

Prevalence and Factors associated with Current Tobacco Users among Adults in Sylhet City, Bangladesh.

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Abstract

Introduction: Tobacco use is a major public health challenge all over the world and Bangladesh is not excluded from that. This is the most vulnerable factor for leading the causes of death from conception to adulthood.

Objectives: This study was conducted to assess the prevalence and factors associated with tobacco users (smoke and smokeless) among adults in Sylhet City, Bangladesh.

Methodology: A cross sectional study among adults age 18 years and above was conducted using proportional. Data was collected by questionnaire forms 113 adults by personal interview. The socio-demographic variables examined by the level of age group, gender, religion, marital status; educational status, employment status and monthly family income were used in the analysis.

Results: In general prevalence of current tobacco users (smoke & smokeless) among adults in Sylhet City, Bangladesh was 54.87% (79.0% male and 21.0% female) and comparative to females, males were more likely to consumed currently ($P < 0.001$). Smoked tobacco (56.5%) like cigarettes/beedis are more likely to used by current tobacco users compare to smokeless tobacco (43.5%, $P < 0.001$) (Chewing like panmasala- betel leaf with ureca nuts, sadapata, jorda, gull e.t.c.). Chewing like pan masala are preferred form of smokeless tobacco among females (20.9%) followed by cigarettes/beedis were most typically used by males (56.5%). Illiterate respondents (43.5%, $P = 0.005$) were significantly more likely to consume tobacco currently than respondents with all other levels of education. Unemployed (66.1%, $P = 0.001$) were more likely to consume tobacco, and employee and respondents with other jobs were less likely to consumed.

Conclusion: The prevalence of tobacco users (smoke and smokeless) among adults in Sylhet City remained high in spite of several population interventions over the past decade. Continuous and more comprehensive anti- tobacco policy measures are needed in order to further prevent in increasing prevalence of tobacco use among Bangladeshi people, particularly those who are younger, less education and low socio-economic status.

Key Words: Tobacco use, Adults, Prevalence, Socio-demographic factors

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I. Introduction

Tobacco is used in Bangladesh in many forms. Among them, Smoking of cigarettes and beedis (tobacco wrapped in dried leaves of special trees) is one form of tobacco use. Smokeless tobacco use indicates chewing pan (mixture of lime, pieces of areca nut, tobacco and spices wrapped in betel leaf), chewing pan masala (scented tobacco mixed with lime and areca nut, in powder form- sadapata, zarda, gull etc). Bangladesh has one of the highest tobacco users in the world both in number and relative share.

Tobacco use is the second leading risk factor for the worldwide burden of disease, accounting for 6.3% of disability-adjusted life-years lost and causing six million deaths annually¹⁻². A study reported that Global age-standardized prevalence of daily tobacco smoking was 31.1% in 2012 for men³. At present, an estimated 1.2 billion persons are using tobacco in some form worldwide, which is predicted to rise to 1.6 billion by 2020⁷. Since 1995 there has been a modest increase in tobacco consumption in low- and middle-income countries (LMICs), but a consistent decline in high-income countries (HICs)⁴. Nearly 80% of the over one billion smokers worldwide live in low- and middle-income countries, where the burden of tobacco-related illness and death is heaviest⁵. By 2030 it is under estimated that tobacco will kill over eight million people annually, with 80% of those deaths occurring in LMICs³. Consumers in LMICs such as Bangladesh are likely to be less informed about the adverse health consequences of tobacco use than those in HICs, and are therefore likely to bear the major health impact of tobacco unless an necessary educational programmed is mounted^{3&6}. Tobacco consumption has been linked to several diseases such as lung cancer, chronic obstructive lung disease,

upper respiratory and digestive tract cancers, cardiovascular disease, stroke, peptic ulcer disease, intrauterine growth retardation, infertility, sexual dysfunction in male and many other diseases.

