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Determinants of smoking and cessation in older women

THESE

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Résumé

Introduction : Le tabagisme est le facteur de risque le plus important dans 7 des 14 premières causes de décès chez les personnes de plus de 65 ans. De nombreuses études ont démontré les bénéfices sur la santé d'un arrêt du tabagisme même à un âge avancé. Malgré cela, peu d'actions préventives sont entreprises dans cette population. Le but de ce travail est d'analyser les caractéristiques du tabagisme et de l'arrêt du tabagisme spécifiquement chez les fumeuses d'âge avancé afin de mieux les aider dans leur désir d'arrêter.

Méthode : Nous avons évalué les caractéristiques tabagiques au sein d'une étude prospective de 7'609 femmes vivant en Suisse, âgées de plus de 70 ans et physiquement autonomes (étude Semof s'intéressant à la mesure de l'ostéoporose par ultrason osseux). Un questionnaire sur les habitudes tabagiques a été envoyé aux 486 fumeuses éligibles de la cohorte. Leurs stades de dépendance nicotinique et de motivation ont été évalués à l'aide respectivement des scores « Heavy Smoking Index » et « Prochaska ». Les participantes ayant cessé de fumer pendant le suivi ont été questionnées sur les motivations, les raisons et les méthodes de leur arrêt.

Résultats : 424 femmes ont retourné le questionnaire (taux de réponse de 87%) parmi lesquelles 372 ont répondu de façon complète permettant leur inclusion. L'âge moyen s'élevait à 74,5 ans. La consommation moyenne était de 12 cigarettes par jour, sur une moyenne de 51 ans avec une préférence pour les cigarettes dites « légères » ou « light ». Un peu plus de la moitié des participantes avait une consommation entre 1 et 10 cigarettes par jour et la grande majorité (78%) présentait un score de dépendance faible. Les raisons du tabagisme les plus fréquemment évoquées étaient la relaxation, le plaisir et l'habitude. Les principaux obstacles mentionnés : arrêter à un âge avancé n'a pas de bénéfice, fumer peu ou des cigarettes dites light n'a pas d'impact sur la santé et fumer n'augmente pas le risque d'ostéoporose. Le désir d'arrêter était positivement associé avec un début tardif du tabagisme, une éducation plutôt modeste et la considération que d'arrêter est difficile. Durant le suivi de 3 ans, 57 femmes sur 372 (15%) ont arrêté de fumer avec succès. Le fait d'être une fumeuse occasionnelle (moins de 1 cigarette par jour) et de considérer que d'arrêter de fumer n'est pas difficile étaient associés à un meilleur taux d'arrêt du tabagisme. Seuls 11% des femmes ayant stoppé la cigarette signalaient avoir reçu des conseils de leur médecin.

Conclusion : ces données illustrent le comportement tabagique spécifique des fumeuses d'âge avancé (consommation et dépendance plutôt faibles) et suggèrent que les interventions médicales pour l'aide à l'arrêt du tabagisme devraient intégrer ces caractéristiques. La volonté d'arrêter est associée à un niveau d'éducation plutôt modeste. Les obstacles les plus fréquemment mentionnés sont basés sur des appréciations erronées de l'impact du tabagisme sur la santé.

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Determinants of smoking and cessation in older women

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Abstract

Background: Although the benefits of quitting smoking even in an advanced age are proven, few campaigns target the older demographic. The goals of this study were to analyse the characteristics of older women smokers to better help and support those wanting to quit.

Methods: We assessed the determinants of smoking cessation in a prospective cohort study performed in 7609 older women. A questionnaire about smoking habits was sent to the 486 eligible smokers. Smoking dependence and smokers' readiness to quit was assessed. Participants who had quit smoking during follow-up were asked about their previous reasons for quitting and the methods used to quit.

