

Smoking habits in medical students and physicians in Groningen, The Netherlands

H.J. Waalkens*, J. Cohen Schotanus**, H. Adriaanse†, K. Knol*

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ABSTRACT: Smoking habits and attitudes towards smoking of medical students (n=725), house officers (n=126) and consultants (n=236) of the University Hospital of Groningen were studied, in 1989 by means of a World Health Organization (WHO) questionnaire. Overall response rate was 84%. Twenty seven percent of the medical students are current smokers, 28% of the house officers and 34% of the consultants. There is a remarkable difference among medical specialists *i.e.* smoking prevalence is highest among psychiatrists and lowest among paediatricians. The prevalence of smoking in medical students and house officers is lower than in the Dutch population. Smoking habits of the consultants are similar to those of the general population. About 75% of the doctors reported having no experience with smoking cessation programmes. Doctors report a need for more skills and knowledge on smoking cessation programmes.

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* Depts of Pediatrics and ** Medical Education, University Hospital Groningen, The Netherlands.

† Faculty of Health Sciences, University of Limburg, The Netherlands.

Correspondence: K. Knol
Dept of Pediatric Pulmonology
University Hospital, Oostersingel 59
9713 EZ Groningen, The Netherlands.

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In many countries, physicians have played a trend-setting role with regard to the smoking behaviour of the general population [1, 2]. Commencing in the 1950s, the smoking habits of medical doctors in the UK were studied several times in a longitudinal prospective study, which demonstrated a remarkable decrease in smoking prevalence of physicians [3-5]. In the Netherlands, the smoking habits of general practitioners have only been investigated cross-sectionally. So far, it has emerged that until 1983 in the Netherlands more male family doctors used to smoke than males in the general population [6]. In recent years, prevalence of smoking in male family practitioners has decreased [7]. Nothing was known about the smoking behaviour of medical students and consultants in the Netherlands.

In 1983, the World Health Organization (WHO) initiated the programme "Smoking or Health" to focus public attention on the hazards of smoking. In the framework of this programme, a questionnaire was developed to be used in investigations into the smoking behaviour of health professionals [8].

The aim of the present study was to investigate smoking habits of medical students, house officers and consultants of the University Hospital in Groningen, the Netherlands. Comparisons were made with the smoking habits of comparable age groups of the general Dutch population. The data were also compared with smoking prevalences found in the USA and in European countries.

Methods

In 1989, a WHO questionnaire was distributed to medical students, house officers (*i.e.* house physicians, resident doctors - medical doctors training to become consultants), and consultants of the University Hospital of Groningen. The WHO questionnaire consists of 34 questions. Opinion and attitude questions are included, as well as questions about age, sex, past, present, and future smoking habits, and perceptions of the risks of smoking. All medical students present in Groningen were approached during lectures, practicals (preclinical students) and clerkships (interns). In this way, approximately half of the 1,500 medical students in Groningen (n=725) were approached; their response rate was 95%. All house officers (n=194) and consultants (n=381) were approached with the support of the administrative department of the University Hospital of Groningen. House officers and consultants received the questionnaire by mail. A reminder was forwarded after three weeks. In total, there were 1,087 respondents; 725 medical students, (of whom 541 were preclinical medical students and 184 interns), 126 house officers and 236 consultants. Among house officers and consultants the response rate was 65 and 62%, respectively.

Statistical analysis

Data analysis was performed on a computer using SPSS-PX. Differences between groups were analysed using Chi-squared tests.

Results

To analyse the data, the groups under study were segmented using the following variables: gender, age (consultants older or younger than 40 yrs) and smoking status. Smokers were defined as respondents if they gave an affirmative answer to the question "do you smoke at present?", cumulating daily and occasional smokers.

