

## PATTERN OF TOBACCO USE AMONG THE STUDENTS OF SELECTED PUBLIC AND PRIVATE UNIVERSITIES

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### Abstract

**Background:** The objective of the study performed were to compare the pattern of tobacco use among the students of selected public and private universities. **Materials and methods:** A cross-sectional comparative study was conducted on 250 students of Dhaka University and East West University who were selected by convenient non probability sampling technique by face-to-face interview using a written questionnaire which was pre-tested on small number of students of NIPSOM. During the study period (January to June 2011) data concerning socio-demographic differentials with distribution, duration and pattern of smoking, per day frequency, smoking-initiation, daily expenditure for smoking and relation of type of university to tobacco use. **Results:** 61.2% was male and 38.8% was female and their age ranged between 18 to 29 years. 31.6% was habituated to tobacco use. 38.4% and 24.8% were habituated of smoking in public and private university respectively. Pattern of smoking showed that 59.5% had used filter tipped cigarette and 32.91% had used plain cigarette among the smokers. The mean smoking duration was 2.2 years, per day mean frequency was 8.58 times, mean daily expenditure for smoking was Tk. 49.70 and 56.96% initiated their smoking by friends. **Conclusion:** There was restriction of tobacco use in private university campus, but in public university, there was no restriction. Restriction of tobacco use in campus and an effective awareness program is required to discourage the use of tobacco.

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### Introduction

Tobacco is a product prepared from the leaves of the tobacco plant by curing them. The plant is part of the genus *Nicotiana*<sup>1</sup>. Commercially it is available almost everywhere in dried, cured and natural forms. In addition to being consumed as cigarette and cigars, it can be smoked in a stem pipe, water pipe or hookah. Tobacco can also be chewed, "dipped" (Placed between the cheek and gum) or snuffed into the nose as finely powdered snuff<sup>2</sup>. American Red Indians were probably the first people to smoke, chew and snuff tobacco, as early the 1400 BC. Smoking was first introduced in Bangladesh during 1558, when the Portuguese landed in Chattogram port for trading. Bangladesh is one of the most tobacco using prevalent countries and hookah, a traditional way of smoking is dying here. Consequently, cigarette is appearing as the most popular form of tobacco in this country<sup>3</sup>. A study from China found, the overall age adjusted smoking prevalence was 56.6% among men and 11.0% among women<sup>4</sup>. Tobacco use among young people is becoming a severe problem in South Asia region. The Global Youth Tobacco Survey (GATS) conducted in selected countries in the region revealed that 1 in 10 students (13-15 year old) smokers<sup>5</sup>.

Tobacco is an important public health problem in Bangladesh. In 2004, according to a WHO study, 30.9 million people aged 15 years and above consumed tobacco in some form or other. About 57,000 people aged 30 and above died. Bangladesh suffered a net loss of 42 million US\$ (Taka 26.1 billion)<sup>6</sup>. Bangladesh has a huge population of 138.6 million (2005 estimate). According to 2004 prevalence data (A study conducted by WHO) 37% people aged 15 years and above (i.e. 30.9 million) use tobacco in some form or other. Use of smokeless tobacco is a huge problem in women. In 2004, 57,000 people died and 382,000 became disable due to 8 tobacco related illness. Considerable amount of tobacco is produced in Bangladesh. Is was the world's 18<sup>th</sup> leading tobacco producer in 1994 and continues to be the 4<sup>th</sup>

largest producer of cigarettes in the region<sup>6</sup>. Among young people, the short-term health consequences of smoking include respiratory and non-respiratory effects, addiction to nicotine, and the associated risk of other drug use. Long term health consequences of youth smoking are reinforced by the fact that most young people who smoke regularly continue to smoke throughout adulthood. Cigarette smokers have a lower level of lung function than those persons who never smoked. Smoking reduces the rate of lung growth. In adults, cigarette smoking causes heart disease and stroke. On an average, someone who smokes a pack or more of cigarettes each day lives 7 years less than someone who never smoked<sup>7</sup>.

