Smoking among Lebanese medical students: Prevalence and attitudes

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Abstract:

INTRODUCTION: The tobacco epidemic is a major public health threat facing the world. Tobacco dependence is recognized as the greatest preventable cause of disease and death. Medical students are in key position influencing future tobacco cessation programs.

OBJECTIVES: The primary objective of this study is to evaluate the prevalence of smoking among medical students across Lebanon and their smoking attitudes. It also investigates their attitude toward smoking, showing where they really stand on this major public health issue. This study helps better tackle anti-smoking campaigns among both physicians and patients.

METHODS: This cross-sectional study was conducted by sending a questionnaire to currently enrolled medical students at all seven medical schools in Lebanon. The 32-item questionnaire was used, comprised three sections assessing sociodemographic characteristics, smoking habits, and attitudes toward smoking among Lebanese medical students. The questionnaire was launched online on Limesurvey to retain anonymity. The data were then transferred to Statistical Package for Social Sciences for analysis. Data were expressed as percentages for discrete variables and as mean ± standard deviation for continuous variables.

RESULTS: One hundred sixty-three complete responses remained of the 182 obtained responses. Forty-two of the total 163 students identified themselves as either daily or occasional smokers yielding a prevalence of 25.8%. Smokers were less likely to ask patients about their smoking habit and to counsel them about smoking cessation. Almost one-third of smokers felt that they had no obligations toward the society.

CONCLUSION: Approximately 1 in 4 Lebanese medical students is a smoker. Students who smoke are less likely to ask patients about their smoking habits and to counsel them on smoking cessation. This is a major drawback in the fight against tobacco. This calls for better education of our future doctors on smoking cessation to decrease the smoking burden on our Lebanese society and worldwide.

Key words:

Medical students, smoking, smoking cessation, tobacco

The tobacco epidemic is one of the biggest public health threats facing the world, killing around 6 million people a year. More than 5 million of those deaths are the result of direct tobacco use while more than 600,000 are the result of nonsmokers being exposed to second-hand smoke.[1] Nearly 80% of the more than 1 billion smokers worldwide live in low- and middle-income countries where the burden of tobacco-related illness and death is heaviest.[2] A recent study by Mathers and Loncar estimates that more than 80% of the 8.3 million tobacco-related deaths in 2030 will occur in low- to middle-income countries.[3] In Lebanon, and the rest of the world, tobacco dependence is recognized as the greatest preventable cause of disease and death.[4] The World Health Organization (WHO) reports that the prevalence of smoking in Lebanon is almost 43%.[5]

Eradicating tobacco smoking is a major public health issue as it is a preventable risk factor of many diseases. The WHO MPOWER package of policies and interventions recommended the involvement of physicians in reducing

the tobacco burden as even brief advice to the patient can substantially increase smoking cessation rate.[4] Moreover, based on the results of a meta-analysis incorporating 28 trials and over 20,000 participants, a brief advice intervention is likely to increase the smoking quit rate of patients.[6] Therefore, physicians have an important role in the fight against smoking.

Medical students, the future physicians, are the backbone of the force to fight smoking. In a study

How to cite this article: Chidiac A, Tamim H, Kanso M, Tfayli A. Smoking among Lebanese medical students: Prevalence and attitudes. Ann Thorac Med 2016;11:183-90.

done by Kusma *et al.*, on the knowledge of Berlin's medical students in smoking cessation, only one-third of students felt that they were qualified to counsel patients about tobacco dependence.[7] Therefore, we should make sure that medical students are willing to address the smoking epidemic before engaging them in this fight.

It is essential to investigate the smoking habits and attitudes of Lebanese medical students in the order to enhance their role in the struggle against the tobacco epidemic. Knowing these habits will allow us to identify the basis of the tobacco problem, especially in the context of the high prevalence of smoking among Lebanese medical students.[8] The hope is to formulate improved tobacco education in Medical schools, bringing to light the weight of the issue and the urgency to deal with it. In addition and more importantly, one can use the information gathered in this study to formulate effective anti-smoking campaigns among both medical society and general population. The primary objective of the study is to assess the prevalence of smoking among medical students in Lebanon. It also investigates their attitudes toward smoking, showing where they really stand on this major public health issue. Furthermore, it helps identify some of the major determinants of tobacco use among Lebanese medical students.

