

# Factors and Frequencies Associated With Cigarette Smoking Initiation in Undergraduate Medical Students

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## ABSTRACT

**Background:** Cigarettes smoke contains many carcinogens and is highly injurious to health and according to statistics the relative risk of heart and respiratory diseases and its mortality is double in smokers as compared to non-smokers. However, smoking cessation reduces the risk of major diseases dramatically and, in some cases, to the same level as that of non-smokers. In Pakistan, doctors are role models of healthy life style and their advice are listened and practiced accordingly.

**Aim:** To identify among medical students, the initiation period, influencing factors for tobacco smoking, knowledge of tobacco related health hazards and efforts made by smokers to quit smoking.

**Methodology:** A cross-sectional study was conducted on a convenient sample of private medical college students by using an anonymous self-administered structured questionnaire. The questionnaire was based on demography, awareness regarding smoking hazard, direct consequences of cigarette smoking, factors playing vital role in initiating smoking habit and any measure to quit cigarette smoking.

**Results:** During the study, out of 218 a total of 211 students (136 male and 75 females) responded voluntarily (response rate of 96.8%) to the questionnaire. The overall frequency of students who ever smoked was 43% (males 87% and females 13%). Among 91 smokers 66 (73%) initiated smoking after getting admission in medical college (85% males and 15% females), among these 66 smokers 51% identified stress (82% males and 18% females) as the main cause of initiating smoking after joining medical college. Generally, out of all the 211 respondents irrespective of smokers and non-smokers, 36% listed cancer as top while 21% shared COPD as second and 20% Cardiac diseases as third health implication of cigarette smoking. Among 91 smokers almost 37% students (males 79% and females 21%) tried to quit smoking while 63% did not make any effort to quit smoking.

**Conclusion:** As indicated by the majority of the students who responded to the survey there is need to identify the adverse & life-threatening consequences of smoking. Also to educate and train students about the methods to refraining and quitting smoking

**Keywords:** Smoking, Medical Students, Initiation, Lahore, Quitting.

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## INTRODUCTION

Cigarette smoking is major public health concern throughout the world. Smoking is an intentional act of inhalation of its smoke for tasting and absorbing substance in blood stream<sup>1</sup>. According to WHO almost 5.4 million die each year due to tobacco smoking therefore referred as major preventable cause of death and disability worldwide specially developing countries<sup>2</sup>. In the Developing countries around 30% of the total smokers belong to Asia-Pacific and China leads among them with 60% of male population and 04% females are smokers. Similar figures are also seen in Malaysia, Japan and Indonesia<sup>3-4</sup>. Tobacco smoking is very common in Pakistan and its industry is flourishing at a rate of 5% annually<sup>5-6</sup>. In a study conducted in 52 countries showed that 35.7% of myocardial infarctions are attributed to smoking<sup>7-8</sup>. A study conducted in Pakistan observing mean age at initiation of smoking was 16-18 years, total frequency of smoking was 7.4% (n=51/689), 49% used

shisha, 13.7% used Cigarette and 37% used both modes of smoking. Strong relationship between advertisement on Social media and smoking was found among non-smoker females, 19% frequently visit shisha bar with family and friends<sup>7</sup>. In some developed countries smoking rates are decreasing at about 1% a year while in under developing countries are increasing around 3% per year<sup>6</sup>. Medical students are taken as role model for quitting smoking so quitting smoking rate is much higher in medical smokers on brief or simple counseling by physicians or public health specialists<sup>9</sup>. Medical schools are an important site for education and cessation efforts. Similarly, it is worth mentioning that as per health education and several initiatives against tobacco smoking, smokers are tending to quit smoking due to risk of major diseases. This is most likely reason of giving up smoking among smokers and non-initiation of smoking among non-smokers<sup>10,11</sup>.