Results: 372 women of the 424 (88%) responded to our questionnaire and were included. The most common reasons for smoking were relaxation, pleasure, and habit. Major obstacles to quitting smoking were "no benefit to quitting at an advanced age", "smoking few or 'light' cigarettes yields no negative health consequences", and "smoking does not increase osteoporotic risk". During the 3-year follow-up period, 57 of the 372 (15%) women successfully quit smoking. Being an occasional smoker (OR=2.4) and reporting "quitting is not difficult" (OR=3.7) were positively associated with having recently quit smoking. Only 11% of successful cessations were reported to have received physician advice.

Conclusions: These data illustrate the specific smoking behaviours of older women, suggesting that cessation interventions ought to be tailored to these characteristics. Willingness to quit was associated with a low education level. The most frequent obstacles to quitting were all based on incorrect information.

Keywords: smoking, older women, smoking cessation.

Introduction

Tobacco smoking is the number-one preventable risk factor in 7 of the 14 primary causes of death in people aged 65 years and older [1]. The specific medical consequences of smoking for older women are well known and have already been described. They include: cancer, chronic obstructive pulmonary disease (COPD), cardiovascular disease, osteoporosis, peptic ulcer, decrease in quality of life, decrease in physical functioning, and interference with other drugs [2-10]. Older tobacco users have nearly double the mortality rate of non-smokers (OR of 2.1 for men, 1.8 for women) [2]. Among these, deaths due to lung cancer and COPD exceed those that are cardiovascular-related [11]. Several studies have shown evidence for cardiovascular and respiratory benefit from quitting smoking, even at an advanced age [8,11,12].

A high percentage of older smokers want to quit, and smokers over 65 are more likely to be successful at quitting and less likely to relapse than younger smokers [11,13-15]. However, the older smokers are often not encouraged to quit [3,16], even though a significant increase in cessation rates after a brief physician intervention has been demonstrated in several studies [17-21]. Many physicians may think it is too late to intervene and therefore rarely tackle the subject. Older smokers often have long smoking histories, marked by strong nicotine dependence, previous unsuccessful quitting attempts, and doubts about the benefits of quitting [19]. Data from Western countries have estimated smoking prevalence among older women to be between 8% and 12% [4].

An analysis of the smoking profile of older female smokers could be a useful tool to better help and support older women who want to quit. We therefore assessed the determinants of smoking and smoking cessation in prospective cohort study, the Swiss Study for the Evaluation of the Methods of Measurement of Osteoporotic Fracture risk. This study, which includes 7609 older women, aims to evaluate various methods of measuring osteoporosis risk fracture. Smoking prevalence in the cohort is similar to the source population of older Swiss women (i.e., 7%) [22]. The specific objectives of this study were to analyse the characteristics of older

women smokers regarding tobacco consumption, level of tobacco dependence, readiness to quit smoking, and reasons for continuing smoking, as well as to determine the characteristics of women who have recently quit.

Methods

The study population consisted of older women aged 70 and above, who were physically independent and living in Switzerland. Exclusion criteria included a diagnosis of dementia, active cancer, kidney insufficiency, or bilateral hip prosthesis. From the initial questionnaire used to collect data on risk factors for osteoporotic fractures, current occasional or regular cigarette smoking was reported by 7% (539/7609) of the cohort. A pre-tested four-page additional questionnaire characterizing smoking habits was sent to these smokers. In addition, participants who had quit smoking during the follow-up were asked about their previous smoking patterns, reasons for quitting, and methods used. The majority of questions were multiple-choice and based on a questionnaire used in our previous studies assessing smoking behaviour [23,24].

Smoking dependence was gauged with the Heavy Smoking Index (HSI) derivate from the Fagerström Test for Nicotine Dependence (FTND) and assessed the following: (1) the number of minutes after waking up before smoking the first cigarette of the day, and (2) the number of cigarettes smoked per day [25,26]. Responses to both questions were given a score ranging from 0 (low) to 3 (high); these two scores were added to yield a total dependency score ranging from 0 (low) to 6 (high). Using this score, the level of nicotine dependence was characterized as low (0–2 points), moderate (3–4 points), or high (5–6 points). A dichotomous division of low versus moderate/high dependencies was used in the statistical models because of the relatively few individuals in the latter categories.

