

Smoking prevalence, knowledge and attitudes among medical students in Dhaka, Bangladesh

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ABSTRACT

Cigarette smoking is considered as the symbol of adulthood and as a friend during stress and loneliness. The developing countries in South Asia where the largest segment of the population is comprised of adolescents are more susceptible to smoking epidemic and its consequences. A cross sectional survey among 304 randomly selected medical students was carried out to determine their smoking habit of a selected medical college in Dhaka, from 1st October to 31st December 2014. The respondents were from 16 to 20 years of age, with mean (\pm SD) of 16.8 (\pm 1.9) years. Among them (including 28 girl students), 96(31.5%) were non-smokers. The remaining 208(68.4%) were smokers, among them 43(20.6%) were regular smokers, and 165(79.3%) were occasional smokers. All 28 female students were non-smokers. Regarding duration of smoking, 42(20.2%) respondents smoked for less than 6 months, 64(30.8%) for 6 months to 1 year, 88(42.3%) for 1 to 4 years, 11(5.3%) for 5 to 10 years and a least 3(1.4%) smoked for more than 10 years. Thirty six percent of current smokers smoked more than 10 sticks per day compared with thirty percent who smoked 6 to 10 a day. Significantly more users knew that it causes tuberculosis, heart attack, cancer and development of hypertension. Overall, students' major sources of information were doctors (69.7%), medias (47.7%), parents (9.2%) and friends (3.3%). As the prevalence of smoking among medical students was found very high hence, the multi-pronged intervention strategy is needed to tackle the problem. Anti-tobacco education and awareness should be adopted in the curriculum of schools and colleges. All forms of tobacco advertising and promotional activities should be banned, and parents should be encouraged to adopt more responsible attitudes toward smoking in the home.

Key words: smoking, adolescents, prevalence, knowledge, attitude

INTRODUCTION

Globally, tobacco consumption is one of the major public health concerns due to its negative impact on human. However, such negative impact of any form of tobacco consumption is preventable. Evidence suggests if most of the adult smoker cease to smoke in next 20 years, tobacco related death can be as low as 50%. The risk rises with early onset of the habit. This means the cumulative exposure increases the probability of developing lung diseases including cancer to a great deal for smokers who started young compared to the ones who started late¹. Smoking can cause diseases, disabilities even premature deaths all of which can be prevented. In 2007, survey reported that about 5 million Bangladeshi died of tobacco related illnesses which expected to be doubles by the year 2020². Tobacco can contribute to other major illnesses like cardiovascular diseases (CVD) up to 10%. It is 2nd in the list of causes for developing CVD, right after hypertension (HTN). Globally, about 6% female and 12% male deaths can be attributed to tobacco related death each year, which is as high as 6 million³. Tobacco use is very much a concern for the low and middle income countries (LMIC) as globally two-third of the smokers live there⁴ and it is also a major problem for Bangladesh as every year more than 57,000 Bangladeshi die of tobacco related causes⁵. The aggressive marketing strategy of the multinational tobacco companies that leads to such burden of tobacco consumptions and related consequences in the LMIC⁶. The economic burden of premature morbidities and mortalities of tobacco use affects the families of the smokers, health system and the national growth of the developing countries due to their already stretched resources⁴. The problem is becoming deeper every day as the centre for disease control (CDC) reports everyday 3,900 under aged (<18 years) start smoking, more than 62% of whom will eventually become regular smokers⁷.

Medical students are the future health human resource (HHR) of a country and are very important part of the national well-being as well as development. Cigarette smoking (tobacco use) can be a threat to their health. Considering consequences of tobacco use can be prevented and restricted, understanding the extent of the problem among the medical students can be very important in terms of healthy HHR and national well-being. And so far, there has been no such attempt in the context of Bangladesh. It is expected that the present study will address this gap and thereby strengthen the ongoing tobacco related research in the country.

