

Tobacco Use among Health Professional Students in Chitwan, Nepal

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ABSTRACT

Background: Health professional students play a critical role in tobacco control by providing services, advocating for policies and serving as role models for social change. This study aimed to estimate the prevalence of tobacco use and determine the attitude and behavior regarding tobacco use among health professional students.

Methods: A cross-sectional study was conducted among third-year medical, dental, nursing and pharmacy undergraduates using GHPSS questionnaire.

Results: A total of 16.3% students were current cigarette smokers. 33.2% students had ever smoked cigarettes, and 57.0% had smoked first cigarettes during adolescence life. Cigarette smoking consumption was higher than the use of other tobacco products like chewing tobacco, snuff, bidis, hookah, cigar or pipes and. 10.0% students were current users of other tobacco products. 22.1% students had ever used other tobacco products. 31.6% were exposed to second-hand smoke at home and 48.9% were exposed to second-hand smoke at public places.

Conclusions: The prevalence of smoking and exposure to second-hand was high among medical students. Medical educators should consider revising the medical curricula to focus on tobacco cessation training/counseling in medical schools.

Keywords: GHPSS; health professional; Nepal; tobacco.

INTRODUCTION

The use of tobacco is globally, a major public health problem.¹ Tobacco is a preventable cause of premature deaths and non-communicable diseases.¹ Each year nearly six million people globally, die from tobacco-related diseases.^{1,2} An additional 600,000 deaths occur from exposure to second-hand smoke.^{1,2} By 2030, this number is expected to exceed 8 million deaths and 70% of these deaths will occur in developing countries.¹

Health professionals and health professions students can impart a vital role in tobacco control by delivering effective medical intervention against tobacco use. However, despite the crucial role of health professional students in tobacco control, very few studies have collected information regarding use of tobacco, training to provide cessation counseling, and exposure to second-hand smoke among health professions students. This study was conducted to find out the prevalence of tobacco use and to know the attitudes and behavior regarding tobacco use among health professions students.

METHODS

A cross-sectional study was conducted among all third-year undergraduates of medicine, dentistry, nursing and pharmacy of Chitwan Medical College (CMC) Nepal, in July 2015. Out of 200 students enrolled in the third year, 190 students participated in the study and the non-response rate was 5%. The responses of 190 students (105 medicine, 48 dentistry, 29 nursing and 8 pharmacy students) were included in the study.

The Global Health Professional Students Survey (GHPSS) questionnaire, was used in this study, which was developed by the World Health Organization (WHO), the US Centers for Disease Control and Prevention (CDC) and the Canadian Public Health Association. This study was a school-based survey of third-year students pursuing advanced degrees in dentistry, medicine, nursing and pharmacy. The anonymous, self-administered questionnaire comprised of core questions on demographics, prevalence of cigarette smoking and other tobacco use, knowledge of and attitude towards tobacco use, exposure to secondhand smoke, desire

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for smoking cessation, and training received regarding patient counseling on smoking cessation techniques.

Questionnaire was administered during regular class sessions in an anonymous, voluntary manner, according to the protocol. The questionnaire was pretested among 20 undergraduates of third-year medicine in another medical college to ensure that the students could understand and answer the questions without any help. The validity of the questions was established by using standard questionnaire, which has been used in many previous studies across the world. Questionnaire was distributed to the participants by a single investigator and the questionnaire was collected on the same day. Descriptive (frequencies and percentage) and bivariate (chi-square test) were performed using the SPSS version 21 software. Statistical significance was considered at p -value < 0.05 .

Verbal informed and written consent was taken from the participants. The participants were also informed that their participation in the study was completely voluntary and that they had the right to withdraw from participation at any time, for any reason before data collection. Confidentiality of the information assured. Ethical approval for the study was taken from the institutional review committee of Chitwan Medical College.