Methods

This is a cross-sectional study, conducted through an online questionnaire E-mailed to currently enroll medical students at all seven medical schools in Lebanon. The Institutional Review Board (IRB) approval was initially obtained from the American University of Beirut Medical Center and subsequently from IRB equivalents at the other participating medical schools nationwide. Questionnaires were mailed electronically and self-administered anonymously. The questionnaire was thereupon launched online on Limesurvey to retain anonymity. The questionnaire was written in English; it included 32 questions with an average time to complete of 15 min. The questionnaire comprised three sections: The first section included questions assessing sociodemographic characteristics such as age, sex, educational level, smoking habits, alcohol, and exercise; the second section included questions specific to

smoking habits, such as the age at starting smoking, tobacco consumption, and pattern of smoking habits; and the last section of the questionnaire included questions assessing their attitudes toward smoking, their responsibilities to patients, their attitudes, and knowledge about smoking cessation programs. An invitation letter, consent form, and a link to the questionnaire were electronically mailed to medical students at all levels.

Statistical analyses

Data were extracted into the IBM Corp. Released 2012. IBM SPSS Statistics for Windows, Version 21.0. (Armonk, NY: IBM Corp.). Data were expressed as percentages for discrete variables and as mean ± standard deviation for continuous variables. Moreover, Chi-square test was used to assess the association between the groups and the different factors. $P < 0.05$ was considered statistically significant.

Results

In total, 182 complete responses were obtained. However, after filtration for incongruent data entry, 163 complete responses (85 [53.1%] females and 78 [47.9%] males) from 7 different Lebanese medical schools nationwide remained. The age ranged from 18 to 30 years [Table 1]. Of the total of 163 responses, 42 students identified themselves as either daily or occasional smokers yielding a prevalence of 25.8%. Prevalence was slightly higher in males than females (24/78 [30.7%] vs. 18/85 [21.1%]) [Table 1]; this however was without statistical significance ($P = 0.16$). A surprisingly small percentage of students (8%) engaged in nargileh (waterpipe) smoking (13 of the 163 participants) [Table 2]. In addition, 72% of nonsmokers did not consume alcoholic beverages as compared to the 60% of smokers who consumed alcoholic beverages once weekly or more; this was with strong statistical significance ($P < 0.0001$) [Table 2]. Of medical students who smoked, 46% cut down or quit smoking since the start of their medical education while 30.8% of smokers smoked more. We noted that the smoking habits of family members were a poor determinant of smoking among the students where 52.4% of smoking students did not have any smoking family member; however, this result was not significant ($P = 0.34$) [Table 3].

Table 1: Sociodemographic variables of the study group

Variables	Total sample	All (smokers and nonsmokers) (%), (*n*=163)	Nonsmokers and ex-smokers frequency (%), (*n*=121)	Occasional and daily smokers frequency (%), (*n*=42)
Sociodemographic	Age			
	18-23	110 (67.5)	86 (71.1)	24 (57.1)
	24-26	51 (31.3)	33 (27.3)	18 (42.9)
	27-30	2 (1.2)	2 (1.7)	0 (0.0)
	Gender			
	Male	78 (47.9)	54 (44.6)	24 (57.1)
	Female	85 (52.1)	67 (55.4)	18 (42.9)
	Medical school			
	AUB	89 (54.6)	70 (57.9)	19 (45.2)
	Balamand	23 (14.1)	13 (10.7)	10 (23.8)
	USJ	6 (3.7)	5 (4.1)	1 (2.4)
	BAU	8 (4.9)	5 (4.1)	3 (7.1)
	LAU	30 (18.4)	25 (20.7)	5 (11.9)
	LU	7 (4.3)	3 (2.5)	4 (9.5)

