

# A Cross-Sectional Study of the Alarming Prevalence of Smoking Among Lebanese Physicians and Its Negative Impact on Promoting Cessation

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## Abstract

**Background:** There is a paucity of data on the prevalence of smoking among physicians. As physicians are on the front line caring for patients' health, a detailed analysis of their smoking habits and its impact on counseling their patients to quit is warranted. So far, no study in Lebanon has addressed the real prevalence of smoking among physicians and its impact on promoting cessation. This study aims to fill this purpose.

**Methods:** A cross-sectional study conducted using a web-based self-administered questionnaire was e-mailed to 4037 Lebanese physicians between November 2015 and February 2016. The questionnaire included 11 questions about basic sociodemographic information (age, gender, work province, specialty), smoking habits and attitude towards smoking cessation. Statistical Package for the Social Sciences (SPSS) was used for analysis. The main outcome was to calculate the percentage of physicians that smoke, its relationship to gender and age, and its impact on counseling their patients about smoking cessation.

**Results:** 529 responders were analyzed (13.1% response rate). A high rate of physician ever-smokers was noted at 37% (n=195) whereas the prevalence of current smokers was 13% (n=70). In addition, there was a difference in the gender of ever-smoking physicians where 47% of males were smokers compared to 20% of females only. Regarding the prevalence of smoking within different specialties, it was noted that 35% (n=74) of internal medicine physicians were ever-smokers compared to approximately 50% (n=51/102) of surgeons. There was a statistically significant difference between former-smokers and current-smokers in regards to how frequently they urge their patients to quit smoking.

**Conclusion:** The high prevalence of smoking among Lebanese physicians is depicted and its negative impact on counseling patients to quit is a serious consequence. This is a major drawback in the fight against tobacco and further awareness may be needed among our future doctors to increase smoking cessation counseling and decrease the burden of smoking in Lebanon and worldwide.

*Keywords: Smoking, Smoking cessation, Physicians, Counseling, Tobacco, Lebanon*

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## Introduction

Smoking remains a major concern for public health policymakers and strategists. According to the World Health Organization (WHO), smoking is the leading cause of preventable death and the second major cause of death worldwide, killing more than 7 million individuals every year. The yearly cost of smoking on global health care is estimated at more than a half-trillion dollars [1, 2].

In the early 20th century, physicians were still advertising cigarettes [3, 4]. Even in recent years in China, 2% to 13% of physicians who smoke thought that cigarettes could help them maintain good health [5]. Smoking among physicians is of particular concern given the crucial role physicians play in promoting smoking cessation [6]. Studies show that physicians believe they should be non-smoking role models for their patients, encouraging them to lead a healthy lifestyle [7]. Moreover, compared to physicians who smoke, those who don't are more likely to identify the smoking status of their patients, counsel them about smoking habits, and initiate smoking cessation interventions [8, 9]. A 2013 meta-analysis that included over 30,000 participants showed that "brief advice" significantly increased the rate of quitting compared to no advice [10].

In 2008, the WHO adopted the MPOWER measures to assist in the implementation of practical and cost-effective interventions for tobacco control. MPOWER consists of six components: Monitor tobacco use and prevention policies, Protect people from tobacco smoke, Offer help to quit tobacco use, Warn about the danger, Enforce bans on tobacco advertising, promotion, and sponsorship, and Raise taxes on tobacco [11]. The first step in the MPOWER tobacco control plan is the monitoring of tobacco use, in which reducing cigarette smoking is identified as one of the critical elements for effective control of non-communicable diseases. Considering the

major role medical professionals have in the fight against tobacco use, the WHO has advocated that tobacco-smoking surveys be conducted among medical professionals to curb the smoking pandemic, and to create smoking-free healthcare facilities [11].

To date, progress in tobacco control remains tremendously slow in Lebanon and no nationally representative surveys of smoking among Lebanese physicians have been reported. This study aims to identify the prevalence of smoking among Lebanese physicians and their attitude toward smoking patients.