The stages-of-change model from Prochaska was used to categorize smokers' readiness to quit [27,28]. Participants were classified into the following stages: precontemplation (not

considering quitting), contemplation (considering stopping within the next 6 months, but still ambivalent), and preparation (planning to quit within the next month). Because few smokers were identified as being in the contemplation or preparation stages, these two groups were merged into a "non-precontemplation" category for the analysis.

Of the 539 women, 53 (10%) were excluded because of moving without knowing the new address (n=8), dementia (n=1), giving up (n=21), or death during follow-up (n=23). The remaining 486 participants received a mailed questionnaire on their smoking habits, and 424 were returned, giving a response rate of 87%. Fifty-two of these surveys contained incomplete data and were not used in the analysis. A total of 372 women were eventually included in the final analysis.

Stata 7.0 was used for statistical analysis. T-tests and chi-square tests were used to compare means. Logistic regression was performed to characterize the women who stopped smoking during the follow-up and those who continued smoking but indicated a willingness to quit in the near future.

Results

At baseline, the 372 smokers had a mean [± standard deviation (SD)] age of 74.5 years (± 3.1), 13% reported a high-level education, and 57% had previously worked in a qualified white-collar profession. Their mean (± SD) Body Mass Index (BMI) was 24.2 (± 4.3). Almost two-thirds (61%) described their health status as "good" or "very good", and 53% reported having at least one medical condition, including high blood pressure, deep venous thrombosis, or lung disease.

Table 1 shows the subjects' baseline characteristics regarding smoking behaviour. They had smoked an average of 51 years and their mean daily consumption (± SD) was 12 (± 8) cigarettes. The most commonly reported reasons for smoking were relaxation (55%), pleasure

(33%), and habit (30%). Most women were light smokers, as just over half smoked 1–10 cigarettes per day and nearly two-fifths smoked 11–20 cigarettes per day. Approximately three-fourths of the women preferred "light" cigarettes, and over two-fifths waited over an hour after waking up before having the first cigarette of the day. In contrast, only 5% of the women consumed their first cigarette within 5 minutes of waking up. A large majority (78%) were characterized as having a low nicotine dependence, and a third had made an attempt to quit in the past year. The most frequently cited rationales for not quitting were "no benefit to quitting at an advanced age", "smoking few or 'light' cigarettes yields no negative health consequences", and "smoking does not increase osteoporotic risk".

Table 2 shows the results of the multivariate analyses assessing the characteristics of smokers planning to quit. Such a willingness was positively associated with beginning tobacco use after 25 years of age [odds ratio (OR)=3.48], not having received a college education (OR=2.59), having made a previous quit attempt in the past year (OR=2.63), and believing that it is difficult to quit (OR=3.44), while a preference for light cigarettes was negatively associated with a desire to quit smoking (OR=0.50).

During the 3-year follow-up period, 57 of the 372 (15%) women successfully quit smoking. A regression model was performed to characterize those women. "Being an occasional smoker" (<1 cigarette per day) (OR=2.4) and reporting "quitting is not difficult" (OR=3.7) were positively associated with having recently quit smoking.

Discussion

This study of older female smokers provides information about this population's smoking profile, cessation rate, and motivations and methods to quit. To our knowledge, this information has not been widely reported by other investigators and these data thus provide insight into the specific smoking behaviours of this population.

The prevalence of smoking in our study population was in concordance with that found in other Western populations [4]. We also confirmed that there are, on average, fewer smokers among the older population.

Our results show that the smoking habits of older women differ from those of the general population, suggesting that cessation interventions ought to be tailored to these characteristics. For example these women smoked an average of 12 cigarettes a day with a preference for so-called light cigarettes. It is difficult to interpret the fact that the major cited reason for smoking was "relaxation". One explanation lies in the fact that smoking is partly a social behaviour. Our data also suggest a low level of physician intervention; only 11% of successful cessations were reported to be the result of physician advice. Furthermore, three-quarters of women who stopped during the follow-up period reported quitting of their own accord. However, it is not clear whether this reliance on self-motivation results from physician failure to adequately address the benefits of cessation or manifests because the act of quitting rests primarily on the smoker's own willpower rather than on outside influences such as her physician.

