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Motivation for smoking cessation: what role do doctors play?[1]

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Summary

Principles: Cigarette smoking causes an estimated 13% of all deaths in Switzerland. Though most smokers will eventually become ex-smokers of their own volition, physicians play an important role in accelerating the process of quitting among smoking patients. Even brief advice from physicians is effective in doing so. The purpose of this study was to investigate which smokers were asked about their smoking habits, and how often, whether they received advice to quit, and how this correlates with the patient's desire to quit.

Methods: Telephone interviews were carried out with a random sample of smokers and ex-smokers from the German-speaking Swiss population (n = 993). We collected information on personal characteristics, smoking habits, and recall of physicians' advice. Data was analysed descriptively and by logistic regression.

Results: 88% recalled being asked by a doctor about their smoking habits. In contrast, only 34% of smoking patients recalled being advised to stop. Women, older people and those in poor subjective health were asked more frequently. Heavier smokers and those in poor subjective health were advised more frequently. Current smokers more frequently express the desire to quit if they are heavier smokers and have been advised to quit by their physician, compared with those who have not received such advice.

Conclusions: Similarly to the international findings, smoking patients in Switzerland receive brief advice with insufficient frequency. Action should therefore be taken to encourage health professionals not only to question all smoking patients but to advise and motivate them to quit smoking.

Key words: smoking; smoking cessation; physician's role; counselling

Introduction

Smoking represents the single most important cause of premature death and potentially lost life years in the developed countries. The extent of the damage it causes to health, society and the economy is often substantially underestimated. According to estimates of the Swiss Federal Office for Public Health, in 1995 there were 370,000 cases of disease, 16,000 cases of disability and 8300 deaths caused by smoking, amounting to 13% of all yearly deaths [1]. These premature deaths outnumber those due to illicit drugs, alcohol, traffic accidents, burns, suicide, homicide and AIDS combined.

Regular smokers of 25 or more cigarettes a day will lose 10 years of their lifetime [2]. In Switzerland, consumption of tobacco causes direct costs, every year, of at least 1.2 billion Swiss francs (this figure represents 5% of total health expenditures) [1] as well as indirect costs of 3.8 billion Swiss Francs generated by disability, mortality and lost working hours [3]. To this CHF 5 billion can be added another 5 billion Swiss francs in human costs, making a total of CHF 10 billion a year. In 1992 only five out of 111 countries worldwide (Poland, Greece, Hungary, Japan and South Korea) had a higher per capita consumption [4].

From the early 70s, tobacco consumption and the number of smokers steadily decreased; since 1992, however, these figures have been on the increase again. In particular, the number of women smokers has risen and is approaching that of their male counterparts. From 1992 to 1997, the percentage of smokers in the Swiss population aged over 15 rose from 30% to 32%, in men from 37% to 39% and in women from 24% to 28%. The most striking rise in prevalence (from 26% to 41%) was found in the group of young women aged 15–24 [5]. In 1997, average daily cigarette consumption among over-15s was 12.2 in females and 15.8 in males [6].

The proportion of smokers amongst medical doctors in 1989 was significantly lower than in the general population. Only 20% of male doctors and 16% of female doctors were smokers, and the lowest rates were found amongst specialists in in-

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ternal medicine, paediatricians and general practitioners [7].

By reducing tobacco consumption the health status of any community can be improved substantially and cost-effectively. An increase in the quit-rate, i.e. the percentage of smoking persons who quit within a defined period, has the most immediate impact on life expectancy as well as life quality, while another cornerstone of prevention, i.e. getting people to stay non-smokers, influences the number of tobacco-related deaths and diseases with some latency.

It should be the goal of every health professional to motivate every smoking patient to stop smoking, even though this may appear difficult to achieve in a particular case. A meta-analysis of 31 studies comprising 26,000 smokers has confirmed that even very brief advice from a physician will significantly increase the quit-rate among smoking patients [8, 9].

Using recent data from Switzerland, this paper answers the following questions: 1. How often are smokers asked by their physicians about their smoking habits, and how often are they advised to quit? 2. What methods of quitting are recommended by health professionals? 3. Are there differences in gender, age, cigarette consumption and other variables? 4. What kind of influence has the physician's advice on patients and their motivation and desire to quit?