AUB = American University of Beirut; USJ = University of Saint Joseph; BAU = Beirut Arab University; LAU = Lebanese American University; LU = Liberty University

Table 2: Lifestyle variables among the study group

	All (smokers and nonsmokers) (%), (*n*=163)	Nonsmokers and ex-smokers frequency (%), (*n*=121)	Occasional and daily smokers frequency (%), (*n*=42)	P
Lifestyle variable				
Duration of smoking (years)				
≤5	34 (75.6)	3 (50.0)	31 (79.5)	0.15
>5	11 (24.4)	3 (50.0)	8 (20.5)	
Quantity of cigarettes/day (cigarettes)				
≤20	40 (95.2)	6 (100.0)	34 (94.4)	1.00
>21	2 (4.8)	0 (0.0)	2 (5.6)	
Narjileh				
No	150 (92.0)	117 (96.7)	33 (78.6)	0.001
Yes	13 (8.0)	4 (3.3)	9 (21.4)	
Duration of narjileh smoking (years)				
≤5	29 (72.5)	9 (69.2)	20 (74.1)	1.00
>5	11 (27.5)	4 (30.8)	7 (25.9)	
Consider yourself a smoker (if only narguileh smoker not cigarettes)				
No	14 (37.8)	9 (64.3)	5 (21.7)	0.01
Yes	23 (62.2)	5 (35.7)	18 (78.3)	
Alcohol				
No	104 (63.8)	87 (71.9)	17 (40.5)	<0.0001
Yes	59 (36.2)	34 (28.1)	25 (59.5)	
Coffee				
<1 cup/week	33 (20.2)	26 (21.5)	7 (16.7)	0.50
1 cup/day or more	130 (79.8)	95 (78.5)	35 (83.3)	

Table 3: Social variables among smoking and nonsmoking medical students

	All (smokers and nonsmokers) (%), (*n*=163)	Nonsmokers and ex-smokers frequency (%), (*n*=121)	Occasional and daily smokers frequency (%), (*n*=42)	P
Social variables				
Family smoking				
No	95 (58.3)	73 (60.3)	22 (52.4)	0.37
≥1 parent/sibling	68 (41.7)	48 (39.7)	20 (47.6)	
Social smoking				
No	118 (72.4)	98 (81.0)	20 (47.6)	<0.0001
Yes	45 (27.6)	23 (19.0)	22 (52.4)	
Age start smoking (years)				
<21	40 (85.1)	7 (100.0)	33 (82.5)	0.57
≥22	7 (14.9)	0 (0.0)	7 (17.5)	
Presence of cancer or CVD in the family				
No	66 (40.5)	49 (40.5)	17 (40.5)	0.99
Yes	97 (59.5)	72 (59.5)	25 (59.5)	
Impact of medical school on smoking				
Smoking less or quit	21 (50.0)	3 (100.0)	18 (46.2)	0.20
Same smoking	9 (21.4)	0 (0.0)	9 (23.1)	
Smoking more	12 (28.6)	0 (0.0)	12 (30.8)	
Plan to quit smoking				
No	27 (69.2)	1 (100.0)	26 (68.4)	1.00
Yes	12 (30.8)	0 (0.0)	12 (31.6)	
Reflects about Narguileh				
As harmful as cigarettes	36 (22.4)	22 (18.2)	14 (35.0)	0.01
Less harmful than cigarettes	8 (5.0)	4 (3.3)	4 (10.0)	
More harmful than cigarettes	117 (72.7)	95 (78.5)	22 (55.0)	

Contd...

Table 3: Contd...

