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Smoking Behaviour of Dutch General Practitioners in the Period 1977-1983

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Between 1977 and 1983 roughly half of the Dutch general practitioners were smokers. The percentage of smokers was decreasing, both among general practitioners and in the general Dutch population. The number of smoking male general practitioners was higher than for men in general and considerably higher than in the highest socioeconomic bracket. Among general practitioners the daily consumption of manufactured and handrolled cigarettes was lower while the cigar consumption was higher. In most countries physician smoking behaviour antedates that of the general population but in Holland general practitioners' smoking habits are about four years behind that of the general population. It seems that Dutch general practitioners attribute little value to the role of setting an example in health behaviour, especially where it concerns their own smoking habits.

Key words: smoking, general practitioners, exemplary role.

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The influence of various aspects of the life-style on health can be discussed extensively but few people deny the fact that smoking is unhealthy. Smoking is so unhealthy that even inhaling other people's smoke is damaging to the health. Under influence of anti-smoking information and in spite of the promotion of tobacco relating it to sportivity and hedonism, the percentage of smokers among males decreased in the Netherlands by one per cent during the period 1958-1970, and even by two per cent per year in the period 1971-1983 (1).

In many countries physicians perform a trendsetting role with regard to the smoking behaviour of the general population. This is illustrated by the earlier decrease of smoking prevalences for medical professionals than in the general population (2, 3). In the Netherlands, this is not the case (4, 5).

Based on data obtained in surveys in the period 1977-1983, Dutch general practitioners' smoking behaviour will be compared to the general population's smoking behaviour, and to that of the corre-

sponding socioeconomic bracket. Comparison with the general population is relevant because general practitioners should set a good example to the general population so that no credibility gap arises (6, 7, 8, 9). Comparison with the corresponding socioeconomic bracket will reveal to what extent general practitioners accept this exemplary role in relation to smoking habits. Furthermore, we deal with the question whether the Dutch general practitioner aims at fulfilling this role (5, 10).

The Exemplary Role

In various countries surveys have been carried out in order to answer the question to what extent general practitioners aspire to fulfil the exemplary role by not smoking. Table I summarizes some results of these studies in chronological order. The low percentage of 38% in the Netherlands is in accordance with earlier results published by Dekker (11): "General practitioners have no high esteem about the consequences of their own exam-

Table I. *Recognition of the exemplary role*
References in brackets

Author(s)	Country	Year of publ.	Percentage of recognition of the exemplary role
Noll (19) Centers for Disease Control (20)	USA	1969	78
Jamrozik and Fowler (13)	USA	1975	91
Adriaanse et al. (5)	UK	1982	84
	Neth.	1984	38

ple." When asked for the reasons to stop smoking two per cent of the general practitioners said: "to show a good example myself".

A survey by Adriaanse et al. (5) in 1983 measured the interest of Dutch general practitioners to fulfil the exemplary role in the relation to health behaviour in general. In 23% of the cases Dutch general practitioners appeared clearly to recognize a trend-setting role on an index containing items such as health behaviour in general (smoking, alcohol consumption, nutrition, obesity and life-style). Smoking general practitioners scored significantly lower on the exemplary role index. However, the exemplary role is only partially determined by the opinion about the function the general practitioner should or could fulfill, behaving as a role model; we think that the factual behaviour, i.e. the smoking

habit, is more important. Therefore, Table II gives an overview of the smoking prevalences of physicians or general practitioners and the general population in various countries in the same period.

From Table II we draw the conclusion that Dutch general practitioners' smoking behaviour is an unfavourable exception among their foreign colleagues. Dutch general practitioners are on the smoking level that Doll & Peto found in 1951 for English general practitioners (12), now decreased to 22% (13).

In this article we use our own data (4, 5) and data from recent studies carried out by others in the Netherlands (14, 15) (Table III). Our intention is not to carry out a mere re-interpretation but a trend-analysis of the development of general practitioners' smoking habits, the corresponding population group and the general population. The number of publications on this topic has been scarce, and to some extent of limited value. The first limitation is that the percentage of smokers and ex-smokers and the consumption of tobacco are being published without any differentiation. For the percentage of smokers, however, this is not disturbing, because these percentages—in spite of variations in data-collection—are valid and comparable.

