

# Asia-Pacific Journal of Public Health

<http://aph.sagepub.com>

---

## **Cigarette Smoking Status and Smoking Cessation Counseling of Chinese Physicians in Wuhan, Hubei Province**

Han Zao Li, Weixing Sun, Fangmei Cheng, Xiangrong Wang, Weiping Liu and Aisheng Wang  
*Asia Pac J Public Health* 2008; 20; 183 originally published online May 13, 2008;  
DOI: 10.1177/1010539508317821

The online version of this article can be found at:  
<http://aph.sagepub.com/cgi/content/abstract/20/3/183>

---

Published by:



<http://www.sagepublications.com>

On behalf of:



[Asia-Pacific Academic Consortium for Public Health](http://www.aph.sagepub.com)

**Additional services and information for *Asia-Pacific Journal of Public Health* can be found at:**

**Email Alerts:** <http://aph.sagepub.com/cgi/alerts>

**Subscriptions:** <http://aph.sagepub.com/subscriptions>

**Reprints:** <http://www.sagepub.com/journalsReprints.nav>

**Permissions:** <http://www.sagepub.com/journalsPermissions.nav>

**Citations** <http://aph.sagepub.com/cgi/content/refs/20/3/183>

# Cigarette Smoking Status and Smoking Cessation Counseling of Chinese Physicians in Wuhan, Hubei Province

Han Zao Li, PhD, Weixing Sun, MD, Fangmei Cheng, MD,  
Xiangrong Wang, MD, Weiping Liu, MD, and Aisheng Wang, MD

Among the 347 physicians surveyed, 58% of the male physicians and 18.8% of the female physicians were current cigarette smokers; 54.4% of the male and 70.4% of the female physicians often or always provided smoking cessation counseling for patients; 37.5% of the physicians thought that for a Chinese smoker, cigarette smoking served as a social lubricant; 31.5% thought it a habit; 21.7% thought it a stress reliever; and 9.2% thought it a social status symbol. The following 5 variables were significantly associated with physicians' smoking cessation counseling frequency: their smoking status, perceived success in their past counseling, perceived influence, perceived exemplary role, and perceived responsibility. To increase physicians' smoking cessation counseling, the Chinese Ministry of Health would need to discourage physicians to smoke and appeal to their sense of responsibility to help patients quit smoking.

**Keywords:** cigarette smoking among physicians; smoking cessation; smoking cessation counseling; cigarette smoking in China

Although cigarette smoking is a known cause for a number of diseases, such as lung cancer,<sup>1,2</sup> cardiovascular diseases,<sup>3</sup> and bladder cancer,<sup>4,5</sup> the prevalence of smoking in China remains as high as before. A nationwide survey of Chinese adults revealed that prevalence was 63% among men and 3.8% among women in 1996<sup>6</sup> and 66% among men and 3.08% among women in 2002.<sup>7</sup> The prevalence is even higher in regional studies in which it was found that 70% to 87% of Chinese males smoked.<sup>4,8</sup>

Physicians can play an important role in assisting smokers to quit.<sup>9-12</sup> In a study of 480 Chinese physicians in Wuhan, capital city of Hubei province, carried out in the year 1987, Li and Rosenblod<sup>13</sup> found that 59% of the physicians had often or always counseled their patients to quit smoking, and nonsmoking physicians engaged more in smoking cessation activities than smoking physicians. In a survey of 493 physicians carried out in the year

From the Department of Psychology, University of Northern British Columbia, Canada (HZL); Surgery Department, The Third Hospital (WS, FC); Surgery Department, Wuhan Iron and Steel Plant Affiliated Hospital (XW); Surgery Department, Huazhong Science and Technology University Affiliated Hospital (WL); Surgery Department, Wuhan University Affiliated Hospital (AW), Wuhan, Hubei Province, China.

Address correspondence to: Dr Han Zao Li, Department of Psychology, University of Northern British Columbia, Prince George, BC Canada V2N 4Z9, Canada; e-mail: [lih@unbc.ca](mailto:lih@unbc.ca).