	All (smokers and nonsmokers) (%), (*n*=163)	Nonsmokers and ex-smokers frequency (%), (*n*=121)	Occasional and daily smokers frequency (%), (*n*=42)	*P*
Suffer after smoking cessation				
No	22 (53.7)	0 (0.0)	22 (55.0)	0.46
Yes	19 (46.3)	1 (100.0)	18 (45.0)	

CVD = Cardiovascular disease

Table 4: Medical students behavior and thoughts

	All (smokers and nonsmokers) (%), (*n*=163)	Nonsmokers and ex-smokers frequency (%), (*n*=121)	Occasional and daily smokers frequency (%), (*n*=42)	*P*
Med students behavior and thoughts				
Ask patients about smoking habits				
Yes all time	122 (76.7)	98 (82.4)	24 (60.0)	
Occasionally if pertinent to diagnosis	26 (16.4)	16 (13.4)	10 (25.05)	
Offer smoking cessation counseling				
No	49 (30.4)	31 (25.6)	18 (45.0)	0.02
Yes	112 (69.6)	90 (74.4)	22 (55.0)	
Offering scenarios				
To patients with smoking related diseases	32 (29.1)	24 (27.3)	8 (36.4)	0.40
To all patients	78 (70.9)	64 (72.7)	14 (63.6)	
Obligations				
Medical prof have no obligations to patients in lifestyle choices	21 (13.0)	7 (5.8)	14 (34.1)	<0.0001
Medical prof have obligation to set a good example	141 (87.0)	114 (94.2)	27 (65.9)	
Method to decrease smoking				
Increase the price of cigarettes/tobacco	95 (58.6)	78 (64.5)	17 (41.5)	0.005
Improving anti-smoking education in community	48 (29.6)	34 (28.1)	14 (34.1)	
Other	19 (11.7)	9 (7.4)	10 (24.4)	
Knowledge nicotine cessation				
Null knowledge	38 (23.5)	28 (23.1)	10 (24.4)	0.87
Fair to good knowledge	124 (76.5)	93 (76.9)	31 (75.6)	
Counseling				
Not comfortable	104 (64.6)	76 (62.8)	28 (70.0)	0.41
Comfortable	57 (35.4)	45 (37.2)	12 (30.05)	
Thought about smoking law				
Does not help control smoking at all	18 (11.1)	9 (7.4)	9 (22.0)	0.03
Will not be implemented	93 (57.4)	74 (61.2)	19 (46.3)	
It will control the smoking in Lebanon	51 (31.5)	38 (31.4)	13 (31.7)	

Almost half of smoking medical students (52.4% vs. 19% of nonsmoking students) indicated that they have at least one smoking friend in their social groups (*P* < 0.0001) [Table 3]. Thus, the habits of the medical students' social groups were a better determinant of their individual smoking habits.

However, with respect to their beliefs, the majority of medical students (72.7%) (whether smokers or not) believed that nargileh smoking was more harmful than cigarette smoking compared to only 5% of students (smokers and nonsmokers) who believed that nargileh smoking was less harmful than cigarette smoking (*P* < 0.01) [Table 3]. We recognized that smokers were significantly less likely to ask patients about their smoking habits when interviewing them (60% of smokers vs. 82.4% of nonsmokers *P* = 0.009) [Table 4]. Smokers were less likely to offer smoking counseling to their patients (55% smokers vs. 74.4%, *P* = 0.02) [Table 4]. Both groups, smokers and nonsmokers alike, claimed to have a fair to good knowledge on the various smoking cessation

methods. However, more than 64% of students in both groups felt uncomfortable providing their patients with counseling on smoking cessation [Table 4]. We noticed that 34% of smokers (vs. 5.8% of nonsmokers) felt that they had no obligation to society (*P* < 0.0001) [Table 4]. The top reasons given by smoking students to smoke were that they either enjoy the act (59.9%) or it relieves their stress (54.8%) [Table 4]. Almost one-third (31%) of smokers claimed that they picked up the smoking habit from friends/family. The majority of smoking and nonsmoking students (58.6%) suggested that the best method to decrease smoking would be to increase the price of tobacco while 29.6% of students believed that improving anti-smoking education in community is the best method to decrease smoking.