Bangladesh is also one amongst the fewer countries within the world where prevalence of smoking and smokeless tobacco use are high. In this country, the numbers of tobacco smokers are increasing rapidly due to supply of cheap tobacco products, lack of strong tobacco control regulations and weak enforcement of existing regulations. WHO conducted and reported at The Global Adult Tobacco Survey, Bangladesh is one amongst the highest ten countries within the world with high tobacco use (both smoking and smokeless forms) with a prevalence of 43.3% among adults (41.3 million), with 44.7% of men and 1.5% of women engaging in tobacco smoking⁷. Bangladesh is a low-income country and one of the largest tobacco consuming countries within the world⁸. According to a previous study of Bangladesh, tobacco smoking causes about 25% of all deaths in Bangladeshi men aged 25 to 69 years and an average loss of seven years of life per smoker⁹. Tobacco-use results in both health and economic costs that's large and growing¹⁰⁻¹¹. Due to its easy accessibility and social acceptability, there are now more elders having access to cigarettes and hence getting addicted. Its losses are immeasurable or uncountable. Some losses are related both directly and indirectly. Thus, smoking affects individual smoker, his/her family and society as a whole. Significant costs are being used for medicine purpose. It reduces the strength of individuals working capacity. As tobacco consumption is becoming a threat of the health of population and an economic burden, use of tobacco isn't stopped and no effective anti-smoking efforts are made in Bangladesh.

The need to assemble information about tobacco consumption in vulnerable groups of individuals was previously reinforced as a vital step for the development of appropriate intervention strategies to cessation. Factors affecting tobacco use and its prevalence among the adults don't seem to be completely understood. Understanding the values, beliefs, attitudes, and behaviors relevance smoking among adults may help in the development of strategies that seek to reduce the associated morbidity and mortality. Consequently, the aim of this paper is to evaluate the prevalence of tobacco use among the adults and to identify factors that are associated with variation in prevalence across studies.

II. Material And Methods

This study was conducted to assess the prevalence and factors associated with current tobacco users (smoke and smokeless) among adults in Sylhet City, Bangladesh. The study carried out with the following methodology consist of research design, study location, population and sample size, sampling technique, data collection instruments, data collection method and procedure, data management and data analysis, ethical consideration.

Study Design: A descriptive cross sectional study design.

Study Location: This study was conducted to assess the prevalence and factors associated with tobacco users (smoke and smokeless) among adults in Sylhet City, also known as Jalalabad, the spiritual; is a metropolitan city in northeastern part of Bangladesh located on the bank of Surma River. Almost about more than half of million people live in this city. It is one of the most central city of Bangladesh for economy and tourism.

Study Duration: May 2018 to August 2018.

Sampling and Sample Size: Non-probability purposive sampling technique used in this study. In Sylhet City, estimated adults are one luc fifty thousands (150000). Sample size determined for the proposed study by using formula $n_0 = z^2pq/d^2$, where n_0 =desired sample size, p =the assumed prevalence rate, $q=1-p$, d =Tolerance level of errors, assumed 5%, z = Confidence level of interest for 95%. Here, 113 samples selected for limitation of time and fulfilling the academic requirements with the concern of guide teacher.

Study Population/Participants: The study participants were adults and included both males and females. This study was assured that the confidentiality and privacy would be maintained following selection criteria:

Inclusion criteria

- All adults aged above 18 years who live in Sylhet City.
- Persons those who gave consent to take part in study.

Exclusion criteria

- Persons those who below 18 years of age.
- Persons those who didn't interested to participate in this study.
- Non co-operative or mentally irritable adults.

Data Collection Instruments

The instrument used for this study was semi structure questionnaire developed by researcher himself. Questionnaire divided into two parts. **Part-I:** This part consists of 9 items collected from socio-demographic data including the age, sex, religion, educational level, marital status, occupation, monthly income, family history of tobacco use. **Part-II:** This part consists of 7 items related to tobacco consumption

pattern (forms of tobacco consumption, average rate of consumption daily, age of initiation, and duration), tobacco consumption status (current user and non-user) etc. Current user was an individual who regularly consumed tobacco one or more times daily for 3 months or more before survey or who had stopped for less than 3 months; an individual who had never consumed or who just tried but didn't become a user or ever smoke regularly and was not consuming for more than 3 months was considered as non-user.

All data collection questionnaire were developed by the researcher based on existing literature review. Three experts from department of public health, Leading University examined the contents of validity of those questionnaires. Reliability was tested by the pilot study within 20 respondents before conducting actual research. Minor phasing made on the original questionnaire after pretest. Data was collected by semi-structured questionnaire using English version and before distributing to study sample it was translated into Bengali by back translated method.

Data Collection

Data were collected from adults in Sylhet City, Bangladesh. The study approval taken from Institutional Review Board (IRB Memo No.LUS/PH/106/1202/25864/120), Faculty of Modern Science, Leading University. Permission for data collection obtained from the appropriate authority of Sylhet City Corporation. For smooth conduction of the study, the respondents informed about the purpose of the study. Data was collected by the researcher himself. Face to face interview conducted with semi-structured questionnaire. Before the interview, the respondents briefed about the objectives of the study and a written informed consent obtained from the respondents and they assured that the collected data would be kept confidential. Researcher considered the risk and benefits of the respondents during data collection and the national interest will be given highest priority during publication. The duration of data collection was from May 2018 to June 2018.