Smoking is more prevalent in male students as compared to females especially in higher education institutions. According to a study, medical student of Asian origin are less prevalent to tobacco smoking as compared to European students<sup>12</sup>. The average prevalence observed

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in first and final year Asian medical student is 4% and 11% respectively<sup>13</sup>. It is found in one study that 36.3% medical students used nicotine and tobacco to enhance capabilities and reduce depression due to exams<sup>14</sup>. Such studies are never conducted on medical students of Pakistan. Therefore, it is important to look into the initiation causes, prevalence, and association with anxiety of smoking among medical students in addition to accessing their knowledge about tobacco health hazards. This will help in optimal planning & monitoring of tobacco smoking quitting programs and healthy life style thus promoting quality of life.

The aim of the study is to identify among medical students, the initiation period, influencing factors for tobacco smoking, knowledge of tobacco related health hazards and efforts made by smokers to quit smoking.

## METHODOLOGY

A structured questionnaire was used in this cross-sectional study to collect the data. Study was conducted in a private medical college of Lahore. The studied medical and dental college is having strength of 439 students. Target sample was selected on convenient method and were students studying in four professional years of MBBS (1<sup>st</sup>, 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> Year MBBS). The participation of the students was voluntary and willingness to participate basis. Anonymous questionnaire was used for this survey and the sections comprised of questions that relates to demographic data, knowledge, attitude and practice. Questionnaire consists of closed questions. All the respondents were optimally briefed about the study & survey and answered all the concerns to their satisfaction. A verbal consent was taken from every student that was approached prior to responding the survey questionnaire. Data was analyzed by using IBM SPSS version 23.

## RESULTS

On the day of survey 218 students were approached 49.6% of the entire college student population and among them only 211 (97%) responded to the survey forms. During the study, out of 218 a total of 211 students (64% male and 36% females) responded voluntarily (response rate of 96.8%) to the questionnaire. Among the respondents, 23% students were of First Professional (Part 1), 25% were of First Professional (Part 2), 31% students were of Second Professional and 21% students were from Third Professional. The overall percentage of smokers among the respondents was 43% that include 86% males and 14% females (Table 1). Among the overall smokers 73% (85% males and 15 females) started smoking after their enrolment in medical college (Table 2). Majority of the respondent's rated cancer 36% as top most hazard of smoking while Chronic Obstructive Pulmonary Disease (COPD) 21% second and heart diseases 20% third (Fig. 1). Out of total 211 respondents, males were more aware that is around 22-48% about the tobacco health hazards as compared to females 08-28% (Fig. 2). It is also observed that main reason behind initiating smoking after enrolment in medical college was stressful environment of medical college 51% (82% males and 18% females) while peers' pressure is second with 24% (81% males and 19%

females) (Table 3). Among the smokers 83% complain about bad breadth (88% males and 12% females) while psychological and physical dependency rated second and third respectively (Table 4). Among the overall 91 smokers only 37% (79% male and 21% females) try to quit smoking (Table 5), Among 34 who tried quitting smoking, 70% (88% males and 12%) used nicotine chewing gums as main quitting agent (Table 6).

Table1: Gender-wise frequency of Smokers and Non-smokers:

Respondent gender	Total student	Smokers	Non smokers
Mix	211(100%)	91(43%)	120(57%)
Male	136(64%)	78(86%)	58(48%)
Female	75(36%)	13(14%)	62(52%)

Table 2: Gender wise initiating time of smoking:

Gender	Smoker	Smoking Initiation	
		Before enrollment in Medical College	After enrollment in Medical College
Mix	91(100%)	25(27%)	66(73%)
Male	79(87%)	23(92%)	56(85%)
Female	12(13%)	2(8%)	10(15%)

Table 3: Gender wise Frequency of causes of tobacco smoking initiation after the enrolment in medical Colleges:

Causes of Initiating Smoking in Medical College	Mix	Male	Female
Stress	34(51%)	28(82%)	6(18%)
Peers Pressure	16(24%)	13(81%)	3(19%)
Feeling Independent of	11(17%)	10(91%)	1(9%)
Others	3(5%)	3(100%)	0
Not Known	2(3%)	2(100%)	0
Total	66(100%)	56(84%)	10(16%)

Table 4: Implications of Smoking.

