Smoking Habit among Male Medical and Dental Students of B.P.Koirala Institute of Health Sciences, Nepal

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ABSTRACT

Background

Smoking and health are intimately related and thus, smoking among future health care personnel is an important issue. As future physicians and dentists who will witness the continued burden of smoking-related diseases among their patients, represent a primary target for smoking prevention programs.

Objectives

To explore the magnitude of smoking problem and assess the major causes aggravating the burden of smoking among medical and dental students.

Methods

A cross sectional study was conducted between June and July 2009 among 345 medical and dental students. Pre-tested self-administered questionnaire containing questions regarding smoking and its various correlates were used to collect the data. Chi square test was used for testing hypothesis.

Results

Prevalence of smoking was estimated as 38.4%, among whom majority started smoking during 15 to 19 years of life. Peer pressure was the major cause behind smoking (29.5%). Nearly one third of the participants used to consume alcohol along with smoking. Presence of parental smoking and use of other drugs were significantly associated with smoking among the students.

Conclusion

Tobacco smoking is a significant health problem among the male medical and dental students. Medical and dental students were approached as they are the treatment providers for smoking and disease related to it in the future. The results in our study are discouraging and reveal that the medical knowledge regarding ill effects of smoking has not been able to check its use.

KEY WORDS

Medical and dental students, smoking

INTRODUCTION

Smoking is a major cause of global mortality and the single most important risk factor in developed countries. Total tobacco-attributable deaths are projected to rise from 5.4 million in 2005 to 6.4 million in 2013 and 8.3 million by 2030 under the baseline scenario of Mathers and Loncor.[1] It has been estimated that cigarette smoking is responsible for more than one million premature deaths every year all over the world. In western countries, increasing awareness of health hazards of smoking has led to marked reduction of tobacco consumption. On the other hand, the prevalence of tobacco smoking is increasing in all developing countries. Smoking is one of the preventable causes of premature death.[2]

According to the report of Global Health Professional Survey (GHPS), Nepal, 2006, approximately 40 % to 64 % of the students who participated in the survey had used tobacco during their lifetime and about 17.4 % to 23.7 % were current smokers. Besides, a good proportion of the students (58.0% dental and 43.5% medical) also reported a significant nicotine dependency.[3] Although the prevalence of tobacco use and the tobacco-dependent population of Nepal have not been studied extensively, studies have shown that 35.5% of men and 15% of women aged between 15 and 64 years smoked tobacco products (overall prevalence 26.3%).[4] A study conducted in various ecological regions of Nepal unveiled that the prevalence of tobacco use among adults was 68.4 % in rural Kathmandu, 37.0% in urban Kathmandu, 54.7 % in Terai Region and 77.7% in mountain region.[5] A national survey on tobacco economics showed that smoking rate increases with age; it was 30% among the age group 16-19 years.[6]

Smoking and health are intimately related and thus, smoking among future health care personnel such as medical students is an important issue.[7] It has been reported that medical students were more likely (75.3%) to be occasional smokers than non-medical students (60.6%).[8] Teaching about the effects of the use of tobacco and related diseases is essential for the undergraduate medical students, especially to counter the deadly effects of the same. Physicians occupy a key position in this regard, as they are uniquely placed to lead smoking cessation programs in the community, but if the future physicians are themselves entangled in the web of the abuse and dependence of tobacco, then the plight of the smoking cessation programs can well be imagined.[9] As future physicians and dentists who will witness the continued burden of smoking-related diseases among their patients, they represent a primary target for smoking prevention programs. Therefore the present study was undertaken with the objectives of exploring the magnitude of smoking among the medical and dental students and assessing the causes aggravating this burden among them.

METHODS

This was a cross sectional study conducted among the male medical and dental students studying from first to fourth year in B.P. Koirala Institute of Health Sciences (BPKIHS), Dharan from June 2009 to July 2009. The sample size was estimated based on prevalence (P) 55% and allowable error 10% of prevalence. The appropriate sample size was calculated to be 314. The adjustment was made in sample size with adding 10% of non response; the final sample size was 345. Sampling procedure was convenient sampling.

The data was collected with the help of a pre-tested self administered structured questionnaire containing details on tobacco smoking and various associated factors. It was explained to all the participants that the purpose of the study was solely for research. Informed verbal consent was taken from all the participants after assuring full confidentiality and anonymity of their responses. The participation was entirely voluntary. All the male medical and dental students present on the day of study were included.