Methods

Sampling

The sample is part of the project "Kenntnisse zur Raucherentwöhnung in der Schweiz" (Knowledge of smoking cessation in Switzerland). The sample was randomly drawn by the Federal Office of Statistics in 1997, from addresses in the German-speaking part of the country and was based on the official telephone directory. For 30% of addresses no interview was possible due to refusal, language difficulties, disease or prolonged absence. In total, 2476 telephone interviews were performed. Out of a total of 2476 interviews, 908 involved non-smokers and were not further analysed. For reasons linked to the sampling method, our sample is representative of smokers and ex-smokers aged 15–65 living in the German-speaking part of Switzerland but not representative of the whole population [10]. For the present study we also excluded 280 occasional smokers and 289 ex-smokers who had stopped smoking more than 10 years previously, since these persons were not asked all the relevant questions, as well as six smokers aged 65 who were above the defined age limit. Hence the sample comprises 993 persons who smoke regularly or smoked until successful cessation less than 10 years before.

Data collection

A computer-assisted telephone survey was performed between March and June 1997. A short portion of the interview targeted the first person contacted by the interviewer and concerned the smoking habits of all persons living in the selected household. Based upon this information, one smoking or ex-smoking person aged 15–65 years was selected for the longer, more detailed part of the interview [10].

Variables

Age, gender, smoking status, number of cigarettes per day, stages of change, desire to quit, subjective health status, physician visits within the last 12 months, expecting the doctor to ask about smoking, remembering being asked by the doctor, being advised to quit by the doctor and being recommended an auxiliary method of quitting.

Definitions

We defined the smoking status according to the WHO definitions of 1995. A person is considered a smoker if he or she has smoked at least a 100 cigarettes and currently smokes on a daily basis. Occasional smokers do not smoke daily, while ex-smokers are those who have quit successfully at any time in the past. Prochaska and DiClemente's stages of change are defined as "precontemplation" (smokers who do not have any plan or intention to quit), "contemplation & preparation" (they intend to stop within the next one to six months), "action" (they stopped smoking less than six months ago) and "maintenance" (they have been successful quitters for at least 6 months) [10]. To estimate a person's desire to stop smoking, regular smokers were asked whether they described their desire to quit as very strong, rather present, less present or absent. Ex-smokers were not questioned about their desire to quit. The "subjective health status" describes a person's own perceived state of health as being very good, good, fairly good, rather poor, poor or very poor. In the analysis we combined the last three categories into one, since the number of persons in each category taken separately was too low.

Statistical analysis

Statistical analysis was performed mainly in a descriptive mode. The relations between variables in cross tables were χ^2-tested. Multivariate testing of factors influencing the desire to quit (table 4) was done by logistic regression analysis. As a statistics programme we used STATA.

Results

The sample shows an even distribution of age and gender. It consists of 71% current regular smokers and 29% ex-smokers. The general characteristics of the sample are shown in table 1.

Asking about smoking and advice to stop

88% of all interviewed persons (n = 993) stated that a doctor had already asked them about their smoking habits (see table 2).

Table 1

Sample characteristics (n = 993).

	Mean (SD) or percent
Age (years)	40.1 (11.8)
Gender: male	53%
female	47%
Physician visits during last 12 months (n = 982)	
No physician visit	27%
Once	29%
More than once	44%
Smoking status	
regular (daily) smoker	71%
ex-smoker	29%
Stage of change (n = 987)	
Precontemplation (no intention to quit)	58%
Contemplation and preparation (plans to quit within 6 months)	12%
Action (quit less than 6 months ago)	2%
Maintenance (quit more than 6 months ago)	27%
Number of cigarettes per day (n = 938)	19.2 (12.3)
Subjective state of health	
very good	30%
good	49%
fairly good	15%
poor	6%

Women and older people were asked more frequently than men and younger persons about their smoking habits. Also, persons who had seen their physician more than once in the previous twelve months and those who perceive their personal health to be poor were asked more frequently by their physician. However, the frequency of questioning was independent of smoking status (regular smokers versus ex-smokers), number of cigarettes per day, stage of change or desire to quit. Of 574 persons asked about the type of physician who inquired about smoking habits, 73% named a general practitioner, 9% a physician working in a hospital, 2% a dentist and 0.4% another kind of physician. Additionally, 30% of women mentioned their gynaecologist. 66% of all persons interviewed expect their doctor to ask whether they smoke.

In 34% of cases the physician advised his patient to stop smoking. This represented 39% of those who said their doctor had asked about smoking. The more cigarettes a patient smokes per day, the more likely the doctor will advise quitting. Furthermore, persons in poor subjective health were advised more frequently than those in good subjective health. No difference was found regarding age, gender and current smoking status. In only 50% of those who were advised to stop smoking the physician also advised some adjuvant, which in

Table 2

Doctor has asked about smoking, advised patient to quit, and patient expects doctor to ask, in relation to different variables.

