

## Orginale Article

# Prevalence and determinants of smoking in some selected private university students of Dhaka city

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### ABSTRACT

This descriptive type of cross-sectional study was conducted to assess the prevalence and determinants of smoking among some selected private university students of Dhaka city in Bangladesh with sample size of 190. The students were aged between 18 and 26 years with mean age as  $22.42 \pm 1.820$ . The majority of the respondents (82.1%) were of the nuclear family and 63.2% were living with their friends. Among the smokers (n=187) 50.5% spent Tk. 91-130 and 26.3% spent Tk. 131-170 for smoking daily. The present study also revealed that 98.4% students were smokers of whom 79.7% started smoking at ages between 13 to 15 years. Among them 42.5% smoked 12-16 cigarettes, 27.4% smoked 17-21 cigarettes per day and rest 19.4%, 7.0% and 3.8% were taking 22-26, 2-6 and 7-11 cigarettes per day. Regarding knowledge on hazards associated with smoking 39% mentioned it was loss of money and 35.2% mentioned lung cancer. The study further revealed that 93% smoked due to peer pressure and 91.4% got intervention to quit smoking. Of them 39.8% received counseling from friends as intervention. A significant association was found from this study between number of cigarette taken per day with living partner ( $p=0.000$ ). As smoking kills the smokers, awareness program to be launched in a way so that people voluntarily leaves the habit.

### Introduction:

Smoking is one of the leading causes of preventable death in world. In USA the prevalence of smoking among university students was 42% and low self-efficacy was

detected as the most significant determinant of smoking behaviors. It has been found that 97.6%, 39% and 78% university students smoked in India, Pakistan and Nepal respectively. They smoked due to peer pressure, sibling and parental influence, depression and stress, weight loss as benefit of smoking and for fun and pleasure. A study in Bangladesh showed that 22.1% of university students have smoking habit and it is

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increasing alarmingly due to avoid anxiety and tension, feeling of maturity, symbol of manliness and unhappy family environment. Smoking is the inhalation of the smoke of burning tobacco encased in cigarettes, pipes, and cigars. A smoker is someone who smokes at least one cigarette a week. A smoker's life span is shortened by about five minutes for each cigarette smoked – this is about the amount of time which is spent in smoking a cigarette<sup>1</sup>. A cigarette seldom contains only one type of tobacco. Most cigarettes contain a mixture, or blend, of several types of tobacco from a variety of sources<sup>2</sup>. Consumption of other combustible tobacco products is also on the rise. Since 2000, global consumption of cigarette-like cigarillos has more than doubled, while consumption of roll-your-own tobacco and pipe tobacco both increased by more than a third.<sup>3</sup>

Nicotine, the active ingredient in tobacco, is inhaled into the lungs, where most of it stays. The rest passes into the bloodstream, reaching the brain in about 10 seconds and dispersing throughout the body in about 20 seconds, depending on the circumstances and the health penalty caused by cigarette smoking.<sup>7</sup>

### **Materials and methods**

It was a descriptive type of cross sectional study. Non-randomized and purposive sampling technique was applied. Samples were taken from NUB and AIUB which are co-located in Banani Commercial Area. Students of age group 18-26 years were taken as sample. Equal number of students of both graduation and post graduation levels were selected on the basis of their willingness to participate in the study. A semi-structured, pretested and modified questionnaire was used to collect the data by face to face interview. The collected data were edited by checking, cleaning and analyzing by using the software SPSS (16.0 version). Proportion was presented by frequency and cross tabulation analysis.

amount consumed. Nicotine stimulates adrenal glands to release of epinephrine into the blood. Epinephrine causes several physiological changes-it temporarily narrows the arteries, raises the blood pressure, raises the levels of fat in the blood, and increases the heart rate and flow of blood from the heart<sup>4</sup>. Nonsmokers who are exposed to tobacco smoke also take in these toxic chemicals, which cause heart disease, lung cancer, and breast cancer in adults. Children also suffer from asthma, chronic ear infections, lower respiratory tract infections, and sudden infant death due to the exposure of this chemicals.<sup>5</sup> In addition; female smokers have a greater propensity for miscarriages, low-birth weight babies, adverse menstrual symptoms, osteoporosis and transmission of HIV-1 from mother to child.<sup>6</sup>

Despite extensive recognition of the serious public health cost, the use of cigarettes and other tobacco products among university students appears to be sparse and the determinants are largely unknown. It is showed in many studies that young adult between 18-24 years were not fully aware of

The validity of the result was tested by using Pearson's chi-square test.

### **Results**

The descriptive type of cross-sectional study was conducted to assess the prevalence and determinants of smoking in some selected private university students of Dhaka city in Bangladesh from July 2013 to October 2013.