1996 in the same city, 58% of the physicians often or always counseled their patients about cigarette smoking but physicians' smoking status was not significantly correlated with their counseling frequency.<sup>14</sup> It would be interesting to further explore this issue among physicians in the same city after 9 years of economic growth in China.

Thus, the objectives of this study were to find out whether there were significant changes in physicians' cigarette smoking status and patterns, as well as the variables influencing physicians' counseling frequency.

## Method

### Sampling

A convenience sample of 400 physicians was drawn from 3 provincial hospitals in Wuhan, China. Among the 400 physicians, 347 completed their questionnaires, reaching a response rate of 86.8%.

### Questionnaire and Coding

The questionnaire used in this study was identical to the one used in previous studies.<sup>13-16</sup> In the present study, only the Chinese version of the questionnaire was used. The questionnaire solicited information in the following 4 areas: physicians' cigarette smoking status and patterns, physicians' smoking cessation counseling frequency and its correlates, physicians' perceived smoking patterns of patients, as well as physicians' opinion on measures to reduce smoking in China. A physician was defined as a smoker if he or she reported that he or she often, sometimes, or occasionally smoked. A nonsmoking status was given when a physician reported that he or she never smoked. Heavy smokers were those who smoked 20 or more cigarettes per day. Moderate smokers were those who smoked more than 5 and fewer than 20 cigarettes per day. Light smokers were those who smoked 5 and fewer cigarettes per day. These categories were the same as those used in previous studies.<sup>13,14</sup> The variable measuring smoking cessation counseling frequency was coded as the following: always = 1, often = 2, sometimes = 3, occasionally = 4, not at all = 5. Analysis of variances and  $\chi^2$  statistics were used to analyze the data (SPSS V12.0, SPSS Inc, Chicago, Illinois).

## Results

### Demographics

There were 205 (59%) male physicians and 142 (40.9%) female physicians. Over two thirds (74.1%) of the physicians were married, 21.4% were single, and 4.5% were divorced or widowed. A total of 28.6% of the physicians had practiced medicine for 21 years or more; 24.7% for 5 years or less; 20.5% for 11 to 15 years; 14.8% for 6 to 10 years; and 11.4% for 16 to 20 years. About one third (30.6%) of the physicians were below 30 years of age; 27.0% were between 30 and 39; 24.6% were between 40 and 49; 15.9% were between 50 and 59; and 1.8% were 60 years or older.

Among the participants, 30.8% were surgeons; 20.2% were internal medicine doctors; 7.3% were gynecologists; 6.3% were pediatricians; 6.3% were traditional medicine doctors; 4.5% were anesthetists, and the rest of the physicians were in other categories.

**Table 1.** Cigarette Smoking Patterns of Chinese Physicians in Wuhan, Hubei Province<sup>a</sup>

	n	%
Physicians' smoking status	338	
Nonsmokers	190	56.2
Occasional	49	14.5
Sometimes	44	13.0
Often	55	16.3
Self-reported number of cigarettes consumed per day	172	
<5	73	42.4
About 5	39	22.7
About 10	31	18.0
About 20	24	14.0
>20	5	2.9
Attitudes toward quitting	171	
Want to quit	40	23.4
Want to reduce	86	50.3
The same amount	41	24.0
Want to increase	4	2.3
Past quitting experiences	171	
Tried to quit	118	69.0
Never tried	53	31.0
Age of starting smoking (y)	216	
<16	37	17.1
16-20	79	36.6
21-25	69	31.9
>25	31	14.4

<sup>a</sup>The values of n were based on the number of physicians responding to each question.

### Cigarette Smoking Patterns and Physicians' Characteristics

Table 1 presents the physicians' smoking status, number of cigarettes consumed per day, attitudes toward quitting, past quitting experiences, as well as starting age to smoke. Table 2 presents information regarding physicians' smoking status in relation to their sex, age, and counseling frequency.

