

Smoking Behavior among Medical and Dental Students in Abbottabad, Pakistan

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ABSTRACT

Objective: To assess the prevalence of smoking among young medical and dental students and explore the smoking habits and associated variables,

Study Design: Cross-sectional observational study

Place and Duration of Study: The study was conducted in Frontier Medical & Dental College, Abbottabad, Pakistan during June-July, 2015.

Materials and Methods: This was a cross-sectional observational study where anonymous, self-administered questionnaire was used to collect data like socio-demographic data and details about various aspects of smoking from 146 study subjects.

Results: The rate of smoking was found to be 23.28%, with male preponderance. The mean age of initiation of smoking was 18.79 ± 1.68 years. The most common reason for starting smoking was company and peer pressure followed by stress or tension. The mean number of cigarettes smoked per day was 13.39 ± 6.52 . The commonly used product was cigarette (89.28%) among males and waterpipe (shisha), (83.33%), among females. Majority of study subjects, 63.70%, and 73.53% of smokers were aware of harmful effects of smoking. The most commonly known harmful effects included; lung cancer, carcinoma of oral cavity, respiratory and cardiovascular diseases.

Conclusion: Smoking is common among medical graduates. Tobacco control measures should be introduced to reduce smoking as well as it should be made part of curricula taught at medical and dental colleges to increase awareness among students.

Key Words: Smoking, Cigarette, Student

Citation of article: Anjum MU, Anwar R, Khan MS, Ahmad R, Shah SH. Smoking Behavior among Medical and Dental Students in Abbottabad, Pakistan. Med Forum 2015; 26(11):6-9.

INTRODUCTION

Smoking is a major global public health problem. It is one of the leading preventable cause of morbidity and mortality ¹. According to a report by World Health Organization (WHO), smoking is responsible for around six million deaths each year globally as well as contributes to around half a trillion dollars each year in terms of economic costs associated with smoking ². If the current rate of smoking continues, then the smoking related deaths will increase to seven million by year 2020 and to more than eight million a year by 2030 ³. Secondhand smoke consists of smoke released by burning of tobacco products as well as exhaled during smoking ⁴. It also leads to 600,000 deaths annually, with majority of deaths happening among children and women ⁵.

Smoking, both active and passive, is deleterious to health and is associated with many diseases ⁵. These diseases include respiratory, cardiovascular diseases and different types of cancers ⁶. Smoking is responsible

for more than one fourth of all cancer related fatalities, which include carcinoma of lung, oral cavity, kidney, stomach and cervix ⁵. A recent survey has shown that about 80% of deaths associated with smoking were due to lung cancer and chronic bronchitis and emphysema while 17% were from cardiovascular diseases ⁷.

Smoking is common among people of all ages. But, younger persons are particularly susceptible to smoking. This means that they will be exposed to smoking for a longer period of time and hence, more risk of adverse effects of smoking ⁸. Therefore, we conducted this study to access the smoking habits and patterns of smoking among young medical and dental students as well as to ascertain the reasons of smoking and knowledge of medical students about the harmful effects of smoking.

MATERIALS AND METHODS

This was a cross-sectional observational study which was conducted during June-July, 2015 in Frontier Medical & Dental College, Abbottabad, Pakistan. There was a non-probability convenience sampling. All medical students of third year and dental students of second year, who were willing to participate in the study, were included in the study. Students of other

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classes were excluded from study. The study was approved by the institution's review committee.

Anonymous, self-administered questionnaire was used. Questions were grouped into different sections which covered different factors like socio-demographic variables, reason and age of starting smoking, whether they know about harmful of smoking or not and if they answered yes, they were asked to enlist the harmful effects they know, no of cigarettes smoked per day, which product they prefer to use like cigarette, water pipe (shisha), cigar, etc. Questionnaires were handed over to the students by authors and students were given 15 minutes to complete them. Before the start of the survey, informed verbal consent was taken from students and they were given detailed instructions about how to complete the questionnaire. Student's privacy was strictly observed by voluntary and anonymous participation.