Discussion

This study showed that almost 25.8% of Lebanese medical students identify themselves as smokers and only 8% of

Lebanese medical students smoked waterpipe (narjileh). We also found that having a smoking friend is a strong determinant for smoking among medical students where 52.4% of smokers reported having at least one smoking friend in their social groups. Comparing our results to regional and international rates, we notice that Lebanon stands among the countries where smoking in the medical students' population is most prevalent [Table 5].[8,9-11] This might be a reflection of the high prevalence of smoking in the Lebanese population (43%).[5]

In this study, we found that nonsmoking medical students were more likely to ask (82% nonsmokers vs. 60% smokers) and counsel (74% nonsmokers vs. 55% smokers) patients about their smoking habits. In addition, it was more likely for smokers to feel they had no obligation to set a good example in their society than nonsmokers (34% vs. 5.8% $P < 0.0001$). Thus, we notice medical student' smoking habits might have an effect on their role and responsibility to fight the smoking epidemic.

Smoking cessation advice is essential in the fight against smoking. Alone, it is a cost-effective, efficient intervention against smoking.[12] However, as we mentioned earlier, smoking medical students are less likely to counsel their patients about smoking cessation than nonsmokers. Therefore, we should readdress the issue of smoking in medical students. Smoking might be affected the ability of medical students to give the cost-effective, efficient smoking cessation advice and lose their critical role in this field where only a brief advice from a health professional can substantially increase smoking cessation rates.[12]

Gaps existing in the undergraduate medical education in the methods used to train medical students in tobacco intervention were investigated by Spangler *et al*. They found a lack of integration of tobacco dependence information throughout all 4 years of medical school curricula. Specific training in smokeless tobacco intervention is also absent. Addressing cultural issues in tobacco intervention training which is essential is deficient. Furthermore, long-term studies showing that such training is retained are nonexistent.[13] In addition, Ferry *et al*. proposed the development of a body of core teaching materials that all schools could integrate throughout the 4 years of undergraduate medical education.[14]

Conclusion

Approximately one in four Lebanese medical students is smoker. Students who smoke are less likely to ask patients

about their smoking habits and less likely to counsel their patients on smoking cessation. This knowledge is a major drawback in the fight against tobacco where medical students, the future physicians, educators, and researchers should be in a key position to influence future tobacco cessation programs. Therefore, anti-tobacco awareness should be integrated in medical schools curricula.[13,14] Perhaps we need to better educate our future doctors on smoking cessation and implement laws that decrease the smoking burden on our Lebanese society and worldwide.

Conflicts of interest
There are no conflicts of interest.

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Table 5: Prevalence of smoking in five different regions

Country	Smoking (%)	Waterpipe (%)	All other tobacco products
Lebanon	25.8	8	-
Berlin, Germany	25	-	-
Gaza/west bank	22.7	-	12.3
USA	11	-	-
Syria	10.9	23.5	-
Iran	5.6	-	9.9

Questionnaire

Below is the formulated questionnaire

1. Please indicate your sex
    ☐ Male
    ☐ Female.

2. Please indicate your age range
    ☐ 18–23
    ☐ 24–26
    ☐ 27–30
    ☐ >30.

3. Please indicate which medical school you attend
    ☐ American University of Beirut
    ☐ University of Balamand
    ☐ Beirut Arab University
    ☐ Lebanese American University
    ☐ Lebanese University
    ☐ Holy Spirit University of Kaslik
    ☐ University of Saint Joseph.

4. Please indicate you educational level
    ☐ 1st year of medical school
    ☐ 2nd year of medical school
    ☐ 3rd year of medical school
    ☐ 4th year of medical school
    ☐ 5th year of medical school
    ☐ 6th year of medical school
    ☐ 7th year of medical school.

5. Please identify yourself as one of the followings:
    ☐ I am a daily smoker: A person who has smoked more than 100 cigarettes in their lifetime and who continues to smoke at least one cigarette/day
    ☐ I am an occasional smoker: A person who smokes 1–2 cigarettes/week
    ☐ I am a nonsmoker: A person who has never smoked in their lifetime
    ☐ I am an ex-smoker: A person who was formerly a daily smokers but currently does not smoke.