Interestingly, two-fifths of respondents mentioned a desire to quit, and this willingness to quit was positively associated with a low education level. As expected, preference for light cigarettes was negatively associated with a desire to quit smoking (OR=0.50).

The most frequent obstacles to quitting (believing that there is no benefit to quitting at an advanced age, that smoking few or "light" cigarettes yields no negative health consequences, and that smoking does not increase osteoporotic risk) were all based on incorrect information. Disseminating accurate health information to older women could significantly affect their readiness to quit and the success of future attempts to quit. Increasing health knowledge is particularly important for this population, as many of these women do not make a serious attempt to quit until they are sick.

This study had some limitations. Although the study design did not intentionally encourage smokers to quit, there may have been a treatment effect leading to a higher quit rate than that

found in an exterior population. Any new smokers initiating tobacco use after the start of the study were not included in the analysis, although we do not believe this would have significantly changed our conclusions. Another potential limitation is that exclusion criteria used in the selection of the Semof population may lied to a small selection bias. However the Semof population was previously compared with the age-matched Swiss general population [29]. The prevalence of smoking (8% versus 7%, respectively), of hysterectomy (23% versus 21%) and the median BMI (25,5 versus 25,2 kg/m2) were similar. These comparisons suggest that the Semof population is similar to the source population. Furthermore, the age at the menopause and the proportion of natural menopause were concordant with previous data [30].

In spite of these limitations, our results indicate many women in this group smoke relatively few cigarettes per day, gravitate towards the "light" brands, and initiated smoking before the age of 25. A significant proportion say they would like to quit. Those who were able to quit during the follow-up period smoked fewer cigarettes per day and had started smoking at a later age, compared with those who did not quit. Older women are not well informed about the health risks of smoking and the benefits of quitting, even at an advanced age. Older women are a group often overlooked in tobacco control, and efforts should be made to tailor interventions appropriately to this group.

Key points

- The great majority of older women smokers have low nicotine dependence.
- Willingness to quit is associated with a low education level.
- The most frequent obstacles to quitting are all based on incorrect information.
- Success in quitting smoking is associated with smoking less than 1 cigarette/day and thinking that quitting is not difficult.

Ethics

Ethical approval was obtained from the Swiss Academy of Medical Sciences.

Funding

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Conflict of interest

There were no conflicts of interest.

Table 1. Smoking characteristics of older women

Characteristic	
Smoking consumption (%)	
≤ 10 cigarettes/day	53
11–20 cigarettes/day	38
21–30 cigarettes/day	8
> 30 cigarettes/day	1
Preferred type of cigarette (%)	
Light	74
Moderate	22
Heavy	4
Reasons to smoke* (%)	
Relaxation	55
Pleasure	33
Habit	30
Well-being	17
Something to do	14
Mental stimulation	12
Time to first cigarette after waking up (%)	
Within 5 minutes	5
6–30 minutes	22
31–60 minutes	31
More than 60 minutes	42
Level of dependence (%)	
Low	78
Moderate/high	22
Number of years since starting smoking (mean ± SD)	51.4 (± 10.3)
Willingness to quit (%)	61
Quit attempt in the past year	34

* Percentages add up to >100 because multiple responses were permitted.

Table 2. Predictors of quitting smoking at enrolment (N=217)

	OR	95% confidence intervals (CIs)
Smoking initiation after 25 years of age	3.48	(1.87, 6.48)
Low education level	2.59	(0.92, 7.26)
Quit attempt in the past year	2.63	(1.39, 4.98)
Belief that it is "difficult" or "very difficult" to quit	3.44	(1.50, 7.88)
Preference for "light" cigarettes	0.50	(0.25, 1.00)

NB: age, profession, smoking dependence, state of health and number of cigarette were not associated with the desire to quit.

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