Smoking status of the students was divided into occasional (one who smokes less than once a week, on special occasions or has only puffed a few times) and regular (one who smokes daily). Non smokers were classified as never smokers (one who has never smoked) and ex-smoker (one who used to smoke but has quit now). Parental use of tobacco was defined as tobacco smoking by either or both the parents.[7]

The association of various characteristics with the smoking status was tested using Chi-square test. Significance was set at 5%. Statistical analyses were performed using SPSS (Statistical Package for Social Sciences, version 17.0).

RESULTS

Out of the total participants enrolled, the overall response rate was 84.63% (N=292). The mean age of the participants was 22.25 years (SD=2.02). Out of the 292 participants, 71.6% belonged to the medical stream whereas 28.4% were from dental stream. Nearly 92% of the students were Hindu by religion. Majority of the participants lived in urban areas. (Table 1)

Among the total participants, 38.4% were smokers and 61.6% were non smokers. Out of the total smokers, 46.4% were occasional smokers while 53.6% were regular smokers and out of the non smokers, 87.8% were never smokers while 12.2% were ex-smokers. (Table 2)

The age of initiation of smoking was explored among the smokers and ex-smokers. Majority of them had initiated smoking during the period of 15 to 19 years of age. (Table 3)

Upon exploring the cause behind smoking, majority of the participants smoked because of peer pressure (29.5%)

Table 1. Demographic characteristics among Male Medical and Dental Students of BPKIHS (N=292).

Characteristics	Number of students	Percentage
Stream		
Medical	209	71.6
Dental	83	28.4
Religion		
Hindu	268	91.8
Muslim	13	4.5
Christian	6	2.1
Buddhist	5	1.7
Residence		
Rural	103	35.3
Urban	189	64.7
Total	292	100

Table 2. Prevalence of smoking among the medical and dental students of BPKIHS.

Smoking habit		Number of students	Percentage
Smoker	Occasional	52	46.4
	Regular	60	53.6
	Total	112	100
Non smoker	Never smoker	158	87.8
	Ex-smoker	22	12.2
	Total	180	100

Table 3. Age of initiation of smoking among the medical and dental students of BPKIHS.

Age group	Number of students	Percentage
<10 years	15	11.2
10 to 14 years	23	17.2
15 to 19 years	55	41
≥20 years	41	30.6
Total	134	100

Table 4. Causes of smoking among study subjects

Causes	Number	Percentage
Peer pressure	33	29.5
Exam load	15	13.4
Frustration	23	20.5
Family environment	4	3.6
Advertisement	13	11.6
Pleasure/Relieve tension	17	15.2
No Reasons	7	6.3
Total	112	100

followed by frustration (20.5%). A small proportion of students smoked for pleasure and to relieve tension (15.2%). (Table 4)

Majority of the smokers smoked less than five sticks per day (61.6%) whereas 17% of the smokers were found to smoke more than or equal to fifteen sticks per day.

Table 5. Smoking status of the parents of the respondents

Smoking status of parents	Number of students	Frequency
Daily smoker	47	16.1
Occasional smoker	22	7.5
Non smoker	223	76.4
Total	292	100

Table 6. Monthly expenditure on purchasing cigarettes by the smokers.

Expenditure/month	Number of students	Percentage
<NRs.1000	74	66.1
NRs.1000-2000	20	17.9
>NRs. 2000	18	16.1
Total	112	100

Table 7. Smoking status with various characteristics of the students (N=292).

Characteristic	Smoking status		Total	p value
	Smoker	Non Smoker		
Residence				
Rural	36 (35.0)	67 (65.0)	103 (100)	0.377
Urban	76 (40.2)	113 (59.8)	189 (100)	
Parental smoking				
Present	38 (55.1)	31 (44.9)	69 (100)	0.001
Absent	74 (33.2)	149 (66.8)	223 (100)	
Use of other drugs				
Present	36 (32.1)	8 (4.4)		<0.001
Absent	76 (67.9)	172 (95.6)		
Total	112 (100)	180 (100)		

Out of the total respondents, 23.6% reported parental smoking. Among them, 16.1% were daily smokers and 7.5% were occasional smokers. (Table 5)

Nearly one third of the participants used to consume alcohol along with smoking (25.3%). Consumption of other addictive drugs was found to be 15.1% among all the participants, out of which 70.5% consumed the drug along with smoking. Almost 44% of the participants had made an attempt to quit smoking in the past one year.