Generally a regular smoker is defined as a person smoking at least one cigarette, manufactured or handrolled, cigar or pipe per week (16). Ex-smoking and consumption of tobacco is often underreported (2, 17), if controlled by means of tax income. Because of the fact, that general practitioners know more about the devastating effects of smoking, their underreporting could differ from that of the

Table II. *Physicians' smoking behaviour in the period 1977–1983 (percentages)*

References in brackets

Year	Author(s)	Physician type	Country	Sample	Current smokers	Never-smokers	Ex-smokers
1977	Centers for Disease Control (20)	All	USA	5 000	21 (39) ^a	42	37
1977	Aarø et al. (21)	All	Norway	740	35 (53)	37	28
1978	Dept. Health and Social Security (22)	GP	UK	260	21 (45)	37	42
1982	Glanz et al. (8)	All	USA	696	19 –	63	18
1982	Jamrozik & Fowler (13)	GP	UK	360	22 (38)	39	39
1983	Seiler (23)	All	Ireland	607	19 –	46	35
1984	Adriaanse et al. (5)	GP	Neth.	100	56 (44)	17	27

^a Percentage of male smokers in brackets.

Table III. Survey studies on smoking behaviour of representative samples of Dutch general practitioners
References in brackets

Year of study	Author(s)	Number of respondents	Method
1977/1978	Vandenbroucke et al. (14)	377	Mailed questionnaire
1981	Adriaanse et al. (4)	74	Personal interview
1982	Lens (15)	280	Mailed questionnaire
1983	Adriaanse et al. (5)	100	Personal interview

general population. However, the data of general practitioners have not been corrected so that only global conclusions about their former smoking habits and their tobacco consumption can be drawn, informing about trends but not about exact consumption levels. Another limitation is that differences in smoking behaviour in various social categories hardly or never are subjected to statistical tests. Only Lens (15) tests the differences found. However, his chi-square analysis of differences is not successful because some characteristics of smoking behaviour are analyzed simultaneously instead of separately.

For this article we chose a simple solution: confidence limits or reliability intervals are mentioned (at $p < 0.05$). If intervals do not overlap, the difference is significant. The use of the statistic testing by means of confidence limits or reliability intervals is advised by the WHO in the "Guidelines for Conduct of Tobacco-smoking Surveys among Health Professionals" (18). For the comparison in this article males aged 21–65 years in both the general population and in the highest socioeconom-

ic bracket were sampled. The data have been calculated by means of NIPO-1978 ($N=15\,466$); NIPO-1981 ($N=15\,000$); NIPO-1982 ($N=13\,841$) and NIPO-1983 ($N=16\,133$). In 1978 another socioeconomic classification was used including some persons from the middle socioeconomic bracket into the highest socioeconomic bracket.

RESULTS

Table IV gives an overview of the percentages of smokers, ex-smokers and never-smokers among general practitioners, the male general population of 21–65 years and the male population in the highest socioeconomic bracket.

The percentages mentioned in Table IV are the uncorrected percentages of ex- and never-smokers. The corrected percentage of never-smokers among males aged 21–65 years, shows an increase of four per cent in 1958 to 14% in 1972, and to 28% in 1982 (16), and the uncorrected percentage of 40% in 1982.

It appears that in the period 1978–1983 over 50%

Table IV. A comparison between the smoking behaviour of Dutch general male practitioners and in the (percentages and reliability intervals at $p \leq 0.05$) population

References in brackets. GP=general practitioners, M=males of 21–65 years, MHSB=males of 21–65 years in the highest socioeconomic bracket

Year of research	Percentage of smokers			Percentage of ex-smokers			Percentage of never-smokers		
	GP	M	MHSB	GP	M	MHSB	GP	M	MHSB
1977/78 (14)	64±5	56±1	53±3	20±4	16±1	20±2	16±4	28±1	27±2
1981 (4)	51±11	47±1	45±3	31±11	17±1	23±2	18±9	36±1	32±3
1982 (15)	48±6	41±1	39±3	24±5	19±1	27±3	28±5	40±1	35±3
1983 (16)	56±10	44±1	37±3	17±7	15±1	28±3	27±9	41±1	35±3

^a Corrected percentages.

Table V. Percentages of consumers per smoking article within the category of smokers. The Netherlands, 1983

Type of tobacco	Group of smokers		
	General practitioners (21-65 years) (n=56) (5)	General population (21-65 years) (n=3 562)	Highest socioeconomic bracket (21-65 years) (n=613) (NIPO, 1983)
Cigarette	46	59	55
With filter	24	22	24
Low nicotine	6	5	7
Hand-rolled tobacco	20	59	30
Cigar	50	25	37
Pipe	20	9	20

of the Dutch general practitioners smoked. The results based on the larger samples of 1977/1978 and 1982 suggest a slight decrease in the percentage of smokers. The percentage of smoking general practitioners is about eight per cent higher than in males of 21-65 years. There is a downward trend in both groups. Here, however, the study is hampered by the short period of time; 41% smokers among males aged 21-65 years in 1982, probably is too low. This is confirmed by the NOP survey 1982 which finds a current smokers' rate of 48%. Furthermore, the percentage of smokers is about 19% higher among general practitioners than among males aged 21-65 years in the highest socioeconomic bracket. Current smokers' rate of general practitioners, the male general population and those in the highest social bracket differ significantly, which is shown by the fact that there is no overlap in the reliability intervals except for 1981. The decrease is strongest in the higher social strata.