From the study it was revealed that among the respondents 57.4% were in 21-23 years age groups, 30% were in 24-26 years and remaining 12.6% were in 18-20 years age group with the mean age of  $22.42 \pm 1.820$  years. It was observed that 79.9% of the respondents started smoking at the age of 13-15 years. Among the respondents 37.4% and 34.8% had smoked for 10-12 and 7-9 years respectively. (Table no. 1) The Prevalence of smoking among private university students of

Dhaka was 98.4%. The higher prevalence of smoking in this study due to peer pressure (93%) as 85.3% of the respondents lived with their friends and hostel. (Table no 2) It was also revealed that 42.5% smokers were taking 12-16 sticks per day, whereas 27.4%, 19.4%, 7.0% and 3.8% were taking 17-21, 22-26, 2-6 and 7-11 sticks per day respectively. (Figure 1)

This study also showed that more than half (50.5%) of the respondents spent 91-130 TK. for smoking per day (Table no. 3) despite of

knowing (39%) that smoking causes loss of money. (Table no. 4) Of the respondents 91.4% was getting some sorts of intervention to quit smoking and that was counseling from friends (39.8%), counseling from family (24%), counseling from psychologist (17%) and from others (19.3%). (Table no. 5)

A significant association was found from this study between number of cigarette taken per day with living partner ( $p= 0.000$ ). (Table no. 6)

**Table 1: Distribution of the respondents by age, starting age and duration of smoking**

Age	Frequency	Percent
18-20	24	12.6
21-23	109	57.4
24-26	57	30
<b>Starting age of smoking</b>		
13-15	149	79.7
16-18	31	16.6
19-21	7	3.7
<b>Duration of smoking</b>		
1-3	14	7.5
4-6	38	20.3
7-9	65	34.8
10-12	70	37.4

**Table 2: Distribution of respondents by smoking influencing factors (n=187)**

Influencing Factors	Response	Frequency	Percentage (%)
Due to feeling maturity	Yes	129	69
	No	58	31
peer pressure	Yes	174	93
	No	13	7
Due to sibling and parental influence	Yes	147	78.6
	No	40	21.4
Due to depression and stress	Yes	35	18.7
	No	152	81.3
Symbol of manliness	Yes	0	0
	No	187	100
Due to relaxation	Yes	38	20.3
	No	149	79.7

**\*Multiple responses** Table no. 2 reveals that 93% of the respondents smoked due to peer pressure followed by 78.6% for sibling and parental influence, 69% for feeling maturity, 20.3% smoked for relaxation and 18.7% for depression and stress.

**Table 3: Distribution of respondents by amount of money spent for smoking per day (n=186)**

Amount of money for smoking spent per day (TK.)	Frequency	Percent
10-50	10	5.4
51-90	13	7.0
91-130	94	50.5
131-170	49	26.3
171-210	8	4.3
211-250	12	6.5
<b>Total</b>	<b>186</b>	<b>100.0</b>
<b>Mean ± SD = 127.29±47.173</b>		

**Table 4: Distribution of the respondents by knowledge on type of hazards associated with smoking (n=159)**

Health Hazards	Frequency	Percent
Lung cancer	56	35.2
Asthma	7	4.4
Cardio vascular disease	6	3.8
Loss of money	62	39.0
Throat cancer	8	5.0
All above	20	12.6
<b>Total</b>	<b>159</b>	<b>100.0</b>

**Table 5: Distribution of the respondents by intervention to quit smoking (n=187)**

Intervention	Frequency	Percent
Yes	171	91.4
No	16	8.6
<b>Type of Intervention</b>		
Counseling from family	41	24.0
Counseling from friends	68	39.8
Counseling from psychologist	29	17.0
Others	33	19.3

**Table 6: Distribution of respondents by association between cigarettes smoking with persons with whom they live (n=186)**

	Number of cigarettes taken per day					Total	p-value
	(2-6) Cigarette/d	(7-11) Cigarette/ day	(12-16) Cigarette/d	(17-21) Cigarette/ day	(22-26) Cigarette/ day		
Friends	6	2	55	38	19	120	0.000
Hostel	2	2	17	9	12	42	
Alone	0	3	7	4	5	19	
Parents	5	0	0	0	0	5	
<b>Total</b>	<b>13</b>	<b>7</b>	<b>79</b>	<b>51</b>	<b>36</b>	<b>186</b>	

Table 6 shows significant association between number of cigarettes/per day with living partner (p-value = 0.000).