*Gender.* As indicated in Table 2, 18.8% of the female physicians and 58% of the male physicians were current cigarette smokers. Among male physicians, the highest smoking rate was in the 40 to 49 years age group (68.3%) and lowest in the 60 years and older age group (25%). The next highest rate was in the 30 to 39 years age group (59.7%), followed by the 50 to 59 years age group (57.1%) and the 29 years or younger age group (51.7%). Among female physicians, the highest smoking rate was found in the age group of 30 to 39 years (29.6%). The remaining 3 age groups (29 years or younger, 40-49 years, and 50-59 years) had the following smoking rates, respectively: 18.6%, 17.9%, and 9.1%. Female physicians in their 30s also smoked the heaviest. Twenty-seven percent of those aged 30 to 39 years reported a daily consumption of 20 cigarettes or more, in comparison with 10% in the 29 years or younger age group, and 9.1% in the 40 to 49 years age group. None of the female smokers aged 50 years or older were heavy smokers.

*Age.* As shown in Table 2, the highest cigarette smoking rate was in the age group of 30 to 39 years (50.6%) and the lowest in the age group of 60 to 69 years (16.7%). Physicians aged 50 to 59 years smoked most heavily. About one third (33.3%) reported a daily consumption of 20

**Table 2.** Physicians' Cigarette Smoking Status and Frequency of Counseling By Sex and Age in Wuhan, Hubei Province<sup>a</sup>

	Smoking Status			Counseling		
	Smokers			Often or Always		
	N	n	%	N	n	%
Sex						
Male	193	112	58.0	195	106	54.4
Female	133	25	18.8	135	95	70.4
Age (y)						
<30	101	38	37.6	102	71	69.6
30-39	89	45	50.6	90	56	62.2
40-49	80	35	43.8	82	42	51.2
50-59	53	21	39.6	53	30	56.6
>59	6	1	16.7	6	4	66.7

<sup>a</sup>The values of n were based on the number of physicians responding to each question.

cigarettes or more, in comparison with 22.2% in the 30 to 39 years age group, 15% in the 40 to 49 years age group, and 4.5% in the 29 years or younger age group. None in the 60 years or older age group were heavy smokers. Although the 30 to 39 years age group had the highest smoking rate, the heaviest smokers were in the 50 to 59 years age group. Thirty-nine percent of the physicians aged 50 to 59 years reported a daily consumption of 20 cigarettes or more in comparison with 20.9% in the 30 to 39 years age group, 17.2% in the 40 to 49 years age group, 2.9% in the 29 years or younger age group, and none in the 60 years or older age group.

*Specialty.* Pediatricians had the highest smoking prevalence (52.6%), followed by gynecologists (50.0%), surgeons (48.5%), and anesthesiologists (46.7%). In comparison, internal medicine physicians and traditional Chinese doctors had lower smoking rates, 40.9% and 42.9%, respectively. The rates of moderate to heavy smokers were 50% among anesthesiologists, 39.6% among surgeons, 33.3% among traditional medicine doctors, 33.3% among gynecologists, 30.75% among pediatricians, and 25.7% among internal medicine doctors.

*Onset of smoking.* As shown in Table 1, 36.6% of the physicians started smoking between the ages of 16 and 20 years and 31.9% started smoking between the ages of 21 and 25 years. The rates of moderate to heavy smokers were highest among physicians who started to smoke between 21 and 25 years (60.0%), followed by those who started to smoke between 16 and 20 years (38.5%). Physicians who started smoking at the age of 26 or older and 15 or younger, 29.2% and 20.8%, respectively, turned out to be moderate and heavy smokers. Regarding the main reason for them to start smoking, 60.9% said influence of friends; 20.9% said that they just wanted to smoke; and 18.2% answered influence of parents.

*Family member smoking status.* About two thirds (66.5%) of the physicians reported that either 1 or both parents were current smokers, whereas 33.5% had nonsmoking parents. Among male physicians, 13% said that their spouses were frequent smokers, 23.5% said that their spouses were occasional smokers, and 63.5% said that their spouses were nonsmokers. Among female physicians, 21.5% said that their spouses were frequent smokers, 30% said that their spouses were occasional smokers, and 48.5% said that their spouses were nonsmokers.

