

Research Article

Knowledge and practices among male medical students regarding smoking and its hazards

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ABSTRACT

Background: Tobacco use is the leading preventable cause of death worldwide, and according to the latest estimates, by year 2030, 10 million annual tobacco-attributable deaths worldwide, 70% of which will be in low-middle-income countries. The purpose of study was to assess the knowledge and practices regarding cigarette smoking among male medical students in Allama Iqbal Medical College, Lahore, Pakistan and to assess the awareness of students regarding smoking related health hazards.

Methods: A Cross-Sectional Study was conducted From May 2009 - September 2009 in Allama Iqbal Medical College, Lahore, Pakistan. The male students enrolled in Allama Iqbal Medical College Lahore, were selected by non-probability convenient sampling.

Results: In present study 47.3% respondents were smokers, 94.1% were knowledgeable about hazards of smoking, 85.9% were aware about passive smoking, and 19.1% started consuming tobacco below 17 years of age. Only 19.1% tried to quit smoking but none of them succeeded. 25% have no family association of smoking. There were 18.2% who's mostly close friends were smokers only 13.2% smokes more than 15 cigarettes daily. 43.6% said they would smoke cigarette if one of their close friends offer them. 30.5% believe cigarette smoking help to relax and 25% want to quit smoking among them 10% want to quit due to its hazards while 5.9% due to family pressure.

Conclusions: Present study concluded that high proportion male medical students smoke cigarette. Most of them were unaware about tobacco consumption hazards, and passive smoking.

Keywords: Smoking, Prevalence, Tobacco, Cigarettes, Medical students

INTRODUCTION

Tobacco use is the leading preventable cause of death worldwide, and according to the latest estimates, by year 2030, 10 million annual tobacco-attributable deaths worldwide, 70% of which will be in low-middle-income countries.¹⁻⁵ Tobacco is currently accounting for approximately five million deaths per year.⁶ These shocking predictions highlight the need for developing nations to examine patterns and determinants of tobacco use, develop effective cessation interventions, and train

their own tobacco control scientists.⁷ Tobacco Smoking in Pakistan is not limited only to cigarettes, and huqqa (Sheesha), chewing tobacco in, pan; snuff and niswar are some other forms of intake.

The commonest habit is that of cigarette smoking followed by different forms of chewing tobacco (qiwam, niswar etc).⁸ Experts divide smoking tobacco in to two broad categories-smoking and smokeless tobacco.⁹ Smoking creates pollution and is injurious to health even if inhaled passively 3 More than 4000 poisonous

chemicals have been identified in tobacco smoke and about 60 of these are carcinogens, acting as tumor initiators and tumor promoters.¹⁰ Some of these compounds are tar, carbon-monoxide, hydrogen-cyanides, phenols, ammonia, formaldehyde, benzene, nitrosamine and nicotine.¹⁰

In many developing countries, physicians represent an important asset in the fight against tobacco, owing to their respectability in the society as a credible source of health information.¹¹ Studies have shown repeatedly the positive role of physicians in influencing patients' tobacco use, assisting in their smoking cessation efforts, and influencing national tobacco control policies.¹²⁻¹⁴ This positive role is obviously hindered by physicians' own tobacco use practices, which place their messages at conflict with their behavior.¹⁵

Since tobacco use practices and beliefs about tobacco are formed early in life, it becomes interesting to look at the development of tobacco use among medical students, and how their education may have influenced their beliefs and practices.

Evidences suggest that tobacco use remain widespread among medical student despite their better knowledge of involved risks.^{16,17} Studies show that advice and support from the primary care doctors to individuals who are contemplating stopping is the simplest and most cost effective method, though the newly published smoking cessation guidelines also describe more intensive interventions.¹⁸⁻²¹ The review on medical students' attitudes and knowledge of tobacco issues by Richmond published in issue of *Thorax* is therefore cause for concern.¹⁷ A recent study of tobacco use practices among medical students in Pakistan showed worrisome trends with 22% of male students smoking cigarettes.²² The importance of this knowledge was to guide medical schools in Pakistan and the region about the adequacy of their tobacco control training and curricula is the main reason behind the conduction of this study.

The objectives of present study were to assess tobacco use practices and knowledge among male medical students awareness of students regarding smoking related health hazards.

The purpose of present study also included assessment of skills and training in tobacco cessation counseling and intervention among medical students, and to suggest measures to involve medical doctors in tobacco cessation and other anti-tobacco interventions. By the help of this study we were also able to interpret strength of association like age class and socio economic factors with prevalence of smoking.