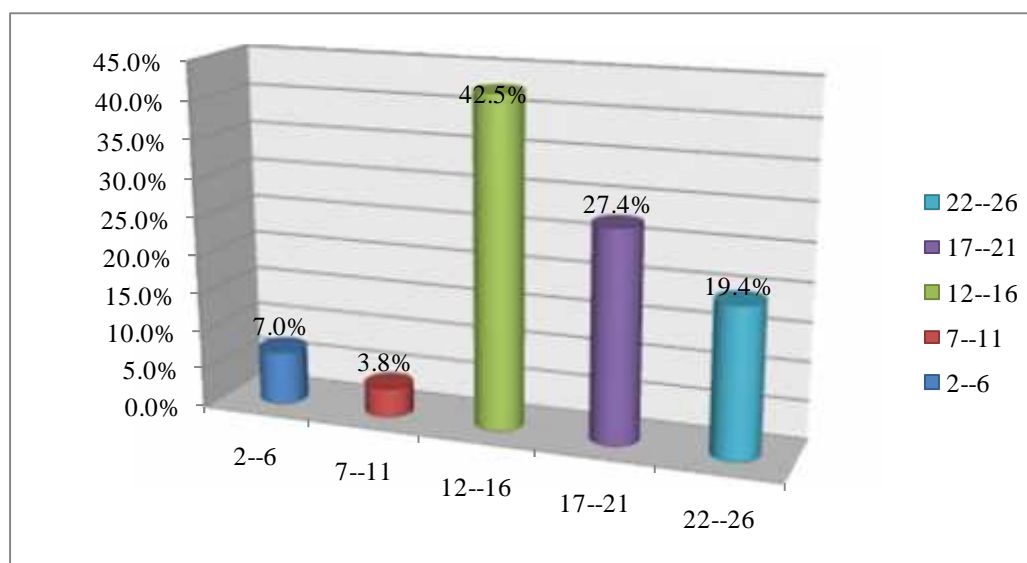


Figure 1: Distribution of respondents by frequency of smoking per day (n=186)

### Discussion:

The descriptive type of cross-sectional study was conducted on the prevalence and determinants of smoking in some selected private university students of Dhaka city in Bangladesh. Study showed that among the respondents, 57.4% were in 21-23 years age group, 30% were within 24-26 years and remaining 12.6% were in 18-20 years age group with mean age of  $22.42 \pm 1.820$  years. Out of which 96.3% were male and remaining 3.7% were female respondents. This finding is very close to the findings of a study conducted on tobacco consumption among college students of University of Delhi in 2010.<sup>8</sup>

It was observed from this study that, the Prevalence of smoking among private university students of Dhaka was 98.4%. A study was conducted on prevalence and determinants of smoking among the university students of Bangladesh found 22.1% of them as smokers.<sup>9</sup> Higher prevalence of smoking in this study may be due to peer pressure as 85.3% of the respondents lived with their friends and hostel. This result is similar to a study conducted in Jordan to assess the smoking habit among university students: prevalence and associated factors in 2008 where majority (86.3%) of smokers smoked

daily.<sup>10</sup> Study showed that most of the students (69%) believed that due to feeling maturity they smoke. Similar results are also found in university students in both developing and developed countries: Increased levels of cigarette use among college students<sup>11</sup> Study revealed that 93% smokers influenced and pressured by their peers group and they thought that smoking helps them fit in with their peers; this was more pronounced among their friends. This may be because they feel that they are more accepted as smokers within their friends who are in most cases smokers as well. This study also found that 78.6% respondents smoked due to sibling and parental influence, 20.3% smoked for relaxation and 18.7% for depression and stress. Where as in a study among university students in USA found that low self-efficacy was considered as the main reasons for smoking. It was also found from the study that students, who had lower levels of self-efficacy, reported smoking more frequently and greater quantities of cigarettes than students with higher levels of self-efficacy.<sup>12</sup> This variation may be due to socio-economic condition and cultural factor of Bangladesh. Students thought that smoking caused lung cancer (35.2%), throat cancer 5%, asthma

4.4% and 3.8% knew cardio vascular disease associated with smoking and also had knowledge on loss of money for smoking 39% (table no.4) this study was much more differed from Danita Phanucharas and Rapeepun Chalongsuk 2009.<sup>13</sup> According to the U.S. Department of Health and Human Services (HHS), high school smokers thought they wouldn't be smoking 5 years later. But almost 75 percent of them were still smoker after 7 to 9 years later. HHS also said that each year nearly 20 million people try to quit smoking, but only 3 percent have long-term success.<sup>14</sup> This study also showed similar finding as among the smokers 96.3% tried to quite cigarette but did not have any success. This might be due to nicotine addiction.

The current study showed that the respondents who used to stay with friends and hostels they were taken more number of cigarettes per day comparatively who were staying alone or with parents. The chi-square test was applied to examine the difference of them. The test results showed the significant association between number of cigarettes per day with living partner (p-value = 0.000). So, we found out that the number of cigarettes smoked per day is strongly associated with the living place and partners.

### **Conclusion:**

Health hazards of smoking covers a wide range of diseases like lung cancer and COPD. As a result there is a worldwide awareness creation program is ongoing to stop smoking and prevent indulging new smokers. But due to different socioeconomic and cultural impact and habituation with nicotine smoking is continuing worldwide though with a little declining trend. So far the smoking is concerned education is not a factor to stop. Rather Childhood environment, selection of peer, supervision of parents, school and college environment play a vital role to refrain or indulge smoking. School curriculum may be made rich by adding a chapter on tobacco use

and its adverse effects on health and economy. Hospitals and social organization may play a pivotal role to create awareness among the population. It is expected that one day with a combined efforts of all and gradual counseling, the world will overcome the grip of nicotine and get a healthy society free of smoking in the days to come.

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