

# SMOKING BEHAVIOR AND OPINIONS OF FRENCH GENERAL PRACTITIONERS

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This report examines smoking prevalence, sociodemographic factors, and the opinions of French general practitioners (GPs) about tobacco control policies. Data from the CFES (Comité Français d'Éducation pour la Santé) national survey on general practitioners included 1013 respondents. The questionnaire was administered by telephone and a response rate of 65% was attained. Instrumentation included variables related to medical practice, sociodemographic characteristics, and opinions about health behavior.

Thirty-four percent of physicians were current smokers. A higher proportion of males smoked compared to women (36.1% vs. 24.9%,  $p < 0.01$ ), and they consumed on average more cigarettes per day (11.2 vs. 8 cigarettes/day,  $p < 0.05$ ). Slightly more than 52% of physicians regarded their role in reducing nicotine addiction to be important. Doctors who believed that the physician's role was limited were less likely to advise pregnant women to stop smoking (odds ratio = 0.39,  $p < 0.001$ ), and nonsmokers were more supportive of bans on smoking in public places.

Despite the high prevalence of smoking among French physicians, they can still play an important role in reducing smoking among their patients. Medical school curriculum and continuing medical education programs focusing on prevention and cessation in France should be strengthened to help reduce smoking rates among physicians and the general population. (*J Natl Med Assoc.* 2000;92:382-390.)

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**Key words:** France ♦ French physicians ♦ smoking behavior

International studies generally have found that cigarette smoking among physicians varies according to sociodemographic and professional characteristics: younger physicians smoke less than older

ones<sup>1-3</sup>; and male physicians smoke more often than women physicians.<sup>4-6</sup> It has also been shown that a decline in smoking among physicians often precedes a reduction in smoking prevalence among the general population.<sup>7,8</sup>

Russell and colleagues<sup>9</sup> demonstrated in the 1970s that physicians could have a significant impact on the smoking behavior of their patients. A number of clinical trials have also shown that patients are strongly influenced by their physicians regarding tobacco consumption because of the status of medical practitioners and the knowledge they have about health issues,<sup>10,11</sup> intervention strategies used by physicians to motivate patients to stop smoking,<sup>12,13</sup> as well as the political and social influence of doctors with respect to tobacco control policies.<sup>14,15</sup>

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**Table 1. Sociodemographic Characteristics, Smoking Practices, and Opinions of French General Practitioners**

	Respondents (%)
Age category (years)	
40 and less	40.1
More than 40	59.9
Gender*	
Male	82.0
Female	18.0
Marital status*	
Married/partnered	87.8
Unmarried/not partnered	12.2
Children under 18 years old*	
0	27.1
1	18.6
2 or more	54.3
Do you currently smoke?*	
Yes	34.1
No	65.9
Cigarettes per day?†	
15 or less	74.9
More than 15	25.1
Former smoker‡	
Yes	49.7
No	50.3
Have you ever tried to stop smoking?†	
Yes	66.4
No	33.6
Physician's role regarding nicotine addiction is:*	
Important/very important	52.4
Limited	47.6
Do you think no smoking in public places is a good thing?*	
Agree	92.2
Disagree	7.8
Recommend to pregnant patients to stop smoking?*	
Always	91.6
According to the person	8.4

\*n = 1013 respondents. †n = 345 respondents. ‡n = 665 respondents.

In 1997, approximately 174,000 physicians were practicing medicine in France. Of the 87,000 general practitioners (GPs) working in France, 77% were in solo or private group practice (i.e., *activité libérale*). Two-thirds of the GPs were between 35 and 49 years old and less than one-third were women.<sup>16</sup> Most French patients visit a physician at least three times a year,<sup>17</sup> and the physician population ratio for "*activité libérale*" physicians was 114.3 GPs per 100,000 habitants.<sup>16</sup>

Using national survey data from the Comité Français d'Éducation pour la Santé (CFES) in Paris, France, this study examines smoking prevalence, sociodemographic factors, and the opinions of French GPs (i.e., *activité libérale*) about smoking policies. In addition, we compare these findings to smoking among physicians in Europe and the United States. Previously published studies on the smoking behavior of French physicians have either relied on less current data or have only examined medical specialists. These results may have important public health implications regarding the need for smoking interventions for both French physicians and patients.