Tobacco related illness such as cancer, cardiovascular and respiratory diseases are already major problems in Bangladesh. Tobacco related cancers account for about half of all cancers among men and one-fourth among women. Due to a very high prevalence of chewing tobacco use in various forms, Bangladesh has significant incidence of oral cancers in the world. Heart attacks in Bangladesh, as compared to western countries, occur at younger ages. Most of the victims of heart attacks below the age of 40 are smokers. Smoking largely attributes to COPD. Tobacco is a 2<sup>nd</sup> leading cause of all non-communicable diseases. Tobacco poses a major challenge not only to health, but also to economic development<sup>6</sup>. The degree of developing CHD is directly related to the number of cigarette smoked per day. There is evidence that the influence of smoking is not only independent of, but also synergistic with other risk factors such as hypertension and elevated serum cholesterol. This means that the effects are more than addictive<sup>8</sup>.

Tobacco use is increasing day by day in our country. Students, who are on studying in universities, are the future citizen. So it is very important to aware them about the dangerous effect of tobacco use. This study will make an effort to obtain the pattern of tobacco use and to take necessary action and effective awareness program to discourage the tobacco consumption to protect them from the devastating consequences of tobacco usage.

#### Materials and methods

It was a cross-sectional comparative study to evaluate the pattern of tobacco use among the students of some selected public and private universities. From January to June 2011 data was collected by

face-to-face interview through a structured questionnaire on 250 students. Among them, 125 from public university and 125 from private university. Convenient type of non-probability sampling was done as data were collected within a very limited time period.

After collection, data was checked, verified and edited as per specific objectives and key variables. Data analysis was done with SPSS (Statistical Package for Social Science) Ver. 19 and by using the MS Excel.

To conduct this study written permission was taken from research council of NIPSOM, Vice-Chancellors of Dhaka University and East West University. Following WHO and BMRC guidelines informed consent was taken from the student before the interview.

#### Results

Among 250 students, 156(62.4%) were in group within 18-21 years {71(56.8%) were in public university & 85(68%) were in private university}. The mean age was 21.19 years, the SD±2.041 years and the range from 18 years to 29 years. 153(61.2%) were male and 97(38.8%) were female. Majority of the respondents 226(90.4%) were belonged to Muslims, 17(6.85) were belonged to Hindus, 4(1.6%) were belonged to Christians and 1(.4%) was Buddhist. Regarding to tobacco use, among 250 students, 79(31.6%) had the habit of tobacco use (Table I).

Among the 79 tobacco user, the mean smoking duration was 2.2 years, SD was± 0.54 years. 53(67.09%) had been smoking for 2-4 years. Among the smokers, 59.5% used filter tipped cigarette and 32.91% plain cigarette. Per day mean frequency was 8.58 times, among 79 smokers 33(41.77%) had the habit of smoking below 5 times. The mean daily expenditure of the 79 smokers was Tk. 49.70, SD ± Tk. 1.038 and range = Tk. 18-150. 56.96% initiated their smoking from friends (Table II).

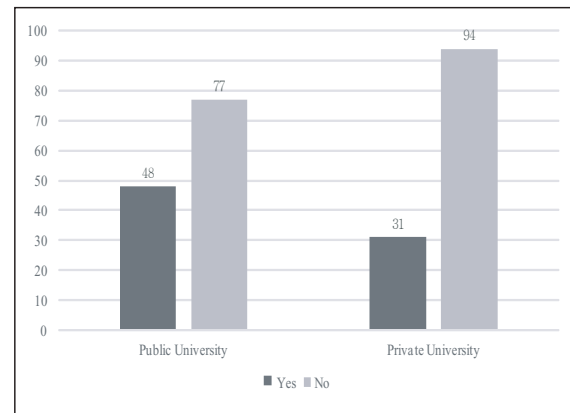
Figure 1 shows the relation of tobacco use to type of university. Out of 250 students, 125 were studying in public university and 125 were in private university. 48(38.45%) among students of public university and 31(24.8%) among students of private university had habit of tobacco use. Difference between habit of tobacco use and university type was found statistically significant ( $p<0.05$ ).

**Table I:** Demographic features of the respondents (n=250)

	Public University (n=125)	Private University (n=125)	Total (n=250)
1. Age (In years)			
a. 18-21	71(56.8%)	85(68%)	156(62.4%)
b. 22-25	49(39.2%)	36(28.8%)	85(34.0%)
c. 26-29	5(4.0%)	4(3.2%)	9(3.6%)
2. Sex			
a. Male	82(65.6%)	71(56.8%)	153(61.2%)
b. Female	43(34.4%)	54(43.2%)	97(38.8%)
3. Religion			
a. Muslim	108(86.4%)	118(94.4%)	226(90.4%)
b. Hindu	11(8.8%)	6(4.8%)	17(6.8%)
c. Christian	3(2.4%)	1(0.8%)	4(1.6%)
d. Buddhist	1(0.8%)	0(0.0%)	1(0.4%)
e. Others	2(1.6%)	0(0.0%)	2(0.8%)