6. If you have identified yourself as a smoker/ex-smoker, please indicate the approximate number of years you have/had been smoking for.
    ☐ <1 year
    ☐ 1–2 years
    ☐ 3–5 years
    ☐ 5–10 years
    ☐ Longer than 10 years.

7. If you have identified yourself as a smoker/ex-smoker, please indicate the average number of cigarettes you smoke/smoked per day
    ☐ I smoke not more than 5 cigarettes/day
    ☐ I smoke 5–10 cigarettes/day
    ☐ I smoke 10–15 cigarettes/day
    ☐ I smoke 15–20 cigarettes/day
    ☐ I smoke 20–40 cigarettes/day
    ☐ I smoke more than 40 cigarettes/day.

8. Do you engage in waterpipe (nargileh) smoking?
    ☐ I have never smoked a waterpipe (nargileh)
    ☐ I smoke waterpipe (nargileh) on a daily basis (for 1 h or longer)
    ☐ I smoke waterpipe (nargileh) occasionally (once- twice per week for an hour or longer)
    ☐ I smoke waterpipe (nargileh) about once a month (for 1 h or longer).

9. If you engage in waterpipe (nargileh) smoking, how many years have you been smoking for?
    ☐ <1 year
    ☐ 1–2 years
    ☐ 3–5 years
    ☐ 5–10 years
    ☐ Longer than 10 years.

10. If you engage in waterpipe (nargileh) smoking but not in cigarette smoking, do you consider yourself a smoker in the general sense of the word?
    ☐ Yes
    ☐ No.

11. How often do you consume alcoholic drinks?
    ☐ Never
    ☐ Daily
    ☐ Once or twice per week
    ☐ Once per month
    ☐ Fewer than once per month.

12. How often do you consume coffee or caffeinated drinks including tea and cocoa-based drinks?
    ☐ More than 3 cups/day
    ☐ 2–3 cups/day
    ☐ One cup/day
    ☐ One cup/week
    ☐ One cup/month
    ☐ Never.

13. How often do you exercise?
    ☐ Minimal exercise (0–2 h/week)
    ☐ Moderate exercise (3–7 h/week)
    ☐ Heavy (>1 h/day).

14. Do you have any family member/s who smoke?
    ☐ Yes, 1 parent or sibling
    ☐ Yes, 2 parents or siblings
    ☐ Yes, 3 or more members of my direct family/household
    ☐ Yes, but none in my direct household (i.e. my aunts/uncles/cousins/grandparents).

15. Would you say that your friends or social group are mostly smokers?
    ☐ None of my friends smoke
    ☐ All of my friends are smokers
    ☐ Most of my friends are smokers
    ☐ Only few of my friends are smokers.

16. Do you have any family member affected by cancer or cardiovascular disease?
    ☐ Yes
    ☐ No.

17. If you are a current smoker or ex-smoker, at what age did you start smoking?
   - ☐ <15 years of age
   - ☐ 15–18 years of age
   - ☐ 18–21 years of age
   - ☐ >22 years.

18. If you are a nonsmoker, which most fits your primary reason for never smoking? (You may pick more than one answer)
   - ☐ Due to personal health limitations
   - ☐ So as to set a good example for others
   - ☐ Because I have self-discipline
   - ☐ Smoking is not something that interests me
   - ☐ So as not to cause discomfort to others
   - ☐ To preserve my image among my family and friends.

19. If you are a smoker or ex-smoker, what would you say was your reason for smoking? (You may pick more than one answer)
   - ☐ I enjoy the act of smoking
   - ☐ To relieve stress/anxiety
   - ☐ I picked it up from friends/family and got hooked
   - ☐ Smoking helps suppress my appetite, keeps me in shape
   - ☐ I need the sensory stimulation due to my hyperactivity
   - ☐ I smoke because of social pressure
   - ☐ Smoking provides a means to meet new people.