## METHODS

Data from the CFES national survey on GPs included 1013 respondents. The sample of solo and group practitioners was randomly selected from a nationally representative database of GPs in France maintained by a pharmaceutical firm. Each eligible physician received a prenotification letter indicating the purpose of the survey and the sponsorship. The response rate was approximately 65%, which is similar to other studies of physicians.<sup>18,19</sup> Information on the CFES survey design and strategies has been published elsewhere.<sup>20</sup>

The survey was conducted by a professional research firm, and the questionnaire was administered, after a pilot test, in the fall of 1994 using a computer-assisted telephone interviewing (CATI) system. Interviewers were specifically trained to obtain information from physicians, and up to eight CATI calls were attempted during different time periods before contacts were terminated.

Instrumentation included variables related to medical practice, sociodemographic characteristics, and opinions about health behavior. Questions on cigarette smoking referred primarily to smoking status, frequency of smoking, attempts to quit, smok-

**Table 2. Smoking Variables by Sociodemographic Characteristics of French General Practitioners**

	(Cigarettes/day)*		Means (Cigarettes/day)†	Current Smokers <sup>1</sup> (%)	Former Smokers <sup>1</sup> (%)
	≤15	>15			
Age category (years)					
40 and less	79.5	20.5	9.6‡	33.7	33.2¶
41 and more	71.8	28.2	11.7	34.3	61.0
Gender					
Male	73.9	26.1	11.2‡	36.1§	52.3§
Female	80.0	20.0	8	24.9	39.7
Marital status					
Married/partnered	76.4	23.6	10.4#	33.6	51.2‡
Unmarried/not partnered	64.1	35.9	13.3	38.0	37.3
Children under 18 years old					
0	75.3	24.7	11.4	33.6	48.1
1	67.2	32.8	11.6	32.8	53.5
2 or more	77.4	22.6	10.2	34.8	49.0
Have you ever tried to stop smoking?					
Yes	74.2	25.8	11.2		
No	76.2	23.8	9.8		

\*Cross-tabulation.

†t-test.

‡p &lt; 0.05; § p &lt; 0.01; ¶p &lt; 0.001.

**Table 3. Physicians Opinions and Smoking Status**

	Do you smoke?*		Means (Cigarettes/day)†
	Yes (%)	No (%)	
Physician's role regarding nicotine addiction is:			
Important/very important	37.4	62.6‡	11.1
Limited	42.4	50.2	10.4
Do you think no smoking in public places is a good thing?			
Agree	32.6	67.2§	10.0¶
Disagree	50.0	50.0	16.9
Recommend to pregnant patients to stop smoking			
Always	32.5	67.5‡	10.8
According to the person	46.0	54.0	10.6

\*Chi-square test, one degree of freedom.

†t-test.

‡p &lt; 0.05; §p &lt; 0.01; ¶p &lt; 0.001.

ing advice to pregnant women, and opinions about smoking in public. The dependent variables were current smoking status and number of cigarettes smoked per day by smokers. Smoking status was defined as presently smoking cigarettes even on an occasional basis and consisted of smokers and non-

smokers. Frequency of smoking referred to the number of cigarettes consumed daily and was divided into two categories: 15 and fewer cigarettes per day and greater than 15 cigarettes per day. Consistency of advising pregnant women to quit smoking was defined as always recommending or

**Table 4. Multiple Logistic Regression Analysis of Sociodemographic Characteristics, Smoking Practices, and Opinions of French General Practitioners**

	Do you smoke?*	Number of cigarettes/day†	No smoking in public place‡
	OR (95% CI)	OR (95% CI)	OR (95% CI)
Age (years)			
40 or younger	1.00	1.00	1.00
41 and more	0.95 (0.72, 1.27)	1.45 (0.80, 2.63)	1.59 (0.91, 2.76)
Gender			
Male	1.00	1.00	1.00
Female	0.56 (0.38, 0.82)	0.67 (0.28, 1.61)	0.56 (0.25, 1.25)
Marital status			
Married/partnered	1.00	1.00	1.00
Unmarried/not partnered	1.39 (0.91, 2.11)	2.03 (0.94, 4.38)	0.89 (0.41, 1.94)
Children under 18			
0	1.00	1.00	1.00
1	1.02 (0.68, 1.53)	1.61 (0.74, 3.51)	1.18 (0.62, 2.27)
2 or more	1.10 (0.79, 1.53)	1.11 (0.56, 2.22)	0.66 (0.37, 1.18)
Physician's role regarding nicotine addiction is:			
Limited			1.00
Important/very important			0.87 (0.53, 1.42)
Recommend pregnant patients stop smoking?			
Always			1.00
According to the person			1.95 (0.96, 3.96)
Do you smoke?			
Yes			1.00
No			0.47 (0.29, 0.76)

