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# Tobacco Consumption among Slum Women of Dhaka City: Causes, Consequences and Remedies

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**Abstract:** Tobacco consumption is not only harmful for health of women; it has huge socio-economic costs too. The main thrust of the study is to assess the effects of tobacco consumption by slum women. From this study it is found that the slum women generally take smokeless chewing tobacco like zarda and none of the respondents smoke cigarette. About 5% of them consume bidi. The factors which influence slum women to consume tobacco are age, income, education, number of smoking family members, consciousness about health, number of children and employment status. In this study, no significant relationship is found between spending on tobacco and illness of the respondents. Most of the respondents are free from any type of diseases like asthma, pneumonia, TB, bone diseases etc. caused by tobacco consumption. Awareness about the health risks and hazards due to smokeless chewing tobacco consumption should be created as they don't consider smokeless chewing tobacco harmful. Government, NGOs and community-based organizations can play a vital role to reduce tobacco consumption among slum women.

**Keywords:** Tobacco Consumption, Slum Women, Smokeless Chewing Tobacco

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## 1. Introduction

The incidence of tobacco consumption among women and girls across the globe is indeed quite high. It threatens to undermine not only women's physical and mental health but also their economic and social progress. Initially tobacco consumption was adopted by men in industrialized countries and was later taken up by women in those countries and men and women in developing countries. The risk of premature death for tens of millions of women worldwide is nearly doubled by a single factor tobacco use [1]. Bangladesh is one of the top tobacco consuming countries in the world where around 57000 people including women over the age of 30 die each year from tobacco related illness [2]. But information on tobacco consumption by women in Bangladesh is very sparse. Moreover, research work on the tobacco consumption by slum women is not evident in Bangladesh. This study is expected to contribute to the stock of knowledge in this area and recommend policies to reduce tobacco consumption among slum women.

The main thrust of the study is to assess the effects of tobacco consumption by slum women in Dhaka. The specific objectives of the study are- a) to examine the socio-economic

background of women tobacco consumers, b) to identify and analyze the factors influencing women to consume tobacco, c) to analyze the effects of tobacco consumption on health of slum women and d) to recommend policies that will be helpful to reduce tobacco consumption among slum women.

## 2. Review of Literature

Tobacco consumption is not only harmful for health of men and women but also it has huge economic costs [3]. The study apprehends that by 2030, the single biggest cause of death will be tobacco consumption and it will kill 1 in 6 people including women worldwide. The study also shows that there exists a negative relation between tobacco consumption and income and level of education. Males, it has been found, are almost 3 times more likely to consume tobacco than females.

Tobacco consumption has severe impacts on women's health. There are greater risks of stillbirth, neonatal death and sudden infant death syndrome among women tobacco users [1]. Tobacco user women are more likely to experience primary and secondary infertility. Women who smoke have an increased risk of cardiovascular disease, chronic

obstructive pulmonary disease, cancer, bone density and fractures etc. Depression is strongly associated with tobacco consumption. Tobacco consumption also causes periodontal disease, gall bladder disease, peptic ulcer, some form of cataract and facial wrinkling etc. Women who quit smoking experience marked reductions in disease risks.

Bangladesh is one of the top tobacco consuming countries where around 57000 people including women over the age of 30 die each year from tobacco related illness [2]. The study finds that about 28.7% of women in Bangladesh consume tobacco. Most of these women consume bidi as they belong to low-income group.

The tobacco industry has promoted tobacco by exploiting women's need for liberty and independence [4]. For this reason, the number of women tobacco user will go up by 20% by 2025 from 12% today. Yet, even if this rate remains unchanged; the number of women tobacco user will increase because the number of women in developing countries will increase by an estimated 1 billion from the current 2.5 to 3.5 billion by 2025.

Tobacco use has been decreasing in developed countries but the tobacco epidemic is still expanding in developing countries [5]. Tobacco consumption varies by socioeconomic group. Typically, poor people smoke the most and bear most of the economic and disease burden of tobacco use. In Bangladesh, the percentage of tobacco users, both smokers and chewers, was higher among the people of lower economic status; the percentage of tobacco users was higher for men than for women across all wealth quartiles. The prevalence of tobacco usage drops substantially with higher levels of education in Bangladesh.