20. If you are an ex-smoker, what was the primary reason for which you quit smoking? (You may pick more than one answer)
   - ☐ Due to a deterioration in my personal health
   - ☐ To present a good example for family and society
   - ☐ Not to bother others in my work or social life
   - ☐ To preserve my health and avoid the risk that comes with smoking
   - ☐ Pressure from family and friends to quit.

21. If you are a smoker, how has medical school impacted your smoking habits?
   - ☐ There has been no change in my smoking habits
   - ☐ I smoke 25–50% more now that I am in medical school
   - ☐ I smoke 25–50% less now that I am in medical school
   - ☐ I have doubled my smoking habits since starting medical school
   - ☐ I have quit smoking now that I am in medical school.

22. If you are a current smoker, do you have plans to quit smoking?
   - ☐ Yes, I am working on it right now
   - ☐ Yes, probably once I am done with medical school
   - ☐ Yes, probably once I am at an elderly age
   - ☐ No, I do not plan to stop smoking.

23. Which of the following most closely reflects your view on waterpipe (nargileh smoking)
   - ☐ Waterpipe (nargileh) smoking is less harmful to the health than is cigarette smoking
   - ☐ Waterpipe (nargileh) smoking is more harmful to the health than cigarette smoking
   - ☐ Waterpipe (nargileh) smoking is just as harmful as cigarette smoking

   - ☐ Waterpipe (nargileh) smoking is not harmful to the health.

24. If you are a smoker, have you suffered any of the following in the last 12 months?
   - ☐ Chronic daily cough
   - ☐ Recurrent upper respiratory tract infections
   - ☐ Limitations in my physical fitness
   - ☐ A diagnosis of cancer/cardiovascular disease (including diabetes) or a lung disease.

25. Do you ask your patients about their smoking habits?
   - ☐ Yes, all the time
   - ☐ Yes, but only when I feel it is pertinent to the diagnosis or illness
   - ☐ Yes, when I feel they will not be offended by the question
   - ☐ No, their smoking habits a personal affair I do not like to ask about.

26. Do you offer smoking cessation counseling to patients who smoke?
   - ☐ Yes
   - ☐ No.

27. If yes, in what scenarios?
   - ☐ To patients with smoking related diseases
   - ☐ To patients who raise questions about smoking
   - ☐ To patients with cardiovascular/cancer-related risk factors
   - ☐ To all patients who smoke.

28. Which of the following statements do you agree with most?
   - ☐ I believe medical professionals have an obligation to set a good example to patients and that includes refraining from smoking
   - ☐ I believe medical professionals have an obligation to set an example to patients but that only extends to working hours and to the vicinity of the hospital/clinics
   - ☐ I have no obligation to patients regarding my lifestyle choices; when I give advice to my patients, it is not relevant whether I smoke or not.

29. Which in your opinion represents the most effective method to decrease smoking among the general population?
   - ☐ Placing health warnings on cigarette/tobacco products
   - ☐ Restricting smoking in closed spaces
   - ☐ Increasing the price of cigarettes/tobacco…
   - ☐ Improving the current anti-smoking education programs
   - ☐ Encouraging better smoking counseling from health care workers.

30. What do you know about nicotine replacement, cognitive behavioral therapy, varenicline, bupropion, and alternative medicine in the use of smoking cessation?
   - ☐ I know nothing at all
   - ☐ I have a small general knowledge on each method
   - ☐ I know everything there is to know on each method.

31. How do you feel about counseling patients on the above mentioned smoking cessation aids and techniques?
    - ☐ I do not feel comfortable or competent enough to counsel patients on the subject
    - ☐ I am comfortable with my knowledge on the subject and I counsel people all the time.

32. Recently, a Lebanese law was passed that bans smoking in closed spaces. What do you think about that law?
    - ☐ It is a very important law that helps control the smoking epidemic in our country
    - ☐ It is a good law, but I do not believe it will be implemented
    - ☐ It does not help control smoking at all.