## Methods

A cross-sectional study was conducted among Lebanese physicians using a web-based self-administered questionnaire, between mid-November 2015 and mid-February 2016. E-mail accounts of physicians were obtained from the Lebanese Order of Physicians' registry which includes around 11782 physicians according to the national health statistics report in Lebanon [12]. The number of physicians with an accessible e-mail account was 4037. We sent an e-mail inviting those physicians to participate in a study about their smoking status. The e-mail included a written informed consent for participation and a link to an internet-based self-administered questionnaire. A reminder was e-mailed every 10 days if no reply was noted. Up to 4 reminders were sent during the study period.

This study has been reviewed and approved by the American University of Beirut Institutional Review Board. Participation was voluntary by agreeing to the informed consent, the study was anonymous, and confidentiality of data was maintained. The web-based self-survey only allowed fully answered questionnaires; thereby, physicians who failed to complete the survey were considered as non-responders. The response rate was calculated as the number of fully-completed questionnaires divided by the number of e-mail accounts.

Current smokers were defined as someone who smoked 100 cigarettes in his or her lifetime and who currently smokes cigarettes. Former smokers were those who smoked at least 100 cigarettes in their lifetime but who had quit smoking at the time of the interview. Never-smokers were those who have never smoked, or who have smoked less than 100 cigarettes in their lifetime. Ever-smokers were considered as the former smokers plus current smokers.

The survey included 11 questions that inquired about basic sociodemographic information (age, gender, work province, specialty), smoking habits (number of cigarettes smoked), and attitude towards smoking cessation. Assessment of the attitude was done by asking the physicians how often they encourage their patients to stop smoking (“Always”, “Sometimes”, “Seldom”, “Never”). The type of smoking (cigarette, cigar, waterpipe) was also inquired about. Moreover, the intention to stop was assessed among the current smoking physicians by asking if previous trials of smoking cessation were done. The data was collected and analyzed through SPSS to calculate the crude prevalence of smoking among Lebanese physicians and the adjusted prevalence by gender, age, and specialty. The attitude of smoking physicians was compared with that of non-smoking physicians in terms of encouraging patients to quit smoking.

**Results**

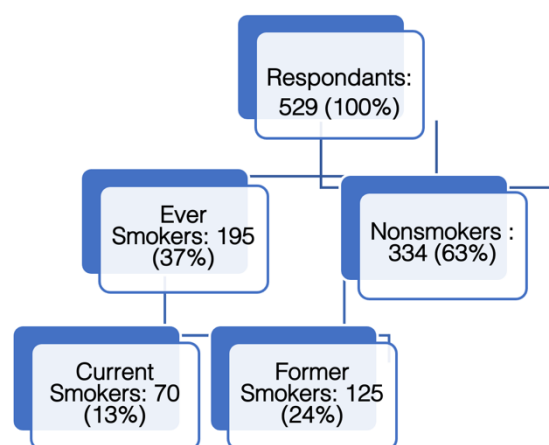
The response rate was 13% (n=529/4037). More male physicians participated in our study compared to females (62% vs 38%). The age group of participants ranged from 25 to 65 years with most participants in the 25-35 years category (35%). Most participants were practicing in Beirut (72%) (Table 1). Among respondents, 37% were ever-smokers (13% current smokers and 24% former smokers), and 63% were non-smokers (Figure 1).

Differences in smoking status by gender existed. Among male physicians who responded, 47% were ever smokers

compared to only 20% among female physicians. The highest prevalence of current smoking was found in physicians aged between 25-35 years (39%). Cigarette smoking was the most common method of smoking, where 73% reported

**Table 1 – Participants Demographics**

		Participants (N=529) % of
Age (years)	25-35	35%
	36-45	24%
	46-55	21%
	56-65	14%
	66-75	6%
Gender	Male	62%
	Female	38%
Specialty	Internal Medicine	37%
	Surgery	17%
	Pediatrics	10%
	Anesthesiology	8%
	Family Medicine	7%
	Radiology	4%
	OBGYN	3%
	Psychiatry	3%
	Emergency Medicine	2%
	Others	9%
	Location	Beirut
Mount Lebanon		15%
North		6%
South		5%
Bekaa		3%



**Figure 1 - Percentage of the prevalence of smoking among participants**

smoking cigarette, 15% smoking cigars, 8% waterpipe, and 4% pipe.