Tobacco taxation is an important tobacco control measure and the use of annual increases of tobacco tax is a way to improve population health, save health system costs, and reduce health inequalities [6]. Tobacco tax increases deliver sizeable health gains and health sector cost savings and are likely to reduce health inequalities. Policymakers need to complement tobacco tax increases with additional tobacco control interventions focused on cessation.

By estimating socioeconomic patterns and examining the

changing gender and socioeconomic dynamics of tobacco use, it is seen that there are low and declining risks of smoking and chewing among women but higher rates of chewing compared to smoking [7]. There is an increase in smoking with urbanization for women but greater declines over time for higher educated women.

### 3. Methodology of the Study

The research methodology adopted for this study is descriptive and inferential in nature. The relevant information for the study has been collected from both primary and secondary sources.

#### 3.1. Unit of Analysis

Child means a person of less than 15 years [8]. So, the units of analysis of this study are women aged 15 and over who live in the slums of Dhaka and take different types of tobacco. The slum women who consume tobacco in any form including smoke (e.g., cigarettes, waterpipes, bidi) and smokeless (e.g. dry leafs of tobacco, zarda, gul, white leaf) tobacco has been considered as tobacco consumers in this research.

#### 3.2. Geographical Area Coverage

The study has covered Korail slum, the largest slum of Dhaka city.

#### 3.3. Sampling Procedure and Sample Size Determination

Around 3.4 million people live in Dhaka's 5,000 large medium and small slums [9]. Korail, bordering with two wealthy neighborhoods, Banani and Gulshan, with a population of 40,000, appears to be largest slum in Dhaka [10]. It sits on over 170 acres of government land owned by the state-owned Bangladesh Telecommunications Company Limited, the Public Works Department and the Ministry of Information and Communication Technology.

The Korail slum has been selected for the study. The target female population has been shown in the following Table 1.

Table 1. Population of the study.

Child (age between 0-14 years) population	Adult		Total population
	Female	Male	
25,740	26,130	26,130	78,000

Target Population: Female [11]

From the target population of 26,130 a representative sample of 400 slum women including both smokers - non-smokers and chewing, non-chewing tobacco consumers have been selected by convenient sampling method. The enumeration method of determining sample size is discussed in the following section.

#### 3.4. Sample Size Determination

The sample for the study has been taken from the Table calculated by using the following formula [12]:

$$S = X^2 NP (1 - P) \div d^2 (N - 1) + X^2 P (1 - P).$$

Where

$S$  = required sample size.

$X^2$  = the table value of chi-square for I degree of freedom at the desired confidence level (3.84).

$N$  = the population size.

$P$  = the population proportion (assumed to be .50 since this would provide the maximum sample size).

$D$  = the degree of accuracy expressed as a proportion (.05).

**3.5. Sources of Data**

To achieve the objectives the relevant data has been collected through conducting cross-sectional primary survey. Face to face interviews have been used as a technique in data collection process. After screening the information collected through interviews, a participatory technique has been used to overcome data discrepancies arising from either understatement or overstatement of the respondent women.

**3.6. Tools of Data Collection**

A set of questionnaires consisting of both structured and open-ended questions have been used in interviewing the sample slum women. Before using, the questionnaire has been pre-tested.

**3.7. Field Work**

Field data has been collected and the data has been collected by ten qualified and trained field workers. Total survey activities have been closely supervised by the researcher.

**3.8. Data Processing**

The raw data collected from the field has been cleaned by removing illegal codes, reducing logical inconsistencies, dropping improbabilities and by solving ambiguities. Coding has been used to classify the data on the basis of quality, quantity etc. and then the data has been tabulated. The data has been analyzed using statistical software SPSS.

**3.9. Analysis and Interpretation of Data**

The data on socioeconomic characteristics of women tobacco consumers has been analyzed and interpreted using descriptive as well as inferential statistical techniques.