METHODS

This study was a cross-sectional study and was conducted in Allama Iqbal Medical College, Lahore, Pakistan. Male

medical students enrolled in Allama Iqbal Medical College Lahore, was selected by non-probability convenient sampling from May 2009 to September 2009.

Sampling technique

Non-probability/purposive sampling

Sample size was calculated by using Epi Info 6.04d (2004) with following statistical parameters.²³ Confidence level=95%; Expected proportion=37%; Expected error=±3; required sample size=220

Inclusion criteria

All the male medical students, enrolled in Allama Iqbal Medical College.

Exclusion criteria

Female medical students, enrolled in Allama Iqbal Medical College

Data collection

The study instrument was a structured questionnaire, designed in English. The questionnaire was developed in English from relevant instruments used for the assessment of tobacco use including the Global Health Professionals Survey (GHPS), and the Global Youth Tobacco Survey (GYTS).²⁴⁻²⁶ Smoking status was established in accordance to the WHO criteria for cigarette smoking and the criteria set by Maziak et al.²⁷

The subject taking tobacco in form of inhalation were characterized as regular smoker if they smoke 2-10 cigarette/day regularly without off days or occasional smoker if they smoke Less 1 cigarette/day occasionally. The student was considered non-smoker if subject who at the time of the survey, did not smoke for at least one year.

The questionnaire inquired about socio-demographic details of participants, their smoking behavior, family and peer smoking, attitudes and beliefs about smoking and quitting, students' role as future physicians in advising their patients to quit smoking, and finally students' position about banning smoking in public places. Smokers in addition, were asked about their first smoking attempt, tobacco consumption (cigarettes per day), and their preferred cigarette brand. The questionnaire was administered to 20 randomly selected individuals from survey's intended population and pre-tested 10 times. The questions not understood by respondents, or subjected to multiple interpretations; and redundant or unnecessary questions were removed. The wording of some questions was improved accordingly.

Data was entered and analyzed in SPSS 17.0 (SPSS Inc., 2008). Frequency tables were generated with percentage, for the variables like percentage of male

medical students who smokers, frequency of cigarette smoking, Knowledge and practices regarding hazards of smoking. The research was conducted after approval from head of institution and informed consent was taken from each participants and form was printed on the questionnaire.

RESULTS

We received a total of 220 completed questionnaires, out of them 15% (n=33) from 1st year, 17.7% (n=39) from 2nd year, 25% (n=55) from 3rd year, 21.8% (n=48) from 4th year and 20.5% (n=45) were from final year (Table 1).

Table 1: Frequency distribution of students according to class.

	Frequency	Percent
1st year	33	15
2nd year	39	17.7
3rd year	55	25
4th year	48	21.8
5th year	45	20.5
Total	220	100

There were 104 students which are smokers and constitute 47.3%, while 116 were non-smokers which were 52.7% (Table 2).

Table 2: Frequency distribution of smoker and non-smoker.

Smoking	Number	Percentage
Yes	104	47.3
No	116	52.7
Total	220	100

The effect of family discussion was asked and 127 (57.7%) respondents answered that their families had discussion on effects of smoking while 93 (42.3%) had not. Out of 220 respondents 207 (94.1%) were aware of smoking hazards while 13 (5.9%) were not rest of the respondents did not give any answer which are almost 3.6% (Table 3).

Table 3: Frequency distribution of aware of smoking hazards.

	Frequency	Percent
Yes	207	94.1
No	13	5.9
Total	220	100

Parents of 48 (21.8%) knows that they are smokers while 56 (25.5%) answered their parents are not aware of this. There were 169 (76.8%) strongly agreed that tobacco is physically addicted while 51 (23.2%) strongly disagreed with this. The knowledge about the adverse effects of smoking was tested and 26 (11.8%) answered that

smoking is directly related to diabetes while 108 (49.1%) directly related CHD with the smoking and 99 (45%) agreed that it causes respiratory diseases.

Out of total respondents 185 (84.1%) considered passive smoking as a risk factor, 31 (14.1%) did not considered it as a risk. Only 114 (51.8%) respondents had studied the literature about smoking while 106 (48.2%) had not.

There were 167 (75.9%) that know the contents of cigarette smoke while 53 (24.1%) did not know. Only 56 (25.5%) had participated in anti-smoking awareness campaigns while 164 (74.5%) have not. There were only 60(27.3%) of the respondents who gave the reason for not smoking as smoking hazards, 5 (2.3%) economic affordability, 15 (6.8%) dislikes tobacco smell, 20 (9.1%) told the electronic media as preventive measure and there are 16 (7.3%) who did not smoke but have no reason (Table 4).

Table 4: Main Reasons for not smoking.