Implications	Mix	Male	Female
Bad Breath	76(83%)	67(88%)	9(12%)
Psychological Dependence	8(9%)	6(75%)	2(25%)
Physical Dependence	6(7%)	5(83%)	1(17%)
Others	1(1%)	1(100%)	0

Table 5: Gender wise frequency of Smokers tried to quit smoking:

Quitting methods	Mix	Male	Female
Effort made for quitting	34(37%)	27(79%)	7(21%)
No effort	57(63%)	52(91%)	5(9%)
Total	91(100%)	79(87%)	12(13%)

Table 6: Gender wise Frequency of Smoker using various methods for quitting smoking:

Quitting methods	Mix	Male	Female
Nicotine Chewing Gum	24(70%)	21(88%)	3(12%)
Nicotine Patches	03(9%)	02(67%)	1(33%)
Hypnosis	02(6%)	01(50%)	1(50%)
Others	05(15%)	03(60%)	2(40%)
Total	34(100)	27(79%)	7(21%)

Fig.1: Respondent awareness regarding health hazards of tobacco smoking.

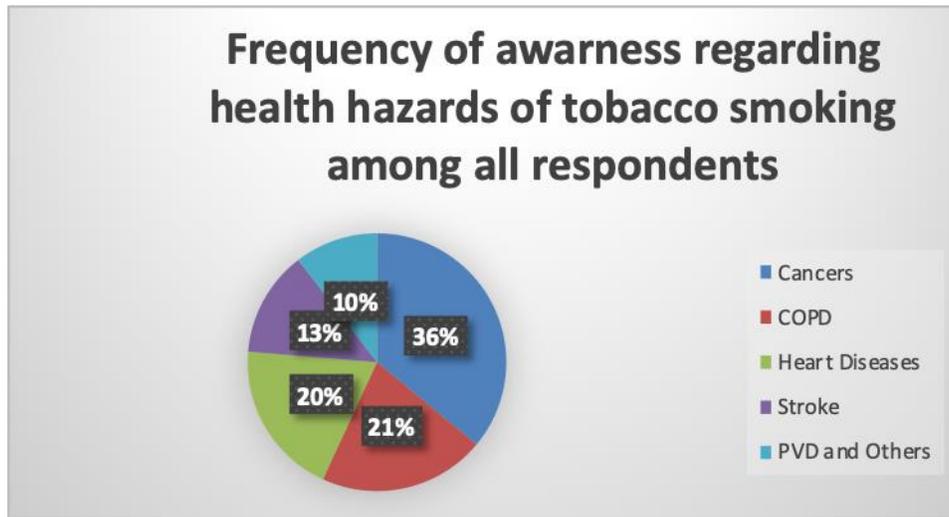
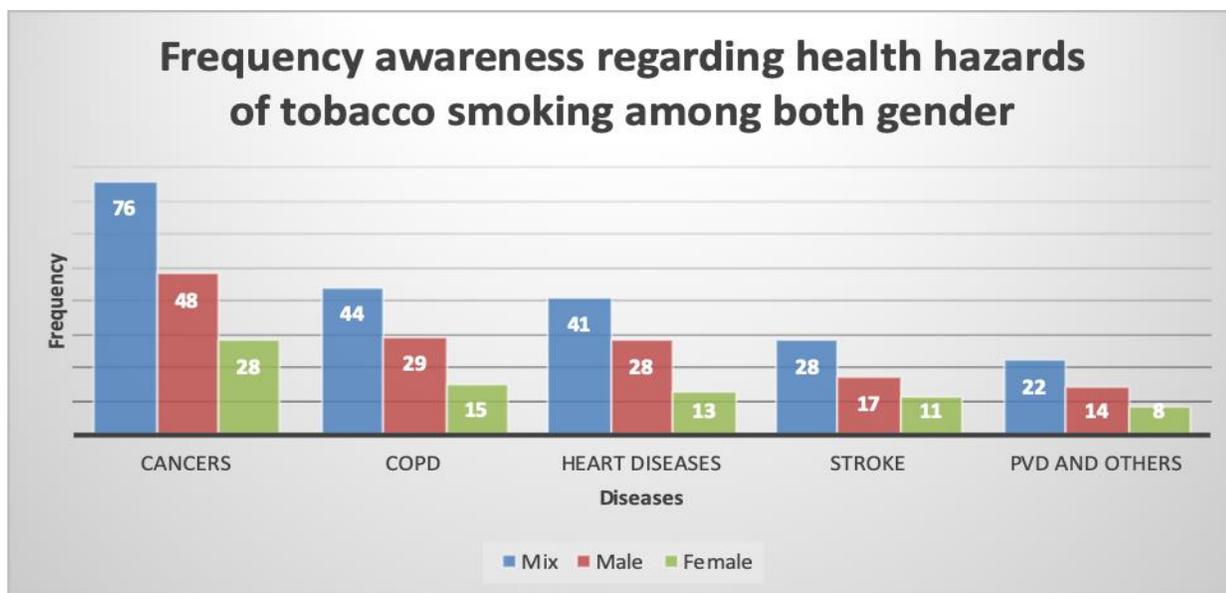