The current smokers were defined as those who smoked cigarettes daily or occasionally during the past 30 days preceding the survey. The non-smokers were defined as those who never ever smoked a cigarette in their lifetime. The ever smokers were defined as those who had smoked even a single cigarette in their lifetime. Other tobacco products were defined as products such as chewing tobacco, snuff, bidis, hookah, cigar or pipes.

RESULTS

Out of 190 students, 93 (48.9%) were male, and 97 (51.1%) were female. The mean (\pm SD) age of the participants was 21.39 (\pm 1.39) years.

A total of 16.3% students were current cigarettes smokers. One-third of them had smoked cigarettes ever (33.2%), and the majority of them (57.0%) had smoked their first cigarette during their adolescence life (11-19 years). One of every ten students (10.0%) currently used other tobacco products like chewing tobacco, snuff, bidis, hookah, cigar or pipes and around 1/4th students (22.1%) had ever used other tobacco products (Table1).

Around one-third of the students (31.6%) were exposed

to second-hand smoke at home, while half of the students (48.9%) at public places during the past week preceding the survey (Table2).

Compared to current smokers, non-smokers were statistically significantly more positive in putting ban tobacco sale to adolescents (74.2% vs. 90.6%, p -value 0.030); banning tobacco advertisement (48.4% vs. 73.0%, p -value 0.007); banning smoking in restaurants (29.0% vs. 66.7%, p -value < 0.001), banning smoking in disco/bars/pubs (12.9% vs. 44.7%, p -value 0.001), and banning smoking in enclosed public places (77.4% vs. 93.1%, p -value 0.014)(Table 3).

There was no statistically significant difference between current smokers and non-smokers regarding the perception about the necessity for specific training on cessation techniques for health professionals (87.1% vs. 91.2%, p -value 0.502). Similarly, there was no statically significant difference between current smokers and non-smokers regarding the view on health professionals serving as "role models" for their patients and the general population (77.4% vs. 88.7%, p -value 0.141). However, a statistically significant difference was observed between current smokers and non-smokers concerning their views on whether health professionals should routinely give advice on quitting smoking and other tobacco products (87.1% vs. 96.9%, p -value 0.041). Likewise, a statistically significant difference was found between current smokers and non-smokers in believing that the chance of smoking cessation would increase with advice from health professionals (86.8% vs. 67.7%, p -value 0.009). Moreover, no statistically significant difference was seen in the responses from current smokers and non-smokers regarding their views on whether health professionals who smoke are less likely to advise patients to stop smoking (58.1% vs. 71.8%, p -value 0.132). Similarly, no statistically significant difference was seen in the responses from current smokers and non-smokers regarding their views on whether health professionals who use other tobacco products are less likely to advise patients to stop smoking (51.6% vs. 68.6%, p -value 0.069) (Table3).

Majority of the students (94.2%) mentioned that dangers of smoking were taught during class. Likewise, most of the students (85.3%) were taught about the reasons why people smoke. Similarly, the majority of the participants (94.7%) had learned about the importance of tobacco use history. Around 4/5th of students (81.1%) had learned that it is important to provide educational quitting materials regarding quitting to support smoking cessation to patients who want to quit smoking. Whereas, only 20.5% of the students had ever received

the formal training on smoking cessation. Regarding knowledge about smoking cessation methods, three out of every five students (60.5%) were aware of nicotine replacement therapies, and 1/3rd of the students (33.2%) were aware of the use of antidepressants. No

statistically significant difference was observed between current smokers' and non-smokers' responses regarding anti-tobacco education and smoking cessation training in the medical school curriculum (Table 4).

Table 1. Prevalence of tobacco use.