	Doctor has asked about smoking		Doctor has advised to quit		Patient expects doctor to ask	
Total	88.1%		34.2%		62.5%	
Age (years)		n = 993		n = 980		n = 967
15–25	79.8%		33.0%		58.9%	
26–35	86.3%		27.4%		60.5%	
36–45	88.2%		38.4%		58.9%	
46–55	92.8%	$\chi^2 = 13.74$	38.2%	$\chi^2 = 9.44$	67.2%	$\chi^2 = 7.34$
56–66	91.3%	p = 0.008	36.2%	p = 0.051	69.9%	p = 0.12
Gender		n = 993		n = 980		n = 967
Men	84.9%	$\chi^2 = 10.80$	33.1%	$\chi^2 = 0.84$	62.1%	$\chi^2 = 0.05$
Women	91.7%	p = 0.001	35.9%	p = 0.36	62.8%	p = 0.82
Subjective health		n = 989		n = 976		n = 964
Very good	87.2%		25.8%		60.9%	
Good	87.0%		34.5%		63.4%	
Fairly good	91.7%	$\chi^2 = 3.45$	42.1%	$\chi^2 = 23.16$	60.1%	$\chi^2 = 1.54$
Poor	91.9%	p = 0.327	53.2%	p = 0.000	67.7%	p = 0.67
Physician visits within last 12 months		n = 982		n = 969		n = 957
0	79.0%		26.4%		55.8%	
1	89.6%	$\chi^2 = 28.54$	31.7%	$\chi^2 = 15.97$	64.5%	$\chi^2 = 6.34$
2 or more	92.4%	p = 0.000	40.8%	p = 0.000	64.9%	p = 0.042
Smoking status		n = 993		n = 980		n = 967
Regular smokers	88.1%	$\chi^2 = 0.01$	34.9%	$\chi^2 = 0.29$	61.1%	$\chi^2 = 1.92$
Ex-smokers	88.3%	p = 0.92	33.1%	p = 0.59	65.8%	p = 0.17
No. of cigarettes per day		n = 938		n = 931		n = 919
1 to 4	83.3%		15.1%		53.7%	
5 to 14	85.7%		27.9%		58.9%	
15 to 24	88.1%	$\chi^2 = 4.24$	34.8%	$\chi^2 = 34.55$	65.2%	$\chi^2 = 4.49$
25 and more	91.1%	p = 0.24	49.5%	p = 0.000	60.5%	p = 0.21

Table 3

Which methods are recommended by physicians (n = 337, persons advised to quit; multiple answers; every category has been probed)?

	Regular smokers (n = 245)	Ex-smokers (n = 92)
Nicotine replacement therapy	95 (39%)	22 (24%)
Self-reading material	60 (25%)	20 (22%)
Further consultations	43 (18%)	12 (13%)
Acupuncture	14 (6%)	11 (12%)
Support group	9 (4%)	2 (2%)
No method was recommended	113 (46%)	54 (59%)

Table 4

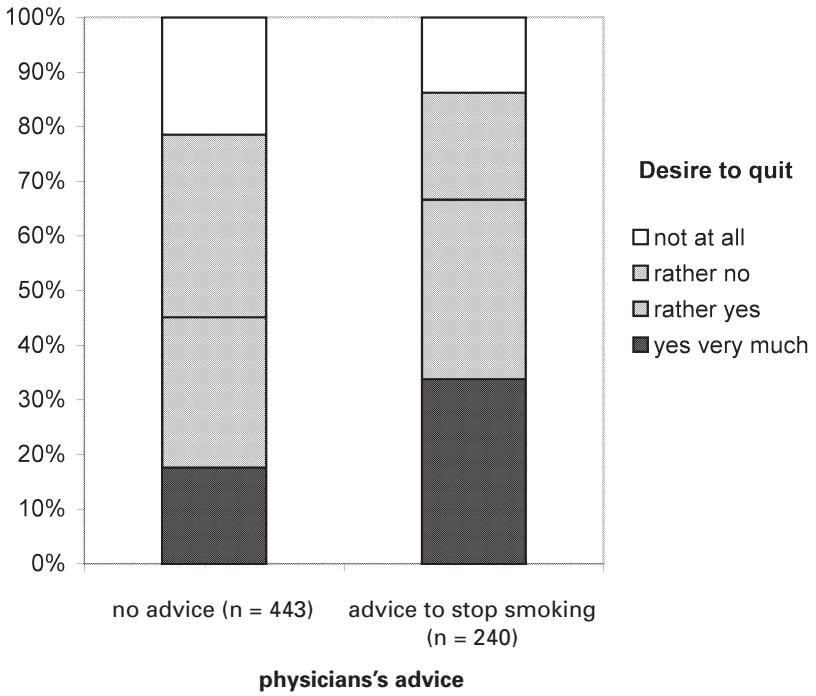
Desire to quit smoking related to gender, age, tobacco consumption, physician visits, subjective health status and physician's advice.