## Smoking Cessation Counseling

When asked whether they had counseled their patients about cigarette smoking in the previous year, 82.8% answered always or often or sometimes. Among those who counseled their patients about cigarette smoking, 7.6% felt that they were very successful and 36.1% said that they were somewhat successful.

## Frequency of Counseling and its Correlates

The relationship between physicians' counseling frequency and their smoking status, number of daily consumption, whether physicians wanted to quit smoking, whether they thought that Chinese know about the harm of cigarette smoking, age, sex, perceived influence, perceived success, perceived responsibility, and perceived exemplary role were examined. Table 3 presents the correlation matrix.

*Smoking status, number of daily consumption, whether physicians wanted to quit smoking, whether they thought that Chinese knew about the harm of cigarette smoking; age and sex.* Physicians' own smoking status was significantly associated with their smoking cessation counseling ( $P < .001$ ). Among smoking physicians, 48.6% often or always counseled their patients about cigarette smoking, whereas 51.4% did little or no smoking cessation counseling. Among nonsmoking physicians, 70.5% often or always counseled their patients about cigarette smoking, whereas only 29.5% did little or no smoking cessation counseling. Interestingly, physicians' daily number of cigarette consumption was positively correlated with their frequency of smoking cessation counseling; the more physicians smoked, the more they engaged in counseling (Table 3). Surprisingly, physicians who wanted to increase smoking themselves did more smoking cessation counseling than those who wanted to quit (Table 3). If a physician thought that few Chinese smokers knew about the harm of cigarette smoking, he or she was more likely to engage in smoking cessation counseling (Table 3).

A small but significant correlation was found between physicians' age and smoking cessation counseling practices; older physicians indicated higher frequencies than younger physicians (Table 3).

A significant difference regarding counseling frequency was found between male and female physicians ( $P < .001$ ). A larger proportion of female physicians (70.4%) than male physicians (54.4%) often or always counseled patients about cigarette smoking in the previous year.

*Perceived influence.* When physicians were asked about the most influential person in helping patients successfully quit smoking, only 21.4% said physicians; 31.3% said self, meaning the smoker himself or herself; 13.1% said spouse; 11.6% said children, meaning the smoker's own children; 8.3% said parents; 7.4% said working unit leaders; and 6.8% said friends. Nevertheless, physicians who perceived themselves as the most influential person in assisting patients to quit smoking did significantly more smoking cessation counseling ( $P < .05$ ). Among those who perceived physicians as the most influential, 65% often or always counseled patients about cigarette smoking cessation. Whereas, among those who perceived others (eg, spouse or working unit leader) as the most influential, 56.0% often or always counseled patients about smoking cessation.

*Perceived success.* A total of 80.5% of the physicians who felt their past counseling practices somewhat successful or very successful often or always engaged in smoking cessation counseling. Less than half (46.4%) of the physicians who felt that their past counseling experience was somewhat unsuccessful or very unsuccessful often or always performed smoking cessation counseling ( $P < .0001$ ).