Characteristics	Male (n=93)	Female (n=97)	Total (N=190)
	No. (%)	No. (%)	No. (%)
1. Ever tried/experimented with cigarette smoking			
Yes	50 (79.4)	13 (20.6)	63 (33.2)
No	43 (33.9)	84 (66.1)	127 (66.8)
2. Respondent's age when s/he first tried cigarette			
≤10 years	10 (66.7)	5 (33.3)	15 (23.8)
11 - 19 years	29 (80.6)	7 (19.4)	36 (57.0)
≥ 20 years	11 (91.7)	1 (8.3)	12 (19.2)
3. Currently smoking cigarette			
Yes	30 (96.8)	1 (3.2)	31 (16.3)
No	63 (39.6)	96 (60.4)	159 (83.7)
4. Ever tried other tobacco products*			
Yes	32 (76.2)	10 (23.8)	42 (22.1)
No	61 (41.2)	87 (58.8)	148 (77.9)
5. Currently using other tobacco products*			
Yes	17 (89.5)	2 (10.5)	19 (10.0)
No	76 (44.4)	95 (55.6)	171 (90.0)

Table 2. Exposure to tobacco smoke.

Characteristics	Male (n=93)	Female (n=97)	Total (N=190)
	No. (%)	No. (%)	No. (%)
1. Exposure to tobacco smoke at home during past week			
Yes	46 (76.7)	14 (23.3)	60 (31.6)
No	47 (36.2)	83 (63.8)	130 (68.4)
2. Exposure to tobacco smoke at public places during past week			
Yes	60 (64.5)	33 (35.5)	93 (48.9)
No	33 (34.0)	64 (66.0)	97 (51.1)

Table 3. Medical students' attitudes towards tobacco control policies and smoking cessation.

Characteristics	Current smoker (n=31)	Current Non-smoker (n=159)	p-value	Total (N=190)
	No. (%)	No. (%)		No. (%)
1. Should tobacco sale to adolescents be banned?				
Yes	23 (74.2)	144 (90.6)	0.030*	167 (87.9) 23
No	8 (25.8)	15 (9.4)		(12.1)
2. Should advertising of tobacco products be completely banned?				
Yes	15 (48.4)	116 (73.0)	0.007*	131 (68.9) 59
No	16 (51.6)	43 (27.0)		(31.1)
3. Should smoking be banned in restaurants?				
Yes	9 (29.0)	106 (66.7)	<0.001*	115 (60.5) 75
No	22 (71.0)	53 (33.3)		(39.5)

4. Should smoking be banned in disco/bars/pubs?				
Yes	4 (12.9)	71 (44.7)	0.001*	75(39.5)
No	27 (87.1)	88 (55.3)		115(60.5)
5. Should smoking in all enclosed public place be banned?				
Yes	24 (77.4)	148 (93.1)	0.014*	172 (90.5)
No	7 (22.6)	11 (6.9)		18 (9.5)
6. Should health professionals get specific training on cessation techniques?				
Yes	27(87.1)	145(91.2)	0.502	172(90.5)
No	4(12.9)	14(8.8)		18(9.5)
7. Do health professionals serve as “role models” for their patients and the public?				
Yes	24(77.4)	141(88.7)	0.141	165(86.8)
No	7(22.6)	18(11.3)		25(13.2)
8. Should health professionals routinely give advice on quitting smoking?				
Yes	27(87.1)	154(96.9)	0.041*	181(95.3)
No	4(12.9)	5(3.1)		9(4.7)
9. Should health professionals routinely give advice on quitting other tobacco products?				
Yes	27 (87.1)	154 (96.9)	0.041*	181(95.3)
No	4 (12.9)	5 (3.1)		9(4.7)
10. Do health professionals have role in giving advice about smoking cessation?				
Yes	28 (90.3)	157 (98.7)	0.031*	185(97.4)
No	3 (9.7)	2 (1.3)		5(2.6)
11. Do chance of quitting smoking increases if health professional gives advice?				
Yes	21 (67.7)	138(86.8)	0.009*	159(83.7)
No	10(32.3)	21 (13.2)		31(16.3)
12. Are health professionals who smoke less likely to advise patient to stop smoking?				
Yes	18 (58.1)	114 (71.8)	0.132	132 (69.5)
No	13 (41.9)	45 (28.3)		58 (30.5)
13. Are health professionals who use tobacco product (e.g. chewing tobacco, snuff, bidis hookah, cigar or pipes) less likely to advise patient to stop smoking?				
Yes	16 (51.6)	109 (68.6)	0.069	125 (65.8)
No	15 (48.4)	50 (31.4)		65 (34.2)

*p-value <0.05

Table 4. Medical school curriculum on tobacco cessation.