Table 1. - Smoking habits (%) of medical students, house officers and consultants at the University Hospital of Groningen, the Netherlands

	n	Current smokers	Ex smokers	Lifetime nonsmokers
Students				
preclinical	541	26	13	60
interns	184	30	16	54
Physicians				
house officers	126	28	27	45
consultants	236	34	38	28
Students				
male	350	31	17	51
female	373	23	12	65
Physicians				
male	283	37	32	31
female	79	14	40	46

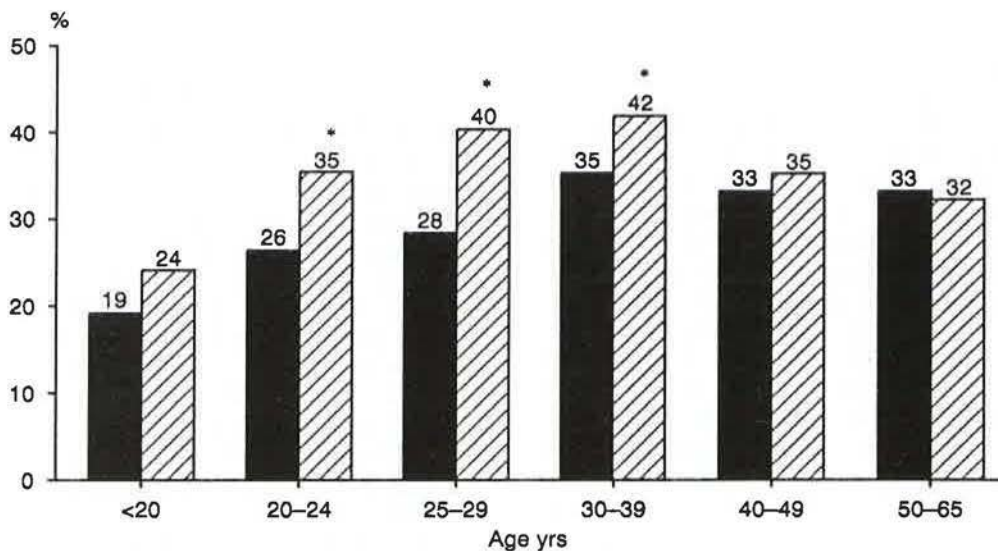


Fig. 1. - Differences in smoking habits between respondents and the general population in various age groups. *: $p < 0.05$ (Chi-squared test). ■: medical students/physicians; ▨: general population.

Prevalence of smoking habits

Table 1 shows the smoking habits in the different groups. Of the preclinical students, 26% were current smokers. The smoking prevalence for the interns was 30%. Of the doctors of the University Hospital 32% are current smokers. Twenty eight percent of the house officers and 34% of the consultants reported that they were currently smoking. The prevalence of smoking is higher in male students and doctors than in their female counterparts (31 and 37% versus

23 and 14%). Compared with the general population, significantly fewer medical students and medical doctors below the age of 40 yrs smoke. In older doctors (age >40 yrs), smoking habits were similar to those in the comparable age group in the general population (fig. 1).

A striking difference in smoking percentages was found between medical specialities. In Groningen, smoking prevalence was highest in psychiatrists (60%, $n=15$). The lowest prevalence was found among paediatricians (15%, $n=27$). Anaesthesiologists (37%, $n=19$), surgeons (35%, $n=37$) and physicians for internal medicine (33%, $n=51$), were found to be in the middle. The other groups of consultants were not analysed separately because of the small number of respondents ($n < 15$).

To check the data of psychiatrists and paediatricians collected by the questionnaire, all doctors of the hospital (respondents as well as non-respondents; response rate 100%) were telephoned, and asked whether they had smoked in the preceding month: 34% answered affirmatively. This percentage did not differ significantly from the 32% of smokers found by the questionnaire.

Forty two percent of the smoking students were found to be relatively heavy smokers (at least 10 cigarettes a day), while 60% of the smoking house officers, and 53% of the smoking consultants smoked

at least 10 cigarettes daily. Pipe smoking was rare and was almost exclusively reported by male consultants.

Motivation for smoking behaviour

The reasons given most frequently were: "I like smoking" (84%), and the fact that "friends smoke" (54%). The desire to belong to a group (34%) and smoking among relatives (12%) seemed to be less

important. Also, current smokers intending to go on smoking, do so because they like it (76%). Seventy two percent of the students intended to continue smoking to be sociable, whereas for physicians this was not important (17%). One third (36%) of the daily smokers continue to smoke because they cannot stop smoking, openly admitting their addiction.