**Table 3.** Wuhan Physicians' Smoking Cessation Counseling Frequency and Its Correlates

	1	2	3	4	5	6	7	8	9	10	11	12
Smoking status (often = 1, sometimes = 2, occasional = 3, nonsmokers = 4)												
Number of cigarettes daily (< 5 = 1, about 5 = 2, about 10 = 3, about 20 = 4, >20 = 5)	-.27 <sup>a</sup>											
Age of onset (<16 = 1, 16-20 = 2, 21-25 = 3, >25 = 4)	-.07	.06										
Number of years being a physician (<6 y = 1, 6-10 = 2, 11-15 = 3, 16-20 = 4, 21 or more = 5)	-.06	.18 <sup>a</sup>	.23 <sup>a</sup>									
Physicians' age (<30 = 1, 30-39 = 2, 40-49 = 3, 50-59 = 4, >59 = 5)	.03	.10	.16 <sup>b</sup>	.77 <sup>a</sup>								
Smoking cessation counseling (always-not much; 1-5 Likert scale)	.18 <sup>a</sup>	.38 <sup>a</sup>	.05	.08	.10 <sup>b</sup>							
Perceived success (very successful-very unsuccessful; 1-5 Likert scale)	-.16 <sup>a</sup>	.34 <sup>a</sup>	.01	.18 <sup>a</sup>	.12 <sup>b</sup>	.48 <sup>a</sup>						
Perceived responsibility (agree-disagree; 1-5 Likert scale)	-.08	.22 <sup>a</sup>	.02	.06	.07	.50 <sup>a</sup>	.30 <sup>a</sup>					
Perceived exemplary role (agree-disagree; 1-5 Likert scale)	-.21 <sup>a</sup>	.30 <sup>a</sup>	.08	.06	.08	.51 <sup>a</sup>	.39 <sup>a</sup>	.74 <sup>a</sup>				
Smoking is accepted in China (agree-disagree; 1-5 Likert scale)	.10	.10	.28 <sup>a</sup>	.00	-.04	.08	.12 <sup>b</sup>	.04	.12 <sup>b</sup>			
Chinese know about the harm of cigarette smoking (everyone = 1, most = 2, half = 3, a small number of people = 4)	.00	.16 <sup>b</sup>	.10	.00	.00	.13 <sup>b</sup>	.21 <sup>a</sup>	.06	.11 <sup>b</sup>	.07		
Do you want to (quit = 1, reduce = 2, the same = 3, increase = 4)	.05	.13	-.10	-.06	-.08	.26 <sup>a</sup>	.13 <sup>a</sup>	.34 <sup>a</sup>	.30 <sup>a</sup>	.04	.18 <sup>a</sup>	

<sup>a</sup>Correlation is significant at the 0.01 level (1-tailed).

<sup>b</sup>Correlation is significant at the 0.05 level (1-tailed).

*Perceived exemplary role.* Did Chinese physicians think that they should set an example for their patients by not smoking? The responses indicated that 48.7% strongly agreed, 30.3% somewhat agreed, and 21.1% disagreed. Among those who agreed, 72.6% often or always counseled patients about cigarette smoking. Whereas among those who disagreed, only 16.9% often or always counseled patients about cigarette smoking ( $P < .0001$ ).

*Perceived responsibility.* When asked whether it was their responsibility to counsel patients about cigarette smoking, 50.7% of the physicians strongly agreed, 31% somewhat agreed,



and 18.3% disagreed. Among those who agreed, 70.8% often or always carried out smoking cessation counseling. Whereas among those who disagreed, only 19.7% often or always counseled patients about cigarette smoking ( $P < .0001$ ). Table 3 presents a correlation matrix among physicians' smoking cessation counseling frequency and its correlates.

### Suggested Measures to Limit Smoking

A total of 37.5% of the physicians thought that for a Chinese smoker, cigarette smoking served as a social lubricant; 31.5% thought it a habit; 21.7% thought it a stress reliever; and 9.2% thought it a social status symbol. When asked whether Chinese smokers know about the harm cigarette smoking does to human health, 50.6% of the physicians thought that most of the smokers know; 26.3% thought that every smoker knows; 15.5% thought that about half of the smokers know; and 7.6% thought that a small number of the smokers know. When asked whether cigarette smoking was accepted in China, 56.7% of the physicians strongly or somewhat agreed. A total of 59.4% of the physicians felt that educating the public about the harm of cigarette smoking is the best method to control smoking in China; whereas 24.8% of the physicians felt that restricting the public and 15.8% of the physicians felt that increasing the price of cigarettes would be the best method to control smoking in China.

## Discussion

### Cigarette Smoking in China: Male Physicians

From 1996 to 2005, the prevalence of cigarette smoking decreased slightly among male physicians in Wuhan: from 61.3% to 58.0%. This prevalence is compatible with those in the general population (63%).<sup>6</sup> More physicians in 2005 were in the often and sometimes categories than in 1996. In comparison with physicians sampled in Li and Rosenblood's study in 1996, fewer physicians in the present study are current smokers, but the smokers consume more cigarettes per day. We offer 2 explanations for this phenomenon: increasing affluence and increased stress due to a booming economy, with physicians smoking as a stress reliever. However, more physicians in 2005 tried to quit smoking (69.0%) than in 1996 (46.4%) and 1987 (52.6%). There may be social pressure, as the general population is becoming aware of the health hazards of smoking, and it may be embarrassing for a physician to smoke.