Characteristics	Current moker(n=31)	Current Non-smoker (n=159)	p-value	Total (N=190)
	No. (%)	No. (%)		No. (%)
1. During class were taught about danger of smoking				
Yes	29 (93.5)	150 (94.3)	1.000	179 (94.2)
No	2 (6.5)	9 (5.7)		11 (5.8)
2. During class were taught about the reason why people smoke				
Yes	25 (80.6)	137 (86.2)	0.414	162 (85.3)
No	6 (19.4)	22 (13.8)		28 (14.7)
3. Learnt that it is important to record tobacco use history				
Yes	28 (90.3)	152 (95.6)	0.211	180 (94.7)

No	3 (9.7)	7 (4.4)		10 (5.3)
4. Ever received formal training on smoking cessation				
Yes	7 (22.6)	32 (20.1)	0.757	39 (20.5)
No	24 (77.4)	127 (79.9)		151 (79.5)
5. Learnt that it is important to provide educational quitting materials				
Yes	28 (90.3)	126 (79.2)	0.211	154 (81.1)
No	3 (9.7)	33 (20.8)		36 (18.9)
6. Ever heard of nicotine replacement therapies				
Yes	21 (67.7)	94 (59.1)	0.369	115 (60.5)
No	10 (32.3)	65 (40.9)		75 (39.5)
7. Heard of antidepressant use in tobacco cessation program				
Yes	11 (35.5)	52 (32.7)	0.764	63 (33.2)
No	20 (64.5)	107 (67.3)		127 (66.8)

DISCUSSION

Tobacco smoking is considered as one of the most important preventable risk factors for chronic diseases. Paradoxically, health professionals, while identifying tobacco smoking as the essential preventable cause of mortality and morbidity, are not aware of their primary role to support people quit tobacco smoking. In some countries, the prevalence of tobacco smoking among health professionals and health profession students is higher than among the general population.

In this study, the prevalence of current tobacco smoking was found to be 16.3%. This prevalence rate is lower than the general population (37%) and higher than the 15-19 years old adolescents (13.1%) at the national level.³ This prevalence rate is also higher than the study conducted in India in 2013 (9%) and lower than the studies conducted in European 2011 (29%), Italy in 2013 (38.2%), Greece in 2011 (33%).^{4,7} This rate was also lower than reported in a study conducted among nurses of 39 countries and Gaza strip (20%).⁸ Tobacco use endangers the health of health professions students and negatively affects the future health professionals' credibility to deliver effective anti-tobacco counseling when they start managing the patients. The prevalence of ever smokers in this study was 33.2% which was much lower than reported by multicenter Italian survey (64.1%), studies conducted in University of Malta Europe (65.9%), Catania University Medical Schools Italy (77.5%), and Greece (74%).^{6,7,9,10}

The prevalence of ever smokers and the prevalence of current smokers could have been affected by several factors such as the socio-cultural milieu, tobacco control legislation, policies and programmes, status of tobacco production, tobacco import and export as well as issues

related to the taxation on tobacco products.

The present study showed that 57.0% students had smoked their first cigarettes during their adolescence life (11-19 years) which is higher than the study conducted in Europe, in 2011 (34.4%).⁵ A high percentage of smoking prevalence among Nepalese adolescents may be because of aggressive marketing of tobacco products targeted at adolescents by the tobacco companies and weak enforcement of tobacco control legislation for purchasing of tobacco products by adolescents and selling them.