Attitude towards quitting

Reasons for giving up smoking: The main reason for those who stopped smoking, was "to protect my health" (99%). "Not to bother others", was the reason for another two thirds. For half of the ex-smokers, the feeling of addiction to cigarettes was the motive to quit smoking. Medical students frequently mentioned the high price of tobacco products as a factor for quitting (40%). Consultants aged over 40 yrs (63%), in particular reported that they also stopped to set a good example for children and patients. This exemplary role was less frequently mentioned by students and house officers. All groups report that pressure from family or friends hardly influenced their decision to stop.

Trials of present smokers to reduce or give up smoking

When asked to compare their present smoking habits with those of one year ago, half of the current smokers reported no change. In general, the other half had reduced their tobacco consumption to a certain extent, with the exception of first-year students and female doctors. The latter two groups actually smoked more frequently than the year before. Of the daily smokers, 25% never tried to give up smoking, one third tried once, and 42% tried to stop smoking two or more times. Of all respondents, 80% expected to stop smoking within the five years to come. Only 25% of the daily smokers expected to do so.

Perception of exemplary role

Eighty percent of the respondents felt that it is the responsibility of doctors to persuade others to quit smoking. Seventy four percent of the students and 84% of the doctors agreed with the statement that doctors should set an example by not smoking. Only 56% of the smokers agreed with this statement. Forty two percent agreed to the statement "When I give advice to my patients, it is not relevant whether I smoke or not. What matters is what is best for my patients". Of the smokers 62% agreed. Forty four percent of the students, and 60% of the doctors believed their behaviour would not influence patient behaviour if their smoking went unnoticed.

Most students and doctors reported that they did not smoke during encounters with patients. Nevertheless,

12% of the daily smokers reported that they did smoke sometimes while seeing a patient. Eighty one percent of the students and 72% of the doctors did not agree with the following statement: "my knowledge is sufficient to persuade patients to quit smoking". If doctors were familiar with a "good" cessation programme, 70% would sooner advise patients to quit smoking.

In history taking, one third of the doctors did not ask about the patient's smoking habits as a routine. Usually, only patients with symptoms and diseases related to smoking were advised to give up smoking. In addition, about a quarter of the doctors advised patients without such symptoms to quit. It is remarkable that about 75% of the doctors reported not to have any experience with smoking cessation programmes. Only 3% had attempted to make patients participate in a cessation programme.

Legal measures

Approximately 90% of respondents agreed with the legal regulations to prohibit smoking in public places. Almost 80% of the smokers agreed with this regulation. Fifty eight percent of house officers and 67% of consultants would agree with a ban on sales of cigarettes to persons below the age of 16 yrs. About half of the respondents felt that the price of tobacco (in the Netherlands currently two ecu for one packet) should be raised considerably. Only 20% of the smokers agreed with this measure. Forty four percent of the respondents did not agree with the measure to prohibit cigarette vending-machines.

Discussion

Almost all students in the sample returned the questionnaire. Since the group of first-year students, approached during obligatory practical work (response 100%), showed the same smoking prevalence as the other preclinical students, we concluded that our results are representative for the Groningen population of medical students. The response rates of the house officers and consultants to the mailed questionnaire were respectively, 65 and 62%. The percentage of smokers among the respondents of the questionnaire was similar to the percentage of smokers found by means of a telephone interview. Therefore, we regarded the respondents of the questionnaire as representative for the physicians at the University Hospital of Groningen.

In this survey the highest percentage of smokers was found among consultants younger than 40 yrs of age. The lowest number of smokers was found in pre-clinical students. More male respondents smoked than their female counterparts. In the Netherlands, smoking habits of family doctors have been investigated several times. The smoking prevalence in male physicians has decreased slowly since 1957, but until 1983 they smoked more than the general male

population in the Netherlands. Recent research, however, showed that now 29% of the Dutch family doctors smoke [9]. This is a striking decrease, and for the first time male general practitioners smoke less than the general male population. Smoking prevalence was approximately equal between the house officers (28%) who participated in our study and the family doctors. However, in Groningen smoking prevalence was higher in consultants than in the general practitioners in the Netherlands (34 vs 29%). Prior to this study, the smoking behaviour of consultants in the Netherlands had not been investigated. Medical students and young doctors from Groningen smoke less than the comparable age group in the Dutch population.