Participants represented the full range of medical specialties, with 40% of them practicing within the internal medicine subspecialties and 20% within the surgical subspecialties. Regarding the prevalence of smoking within different specialties, it was noted that 35% of internal medicine physicians were ever-smokers compared to approximately 50% of surgeons, radiologists, and emergency medicine physicians (Figure 2).

Intention to quit smoking among current smokers was weak with only around half of them reporting trying to quit. Noteworthy, out of the ever-smokers, 64% of physicians were successful in stopping smoking and this was mostly accomplished after the first attempt.

Never-smoking physicians were more likely to always encourage patients to stop smoking compared to ever-smoking physicians (83% vs 72%;  $p=0.06$ ). Former-smoking physicians were more likely to encourage their smoking patients to quit compared to current smokers (83% vs 54%;  $p<0.01$ ) (Table 2).

### Discussion

A high rate of physician ever-smokers was noted at 37% ( $n=195$ ) whereas the prevalence of current smokers was 13% ( $n=70$ ). Former smokers were statistically more likely to counsel their patients to quit smoking compared to current smokers. In addition, there was a difference in the gender of ever smoking physicians, where 47% of males were smokers compared to only 20% of females.

This study documents for the first time the alarming prevalence of smoking among Lebanese physicians and their attitude towards smoking cessation. The prevalence of ever smokers in our study was 37%, and current smoker is 13%. Also, smoking physicians were less likely to encourage their patients to quit smoking. Male physicians had a higher prevalence of ever-smoking than female

physicians.

Cigarette smoking is a worldwide problem among physicians, especially knowing its detrimental effect on health. The prevalence of current cigarette smoking among Lebanese physicians was 13%. This is similar to the prevalence in other Arab countries like Kuwait (18%), Bahrain (15%), Oman (16.4%), and Morocco (16%) [13-15].

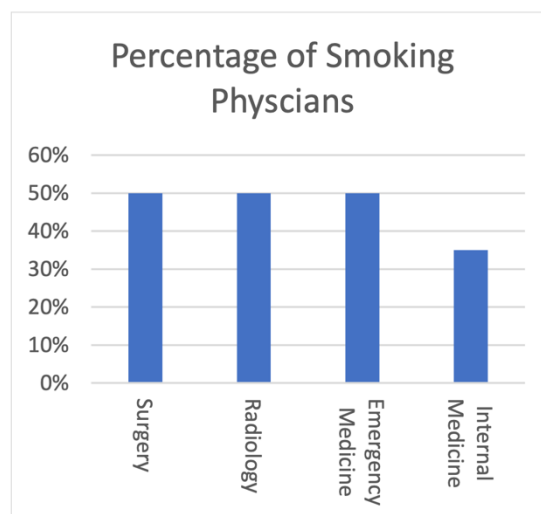


Figure 2 - Percentage of smoking physicians with respect to some specialties

Table 2 - Attitude towards encouraging patients to smoking cessation among non-smokers, former smokers and current smoking physicians

How often do you encourage your patient to stop smoking?	Non-Smokers	Former Smokers	Current Smokers
Always	276 (83%)	104 (83%)	384 (54%)
Sometimes	46	17	27
Seldom	9	4	3
Never	3	0	2

The WHO's report on the prevalence of tobacco smoking among the Lebanese population showed that 33% of males compared to 20% of females are current cigarette smokers [16]. In our study also a significant gender difference of current smoking Lebanese physicians was found between males and females (47% vs 20%). This is in concordance with most of the studies in the literature [17-19]. Remarkably though, the proportion of smoking female Lebanese physicians is high (20%). Noteworthy, the study by Khattab et al. described the rate of smoking among Lebanese women as the highest in the MENA (Middle East and North Africa) region (47.3%) [20].