This study found that 1/4th of the students were exposed to smoking below the age of 10 years, which shows that early exposure to tobacco smoking is very high. The socio-cultural setting in Nepal is such that Nepalese parents ask their children to fetch cigarettes for them and even to light up the cigarettes for them particularly in rural areas so that these children also eventually take up smoking at a very early age. Such early exposure leads to adverse health consequences in the long run. This study found that the lifetime prevalence and current prevalence of cigarette smoking is higher than the lifetime prevalence and current prevalence of use of other tobacco products. A similar pattern was found in different studies.^{4,7,11} It may be due to the fact that tobacco advertisement and marketing is more focused on smoking forms of tobacco rather than on other forms of tobacco products.

This study found that 86.8% students believed that health professionals are role models for patients. Studies conducted in Europe(2011) and Catania University Medical Schools Italy (2013), found that two-thirds and more than half of medical students believed that health professionals are role models for patients,

respectively.^{6,11}

A vast majority (95.3%) of the students in this study believe that health professionals should routinely give advice on quitting other tobacco products. This finding was similar to the findings of a study conducted in Catania University Medical Schools Italy (96%).⁶

A total of 83.7% students in this study believe that chance of smoking cessation would increase with advice from health professionals. This finding is consistent with the findings of the study from Catania University Medical Schools Italy where 82.5% students believe that chance of smoking cessation would increase with advice from health professionals.⁶ A study from Europe also showed that a high percentage of Spanish and Polish students believed the same.⁵

This study showed that 97.4% students believed that health professionals have a role in giving advice about smoking cessation. This finding is much higher than the findings reported by multicenter Italian survey where only 65% students believed that health professionals have a role in giving advice about smoking cessation.⁹ The students (future health practitioners) who accord little importance to physicians' advice are unlikely to make an effort to do counseling for smoking-prevention once they become general practitioners.

In the present study, 90.5% health professionals opined that they should get specific training on cessation techniques. This finding is compatible with the findings of the study conducted in Catania University Medical Schools Italy(94.3%) and reported by multicenter Italian survey (87.7%),^{6,9} Whereas this is higher than reported in a study from India, 84.3%.⁴ Present study found that only 20.5% students had ever received formal training on smoking cessation. This finding is consistent with the finding of the study conducted in Catania University Medical Schools Italy(21.3%).⁶ But inconsistent with the findings reported by a study from Europe (16.5%), multicenter Italian survey (10.6%)and Indian study(8.5%).^{4,5,9} Though a high percentage of medical students in this study opine that they should get specific training on tobacco cessation techniques, in reality, very few of them receive the formal training on tobacco cessation. Health professionals who continue to smoke, send the inconsistent message to patients whom they counsel, and need to acquire knowledge about smoking-related diseases and specific skills in smoking cessation techniques. A smoking health professional will have a significant impact on the smoking habits of their patients/clients in the general population. Hence, tobacco cessation training to future health professionals

is essential. Health Professions students are believed to be the medical practitioners of the future need to acquire knowledge about smoking-related diseases and specific skills in smoking cessation techniques. Teaching medical students how to help smokers to quit smoking is an important issue that has to be incorporated into the curricula of medical schools.¹²⁻¹⁵

This study has certain methodological limitations. First, this study was cross-sectional, so this study only postulates a snapshot of the situation. Second, smoking status of the participants was assessed through self-report, rendering this study results comparably less reliable. Lastly, the findings of this study are difficult to generalize as this study was conducted only in one medical college of Nepal.

CONCLUSIONS

This study concluded that the prevalence of smoking was high among health professions undergraduates. Medical Educational stakeholders should discourage tobacco use among health professions undergraduates' students. All health professionals should work jointly to plan and implement programs that provide training on effective cessation- counseling techniques to health professions undergraduates students by using evidence-based approaches. Rules and regulations related to tobacco should be made stringent in the country.

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