To identify the factors that explain the consumption of tobacco by slum women a regression function of the

following specification has been estimated:

$$Y = a + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 + b_7X_7 + b_8X_8 + b_9X_9 + b_{10}X_{10} + e$$

Where,

Y is tobacco consumption by slum women expressed in terms of the amount of money (taka).

spent by sample women consumers of tobacco;

X<sub>1</sub> = Age of the tobacco consumers

X<sub>2</sub> = Income of the tobacco consumers in taka per month

X<sub>3</sub> = Education of the women tobacco consumers (years of schooling)

X<sub>4</sub> = Family size of the women tobacco consumers

X<sub>5</sub> = Number of family members of the women tobacco consumers

X<sub>6</sub> = Consciousness about health (1; if conscious about the health risks due to tobacco consumption and zero otherwise)

X<sub>7</sub> = Income of the other members of the house holds

X<sub>8</sub> = Marital status (1; if married and zero otherwise)

X<sub>9</sub> = Motherhood Status (1; if she has children and zero otherwise)

X<sub>10</sub> = Employment status (1; if she is employed, zero otherwise)

e = error term

b<sub>1</sub> to b<sub>10</sub> are coefficients of the respective explanatory variables.

**4. Findings and Discussion**

**4.1. Educational Background**

Most of the respondents are less educated (Figure-1). In our study we have found that no one has completed SSC. Around 4% women have no literacy. More than 6% can write their name only. Most of them, approximately 80% went to school but could not complete class 5 and around 9% slum women passed class five and read up to class 10 but didn't appear in the SSC exam.

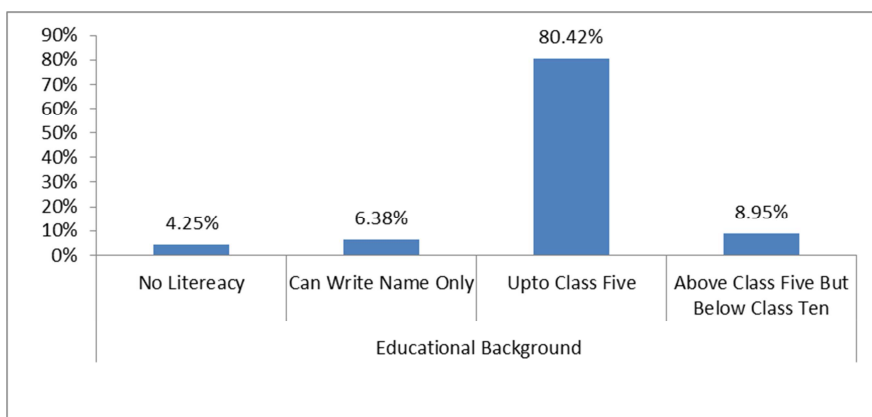
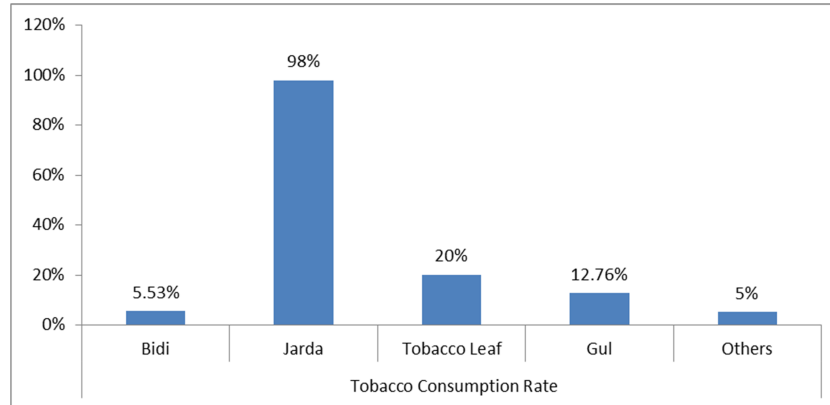


Figure 1. Educational Background of Female Tobacco Consumers.