In all 3 surveys (1987, 1996, and 2005), the age of smoking initiation was 16 to 25 years. Physician smokers started the habit in the last 2 years of high school and mostly in medical school. This pattern seems consistent with observations from other researchers who reported that more medical students initiate the habit of cigarette smoking as they enter their last 2 years of study.<sup>17-19</sup> We found that the majority of the starters were influenced by their friends. This suggests that smoking cessation education should start in high school and continue in medical school. When composing smoking cessation messages, it is necessary to focus on the skills of resisting peer pressure to initiate smoking.

### Rising Trend of Cigarette Smoking Among Female Physicians

There is a significant increase in smoking among female physicians. In 1987, 4.8% of the female physicians smoked; in 1996, it was 12.2%, and in 2005, it was 18.8%. Much lower female smoking prevalence was reported among Chinese medical students: in 2 surveys of medical students in China, female smoking rates were 1.81%<sup>18</sup> and 4.4%,<sup>17</sup> respectively. Another study, also done in Wuhan,<sup>19</sup> found that no female medical students smoked. One



factor that needs to be considered is the possible underreporting by medical students because cigarette smoking is not allowed among Chinese students. Our surveys have found a rising trend of smoking among female physicians in Wuhan. However, studies have to be conducted in other parts of the country to verify whether this is the trend in China.

Women rarely smoked cigarettes in traditional Chinese culture. As China is changing from a traditional to a modern, westernized culture, female smoking has become the new modern practice and will give rise to new health problems associated with smoking. Female smoking is a new problem in China. The consequences of expectant mothers' smoking on fetuses are well known. In a recent case-control study of 213 Chinese women who smoked during pregnancy, the incidence of low birth weight was twice as high as that in the control group.<sup>20</sup> According to the 1996 national survey,<sup>6</sup> only 21.9% of the smokers and 29.5% of the nonsmokers knew that smoking had serious consequences to health. Most of the Chinese population is unaware of the possible harm of cigarette smoking, including the health of infants and mothers. As each couple is allowed only 1 child in China, a healthy pregnancy should be an important concern for parents, and they should be very responsive to educational materials. The key is to raise awareness among health professionals, as well as the public. The Chinese Ministry of Health could take up the responsibility of initiating the Healthy Baby campaign.

### **How to Increase Physicians' Smoking Cessation Counseling?**

Among the variables significantly associated with the frequency of physicians' smoking cessation counseling are perceived responsibility, perceived success, perceived exemplary role, and whether they believe that they have strong influence in persuading patients to quit smoking. The implication of these findings is that messages aiming at increasing physicians' counseling frequency should appeal to their sense of responsibility to help patients successfully quit smoking, their confidence in their past efforts, their credence that they should set an example for their patients by not smoking, and their belief that patients respect their opinions. We also found that physicians who smoke are less likely to provide smoking cessation counseling, indicating the necessity to reduce smoking among physicians. Measures should be taken to restrict smoking in hospital offices. Patients should not be allowed to pass cigarettes to physicians. Efforts should also be made to educate medical students and residents not to initiate smoking. The Chinese Ministry of Health would need to realize the necessity of providing this education and include relevant course materials in the medical school curriculum.

### **Educating the Public About the Health Hazards of Cigarette Smoking**

There is a significant change in the suggestions physicians made regarding measures to reduce smoking in China. In 1996, most of the physicians wanted to use public regulations. In 2005, 60% thought that the best method is to educate the public about the health hazards of cigarette smoking. This suggestion seems to be appropriate in view of the results in the 1996 national survey<sup>6</sup> where only 23.3% of the smokers and 36.4% of the nonsmokers knew that cigarette smoking has serious consequences to health. From a random sample of 1856 petrochemical complex workers in urban Shanghai,<sup>8</sup> Qun and Dobson found that 53% of the smokers and 76% of the nonsmokers believed that smoking was harmful to health, but knowledge of which disease was associated with smoking was poor. A cost-effective method for the Chinese Ministry of Health to send messages to the public is through television as most households now have access to it.