	n	Presence of the desire to quit [%]				OR. (95% CI.)[a]	OR. (95% CI.)[a]
		very much	rather	rather not	not at all	bivariate – multiple logistic regression analysis	Full model[b] – multiple logistic regression analysis
Women	329	24	29	28	19	1	1
Men	355	22	30	29	19	0.97 (0.72–1.31)	1.08 (0.77–1.50)
Age: 15–25 years	96	12	35	33	20	1	1
26–35 years	190	19	28	32	21	1.02 (0.62–1.67)	0.93 (0.55–1.56)
36–45 years	179	29	27	27	17	1.47 (0.89–2.41)	1.23 (0.72–2.10)
46–55 years	137	31	29	25	15	1.69 (1.00–2.86)	1.59 (0.89–2.82)
56–65 years	82	22	31	26	22	1.25 (0.69–2.26)	1.06 (0.56–2.09)
1–4 cigarettes / day	26	23	0	39	39	1	1
5–14 cigarettes / day	199	14	31	36	20	2.64 (1.02–6.86)	2.69 (1.02–7.10)
15–24 cigarettes / day	308	26	34	26	15	4.95 (1.93–12.67)	4.73 (1.81–12.38)
>24 cigarettes / day	126	35	26	21	18	5.24 (1.97–13.96)	4.51 (1.63–12.46)
Health status: very good	211	22	27	29	22	1	1
good	323	21	32	29	18	1.17 (0.83–1.67)	1.02 (0.70–1.48)
fairly good	100	25	32	30	13	1.39 (0.86–2.24)	1.14 (0.67–1.93)
poor	46	37	22	20	22	1.49 (0.78–2.84)	0.89 (0.43–1.82)
No physician visit (last 12 mts.)	191	23	30	28	19	1	1
Once	197	20	26	31	22	0.78 (0.52–1.16)	0.82 (0.54–1.26)
More than once	287	26	32	27	16	1.21 (0.83–1.74)	1.23 (0.81–1.85)
No physician's advice	443	18	28	33	21	1	1
Physician has given advice	240	34	33	20	14	2.43 (1.75–3.37)	1.77 (1.24–2.54)

[a] Dichotomised analysis of desire to quit: *very much* and *rather* versus *rather not* and *not at all*
[b] In the full model analysis we included all 6 variables

Figure 1

Presence of the desire to stop smoking in relation to physician's advice (n = 683, only current regular smokers).



39% of cases was a form of nicotine replacement therapy (see table 3).

The patient's desire to quit

The following section refers only to the 684 regular smokers. Among these, 53% expressed the desire to stop smoking. In 23% the desire to quit was very strong, in 30% rather present, in 28% less present and in 19% not present at all. Among those who had been advised to stop smoking by their doctors, a strong desire to stop was present in 34%, whereas only 14% had no desire to stop. In contrast, only 18% of those who had never been advised to stop felt a strong desire to stop and 21% did not wish to quit at all (p = 0.000). This context is shown in figure 1.

The bivariate analysis shows that the desire to stop is more often present in heavier smokers. The higher the number of cigarettes smoked per day, the more frequently a smoker wishes to quit smoking. There is also a tendency whereby the poorer a smoker's perception of his personal state of health and the more frequent his visits to the doctor, the greater his desire to give up smoking. Again, the physician's advice has a clear impact on the patient's desire to stop. The relation of these and other variables to the existence of a desire to stop smoking is shown in table 4.

In multiple logistic regression analysis only two factors correlate significantly with the desire to stop smoking. These are the "number of cigarettes per day" (odds ratio 4.5 for more than 24 per day) and the "physician's advice to stop smoking" (odds ratio 1.8).

Discussion

The vast majority of smokers are asked about their smoking habits by their physicians (in our study 88%). Women and older people are asked slightly more often. However, only 34% of all smokers said they had ever been advised to stop smoking by a doctor. Such advice was offered more frequently to heavier smokers, to those who perceive their personal state of health as poor, and to those who intend to give up smoking. These findings are consistent with those of other studies reporting that patients quite often recall their physician having asked about their smoking habits (in 67–72%) [12, 13] while smoking patients recall far less often having been advised to stop (17–49%) [12–15]. One study found that 13% of Costa Rican doctors never ask their patients about smoking [16].