WHO criteria was used to assess smoking status: smokers were those subjects who smoked daily (at least one cigarette per day) or occasionally (less than one cigarette per day). This group also included those students who were experimenters and have smoked less than hundred cigarettes in a year. Non-smokers were those subjects who haven't smoked at the time of this study. All the data was entered, organized and analyzed using Statistical Package for Social Sciences (SPSS version 17). Frequencies and percentages were calculated for categorical data and mean and standard deviation were calculated for continuous data.

RESULTS

The study sample consisted of 146 subjects with 91 males and 55 females, as shown in Figure 1. The mean age of study population was 22.09 ± 1.21 years while that of 22.20 ± 1.34 years for male subjects and 21.91 ± 0.97 years for female subjects.

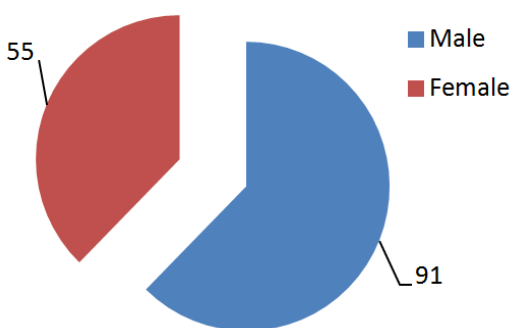


Figure No.1: Gender-wise distribution of study population

Table No.1. Distribution of study sample according to smoking status

	Non-smokers	Smokers	Percentage
Males	91	28	30.77%
Females	55	06	10.91%
Total	146	34	23.28%

Out of 146 study subjects, 34 were smokers. There were 28 males and 6 females in this group. The mean age of study subjects in this group was 22.5 ± 1.26 years. The mean age of male smokers was 22.68 ± 1.25 years while mean age of female smokers was 21.67 ± 1.03 years, as shown in Table 1.

Mean age of starting smoking was 18.79 ± 1.68 years. Number of cigarettes smoked per day was 13.39 ± 6.52 . The average duration of smoking was 3.81 ± 1.73 years. Most common reason for starting smoking was company and peer pressure followed by stress/tension. Among study population, 63.70% of the subjects were aware of harmful effects of smoking while 36.30% were not, implying that majority of subjects have knowledge of harmful effects of smoking. Among smokers, 31 subjects, (25 males & 6 females), were aware of these harmful effects. The harmful effects identified by study subjects were lung cancer, carcinoma of oral cavity, respiratory and cardiovascular diseases, as shown in Table 2.

Table No.2. Characteristics of smoking population

	Number	Percentage
Reason for smoking, (n=34)		
Company	19	55.88%
Stress/tension	10	29.41%
Other	5	14.71%
Age of initiation of smoking, (n=34)		
≤ 20	20	58.82%
> 20	14	41.18%
Awareness about health effects of smoking among study population, (n=146)		
Yes	93	63.70%
No	53	36.30%
Awareness about health effects of smoking among smokers, (n=34)		
Yes	31	91.18%
No	3	8.82%
Awareness of ill effects of smoking: Variables		
Lung carcinoma	72	77.42%
Cancer of oral cavity	23	24.73%
Respiratory diseases	11	11.83%
Cardiovascular diseases	7	7.53%
Others	4	4.30%

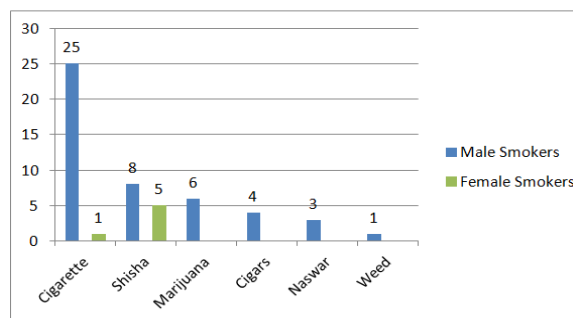


Figure No.2: Distribution of smokers according to the product used for smoking

Distribution of smokers according to the product used for smoking is shown in Figure 2. Majority of male (89.28%) smokers used cigarette followed by shisha (28.57%) and Marijuana (21.43%). Majority of female smokers used shisha (83.33%).