Although physicians play an important role in reducing smoking in China, they alone cannot accomplish this huge task. As pointed out by Slama,<sup>21</sup> tobacco control takes the coordination of multiple-level work. The most urgent task for the Chinese Ministry of Health is to have more legislative and regulatory measures on tobacco industry marketing tactics and to limit smoking in public places, such as restaurants and offices. It also needs to work out strategies to change the deeply rooted cultural norms and values of cigarette smoking because sharing cigarettes serves as a social lubricant. Over one third of the physicians in the 2005 survey thought so. China has a collectivistic culture and people “get things done” by exercising their social networks.<sup>22,23</sup> Sharing cigarettes and smoking cigarettes together promote good will and have been an integral part of social life in China.<sup>24-26</sup> As a result, China’s struggle to reduce cigarette smoking may be complex and difficult.

Another feasible strategy in the Chinese context to help patients quit smoking is the minimal intervention strategy, first tested by Pieterse et al in 1994.<sup>27</sup> The minimal intervention strategy allows the physician or the nurse to classify patients into 1 or more of the 6 consecutive motivational stages (ie, receptiveness, awareness, willingness, ability, implementation, and maintenance). The minimal intervention strategy is individually tailored and is efficient. For example, patients who are ready to quit smoking can directly enter the implementation stage, thus avoiding boredom and saving time for both health educators and patients. The minimal intervention strategy is feasible in China because physicians and nurses are paid on a salary basis; therefore, spending a few minutes on each patient to find out what stage the patient is at in the schematic counseling model would not pose a problem.

Besides physicians’ counseling, pharmacotherapy has been reported to increase the odds of quitting.<sup>28,29</sup> Given the inexpensive labor market, nicotine replacement therapy devices can be produced inexpensively and with easy access in China.

### Limitations

An apparent limitation of this study is that it is a convenience sample; some heavy smokers may have chosen not to fill out the questionnaire. Therefore, the actual smoking prevalence may be higher than what is presented in this survey. As physicians’ smoking status is significantly associated with their smoking cessation counseling frequency, the actual percentage of physicians who often or always counsel patients about cigarette smoking may be lower than what is presented in this survey.

To conclude, the rising trend of cigarette smoking among Chinese female physicians should draw the attention of Chinese health education policy makers. Also, the finding that male physicians smoked as much in 2005 as in 1996 sends an important signal: if physicians, who are looked upon as role models for health, engage in smoking behavior, how could they be convincing in advising their patients to quit smoking?

### References

1. Liu Z. Smoking and lung cancer in China: combined analysis of eight case-control studies. *Int J Epidemiol.* 1992;21:197-201.
2. Liu Q, Sasco AJ, Riboli E, Hu MX. Indoor air pollution and lung cancer in Guangzhou, People’s Republic of China. *Am J Epidemiol.* 1993;137:145-154.
3. Tao S, Li Y, Xiao Z, et al. Serum lipids and their correlates in Chinese urban and rural populations of Beijing and Guangzhou. *Int J Epidemiol.* 1992;21:893-903.
4. Gao YT, Zheng W, Gao RN, Jin F. Tobacco smoking and its effect on health in China. *IARC Sci Publ.* 1991;105:62-67.