\*The dependent variable was current smoker vs. nonsmoker (never/former). The referent category was smoker.

†The dependent variable was  $\leq 15$  cig/day vs.  $> 15$  cig/day. The referent category was  $\leq 15$  cig/day.

‡The dependent variable was agree/vs. disagree. The referent category was all agree.

recommending according to the person. Support for nonsmoking policies in public was recategorized as agree or disagree. Demographic variables included in this analysis were limited to age (i.e., 40 years or younger and greater than 40), gender, marital status (i.e., married/partnered and unmarried/unpartnered), and number of children (i.e., no children, one child, and two or more children).

Statistical analysis included descriptive statistics (i.e., frequency distributions and cross-tabulations) and multivariate logistic regression (MLR) analysis. MLR was conducted to assess the simultaneous effects of multiple predictors on each of the dependent variables. The Statistical Packages for the So-

cial Sciences (SPSS) computer program was used to conduct the analysis.

## RESULTS

The average age of male GPs was 43.9 years (SD: 7.8 years) compared to 39.6 (SD: 7.8 years) for women. The vast majority of respondents were married or partnered (87.8%) and 72.9% had children (Table 1).

As shown in Table 1, 34.1% of physicians in this survey currently smoked cigarettes. Two-thirds of current smokers have already attempted to quit smoking, and one-third of GPs have never smoked. A significantly higher proportion (36.1%) of male

**Table 5. MLR Analysis of Sociodemographic Characteristics and Opinions of French General Practitioners**

	Recommend to pregnant patient to stop smoking* OR (95% CI)	Role GP in smoking prevention† OR (95% CI)
Age categories (years)		
40 or younger	1.00	1.00
41 and more	0.60 (0.37, 0.96)	1.27 (0.96, 1.67)
Gender		
Male	1.00	1.00
Female	0.86 (0.46, 1.59)	1.02 (0.74, 1.46)
Marital status		
Married/partnered	1.00	1.00
Unmarried/not partnered	1.30 (0.64, 2.60)	0.61 (0.40, 0.92)
Children under 18		
0	1.00	1.00
1	0.85 (0.40, 1.84)	0.76 (0.52, 1.12)
2 or more	1.13 (0.62, 2.05)	0.87 (0.61, 1.19)
Do you smoke?		
Yes	1.00	1.00
No	0.60 (0.38, 0.95)	1.35 (1.04, 1.77)
Physician's role regarding nicotine addiction is:		
Important/very important	1.00	
Limited	0.39 (0.24, 0.65)	

\*The dependent variable was always vs. according to the person. The referent category was always recommend.

†The dependent variable was important/very important vs. limited. The referent category was important/very important.

physicians were smokers compared to women (24.9%,  $p < 0.01$ , Table 2). There was no statistically significant difference in the current smoking status of younger ( $\leq 40$  years old) and older doctors ( $> 40$  years old) (Table 2).

About 75% of current smokers consumed less than 15 cigarettes per day, and the mean was 10.8. Age was a significant predictor of the number of cigarettes smoked daily, with older doctors smoking a higher mean number of cigarettes per day than younger physicians (9.6 vs. 11.7,  $p < 0.05$ , Table 2). Male practitioners reported smoking on average 11.2 cigarettes daily compared to women who consumed 8 cigarettes per day ( $p < 0.05$ , Table 3).