Our study also shows that the patient's desire to quit smoking correlates with the physician's advice to do so. 34% of patients who received such advice said they felt a strong desire to quit the habit, compared to only 18% of those who could not recall any such advice. We observed a fourfold increase in odds ratio. Nor did multivariate adjustment substantially alter these results.

In general, cross-sectional studies such as the present one have two major limitations: it is not possible to show cause-and-effect relations over time, and a reduced response rate may introduce a selection bias. The response rate of 70% in our study can be considered sufficient. Although we did not directly investigate how often doctors asked and advised their patients, we enquired how often these messages were actually remembered by the target population, the smoking patients. In our study the possibility of a recall bias cannot be excluded, since it is arguable that current smokers unwilling to stop would be equally interested in messages from their doctor than smokers in another stage of change, and would therefore recall any such message to the same extent. Moreover, it can be assumed that the correlation found between the physician's advice and the desire to stop may not only be a one-way cause-and-effect relationship but could be mutually influenced, and physicians would rather advise patients who give signals that they desire to quit. However, although we observed that smokers recalling the advice to quit had a stronger desire to do so, we observed no difference between smokers and ex-smokers as regards recall of being asked or advised. In numerous interventional trials it has been shown that even very brief advice from health professionals is effective in increasing the quit-rate among patients who smoke, especially when using guideline-recommended strategies [8, 9, 17].

The overall effect of any preventive measure is always the product of its effectiveness in the individual case and the frequency with which it is used in the whole population. Precisely because many physicians feel that brief advice would have little effect on the individual case, too many have ceased to advise their patients to quit. In contrast, the results of our study show that almost two thirds of all persons expect their physician to ask about smoking. This may be one important reason why such a reasonably cheap and effective method for the prevention of tobacco-related death and disease is not utilised to its full potential at present. The life-extending effect of successful smoking cessation ultimately concerns every smoking patient in a medical practice. If not even their own doctor urges them clearly and distinctly to stop smoking, some patients will not see any pressing reason to consider quitting the habit.

Although most smokers will eventually become ex-smokers in the course of their lives, the majority are successful only after one or more failed attempts to quit. One study shows that 40% of all smokers attempt in some way to stop in response to a doctor's advice [18].

In summary, physicians should ask all their patients whether they smoke, how much they smoke and whether they are willing to quit. As a subsequent step it should be explained to every smoking patient why and to what extent smoking cessation would, for medical reasons, favourably change their future health. This short sequence hardly takes more than two minutes to perform. More detailed cessation counselling is required only if the patient is ready to stop [17]. A Swiss sentinel study shows that special counselling on smoking occurs in only 0.24% of consultations at general practitioners' surgeries, the counselling took a mean 13 minutes, and in the majority of cases the reason for counselling was a respiratory or another tobacco-related disease [19]. Motivating smokers who do not desire to quit does appear to be more complicated and calls for special counselling techniques. A Swiss interventional trial showed that training of resident physicians in smoking cessation counselling is effective in increasing attempts to quit in smoking patients [20]. Our final conclusion is that in Switzerland medical education in terms of smoking cessation is in need of improvement.

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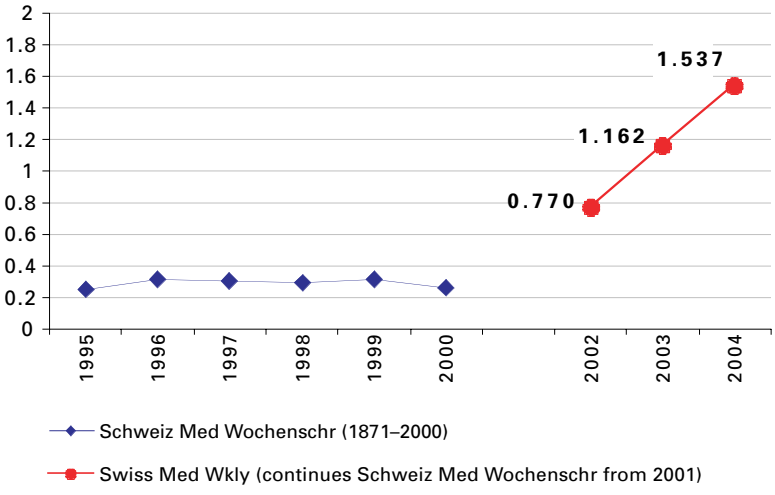

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