Compared to other European countries, fewer medical students in Groningen smoked than medical students in 14 other European countries (27 vs 35%) [10]. However, the current smoking rate among Dutch medical students is still much higher than among medical students in England (12%) [9] and the USA (14%) [11]. On the other hand, American medical students relatively frequently reported the use of marijuana (19%) and cocaine (6%). In the Netherlands there are no data about the use of soft and hard drugs by medical students.

More Dutch consultants smoke than their English and American colleagues. In the UK only 3% of the consultants smoked cigarettes in 1988, whilst in the USA between 8 and 17% of the consultants smoked [11-13].

This striking difference in smoking prevalence of medical students and doctors in western European countries on the one hand and in the USA and the UK on the other hand, might be partly attributed to the priority that the fight against smoking has had in the latter countries for many years. In the USA, the Surgeon General's reports and in the UK the trend-setting studies of DOLL and co-workers [3-5], followed by activities of the British Medical Association have played an important role in the change of attitude towards smoking. In order to establish a further decrease in smoking prevalences among the general population in other western countries such as the Netherlands, it is important to publish data concerning smoking prevalence in medical students and doctors and to stress their exemplary role. It has been shown that doctors who smoke are less convinced of their exemplary role and less concerned about the hazards

of smoking than non-smoking doctors [14]. Besides, in our study, doctors reported a need for greater knowledge and skills, in order to help people to quit smoking. We recommend that more attention should be paid to smoking in the education of medical students and in postgraduate education for doctors.

References

1. Rosen C, Ashley MJ. - Smoking and the health profession: recognition and performance of roles. *Can J Publ Health*, 1978, 69, 399-406.
2. Adriaanse H, Van Reek J. - Physicians' smoking and its exemplary effect. *Scand J Prim Health Care*, 1989, 7, 193-196.
3. Doll R, Hill AB. - The mortality of doctors in relation to their smoking habits. *Br Med J*, 1954, 1, 1451-1455.
4. Doll R, Hill AB. - Mortality in relation to smoking: ten years' observations of British doctors. *Br Med J*, 1964, 1, 1399-1410 and 1460-1467.
5. Doll R, Peto R. - Mortality in relation to smoking: 20 years' observations on male British doctors. *Br Med J*, 1976, 2, 1525-1536.
6. Adriaanse H, Van Reek J, Metsemakers J. - Smoking behavior of Dutch general practitioners in the period 1977-1983. *Scand J Prim Health Care*, 1986, 4, 151-156.
7. Annual report Foundation on public health and smoking. The Hague, 1989.
8. World Health Organization. - Guidelines for the conduct of tobacco smoking surveys among health professionals. WHO/SMO 84.1, WHO, Geneva, 1984.
9. Rabier JR. - Le médecin généraliste et la prévention du Cancer. EEG, Brussels, 1989.
10. Tessier JF, Fréour P, Crofton J, Kombou L. - Smoking habits and attitudes of medical students towards smoking and antismoking campaigns in fourteen European countries. *Eur J Epidemiol*, 1989, 5, 311-321.
11. Davies PDO, Rajan K. - Attitudes to smoking and smoking habit among the staff of a hospital. *Thorax*, 1989, 44, 378-381.
12. Fortmann SP, Sallis JF, Magnus PM, Farquhar JW. - Attitudes and practices of physicians regarding hypertension and smoking: the Stanford five city project. *Prev Med*, 1985, 14, 70-80.
13. Garfinkel L, Stelman SD. - Cigarette smoking among physicians, dentists and nurses. *Cancer*, 1986, 36, 2-8.
14. Joosens L, Demedts M, Prignot J, Gyselen A, Bartsch P. - Consonante en dissonante rokers bij het artsenkorps en de algemene bevolking in België. *Tijdschr voor Geneeskunde*, 1987, 43, 1040-1054.