Fig. 2: Gender wise Frequency of awareness regarding health hazards of tobacco smoking.



**DISCUSSION**

Smoking is highly injurious to health whether actively smoking or passively through active smokers. Medical professionals are role model of healthy life styles for patients especially and community in general. The aim of this study was also to estimate the prevalence of smoking among medical students and the factors associated with smoking. The study sample included 64% male and 36% female students. Out of these respondents 43% were active smokers while 57% non-smokers. These results were too high in medical students as compared to one that were observed in previous studies conducted on students of CMH Lahore Medical College 10.7%, King Edward Medical University Lahore 13.45% while Hamdard

University Karachi, had 14.5% and Agha Khan University had 14.4%<sup>12,15</sup>. The most discouraging part of the study is that out of the smokers, 73% initiated it after getting admission in medical college while 27% were already smokers. The study also observed that out of the total initiators of smoking in medical college, 85% were males and 15% females. This shows that contributing factors and medical college environment are influencing male students more as compared to female students.

Active smoking is a result of environmental pressures<sup>14</sup> and stress is the important prevailing factor for initiating smoking in medical students<sup>15</sup>. In this study also smoking is perceived to be the most significant stress reliever that is almost 51% among all environmental factors. Peer pressure is observed as the second most

influencing factor 24%. According to several researches smoking is one of the contributory factors that increase the risk of several diseases<sup>18</sup>. It was also observed that male respondents had a high level of cognition and knowledge for the relative risks of various diseases caused due to smoking as compared to female students. Respondent were well aware that smoking causes diseases and among them Cancer (76%) being top, COPD 44% second and third Heart Diseases 41%. The female students had low prevalence of smoking as compared to male students that shows that knowledge of smoking hazards had no impact on initiation of smoking among medical students after enrollment in medical college.

During the study, 83 % participants observed that bad breath is the most common implication of smoking followed by psychological dependence that is 09%. The good part is that students can quit smoking because they don't have a high rate of psychological or physical dependence. Similarly, bad breath may pressurize them socially to quit smoking as community especially colleagues and partners don't feel comfortable with such nuisance. Among smoker students, 34 tried to quit and among them 70% used Nicotine Chewing Gums. If we compare knowledge of hazards versus practice of quitting smoking among smokers the picture is very gloomy and only 37% tried to quit. Doctors and medical students are role models of healthy life style for community therefore they should not only improve their knowledge against smoking and its hazards but also practice quitting to remain non-smokers and promote anti-smoking policies. Simple advice from doctors and other healthcare professionals found to be significantly increasing smoking cessation rates<sup>16</sup>. Moreover, research shows that smoking physicians are less likely to advise its cessation than non-smoking ones<sup>17</sup>. Therefore, it is vital that medical students, being future physicians, practice healthy behavior themselves to be more effective in their counseling.

## CONCLUSION

The prevalence of smoking among medicine students is increasing with time. This indicates that a health awareness campaign for the prevention & control of smoking at home and public places must be intensified. It is important that medical students who are the doctors of tomorrow stop smoking so that they can advise their future contacts to do so as well. Government along with the medical institutions needs to strictly control smoking among doctors and medical students so that the health of the society is improved. Medical education stresses should also be evaluated in further studies and measures found to mitigate them.

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