**4.2. Types of Tobacco Consumed**

In the study, it is found that none of the respondents smoke cigarette (Figure-2). Around 5.5% consume bidi, 20% consume dry leaf of tobacco and approximately 13%

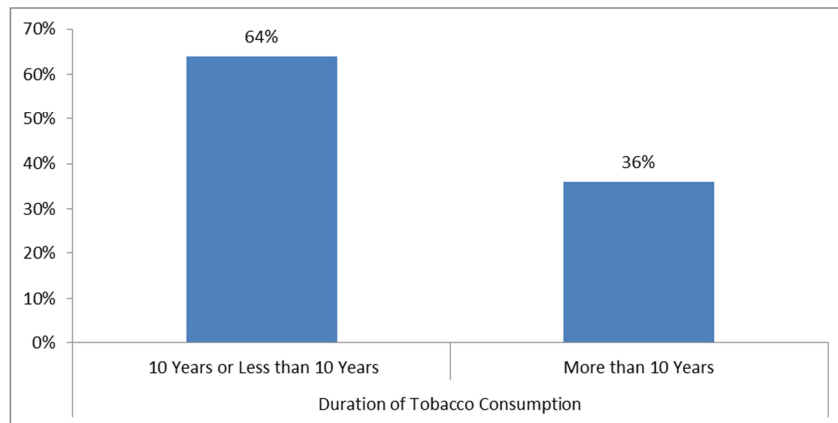
consume gul. The interesting fact is those respondents who consume betel leaf, consume zarda too and the number is pretty high. Almost 98% of the slum women consume zarda. So it is clear that most of the respondents are smokeless chewing tobacco consumers.



**Figure 2.** Types of Tobacco Consumed.

#### 4.3. Duration of Tobacco Consumption

In the study, it is seen that around 64% of the respondents consuming tobacco for 10 years or less than that (figure-3). Rest of them consumes tobacco for more than 10 years.

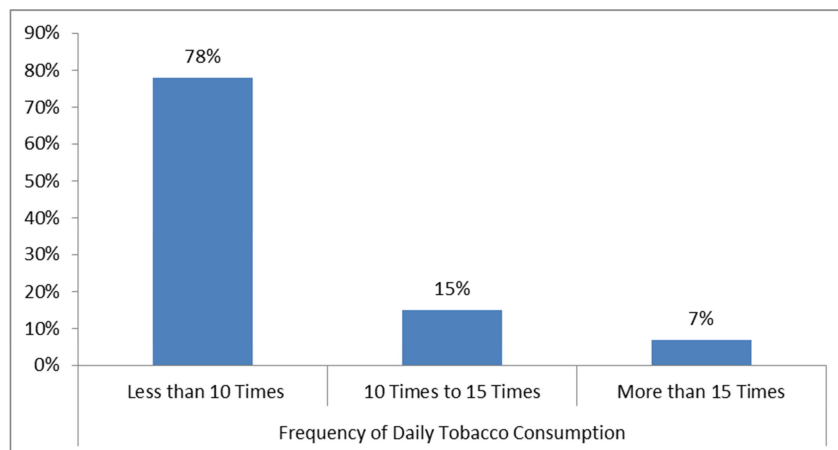


**Figure 3.** Duration of Tobacco Consumption.

#### 4.4. Frequency of Daily Tobacco Consumption

In this study, we have found that inspired by other family members most of the respondents started consuming tobacco (Figure-4). Around 78% of them consume tobacco items less than 10 times a day. Almost 15% consume tobacco 10 times

to 15 times a day and rest of them consumes tobacco more than 15 times per day. Here it should be mentioned that these tobacco consumers mainly consume smokeless chewing tobacco like zarda. Around 56% respondents say that, they consume more tobacco when they are stressed.



**Figure 4.** Frequency of Daily Tobacco Consumption.

**4.5. Spending on Tobacco Consumption**

In our study it is found that around 63% respondents spend more than 10 taka but less than 30 taka per day behind tobacco consumption (Figure-5). Almost 21% of the slum women spend 10 taka or less than 10 taka per day behind tobacco consumption. More than 70% women say that they spend money behind tobacco consumption from their own income.