**Table II:** Tobacco use related factors (n=79)

Factor	Traits	Total (n=79)
1. Duration of smoking	<ul style="list-style-type: none"> <li>● &lt;2 years</li> <li>● 2-4 years</li> <li>● &gt;4 years</li> </ul>	<ul style="list-style-type: none"> <li>5(6.33%)</li> <li>53(67.09%)</li> <li>21(26.58%)</li> </ul>
	Total	79(100.0%)
2. Pattern of smoking	<ul style="list-style-type: none"> <li>● Bidi</li> <li>● Plain cigarette</li> <li>● Filter tipped cigarette</li> <li>● Hookah</li> <li>● Others</li> </ul>	<ul style="list-style-type: none"> <li>2(2.53%)</li> <li>26(32.91%)</li> <li>47(59.5%)</li> <li>2(2.53%)</li> <li>2(2.53%)</li> </ul>
	Total	79(100.0%)
3. Smoking frequency/day	<ul style="list-style-type: none"> <li>● &lt;5</li> <li>● 6-10</li> <li>● 11-20</li> <li>● 21-30</li> </ul>	<ul style="list-style-type: none"> <li>33(41.77%)</li> <li>22(27.85%)</li> <li>22(27.85%)</li> <li>2(2.53%)</li> </ul>
	Total	79(100.0%)
4. Smoking initiation	<ul style="list-style-type: none"> <li>● From friends</li> <li>● By self</li> <li>● From family</li> <li>● From observing others</li> </ul>	<ul style="list-style-type: none"> <li>45(56.96%)</li> <li>28(35.45%)</li> <li>4(5.06%)</li> <li>2(2.53%)</li> </ul>
	Total	79(100.0%)
5. Daily expenditure for tobacco use (Tk)	<ul style="list-style-type: none"> <li>● &lt;20</li> <li>● 21-50</li> <li>● 51-100</li> <li>● 101-150</li> <li>● &gt;150</li> </ul>	<ul style="list-style-type: none"> <li>30(37.97%)</li> <li>29(36.71%)</li> <li>12(15.20%)</li> <li>6(7.59%)</li> <li>2(2.53%)</li> </ul>
	Total	79(100.0%)

**Fig 1:** Distribution of the respondents by tobacco use in relation to their type of university (n=250)

### Discussion

The objective of the study was to compare the pattern of tobacco use among the students of some selected public and private universities. According to the objective, the study was carried out among 250 students of Dhaka University and East West University.

An overview of the students in this study reflected the common socio-demographic characteristics. Among the respondents, 156(62.4%) were the age group within 18-21 years. The mean age was 21.19 years, the  $SD \pm 2.041$  years and the range was 18-29 years. This study shows, out of 250 respondents, 153(61.2%) were male and 97(38.8%) were female. The ratio of male female of the study was not similar to the national survey, as in the higher education participation of female students is lower. The finding of religious distribution of 250 respondents, 226(90.4%) were belong to Muslims and 24(9.6%) were non-Muslims.

The findings showed that the prevalence of tobacco uses among the students was 31.6%. This prevalence is similar to both the country and abroad. According GATSBAN Report 2009, overall, current tobacco use among all adults is 43.3% (41.3 million).<sup>9</sup> Among 125 students of public university, 48(38.4%) had the habit of tobacco use. Among 125 students of private university, 31(24.8%) had the habit of tobacco use. Difference between habit of tobacco use and university type was found statistically significant ( $p < 0.05$ ). The prevalence of smoking in public university is almost similar to the GATSBAN Report 2009<sup>9</sup>.

The present study revealed, among 79 smokers, 47(59.5%) and 26(32.91%) had used filter tipped cigarette and plain cigarette respectively. This finding is not similar to GATSBAN Report 2009<sup>9</sup>. Among 79 smokers, per day 33(41.77%) had the habit of smoking below 5 times. The mean frequency of smoking = 8.58 times and SD  $\pm$ 0.894 times. Among 79 smokers, 53(67.09%) had been smoking for 2-4 years. The mean smoking duration 2.2 years, SD  $\pm$ 0.54 years and range was 0.4-6 years. Another study showed that 29.5% smokers had been smoking for more than 25 years. The mean smoking duration 17.16 years, SD  $\pm$  12.70 years and range 0.5-50 years<sup>3</sup>. In this study as the students age range was 18-29 years, the smoking duration is also became lower than other study. Most of the students start their smoking life after entrance of university. Through this study findings, it was revealed that initiation of tobacco use among 79 smokers, 45(56.96%) initiated smoking from friends and 28(35.45%) by self-motivation. In a study showed that majority of respondents (49.0%) were initiated tobacco use by friends<sup>10</sup>.