MATERIALS AND METHODS

To determine the smoking habit among medical students, a cross sectional survey was conducted between 1st October to 31st December, 2014. Ethical permission was taken {DCMC-A-14-08/112 (A)}. From selected medical colleges, 304 students were randomly chosen through convenient technique, who were 16 years of age and/or above and has been smoking at least 5 cigarettes a day for last one year. Sample size was calculated using the cross sectional formula; $n = z^2pq/d^2$. The questionnaire for the Global Tobacco Surveillance System (GTSS) was used in the survey which was originally designed by CDC and Canadian Public Health Association (CPHA)⁸. The major elements of the questionnaire include smoking and its magnitude, knowledge about the risk of smoking, smoking cessation etc. The GTSS questionnaire was translated into Bangla and then used for the survey after pretesting⁹.

An elaborative briefing on the questionnaire was done to all the interviewers prior to the data collection. The purpose of the study was explained by the interviewers to obtain verbal consent. The respondents were also assured about the strict maintenance of confidentiality of their information. The respondents were approached during a general lecture day asked to fill up the questionnaire. It took about 10 to 15 minutes to complete filling up the questionnaire. The authors provided assistance when needed in order to ensure optimum collection of information. Smokeless tobacco was excluded from the analysis. The collected data were cross checked and verified and used for final analysis. The analysis was performed using SPSS (Statistical Package for Social Science) version 17, which is a windows based software. Frequencies (and percentages) were calculated for categorical data and compared between groups by non-parametric measures; i.e. chi-square test. P-value less than 0.05 was considered significant and all p-values were double sided.

RESULTS:

The respondents were from 16 to 20 years of age, with mean (\pm SD) of 16.8 (\pm 1.9) years (Table 1).

Table 1: Prevalence of smoking among medical students (n= 304)

Variables	Mean \pmSD	Range
Age	16.8 \pm 1.9	16-20
Smoking starting age (years)	14.3 \pm 1.8	13-18

Out of 304 students, 96(31.5%) were non-smokers. The remaining 208(68.4%) were smokers, among them 43(20.6%) were regular smokers, and 165(79.3%) were occasional smokers. All 28 female students were non-smokers (Table 2).

Table 2: Prevalence of smoking among medical students (n= 304)

Smoking habit	Frequency	Percent
Current smoker	208	68.4
Regular	43	20.6
Occasional	165	79.3
Non-smoker	96	31.5

Regarding duration of smoking, 42(20.2%) respondents smoked for less than 6 months, 64(30.8%) for 6 months to 1 year, 88(42.3%) for 1 to 4 years, 11(5.3%) for 5 to 10 years and a least 3(1.4%) smoked for more than 10 years (Table 3).

Table 3: Duration of smoking among the smokers (n=208)

Duration	Number	Percent
< 6 months	42	20.2
6 month -1 years	64	30.8
1 year-4 years	88	42.3
5 years-10 years	11	5.3
>10 years	03	1.4

Thirty six percent of current smokers smoked more than 10 sticks per day compared with thirty percent who smoked 6 to 10 a day (Table 4).

Table 4: Distribution of the respondents by number of cigarettes smoked per day (n=208)

No. of cigarettes	Frequency	Percent
1-5	75	36.2
6-10	64	30.6
More than 10	69	33.2

Table 5 shows knowledge regarding side-effects of smoking habit among users and non- users and its source of information. Significantly more users knew that it causes tuberculosis, heart attack, cancer and development of hypertension. The major sources of information for non-users were media 56(58.3%). Overall, students' major sources of information were doctors (69.7%), medias (47.7%), parents (9.2%) and friends (3.3%). Non- user adolescents did not know that smoking habit leads to dental problem and addiction.