Data Management and Analysis

For data management and analysis primary sources of data had been used. After data collection all data checked for its completeness and correctness. Coding and classification were done. Various statistical methodologies used to analyze the data. Data will first entered window based computer software package-statistical package for social science (SPSS) 22 versions for statistical analysis. Descriptive analysis performed to know the characteristics of the study subjects. All data expressed through frequency table and chart, frequency with percentage will be reported. Secondly, socio-demographic variables such as age, gender, religion, respondent education, monthly income and family history of tobacco use compared with outcome variables such as use tobacco (overall), different forms of tobacco by using cross tabulation and chi square test using column percentage. After that, P-value was calculated to find significant statistical association between socio-demographic variables and outcome variables. P value with <0.05 was considered as significant. The data was weighted while calculating the descriptive statistics in order to make proper representation of target population.

III. Result

Table no1 shows total 113 respondents were participated in this study. More than half 69 (61.1%) of the respondents were male. The age of the respondents ranged from 18 – 64 years with a mean age of 43.71±19.07 SD years. About 58 (51.31) were married and rest of them 55 (48.7%) were unmarried. The predominant religion of respondents was Muslim 78 (69.0%) of total respondents. For educational status it was predominantly illiterate 37 (32.7%) and 27 (23.9%), 21 (18.6), 28 (24.8%) were primary, secondary and graduate respectively. Majority of the respondents 59 (52.2%) were unemployed and mean monthly income 1.3E4±8305.133tk BD. It showed that more than half 65 (57.5%) had a positive family history of tobacco use.

Table no 1: Socio-demographic characteristics of respondents (N=113)

Variables	Frequency	%	M±SD
Gender			
Male	69	61.1%	
Female	44	38.9%	
Age (Years)(min-max)=(18-68)			
18—34 years	42	37.2%	
35—64 years	33	29.2%	43.71±19.07
>64 years	38	33.6%	
Marital status			
Unmarried	55	48.7%	
Married	58	51.3%	
Religion			
Muslim	72	63.7%	
Hindu	33	29.2%	
Christians	8	7.1%	

Educational status		
Illiterate	37	32.7%
Primary	27	23.9%
Secondary & Higher secondary	21	18.6%
Graduation & above	28	24.8%
Employments status		
Unemployed	61	54.0%
Employed	52	46.0%
Monthly Family income (min-max)=(3,200—38,000 taka)		
< 10,000 taka	38	33.6%
11,000—20,000 taka	50	44.2%
21,000—30,000 taka	19	16.8%
>30,000 taka	6	5.3%
		1.36E4±8305.133
Family History		
Yes	65	57.5%
No	48	42.5%

Figure no 1 indicates the prevalence of tobacco users (smoke and smokeless) among adults in Sylhet City by gender, out of 113 respondents 62 (54.87%) were current users and 51 (45.13%) were non-users.

Figure no 1: Prevalence of tobacco users among adults, August 2018 (n=113)

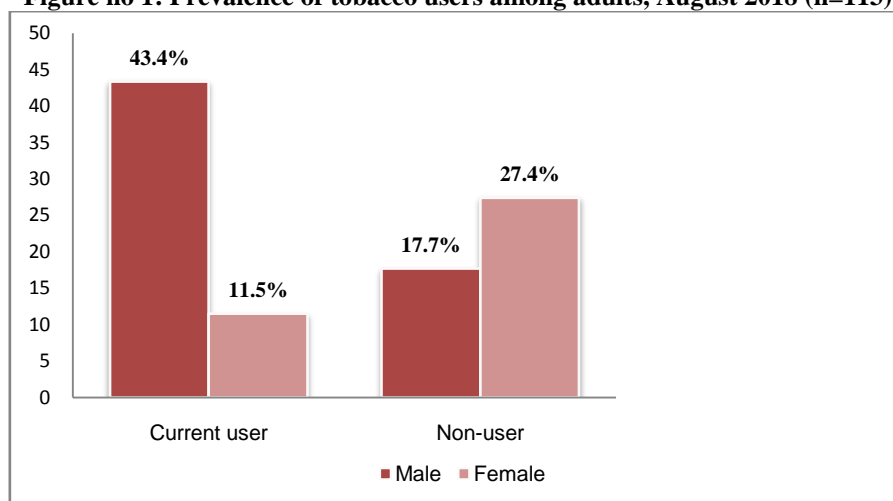


Table no 2 shows there is a significant relationship between current tobacco users and gender (P-value=0.000); age (P-value=0.001); educational status (P-value=0.005); employment status (P-value=0.000); family history (P-value =0.004). In fact p -value <0.05 indicates the significant relationship.