The study revealed that out of 79 smokers, the per day expenditure of 30(37.97%) were less than Tk. 20 and 2(2.53%) were more than Tk. 150. The mean expenditure was Tk.49.70, SD $\pm$  Tk. 1.038 and range= Tk. 18-150. In another study, majority (36.4%) of respondents spent less than Tk. 5. The mean expenditure was Tk. 7.82, SD $\pm$  Tk. 6.92<sup>3</sup>. Another study showed that the daily mean expenditure of smoking was Tk. 3.74<sup>11</sup>. The mean expenditure of present study is higher than the previous study due to high cost of tobacco products now a days and less usage of lower cost tobacco products such as bidi, among the students.

#### Limitations

This study covered only the students of Dhaka University and East West University thus it might not represent the situation of entire country. Due to time constrained, sample size was small. As the study done on only among students, it does not reflect the national figure. The study was done only in urban area so that comparison between rural and urban people could not be done.

#### Conclusion

Tobacco products are sold and consumed ubiquitously in Bangladesh. It is a drug of easy availability and social acceptability. At the same time it is also well known amongst most of the people in

the country that tobacco consumption is main factor behind several behavioral diseases. In this study, the tobacco consumption prevalence was alarming. The prevalence of tobacco use was higher among the students of public university than the students of private university. So, an effective awareness program and restriction of tobacco use in the institute is required to discourage the use of tobacco to protect the students from the devastating consequences of tobacco usage. Appropriate and effective legislation and measures should be taken, establish national databases on tobacco by continuous research and strengthening overall health education, particularly in educational institutes.

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#### Contribution of authors

HMH- Conception, initial research design, critical revision of the version, acquisition of data, data analysis, interpretation of data, manuscript writing and final approval.

MWC- Critical revision of the version, data analysis, manuscript writing, final approval.

#### Disclosure

Both the authors declared no competing interest.

#### References

1. Tobacco: From Wikipedia, the free encyclopedia. Available from: <https://en.wikipedia.org/wiki/Tobacco>(Last accessed date 08.03.2019).
2. World Health Organization. Report on Tobacco-2008.
3. Islam MW. Prevalence and pattern of tobacco consumptions in a selected rural area, NIPSOM, November 2008; 57-59.
4. Cheng SG, Ernster LV, Guanging H. Tobacco smoking 847 residents of East Beijing, Peoples Republic of China, Asia Pacific Journal of Public Health, September. 1990; 4(2-3): 56-162.

5. Tobacco in South Asia, The World Bank South Asia Human Development, Health, Nutrition and Population unit. [Cited 2009] Available from: <http://siteresources.worldbank.org/INTETC/Resources/TobaccoinSARfinalOct14.pdf>
6. Ministry of Health and Family Welfare (MH&FW) National Strategic Plan of action for Tobacco Control, 2007-2010. World Health Organization, country office for Bangladesh. 2007; 1-2.
7. Star health: Health effects of smoking among young people. The Daily Star, May 31, 2008.
8. Park K. Park's Text Book of Preventive and Social Medicine. M/S, Banarsidas Bhanot Publishers, Jabalpur, India. Edition: 19. 2007; 302-307.
9. Global Adult Tobacco Survey, Bangladesh Report 2009, Ministry of Health and Family Welfare. [Cited 2009 Dec]. Available from: [https://www.searo.who.int/bangladesh/publications/global\\_adult\\_tobaccot\\_2009.pdf](https://www.searo.who.int/bangladesh/publications/global_adult_tobaccot_2009.pdf)
10. Jalil MA. Prevalence of tobacco consumption habits among the rural people in selected Thana of Gazipur district. Dissertation. NIPSOM. 1997; 59-61.
11. Alam MA. A study on perception of smokers about health hazards of smoking in a rural community of Bangladesh. Dissertation. NIPSOM. 1995; 53-56.