	Frequency	Percent
Smoking hazards	60	27.3
Economic affordability	5	2.3
Tobacco smell	15	6.8
Electronic media	20	9.1

There were 12 (5.5%) who started smoking at the age of 8-12 years, 30 (13.6%) at the age of 13-16 years, while 62 (28.2%) started at the age of 17-20 years. The respondents were asked about the number of cigarettes smoke per day, 32 (14.5%) said they smoked 1-5 cigarettes per day, 26 (11.8%) smoked 6-10 cigarettes per day, 17 (7.7%) smoked 11-15 cigarettes per day, while 29 (13.2%) answered that they smoked more than 15 cigarettes per day. There were 19 (8.6%) who's fathers were smokers, 3 (1.4%) answered that their mothers smoked cigarettes as well while 27 (12.3%) replied that both the mother and father are smokers.

There were 55 (25%) respondents that said none of their close friends smoke, some friends of 85 (38.6%) smoke, most close friends of 40 (18.2%) whereas all friends of 40 (18.2%) smoke cigarettes. There were 74 (33.6%) that said they would definitely smoke when their friends offer them, 50 (22.7%) said probably not to smoke while 96 (43.6%) said they would definitely smoke if their friends offer.

Personal likings and disliking were asked; 61 (27.7%) said that when they saw a man smoking thought him a stylish, 58 (26.4%) considered them as tensed, 33 (15%) as confidant while 68 (30.9%) considered them as fool. There were 67 (30.5%) that said smoking helped to relax, 47 (21.4%) said smoking was enjoyment, while 29 (13.2%) said they had nothing else to do while 77 (35%) said there are no benefits in smoking. When asked about the effects of not smoking, 40 (18.2%) said they felt depression, 20 (9.1%) felt insomnia while 44 (20%)

answered as restlessness. Only 37 (16.8%) had been advised by their parents to quit smoking, 42 (19.1%) by their friends while 25 (11.4%) had not been advised by anyone. There were 55 (25%) that want to quit smoking, 49 (22.3%) did not want to do so while 42 (19.1%) have quitted smoking in the past and 62 (28.2%) did not wish to do so. There are 25 (11.4%) said they started smoking again due to pressure from friends and 20 (9.1%) due to

the body needs. The respondents were asked if they quit smoking what would be the reason and 22 (10%) said it would be due to its hazards, for 13 (5.9%) family pressure, 2 (0.9%) due to economic burden while 8 (3.6%) say without any reason. 5th year students were more likely to smoke (23.5%) while first year students were less likely to smoke (12.5%) and number of smokers increased with each passing year (Table 5).

Table 5: Relationship between smoking attitudes and academic year.

Are you a smoker?	Class					Chi-square
	1st year	2nd year	3rd year	4th year	5th year	
Yes	13 (12.5%)	23 (22.1%)	21 (20.2%)	23 (22.1%)	24 (23.1%)	0.243
No	20 (17.2%)	16 (13.8%)	34 (29.3%)	25 (21.6%)	21 (18.1%)	
Total	33 (15.0%)	39 (17.7%)	55 (25.0%)	48 (21.8%)	45 (20.5%)	

DISCUSSION

Tobacco is the single most preventable cause of death in the world today with five million deaths per year.²⁷ By 2030, the death toll will exceed eight million a year. Unless urgent action is taken, tobacco could kill one billion people during this century.

We took medical students as the focus of present survey as the attitudes and practices towards tobacco use of these young health professionals can influence future policies and practice. If medical students are smoking then the credibility of anti-smoking messages to the public is lost.

Medical students are a group that should be more aware than young people of the same age about the health hazards associated with smoking. Among our respondents smoking prevalence was 39.4% in 1st year, 59.0% in 2nd year, 38.2% in 3rd year, 47.9 % in 4th year and 53.3% in final year students which was unexpectedly higher among 2nd year students. The prevalence of smokers among medical students in the year 2000 was 14.4%, which is higher than a similar study conducted in 1993 (11%).²⁸

However, this is lower than the prevalence of current smokers in studies of European medical students (21%) and other Asian medical students (18%–24%).²⁹⁻³¹ The prevalence of smoking in medical students of our college was higher (47.3%) than the general population 34 and among medical students of neighboring countries; 29% in Saudi Arabia, 10.9% in Syria and 18.5% in Iran.³³⁻³⁵

This may look as an indicator of a more poor health attitude among medical students. In a study reported by Khan et al, prevalence of smoking among hospital employees was found 41%.³⁶ Health professionals are taken to be role models by patients and their attendants and expected to play an active part in educating public

against hazards of smoking. As 31% doctors in our study were smokers themselves, it may be one of the hindrances in effective health education against smoking. All health care institutions should be made smoke-free.