Table no 2: Socio-demographic factors associated with current tobacco users among adults, August 2018 (n=62)

Variables	User status (n=113)		P value
	Current users (n=62)	Non-users (n=51)	
Gender			
Male	49 (79.0%)	20 (39.2%)	.000
Female	13 (21.0%)	31 (60.8%)	
Age			
18—34 years	31(50.0%)	11(21.6%)	.001
35—64 years	19(30.6%)	14(27.4%)	
> 64 years	12(19.4%)	26(51.0%)	
Religion			
Muslim	33(53.2%)	39(76.5%)	.033
Hindu	24(38.7%)	9(17.6%)	
Christian	5(8.1%)	3(5.9%)	

Marital status			
Unmarried	26(41.9%)	29(56.9%)	.082
Married	36(58.1%)	22(43.1%)	
Educational status			
Illiterate	27(43.6%)	9(17.6%)	
Primary	15(24.2%)	10(19.6%)	.005
Secondary & Higher secondary	11(17.7%)	13(25.5%)	
Graduation & above	9(14.5%)	19(37.3%)	
Employments status			
Unemployed	43(69.4%)	18(35.3%)	.000
Employed	19(30.6%)	33(64.7%)	
Monthly Family income (min-max)=(3,200—38,000 taka)			
< 10,000 taka	23 (37.1%)	15 (29.4%)	
11,000—20,000 taka	25 (40.3%)	25 (49.0%)	
21,000—30,000 taka	10 (16.1%)	9 (17.6%)	.718
>30,000 taka	4 (6.5%)	2 (3.9%)	
Family History			
Yes	43(69.4%)	22(43.1%)	.004
No	19(30.6%)	29(56.9%)	

Table no 3 indicates the types of tobacco products used by adults age 18 years and over, by gender. Smoking form of tobacco like cigarettes/beedisaremain forms (56.5%) used by current tobacco users compare to smokeless tobacco (Chewing like panmasala- betel leaf with ureca nuts, sadapata, jorda, gull e.t.c.) (43.5%).

Table no 3:Forms of tobacco product used by current tobacco users, August 2018 (n=62)

Characteristics	Smoking form n (%)	Smokeless form n (%)	P value
Male	35 (56.5%)	14 (22.6%)	.000
Female	—	13 (20.9%)	

IV. Discussion

The study was carried out to assess the prevalence and factors associated with current tobacco users (smoke and smokeless) among adults in Sylhet City, Bangladesh. It was descriptive type cross sectional study among 113 respondents, the significant findings in prevalence and associated factors of tobacco use were discussed according to analysis. Different socio-demographic characteristics like gender, age, educational status, employment status, family history showed significant association with either overall or different forms of tobacco. Chi-square test results in Table 2 show that tobacco consumption was significantly associated with all socioeconomic including gender, age of the respondents, education level, employment status and family history.

In our study, the overall prevalence of current tobacco users (smoke and smokeless) among adults in Sylhet City, Bangladesh was 54.87%, where comparative to females, males were more likely to consume currently (males 79.0%, females 21.0%, $P < 0.001$ respectively). The findings of our present study is quite similar to other studies conducted in different parts of Bangladesh in which the prevalence ranged from 43.3% - 60.0%¹²⁻¹⁵. Likewise high prevalence rate reported in another study conducted in India was 54.45%¹⁶. On the other hand, low prevalence rate were reported in Malaysia (22.8%)¹⁷, Thailand (23.7%)¹⁸, Vietnam (23.8%)¹⁹, Sri Lanka (29.4%)²⁰. This indicates that smoking prevalence among adults in Bangladesh is still higher than other Southeast Asian countries. The difference in the prevalence across the countries might be due to disparities in the socioeconomic, culture, tobacco legislation and taxation between countries¹⁷. Second reasons might be as a result of small sample size or due to lack of standard definition of current users. Other plausible explanations would be the shortage of perception of harmful effects of tobacco amongst peoples of Sylhet City. In present study, the younger adults aged 18-34 were more likely to use tobacco compared to older individuals (aged 35-64 and above) ($P = 0.001$). Similarly studies in Malaysia and China reported that the majority of male smokers initiated smoking by the age of 18^{17, 21}. Possible explanations for this include having more time to encounter smoking-related health problems, increased health consciousness with age, longer to be exposed to anti-smoking efforts, and a way of vulnerability that's less pronounced within the younger age groups²³. Additionally, these older adolescents may have a higher awareness of the health consequences of smoking as they approach their examination.