A majority (52%) of respondents indicated that the physician's role regarding nicotine addiction is important or very important. Physicians who were nonsmokers were more likely than current smokers to agree with a no smoking policy in public places ( $p < 0.01$ ), and among current smokers those who smoked fewer cigarettes per day were more likely to

agree with this statement (10 vs. 16.9 cigarettes/day,  $p < 0.001$ , Table 3). More than 90% of GPs reported they always recommended that their pregnant patients should quit smoking.

The MLR analysis presented in Tables 4 and 5 included the dependent variables of current smoking status, number of cigarettes smoked daily, support for nonsmoking in public places, advice for pregnant women, and GPs' opinions about their role in nicotine addiction. The MLR results (Table 4) showed that, after controlling for other variables in the model, women GPs were significantly less likely (odds ratio [OR] = 0.56; 95% confidence interval [CI] = 0.38, 0.82;  $p < 0.05$ ) than male physicians to be smokers. In the model predicting agreement on nonsmoking policies in public places, French physicians who were nonsmokers were twice as likely as smokers to agree with that position (OR = 0.47; 95% CI = 0.29, 0.76;  $p < 0.01$ ). Doctors who believed that the role of the physician was limited regarding nicotine addiction were less likely

Table 6. Cigarette Smoking by Physicians by Country

Country	Authors	Year	Physicians	Smokers	% in general population <sup>30</sup>
Europe†					
Austria <sup>31</sup>	Trinker M, et al.	1997	GP	14%	M: 42% W: 27%
Czech Republic <sup>32</sup>	Widimsky J, et al.	1992	All physicians	M: 24.2%* W: 27.4% n = 673	M: 43% W: 31%
Denmark <sup>33</sup>	Madsen M, et al.	1989	All physicians	M: 23% W: 15% n = 2,606	M: 37% W: 37%
France <sup>2</sup>	Tessier J, et al.	1996	Cardiologists	27% n = 730	M: 36% W: 23%
Great Britain <sup>25</sup>	Shine G, et al.	1997	All physicians	W: 5.3% n = 2,859	M: 28% W: 26%
Greece	Polyzos A, et al.	1995	Hospital's physicians	48.6% n = 148	M: 46% W: 28%
The Netherlands <sup>35</sup>	Adriaanse H, et al.	1990	GP	29%	M: 36% W: 29%
The Netherlands <sup>36</sup>	Waalkens HJ, et al.	1992	Medical student	27% n = 609	M: 36% W: 29%
Norway <sup>37</sup>	Aasland OG, Nylenna M	1997	GP	M: 27% W: 17% n = 1,047	M: 36.4% W: 35.5%
Poland <sup>38</sup>	Goreka D, et al.	1991	Pulmonologists	M: 38% W: 29% n = 850	M: 51% W: 29%
Spain <sup>39</sup>	Mengual P, et al.	1996	Hospital's physicians	42% n = 250	M: 48% W: 25%
United States					
US <sup>7</sup>	Scott HD, et al.	1992	All physicians	M: 4.7% W: 3.7% n = 2,341	
US <sup>1</sup>	Nelson DE, et al.	1994	All physicians	3.3% n = 242	M: 27.7% W: 22.5%
US <sup>24</sup>	Franck E, et al.	1998	All physicians	W: 3.7% n = 4,501	
South America					
Brazil <sup>40</sup>	Mirra AP, Rosemberg J	1997	All physicians	6.4% n = 11,909	M: 39.6% W: 25.4%
Chili <sup>41</sup>	Cornejo E, et al.	1994	All physicians	M: 40.2% W: 23.8% T: 36% n = 288	M: 37.9% W: 25.1%
Mexico <sup>42</sup>	Tapia-Conyer R, et al.	1997	All physicians	26.9% n = 3,488	M: 38.3% W: 14.4%

to advise pregnant women to stop smoking (OR = 0.39; 95% CI = 0.24, 0.65;  $p < 0.001$ ).