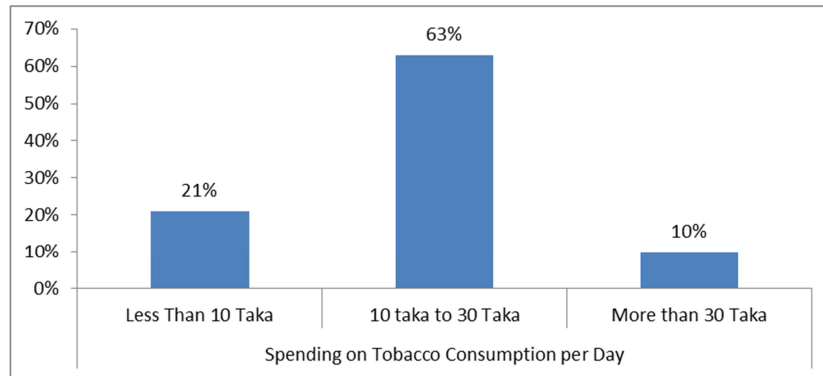


Figure 5. Spending on Tobacco Consumption.

**4.6. Knowledge about Negative Impact of Tobacco**

74% of the respondents know that consuming tobacco is bad for health. Most of them got to know this from media specially television and cinema. Around 66% of the respondents know that tobacco consumption is responsible for asthma, pneumonia, cancer, TB etc but surprisingly most of them don't know about the negative impact of tobacco consumption on women reproductive system and different bone diseases. As most of them are smokeless chewing tobacco consumers they don't think that it is responsible for asthma, eye sight problem or shortening years of life.

Most of the respondents say that they are free from any type of diseases caused by tobacco. Only 10% women have diseases like asthma, pneumonia, TB, bone diseases etc (Figure-6). Around 68% of the respondents suffer from minor digestion problem, bad breath and different mouth related problems. As all the respondents have children, we can say smokeless chewing tobacco doesn't have any impact on their reproductive system.

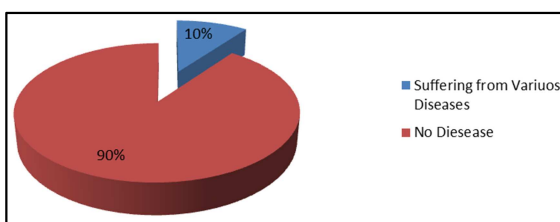


Figure 6. Impact of Tobacco on Health.

**4.7. Future Plan Regarding Tobacco Consumption**

More than 77% respondents have no desire to quit tobacco consumption in future (Figure-7). They say that they don't want to quit, because they are habituated to tobacco consumption. Rest of them has plans to quit it someday. Those who have plan to quit, among them 70% wants to quit because tobacco consumption is harmful. Some of them want to quit because of family pressure. Only 1% wants to quit

because of their doctors' advices.

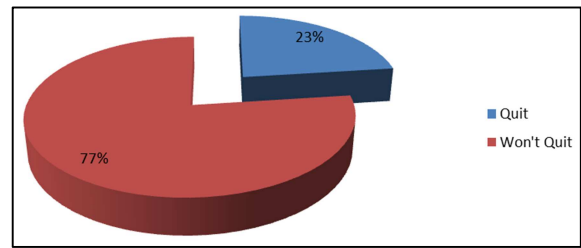


Figure 7. Future Plan Regarding Tobacco Consumption.

**4.8. Role of Government and NGOs**

Around 78% respondents think that government and NGOs can play a vital role in reducing tobacco consumption. More than 40% of those think if government takes initiatives to give free medical checkup if they quit tobacco consumption, it will reduce tobacco consumption rate. 24% think different campaigning can help to reduce tobacco consumption. Around 18% think that by giving jobs, government and NGOs can reduce tobacco consumption.

**4.9. Regression Analysis**

Table-2 shows that the value of coefficient of determination ( $R^2$ ) is .72 which means that 72% percent of the variation in the dependent variable can be explained by the independent variables included in the model.

Table 2. Model Summary.

R Square	Adjusted R Square
0.782	0.72

The coefficient table 3 shows that age, income of the respondent, education of the respondent, number of smoking family members, consciousness about health, number of children and employment status variables are statistically significant.