Table 6: Relationship between smoking attitudes and aware of smoking hazards.

Are you a smoker?	Aware of smoking hazards?		Chi-square
	Yes	No	
Yes	90 (90.0%)	10 (10.0%)	0.026
No	109 (97.3%)	3 (2.7%)	
Total	199 (93.9%)	13 (6.1%)	

Among smokers 53.8% respondents believe that family discussion has effect on smoking attitude but there was no significant relationship among family discussion and smoking attitude (P=0.211). 90% smokers were aware of smoking hazards and there was a significant negative relation between smoking and awareness of hazards (P=0.026) (Table 6).

As 60.4% of smokers had started smoking after joining medical college. There was a strong association between smoking attitudes and its addiction (P=0.000) (Table 7).

Table 7: Relationship between smoking attitudes and physical dependence.

Are you a smoker?	Tobacco use is physically addictive?		Chi-square
	Strongly agreed	strongly disagreed	
Yes	65 (63.1%)	38 (36.9%)	0.000
No	96 (88.1%)	13 (11.9%)	
Total	161 (75.9%)	51 (24.1%)	

The awareness of smoking hazards was 93.9% unlikely only 50.5% know that smoking leads to CHD (P=0.038)

(Table 8). 50.9% respondents had studied the literature and interestingly 49.5% were smokers (Table 9). Parents of most of the smokers (68.3%) in present study did not smoke (P=0.009) (Table 10).

Table 8: Relationship between awareness of smoking hazards and CHD.

Aware of smoking hazards?	CHD		Chi-square
	Yes	No	
Yes	104 (52.3%)	95 (47.7%)	0.038
No	3 (23.1%)	10 (76.9%)	
Total	107 (50.5%)	105 (49.5%)	

Table 9: Relationship between smoking attitudes and literature study on smoking.

Are you a smoker?	Have ever you studied literature on smoking?		Chi-square
	Yes	No	
Yes	50 (49.5%)	51 (50.5%)	0.399
No	60 (52.2%)	55 (47.8%)	
Total	110 (50.9%)	106 (49.1%)	

Table 10: Relationship between smoking attitudes and parental smoking.

Are you a smoker?	Do your parents smoke?		Chi-square
	No	Yes	
Yes	69 (68.3%)	32 (31.7%)	0.009
No	86 (83.5%)	17 (16.5%)	
Total	155 (76.0%)	49 (24.0%)	

Their beliefs contrast with another study showing a statistically significant positive correlation between parental tobacco use and the risk of smoking among students.³⁷ However the smoking attitude was very significantly related to friends smoking attitudes

(P=0.000) (Table 11). There were 94.1% smokers whose friends were smokers.

Table 11: Relationship between smoking attitudes and friends smoking habits.

Are you a smoker?	Does any close friend smoke?		Chi-square
	No	Yes	
Yes	6 (5.9%)	95 (94.1%)	0.000
No	41 (39.8%)	62 (60.2%)	
Total	47 (23.0%)	157 (77.0%)	

The smoking was very significantly related to community perceptions (p=0.000) (Table 12).

Among the smokers 42.4% considered a smoker as stylish which is an alarming sign and may be the leading cause of smoking in young generation. The majority of smokers 45.2% wanted to quit smoking in the future, with smoking hazards being the major concern. This was also the most common reason for not starting smoking among non-smokers.

This shows that, probably due to the ongoing anti-smoking campaign in Pakistan, medical students are aware of many, if not all, of the health risks associated with smoking. Like smokers among the general public, a high proportion (49.1%) of medical students had also tried to quit smoking at least once in their lives but without success.

Special training is therefore required for all health professionals and medical students to assist them in giving up smoking. It was encouraging to see that most of the students thought that smoking, including passive smoking, was injurious to health. Better undergraduate medical training of medical students about all the health risks associated with smoking is required so that as physicians they are better prepared to counsel patients who smoke.

Table 12: Relationship between smoking attitudes and general perception of smokers.

Are you a smoker?	When you see a man smoking what do you think of him?				Chi-square
	Stylish	Tensed	Confident	Foolish	
Yes	42 (42.4%)	22 (22.2%)	27 (27.3%)	8 (8.1%)	0.000
No	15 (15.3%)	32 (32.7%)	5 (5.1%)	46 (46.9%)	
Total	57 (28.9%)	54 (27.4%)	32 (16.2%)	54(27.4%)	

CONCLUSIONS

Present study concluded that high proportion male medical students smoke cigarette. Most of them were unaware about tobacco consumption hazards, and passive smoking.

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Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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