Two third of the smokers spent less than NRs.1000 per month on purchasing cigarettes whereas 16.1% of the smokers spent more than NRs.2000 per month. (Table 6)

The proportion of smokers whose parents smoked was significantly more (55.1%) compared to those whose parents did not smoke (33.2%) (p=0.001). The prevalence of use of other drugs was high among the smokers (32.1%) compared to the non smokers (4.4%) and this association was highly significant (p <0.001). (Table 7)

DISCUSSION

The prevalence of smokers in the present study was 38.4% out of which 46.4% were occasional smokers and 53.6% were regular smokers. A survey conducted in China where none of the female respondents reported smoking, showed similar prevalence of smoking (37.7%).[10] Similar study conducted among the male medical students in South India showed the prevalence of current smoking to be 22.4%.[11] Another study from Iran reported the prevalence of current smoking to be lower (14.4%) while a study conducted among the male medical students in Saudi Arabia reported the prevalence of current smoking as 13%.[12,13] A study conducted among the medical students found the smoking prevalence to be 46%.[7] The Global Health Professional Survey, Nepal in 2006 found that 40% to 64% of the participants had used tobacco during their lifetime.[3] The differences observed in the prevalence could be attributed to the variations of definitions used for the smoking status.

Among the smokers, majority had initiated smoking between the ages of 15 and 19 years (41%) in our study. In a study from Iran among the current smokers, 45.6% had started smoking between 18 and 20 years of age.[12] Similarly, 62.7% of the participants had started to smoke between the ages of 16 and 20 years in a study from South India.[11] Adolescence is a vulnerable period as 70% of premature deaths among adults are attributed to behavioral patterns that emerge in middle adolescence (14 to 15 years of age) like smoking, violence and sexual behavior.[14] The age groups in the different studies have almost the similar to our study, which shows the most vulnerable group for Asian countries like Nepal. Therefore attempts should be targeted towards protecting the youth at the earliest.

Peer pressure was the most common cause for taking up the habit among the smokers in our study (29.5%) followed by frustration (20.5%). The influence of smoker friends was the common reason for smoking behavior in the study from Saudi Arabia (35.6%).[13] The major reasons for trying the first cigarette were stress (42.8%) and curiosity (34.4%) in a study from China.[10] The influence of the peer groups is an important factor determining the smoking behavior of the student however its interplay with other factors such as stress and frustration which are more likely to occur in medical school should not be ignored for program policy and advocacy.

In our study, 23.6% of the total participants reported parental smoking and prevalence of smoking was significantly higher among those students whose parents smoked (55.1%) compared to those whose did not (33.2%). Similar results were seen by Ganesh Kumar S et.al who reported the prevalence of parental smoking to be 27.7% and significantly higher proportion of current smokers among those whose parents were smokers (32.5%) than those whose were not (18.5%) ($p = 0.009$).[11] Tobacco smoking by the parents exerts a strong influence over the smoking behavior of their children and this fact should be highlighted in the tobacco control and prevention activities targeted towards the youth.

Nicotine acts as a gateway drug when the adolescents first start to smoke a cigarette. They are more likely to become addicted to other drugs and smoke for a longer time. Consumption of alcohol along with smoking was present in almost one third of our study population (25.3%) which is higher than that reported in a study from Kathmandu.[15] Our study showed that the prevalence of other drug users was significantly higher among the smokers (32.1%) compared to the non smokers (4.4%). It was reported that for all age groups combined, the 65.8% of participants who had ever smoked were seven times more likely to have tried marijuana, seven times more likely to have tried cocaine, 14 times more likely to have tried crack and 16 times more likely to have tried heroin.[16] Thus cigarette smoking could act as a predictor for illegal drug use in the young people.

Among the smokers, nearly 44% had made an attempt to quit the habit in the past year as reported by our study. Addiction to tobacco and experiencing withdrawal symptoms are the reasons behind unsuccessful attempts towards quitting. There is immense need for motivating the smokers to quit and keeping them motivated in order to help them succeed in quitting.

Even though full confidentiality was maintained, smoking status of the participants is likely to be underreported as the data was collected through self administered questionnaire and responses were not validated by biomarkers.

CONCLUSION

Our study showed a substantial burden of smoking exists among the medical and dental students. Health professionals can have a significant influence, both positive and negative, on the smoking habits of a community.[11] Both medical and dental students are well aware of the immediate and long term harm caused by smoking compared to students of similar age groups from other educational streams. Medical students, as future health care givers have an important role to play in prevention and control of tobacco related burden in the general population in the future and be a role model for the community. Thus this habit among them should be discouraged. Smoking behavior needs to be addressed during the years of under-graduation itself in every health science institution of Nepal and appropriate measures need to be introduced to regulate the tobacco control activities as per the directives of Tobacco Product Control and Regulatory Act 2010.

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