5. Liu BQ, Peto R, Chen ZM, et al. Emerging tobacco hazards in China: retrospective proportional mortality study of one million deaths. *Br Med J*. 1998;317:1411-1422.
6. Yang GH, Fan LX, Tan J, et al. Smoking in China: findings of the 1996 national prevalence survey. *JAMA*. 1999;282:1247-1253.
7. Yang GH, Ma JM, Liu N, Zhou LN. Smoking and passive smoking in China: findings of the 2002 national survey. *Chinese J Epidemiol*. 2005;26:77-83.
8. Qun WW, Dobson AJ. Cigarette smoking and sick leave in an industrial population in Shanghai, China. *Int J Epidemiol*. 1992;21:293-297.
9. Gorin SS, Heck JE. Meta-analysis of the efficacy of tobacco counseling by health care providers. *Cancer Epidemiol Biomarkers Prev*. 2004;13:2012-2022.
10. Ockene JK, Kristeller J, Pbert L, et al. The physician-delivered smoking intervention project: can short-term interventions produce long-term effects for a general outpatient population? *Health Psychol*. 1994;13:278-281.
11. McAvoy B, Kaner E, Heather N, Gilvarry E. Our healthier nation: are general practitioners willing and able to deliver? A survey of attitudes to and involvement in health promotion and lifestyle counseling. *Br J Gen Pract*. 1999;49:187-190.
12. Slama K, Karsenty S, Hirsch A. French general practitioners' attitudes and reported practices in relation to their participation and effectiveness in a minimal smoking cessation programme for patients. *Addiction*. 1999;94:125-132.
13. Li HZ, Rosenblood L. Chinese physicians' cigarette smoking habits and their smoking cessation counselling practices. *Health Promot Int*. 1996;11:89-94.
14. Li HZ, Fish D, Zhou XC. Increase in cigarette smoking and decline of anti-smoking counselling practices among Chinese physicians: 1987-1996. *Health Promot Int*. 1999;14:123-131.
15. Kenney RD, Lyles MF, Turner RC, et al. Smoking cessation counselling by residence, physicians in internal medicine, family practice, and paediatrics. *Arch Intern Med*. 1988;148:2469-2473.
16. Stretcher VJ, O'Malley MS, Villagra VG, et al. Can residents be trained to counsel patients about quitting smoking. *J Gen Intern Med*. 1991;6:9-13.
17. Zhu T, Feng BL, Wong SS, Choi W, Zgu SH. A comparison of smoking behaviours among medical and other college students in China. *Health Promot Int*. 2004;19:189-96.
18. Zhou L, Huang JH, Liu JZ. Smoking among Shanghai medical students and the need for comprehensive intervention strategies. *Health Promot Int*. 1997;12:27-32.
19. Xiang HY, Wang ZZ, Stallones L, Yu SL, Gimbel HW, Yang P. Cigarette smoking among medical college students in Wuhan, PRC. *Prev Med*. 1999;29:210-215.
20. Lam SK, To WK, Duthie SJ, Ma HK. The effect of smoking during pregnancy on the incidence of low birth weight among Chinese patients. *Aust N Z J Obstet Gynaecol*. 1992;32:125-128.
21. Slama K. Current challenges in tobacco control. *Int J Tuberc Lung Dis*. 2004;10:1160-1172.
22. Li HZ. *The Water Lily Pond: a Village Girl's Journey in Maoist China*. Waterloo, ON: Wilfrid Laurier University Press; 2004.
23. Li HZ. Culture, gender and self-close-other(s) connectedness in Canadian and Chinese samples. *Eur J Soc Psychol*. 2002;32:93-104.
24. Brooks J. American cigarettes have become a status symbol in smoke-saturated China. *CMAJ*. 1995;152:1512-1513.
25. Cui L. Smoking control: tough but necessary. *Beijing Review*. 1998;41:9-11.
26. Cheng IS, Ernster VL, He GQ. Tobacco smoking among 847 Residents of East Beijing, People's Republic of China. *Asia Pac J Public Health*. 1990;4:156-163.
27. Pieterse ME, Seydel ER, Mudde AN, De Vries H. Uitvoerbaarheid en effectiviteit van een minimaal stoppen-met-roken programma voor de huisartsenpraktijk [Feasibility and efficacy of a minimal contact smoking cessation programme in the general practice]. *Tijdschrift voor Gezondheidsbevordering*. 1994;15:57-71.
28. Karnath B. Smoking cessation. *Am J Med*. 2002;112:399-405.
29. Silagy C, Mant D, Fowler G, Lancaster T. Nicotine Replacement Therapy for Smoking Cessation. *The Cochrane Database of Systematic Reviews*. Issue 2. Mississauga, ON: John Wiley & Sons, Ltd; 2005.