Smoking among physicians was highest (39%) in the youngest age category included (25-35 years). This is different from studies in China and Japan where the prevalence was highest among physicians aged 40-50 years [2, 19]. Our findings are worrisome since they may show that the new generation of physicians may not be aware of the detrimental health effects of smoking and the importance of counseling about cessation. More awareness on the risk of smoking and the positive effects of smoking cessation counseling should be given in medical school and during residency to help the future generation of doctors avoid this health hazard.

Moreover, Surgeons had a higher smoking prevalence compared to internal medicine physicians (50% vs 35%). Similar results were reported from China, revealing the highest rate of smoking is among surgeons [5]. This may be explained by the lower number of females in the surgery field as compared to the internal medicine field [21].

As mentioned previously, a meta-analysis done on over 30,000 participants reported a significant increase in smoking cessation when brief advice was given by the physicians compared to no advice at all [10]. Our study shows that current smoking physicians are less motivated to encourage patients to stop smoking compared to former smokers. 83% of

former smoking physicians responded with "Always" when asked about the frequency of encouraging patients to stop smoking, compared to 54% of current smokers. Chidiac et al. recently reported in their publication that Lebanese medical students who smoke are less likely to ask patients about their smoking habits and to counsel them on smoking cessation [22]. Similarly, studies found that nonsmoking physicians are more likely to ask patients to quit smoking than smoking physicians [5, 19]. Polyzos et al. found that nearly all nonsmoking physicians were involved in smoking cessation counseling compared to half of the smoking physicians [23]. On the other hand, Bostan P et al. found no association between pulmonologists' smoking status and asking patients to stop smoking after adjusting for sex and practicing in a smoking cessation clinic [24]. This is likely due to the higher prevalence of non-smoking among females and physicians practicing in smoking cessation clinics. Moreover, never-smoking physicians counseled patients more about smoking cessation than ever-smokers (current or former). This is similar to a study done in Tokyo which showed that never-smoking physicians had the highest percentage of giving smoking cessation advice (91%) [8].

Our study revealed a high rate of physicians smoking and this had an impact on advising patients to quit the habit. Therefore, a reduction in the rate of physicians smoking and awareness about its effect on smoking cessation is necessary. This should be highlighted among training medical students and future doctors to help in decreasing the rates of physicians smoking. Moreover, Lebanon, a country with a high prevalence of smoking, needs further strategies on tobacco use to help with smoking cessation.

### Limitations

This study has several limitations. A low response rate is noted. This is expected in most web-based research. Besides, the sample might not be well representative of

the general Lebanese population since most (71%) of responses were from the capital Beirut. In addition, failure to have a quantitative assessment of smoking cessation encouragement is a drawback as the classification used (“Always” vs “Some of the time” vs “Seldom” vs “Never”) might not accurately reflect the true incidence of physician encouragement.

Our data were based on voluntary self-reporting. Therefore, respondents in our study could have more likely included a self-selected population who are aware of the importance of smoking cessation and provided counseling. Smoking rates might be underreported while counseling could be over-reported.

On the other hand, our study was able to provide an assessment of the smoking status among Lebanese physicians. Our questionnaire included all the sociodemographic needed and assessed the smoking habits and attitude towards it. Physicians who could not complete the full questionnaire were considered non-responders. Moreover, significant results were reported through data analysis.

## Conclusion

The smoking prevalence among Lebanese physicians represents an alarming public health concern. Physicians should be at the helm of the anti-tobacco strategies in their capacity as role models and advocates of smoking cessation. The present study reveals that much is yet to be done in this field. The tobacco epidemic is the most preventable of all and deserves a robust global response. Smoking prevalence in Lebanese physicians is among the highest and efforts should be done to facilitate their quitting and to curb the consequent negative impact on themselves and their smoking patients. Physician-directed strategies should be implemented in hospitals to alert doctors about their paramount role in helping smoking patients quit.

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