TOBACCO-CONSUMPTION

By means of the data from 1981 and 1983 (4, 5) the daily consumption of manufactured and hand-rolled cigarettes can be estimated to be nine pieces among general practitioners and 15 pieces among males aged 21-65 years. However, the latter number is underreported: we presume that only 65-70% of the real consumption is reported.

In comparison with males aged 21-65 years, general practitioners as well as males in the highest socioeconomic bracket prefer cigars and pipe tobacco instead of handrolled cigarettes. General practitioners, however, smoke more cigars and

pipe and the same amount of low nicotine content and filter cigarettes (5, 17).

The average consumption of cigars per smoker among general practitioners is two per day and a factor 10 lower among males aged 21-65 years. Because cigars' and pipe content of tobacco weighs about three grams and a cigarette one gram, the consumption of tobacco in cigarettes, handrolled cigarettes and cigars and pipe per smoker can be estimated to be 15 grams per day both among general practitioners and males of 21-65 years.

DISCUSSION

The changes in smoking behaviour of Dutch general practitioners in the period 1978-1983 were surveyed. The current smokers' rate decreased, but it still was higher than among Dutch males and considerably higher than among males in the highest socioeconomic bracket, as can be seen in Table IV. This last fact is in accordance with the study of Lens (15) who found that the percentage of smokers among general practitioners is higher than among dentists. Because of the fact that the decrease of the percentage of smokers among males is two per cent per year in the highest socioeconomic bracket, it can be said that general physicians' smoking prevalence is lagging behind by four years, compared to men (aged 21-65) in general, and by six years compared to men in the highest social bracket.

General practitioners' statements about former smoking behaviour might be more valid assuming that their knowledge of the risks of smoking results in a more reliable reminiscence. Reversely, general

practitioners might be more influenced by what is socially desirable. As yet, there is no certainty on the direction of the resulting distortion.

An important explanation of the big difference between uncorrected and corrected former smoking rates is that ex-smokers who stopped smoking more than 10 years ago, forget much of their former smoking behaviour. It seems probable that the percentage of never-smokers has also increased among general practitioners. From this point of view the percentages of never- and ex-smokers found seem to be valid. This impression is supported by the fact that about half of the ex-smokers allegedly have stopped smoking more than 10 years ago. However, no certainty about this can be obtained, so that the obvious hypothesis that the percentage of ex-smokers in general practitioners is lower than in males of 21–65 years could not be tested.

On the basis of the data concerning general practitioners' smoking behaviour in various countries we showed that the smoking rate of Dutch general practitioners compared to that of foreign colleagues, is generally higher. Almost everywhere the prevalence in foreign general practitioners is lower than in the general male population in Western countries, except for Spain and The Netherlands (3). It is striking that cigarette consumption in British general practitioners decreased considerably in the period 1951–1971, the decrease being quicker than in the male population of the same age (12, 13).

Vandenbroucke et al. (14) supposed that general practitioners' smoking behaviour might give the best impression of what a maximally informed population group is willing to do and to refrain from on the basis of knowledge of the hazards of smoking. However, the big differences in general practitioners' smoking behaviour worldwide (6) show that this line of reasoning is not relevant for the Dutch situation.

The general practitioner does not show a good example by smoking less cigarettes and more cigars or pipes. On the contrary, intensive smoking of cigars and/or pipes also enhances the risk of lung cancer. The Dutch general practitioner considers the exemplary role a less important part of his/her task (9, 11) than foreign colleagues do (8, 19); the proportion of physicians admitting smoking in front of their patients (31%) or offering cigarettes (10%) reinforces this impression (11). This might explain the high smoking rates of Dutch general practitioners in comparison with the general population and

foreign colleagues. As yet, there is no decisive evidence about the real effect of the smoking behaviour of general practitioners on the smoking behaviour of his/her patients: experimental studies are necessary to establish this effect. Concluding, it should be said that Dutch general practitioners are far from fully exploiting their potential with regard to their patients' smoking cessation and reinforcement of smokefree environment, thus withholding considerable health benefits for themselves and their patients.

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