Table 5: Knowledge regarding side-effects of smoking among smokers and non-smokers and sources of information (n=304)

Variables	User(n=208)	Non-user(n=96)	Total (n=304)	P-value
<i>Knowledge regarding side effects of smoking</i>				
Cancer of the lung	31(14.9)	1(1)	32(10.5)	0.000
Dental problem	18(8.7)	0(0)	18(5.9)	
Tuberculosis	58(27.9)	4(4.2)	62(20.4)	
Heart attack	32(15.4)	4(4.2)	36(11.8)	
Addiction	13(6.3)	0(0)	13(4.3)	
Hypertension	25(12.0)	4(4.2)	29(9.5)	
Weight loss	22(10.6)	8(8.3)	30(9.9)	
Don't know	8(3.8)	2(2.1)	10(3.3)	
<i>Sources of information</i>				
Doctor	92(44.2)	29(30.2)	121(69.7)	0.037
Media	89(42.8)	56(58.3)	145(47.7)	
Friends	06(2.9)	04(4.2)	10(3.3)	

Parents	21(10.1)	07(7.3)	28(9.2)	
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DISCUSSION

When it comes to exploring the outside world and testing one's limits, it is the young and adolescents who are more into taking risks¹⁰. The average age of the respondents was 16.8 (± 1.9) years with a distribution of age from 16 to 20 years. A similar study conducted in rural Wardha, Sewagram India reported similar age distribution (16.6 ± 1.28)¹¹. About 68% of the respondents (208) were reported to be smokers. Among them 21% (43) were regular and the rest were occasional smokers. All 28 female students were found to be non-smokers. A similar study on smoking behaviour and attitude of the medical students was conducted at the Aga Khan University, Karachi, Pakistan and their findings do not correlate with the present study where the proportion of current smokers was much less (14.4%)¹².

Regarding the duration of smoking, 20% (42) respondents smoked for less than 6 months, 31% (64) smoked for about 6 months to a year, 42% (88) smoked for one to four years, 5% (11) smoked for 5 to 10 years and 1% (3) smoked for more than 10 years. This correlates with the findings from Tamil Nadu, India¹³. When asked for the frequency of use, 36% current smokers smoked more than 10 sticks per day and 30% between 6 to 10 sticks. This is in line with findings from Kerala, India, where 42.6% were heavy smokers (>10 sticks a day), 25.1% were moderate (6 to 10 sticks per day), and rest were light smokers (1 to 5 sticks per day)¹⁴. A significant number of users knew that smoking can cause tuberculosis, heart disease, cancer and hypertension. Men and women can have reduced life years (13.2 and 14.5 years respectively) because of smoking. Each cigarette can cause health issue which in turn can reduce an average of 11 minute of a smoker's life. Often the signs and symptoms of smoking related illness starts from the peripheral parts as in numbness of hands and feet. Essentially this later can lead to major cardiac disease, Chronic Obstructive Pulmonary Disease (COPD), emphysema and carcinoma of lung, larynx, mouth and pancreas¹⁵.

In about 58.3% (56) case, the main source of information was media. The overall sources include doctors (70%), media (48%), parents (9%) and friends (3%). The non-user adolescents did not know that smoking is also associated with dental problems and addiction. Rao S. *et al* (2014)¹⁶ reported that "exposure to anti-smoking messages on television, radio, billboards, posters, newspapers, magazines and movies were associated with non-smoking." It has been found that anti-smoking messages on television can reduce smoking among the adolescents (12 to 13 years) while the outdoor adverts or radio messages could not. On the other hand, no exposure to anti-smoking messages at social/public places; i.e. fairs, concerts, sports, community events etc. has shown to be effective in reducing smoking. Results from Somaliland GTTS survey showed similar results that content and mode of anti-smoking message delivery can foster desired

results¹⁷.

CONCLUSION:

The study has brought out that there is high prevalence of smoking among medical students who ought to be aware of the hazards of smoking - in spite of this knowledge - they have been pushed into the habit of smoking by parental smoking behavior, peer pressure and lure of other drugs. Measures such as advocacy and societal norms, addressing these factors rather than isolated health education on the ill effects of smoking, will check the rising trend of young smokers in developing countries. In conclusion, the health education has been demonstrated to be effective in improving the knowledge of students of the danger of cigarette smoking and it also had changed their attitudes towards cigarette smoking as many of them now wish to stop cigarette smoking.

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