DISCUSSION

Smoking is one of the main risk factor for various diseases worldwide, including variety of different types of cancers. It is responsible for large number of deaths globally which is estimated to be about 5.4 million deaths each year and this is believed to rise considerably in future ⁸.

Our study has shown that the incidence of smoking was 23.28% with high preponderance among males (30.77%) than females (10.91%). Our findings are consistent with other studies done on the same subject. A study done in Western Nepal by Subba et al have reported the incidence of smoking to be 21.3% with 30.2% in males and 10.9% in females ⁹. Similarly, a study conducted by Mumtaz et al in Rawalpindi has reported incidence of smoking among medical students to be 32.7% with incidence in males to be 42% and in females to be 10% ¹⁰. Likewise, Piryani et al in their study conducted among house physicians in Karachi has shown that the incidence of smoking among house physicians was 32% ¹¹. Nguyen et al reported the incidence of smoking among college students in Vietnam to be 25% with higher male predominance of 43.77% ¹².

In our study, mean age of starting smoking was 18.79 years. This is comparable to other studies. A study done in college students in Vietnam by Nguyen et al has shown to be 18.6 years ¹². Similarly, a study conducted by Binu et al in Nepal have shown that the mean age of starting smoking was 16.8 years while Sharma et al have shown that the age of initiation of smoking, among college students in India, was between 15-19 years ^{8, 13}. Subba et al reported that the age of initiation of tobacco smoking was 15.7 years in Western Nepal ⁹. It is quite interesting to note is that the age of starting smoking, in all cases, was less than 20 years. Therefore, policies should be designed to target this age group to prevent them from becoming future smokers.

Our study has shown that the most common reason for the initiation of smoking was company and peer pressure (55.88%) followed by stress/tension (29.41%). This is similar to what other studies have found out. A study conducted in Lahore, Pakistan, by Malik et al showed that the 55.17% of the medical personnel initiated smoking due to the effect of company ¹⁴. Subba et al reported that the most common reason for starting smoking in young population of Nepal was the company of friends ⁹. Similarly, Sharma et al in their study, which was conducted among college students in Delhi University, India, reported that the company/peer pressure was responsible for 41% of cases while

tension or stress was responsible for 17.8% of cases ¹³. This implies that company of friends and peer pressure is an important contributing factor towards initiation of smoking.

The average number of cigarettes smoked per day by study subjects was 13.39 ± 6.52 and the average duration of smoking was 3.81 ± 1.73 years in our study. A study done on medical students in Lahore, Pakistan, by Karamat et al showed that the students smoked less than ten cigarettes per day ¹⁵. Nichter et al, in their study done in Karnataka, India, showed that the mean number of cigarettes smoked by college students per day was 6 while Nguyen et al reported that the number of cigarettes smoked by Vietnamese medical students was 4.4 ± 4.5 per day ^{12, 16}. This difference in rate of cigarettes smoked per day may be due to the effect of price and different taxation rates in different countries. It has been shown that there is inverse relationship between the tobacco taxes and its consumption ¹⁷. Therefore, many countries in the world have significantly increased taxes on tobacco and its products to discourage its consumption ¹⁸. The most common tobacco product used by male smokers in our study was cigarettes (89.28%), followed by shisha (28.57%) and marijuana (21.43%), while it was shisha (83.33%) and cigarettes (16.67%) among female smokers. Nichter et al have reported that 36% of young college students in India used cigarettes ¹⁶. It is quite alarming to realize that the marijuana use is increasing among male medical students and shisha smoking is increasing among female students.

Our study has shown that majority of study subjects (63.70%) were aware of the harmful effects of smoking and this proportion was higher in smokers, 73.53%. The harmful effects that the study population was aware of included (in decreasing frequency); lung cancer, carcinoma of oral cavity, respiratory and cardiovascular diseases. This knowledge of harmful effects of tobacco can prove very useful as it can be used to help the youth understand the risks involved in smoking and later, help them to quit and stop smoking.

