complexity of treatment for tobacco dependency. However, we do not presently know if the change is permanent or only short term. Interestingly, half of the GPs in the present study who said they did not

Table 4. Reported smoking cessation activities during the previous month, depending on the general practitioner's level of education in smoking cessation.

Reported smoking cessation activities	Education in smoking cessation methods ^a			Relative risk (95% confidence interval) ^b
	High, % (n/N)	Medium/low, % (n/N)	No, % (n/N)	
Provide self-help material	48 (32/67)	42 (64/151)	25 (95/375)	2.268 (1.471–3.496)
Follow-up, by the general practitioner	56 (37/66)	50 (76/151)	35 (130/372)	2.070 (1.325–3.235)
Follow-up, by others at the clinic	39 (26/67)	41 (63/152)	32 (119/378)	1.312 (0.837–2.057)
Refer to external cessation experts	29 (19/65)	24 (36/153)	18 (69/378)	1.666 (1.030–2.695)
Refer to the quitline	31 (21/67)	28 (43/153)	24 (88/374)	1.391 (0.870–2.222)
Discuss a quit date	74 (49/66)	65 (100/154)	54 (205/378)	2.156 (1.284–3.622)
Advise nicotine replacement therapy	88 (58/66)	89 (139/156)	76 (288/380)	2.095 (1.035–4.240)

Note. ^aNo, no formal education; Medium/low, formal education less than a half-day or achieved knowledge on the subject by other means; High, formal education more than a half-day. ^bComparing "high" with "no" education.

lack knowledge on the subject of smoking cessation reported that they had not received any formal education or training in cessation methods. Whether or not this indicates an underestimation of the complexity of smoking cessation support and therapy, or indifference to the problem, is difficult to determine based on the available data. In summary, the Swedish GPs had increased their smoking cessation activities and were much more aware of the complexity of smoking cessation support. Consequently, they preferred to refer patients to cessation experts. However, 7 out of 10 still perceive smoking cessation support as an integrated part of their job. Unfortunately, the question assessing the extent to which the GPs perceived cessation support as a part of their job did not grade the level of support they were prepared to give. An emerging picture in Sweden is that doctors identify tobacco use, give brief advice, and then refer the patient to a nurse at a clinic specializing in tobacco cessation. This is probably why more GPs defined cessation support as falling outside their work in 2003 compared with 1999.

The quitline

An important reason for integrating the Swedish quitline (Helgason et al., 2004) into the general health service was based on the results from the 1999 GP study (Helgason & Lund, 2002). In that study, 8 out of 10 GPs indicated that they preferred to refer patients needing extensive support to smoking cessation specialists (Helgason & Lund, 2002). A nationwide quitline was seen as one option to meet this need. However, when the Swedish quitline was established, some concerns were expressed that a centralized nationwide quitline might be seen as a "quick fix" to the problem of smoking cessation support and consequently could reduce the enthusiasm to organize smoking cessation in primary care throughout the country. The present study does not support this hypothesis. On the contrary, the GPs who made use of the quitline (25% of the responders) also were more likely to provide self-help material, offer their patients individual follow-up at the clinic, refer patients to external smoking cessation experts other than the quitline, discuss a quit date, and advise nicotine replacement therapy (Table 3). The design of the present study does not allow for conclusions regarding causality in the observed relationship between smoking cessation activities and use of the quitline, however. We can safely conclude, nevertheless, that inviting GPs to refer their patients to a quitline does not undermine smoking cessation activity. We found no significant correlation between the GPs' own education in smoking cessation methods and the extent to which

they used the quitline. If anything, this is a positive indication that the quitline may be an option for all health care providers. The future challenge is to market the service further to increase GPs' awareness of this treatment option.

Oral tobacco

One out of five Swedish GPs advised their patients to use snus (Swedish oral smokeless tobacco) as a means to quit smoking. One possible explanation for this phenomenon may be an ongoing debate about the concept of harm reduction (Kozłowski, 2002) and the belief that snus may be a more effective smoking cessation method than NRT or other pharmaceutical products. However, no scientific data suggest that snus is a more effective replacement for smoking than NRT. On the contrary, data from the Swedish quitline suggest that NRT may be a more effective cessation method than snus, at least in clinical settings (Helgason et al., 2004). Also, studies on the harmful effects of snus are presently relatively few and the statistical power is low, especially regarding cancer (Sanner, Dahl, & Andersen, 2000). Increasing the availability of NRT and behavioral counseling is a preferable option. We did not assess the GPs' own tobacco use in the present study and are hence not able to analyze the possible relationship between the GPs' own snus use and their recommendations that patients use snus. In the 1999 study, the prevalence of current tobacco use among Swedish GPs was 3% daily smokers, 8% occasional smokers, and 8% snus users (daily and occasional; Helgason & Lund 2002). Unfortunately, the question assessing whether GPs recommended snus as a smoking cessation method was not included in the 1999 survey.

Methodological considerations

The 1999 study and the present study were identical with regard to how the GPs were selected, response rate (approximately 6 out of 10), and settings (sending the questionnaires to the GPs' home addresses). Only questions that were identical between the studies were used in the comparison. Data collection methods were alike except that in the present study we attempted to gather data using an online questionnaire. Only approximately 1 out of 10 GPs had responded to the online questionnaire by 2 weeks after receiving the letter explaining the study and after two reminder letters. The 64% response rate was achieved after two additional reminder letters each including a paper version of the questionnaire along with a stamped return envelope. A possible reason for the poor response to the online version of the questionnaire may be that the questionnaire had

to be accessed through the Internet in several steps. An alternative method would have been to E-mail all participants and invite them to enter the questionnaire directly through a link in the body of the E-mail. Unfortunately, we did not have access to the GPs' E-mail addresses.

Summary

Swedish GPs increased their overall smoking cessation activities from 1999 to 2003 and appeared to be much more aware of the complexity of smoking cessation support. The national quitline appears to have had a positive effect on GPs' engagement in smoking cessation activities.

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