## DISCUSSION

In 1966, 65% of French male GPs smoked cigarettes, and this proportion has decreased by 1%–2%

annually.<sup>21</sup> This present study found that cigarette smoking prevalence among French GPs was 34.1%. Proportionally, male physicians were significantly more likely to smoke and consume a higher mean number of cigarettes per day than were female doctors. This study also found that physicians who

Table 6. (Continued)

Country	Authors	Year	Physicians	Smokers	% in general population <sup>30</sup>
Other Countries					
China (Hong Kong) <sup>6</sup>	Cheng KK, Lam TH	1990	All physicians	M: 7% W: 0% n = 151	
Japan <sup>43</sup>	Audet B	1994	All physicians	44%	M: 59% W: 14.8%
New Zealand <sup>3</sup>	Hay DR	1998	All physicians	M: 5% W: 5% N = 7,335	M: 24% W: 22%
Saudi Arabia <sup>44</sup>	Saeed AA	1991	All physicians	M: 48% W: < M (no %) n = 698	M: 52.7%

\*M: men smoking prevalence; W: women smoking prevalence.

†From the World Health Organization Europe (Masironi, 1991)<sup>45</sup>: In the United Kingdom and Scandinavian countries, 13%–15% of physicians smoke. In Italy, Greece, and Spain about 40% of physicians smoke.

smoked more frequently were also more likely to attempt to quit smoking. With regard to opinions about public policies and smoking, the adjusted MLR revealed that nonsmokers were more likely than smokers to agree with policies against smoking in public places. Also, physicians who viewed their role as limited with regard to the nicotine addiction of their patients were less likely to recommend to their pregnant patients to stop smoking.

In a 1987 survey, Tredaniel et al.<sup>22</sup> reported that 37% of all GPs in France smoked but found no statistically significant difference between men and women physicians. When compared to the Tredaniel et al. study, our results indicate that the decline between 1987 and 1994 in smoking was greater among women (from 29.1% to 24.9%) than among male GPs (36.7% vs. 37.6%). This comparison suggests that the overall decrease in the smoking prevalence of French GPs was primarily due to a greater reduction in smoking among women physicians than their male counterparts. Moreover, these data revealed that the smoking rate (24.9%) among French women GPs was less than French women of similar socioeconomic status (31.4%).<sup>23</sup> Notwithstanding, the smoking rate of French women physicians vastly exceeds those in countries such as the United States (3.7%) and Great Britain (5.3%).<sup>24,25</sup>

As presented in Table 6, studies indicate that physicians' smoking behavior varies cross-nationally, and countries with high physician smoking rates generally tend to have higher population smoking

prevalence. Comparatively, smoking prevalence among French doctors is much higher than the rate among U.S. physicians and those in some other countries. For example, one-third of U.S. physicians in 1963 were reported as smokers compared with 18% in 1974, 4.6% in 1988, and less than 4% in the 1990s.<sup>1,7</sup>

Currently about one-third of the French population smoke cigarettes.<sup>26</sup> The health impact of smoking in France has been much greater on men than on women, because they have been smoking for a much longer period of time. Consequently, current rates of lung cancer and other smoking-related maladies among women are much lower.<sup>27</sup> Due to the high prevalence of smoking among younger French women, it is expected that future smoking-related morbidity and mortality will increase much more drastically among French women than men.<sup>27</sup> Despite the high prevalence of smoking among French physicians, they can still play an important role in reducing smoking among their patients. However, maximizing the potential for physician-delivered cessation interventions may require substantially reducing the prevalence of smoking among French GPs.

Another consideration is the time constraints and the lack of reimbursement for preventive services or interventions such as smoking cessation. There are no known studies of French physicians regarding these issues, and thus additional research is warranted.

Study limitations include self-reported data on smoking behavior; however, other studies have found that self-reports are as reliable as biochemical validation.<sup>27</sup> In addition, because some GPs were not part of the sampling frame maintained by the pharmaceutical industry, the sample may slightly underrepresent the behavior and opinions of all French GPs. Also, the questionnaire did not include items that could help further explain the smoking behavior of respondents. More recent data may reveal other changes in smoking behavior and opinions about tobacco control policies among French doctors.

Many physicians may underestimate their influence on patient smoking behavior.<sup>13,28</sup> Studies have shown that physicians (including smokers) who were specially trained in smoking cessation techniques can be effective in advising patients to stop smoking and help prevent relapse by providing several types of support (e.g., follow-up appointments, telephone calls).<sup>28-30</sup> In this regard, medical school curricula and continuing medical education programs focusing on French physician smoking behavior as well as patient smoking cessation techniques should be strengthened to help reduce smoking rates among physicians and the general French population.

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