CONCLUSION

Quite a number of medical students are involved in smoking and they are mostly tempted by friends and peers to indulge in smoking. Tobacco control measures should be introduced to discourage and reduce smoking as well as facilitate those smokers who want to quit smoking. It should also be the part of curricula taught to medical students.

Conflict of Interest: The study has no conflict of interest to declare by any author.

REFERENCES

1. Alexopoulos EC, Jelastopulu E, Aronis K, Dougenis D. Cigarette smoking among university

- students in Greece: a comparison between medical and other students. *Environmental Health and Preventive Med* 2010;15(2):115-20.
2. World Health Organization. WHO report on the global tobacco epidemic: enforcing bans on tobacco advertising, promotion and sponsorship. 2013. Geneva, Switzerland.
 3. Shafey O, Eriksen M, Ross H, Mackay J. The Tobacco Atlas. 4th ed. American Cancer Society: Atlanta;2012.
 4. Sureda X, Fernandez E, Lopez MJ, Nebot M. Secondhand tobacco smoke exposure in open and semi-open settings: a systematic review. *Environmental Health Perspectives* 2013;121(7):766-73.
 5. Ekpu VU, Brown AK. The economic impact of smoking and of reducing smoking prevalence: review of evidence. *Tobacco Use Insights*. 2015; 8:1-35.
 6. Sreeramareddy CT, Ramakrishnareddy N, Harsha Kumar HN, Sathian B, Arokiasamy JT. Prevalence, distribution and correlates of tobacco smoking and chewing in Nepal: a secondary data analysis of Nepal Demographic and Health Survey-2006. *Substance Abuse Treatment, Prevention and Policy* 2011;6:33-41.
 7. Action on Smoking and Health. Smoking and Disease, ASH Fact Sheet 2013.
 8. Binu VS, Subba SH, Menezes RG, Kumar G, Ninan J, Rana MS, et al. Smoking among Nepali youth--prevalence and predictors. *Asian Pacific J Cancer Preven* 2010;11(1):221-6.
 9. Subba SH, Binu VS, Menezes RG, Ninan J, Rana MS. Tobacco chewing and associated factors among youth of western Nepal: a cross-sectional study. *Ind J Comm Med* 2011;36(2):128-32.
 10. Mumtaz B, Chaudhary IA, Arshad M, Samiullah. Comparison of smoking behaviour among medical and other college students in Rawalpindi. *J Coll Physi and Surgeons Pak* 2009;19(1):7-10.
 11. Piryani RM, Rizvi N. Smoking habits amongst house physicians working at Jinnah Postgraduate Medical Center, Karachi, Pakistan. *Tropical Doctor* 2004;34(1):44-5.
 12. Nguyen VH, Dao TM, Dao NP. Smoking among Vietnamese medical students: prevalence, costs, and predictors. *Asia Pacific J Public Health* 2008; 20(1):16-24.
 13. Sharma N, Singh MM, Ingle GK, Jiloha RC. An epidemiological study of cigarette smoking among male college students of Delhi University. *Ind J Comm Med* 2006;31(1):35.
 14. Malik AK, Chaudhry A, Karamat A, Arif N, Cheema MA, Rauf A. Cigarette smoking and health care professionals at Mayo Hospital, Lahore, Pakistan. *J Pak Med Assoc* 2010; 60(6):509-12.
 15. Karamat A, Arif N, Malik AK, Chaudhry A, Cheema MA, Rauf A. Cigarette smoking and medical students at King Edward Medical University, Lahore (Pakistan). *J Pak Med Assoc* 2011;61(5):509-12.
 16. Nichter M, Nichter M, Van Sickle D. Popular perceptions of tobacco products and patterns of use among male college students in India. *Social Science and Medicine* 2004;59(2):415-31.
 17. International Agency for Research on Cancer. Effectiveness of tax and price policies for tobacco control: IARC handbook of cancer prevention, vol. 14. Lyon, France: IARC, 2011.
 18. Jha P, Peto R. Global effects of smoking, of quitting, and of taxing tobacco. *New England J Med* 2014;370(1):60-8.