Increase in education level led to a decrease in the likelihood of tobacco consumption as respondents with secondary and higher education were significantly less likely to use tobacco compared to respondents with no education ($P=0.005$). This might be due to individual with higher educational level having better awareness and knowledge about health risk of smoking. The present study findings are consistent with those of studies conducted elsewhere^{14, 23}. For employment status also showed strong association with current tobacco consumption status in this study. Respondents having unemployed more likely to consumed (66.1%, $P<0.001$) than those having employed. This result quite similar to the study of Sultana P, Akter S, Rahman MM, Alam MS (2015)²². The possible explanation is that unemployed groups face more psychosocial and mental stressors arising from a lack of job compared to the managerial and professional classes and therefore, are more likely to engage in high risk health behaviors such as tobacco consumption. This study also indicates family history can cause a great impact on tobacco use. It is found that individual who had a positive family history (69.4%) were more likely to consumed than those who didn't have (30.6%, $P=0.004$). It's due to high illiteracy rate and cultural habit among the peoples in this area. The present study didn't find any significant association between marital status, religion and monthly income among adults in Sylhet City.

In present study, found that smoked tobacco like cigarette/beedis are more (56.5%) likely to used by current tobacco users compare to smokeless tobacco (Chewing like panmasala- betel leaf with ureca nuts, sadapata, jorda, and gulle.t.c.) (43.5%) ($P<0.001$). Chewing like panmasala are preferred form of smokeless tobacco among female (20.9%) followed by cigarettes/beedis were most commonly used by male (56.5%) which might be as a consequence of societal and cultural acceptance of the smoking habit among men rather than women. Likewise, high rate found of smokeless tobacco among women in Sylhet. This may be due to the fact that Sylhet is considered to have an independent cultural identity resulting from traditional beliefs and practices despite being part of the larger Bengal²⁴.

V. Conclusion

The prevalence of tobacco users (smoke and smokeless) among adults in Sylhet City is quite high (54.87%). The findings in this paper further suggest that the tobacco control policies in Bangladesh must include targeted interventions to restrain the use of particular form of tobacco products among specific demographic and socio-economic groups of the population, like smoked tobacco among men, smokeless tobacco among women, and both smoked and smokeless tobacco among those in low socio-economic status. Lastly, the result of this study reveals that tobacco smoking is strongly related to social disadvantage for instance, low socio-economic status, less education. Giving it as public health priority, WHO Framework Convention on Tobacco Control should be implemented. Additionally, a nationwide campaign is required to educate people about the health risks of smoking tobacco.

Limitations of the study: The study focused only on socio-demographic association with tobacco use among adult. Different other factors behind tobacco use are often equally important which was not focused within the study. The study was limited among adults aged above 18 years. Also, because of cross sectional nature of this study, etiological conclusion could not be derived from cause and effect relationship.

During data collection process, participants were likely to over report or under report tobacco using behavior and socio-demographic characteristics leading possible bias within the study. There could be possibility of recall bias during data collection and information bias because the subjects might have denied use of tobacco in fear of being known to other family members (Differential or non differential). Only the association between overall tobacco uses with socio-demographic variables could be assessed due to more number of adult smoking cigarettes and beedis and chewing tobacco.

Recommendation

- With quite high prevalence of smokers, the study shows an urgent need to focus “tobacco using history” during adulthood and should take for the further study.
- Necessary counseling and guidance roles on anti-smoking steps should be promoted based on the results of this study.

Implications and further research: The information generated from the study can be useful for implementing strategies and guidelines among decision makers. This study may also help to clarify certain characteristics such as educational level of adults, age group, gender, etc as possible factors to consider when designing future intervention programs. Different interventions through mass media on harmful effects of tobacco use, such as use of poster, pamphlets, advertisements in newspaper, television, radio etc can be done. Counseling regarding control and limitation of tobacco using behavior during adulthood could be very beneficial. As studies related to tobacco use among adults has been conducted less in Sylhet City, it opens a new door for implementing broader

and focused research. The results from study can be beneficial for promoting changes in public health policy that would further discourage concurrent use of tobacco among adults.

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