**Table 3.** Coefficients summary.

Model	Coefficients	t	Sig
Age (Years)	.029	2.677	.026
Income of the respondent (BDT per month)	.059	3.551	.020
Education of the respondent (Years of Schooling)	-.109	2.735	.024
Family size of the respondent	-.039	-.656	.512
Number of smoking family members	.347	6.093	.040
Consciousness about health	-.153	-2.680	.008
Income of other members of family	.005	.088	.930
Marital status	-.066	-1.240	.216
Number of children	.235	3.844	.000
Employment status	.031	2.567	.041

That is, the consumption of tobacco by slum women is influenced by their age, income, education, number of smoking family members, consciousness about health, number of children and employment status.

There is a positive relationship between age and expenditure on tobacco consumption which is statistically significant. If age of respondents increases by 1 unit, tobacco consumption increases by .029 unit. That means, tobacco consumption increases as age increases.

Income and expenditure on tobacco are also positively related which is also statistically significant. If income of respondents increases by 1 unit, tobacco consumption increases by .059 unit. That means, consumption increases when income rises.

On the other hand, education and expenditure on tobacco are negatively related. If education of respondents increases by 1 unit, tobacco consumption increases by .109 unit. It means that if education increases, expenditure on tobacco consumption decreases.

If number of smoking family members increases by 1 unit, tobacco consumption increases by .347 unit. This means that the number of tobacco consumers in the family has also a positive impact on consumption of tobacco.

There is a negative relationship between consciousness about health and tobacco consumption among the respondents. If respondents are conscious rather than unconscious about health, tobacco consumption decreases by 15.3%.

There is positive relationship between number of children and tobacco consumption of slum women. As the number of children increases by 1 unit, the expenditure on tobacco increases by .235 unit.

There is positive relationship between employment status and tobacco consumption of slum women. If the respondent is employed rather than unemployed, the expenditure on tobacco increases by 3.1%.

In this model, three variables- family size of the respondent, income of other members of family and marital status are statistically insignificant, that means these variables do not have any impact on the tobacco consumption of slum women.

## 5. Conclusion and Recommendations

### 5.1. Summary

Most of the slum women are less educated and they are not

that much concerned about the negative impact of tobacco consumption. Moreover most of them consume smokeless chewing tobacco and they don't consider these as parts of tobacco. As they are mainly smokeless chewing tobacco users they are not suffering from any big diseases. But it is the duty of the society to let them understand the side effects and negative impacts of any kind of tobacco including these smokeless chewing tobacco items.

The present study has been undertaken to assess the effects of tobacco consumption by slum women in Bangladesh. The study is exploratory in nature. It has investigated the causes and consequences of tobacco consumption by slum women in Dhaka city. The research methodology adopted for this study is descriptive and inferential in nature. The relevant information for the study has been collected from both primary and secondary sources. To achieve the objectives, the relevant data has been collected through conducting cross-sectional primary survey. Face to face interviews have been used as a technique in data collection process. The units of analysis of this study are women aged 15 and over who live in the slums of Dhaka and take different types of tobacco. The largest slum of Dhaka city- Korail slum has been selected for the study.

To identify the factors that explain the consumption of tobacco by slum women a regression function has been estimated. The analysis shows that income of the respondent, education of the respondent, number of smoking family members, consciousness about health, number of children and employment status variables are statistically significant. That is, the consumption of tobacco by slum women is influenced by their age, income, education, number of smoking family members, consciousness about health, number of children and employment status.

### 5.2. Potential Policy Implications

- i. Awareness about the health risks and hazards due to smokeless chewing tobacco consumption should be created using print and electronic media and through door to door campaign involving the relevant Government departments, NGOs and community-based organizations.
- ii. The Government's current program for education should be made inclusive to cover all categories of people, especially the female population as

education and tobacco consumption are negatively related.

- iii. Government and NGOs should create job opportunities for slum women that will reduce their stress in family life. This will encourage them to quit tobacco consumption.
- iv. Government should introduce free treatment facility to the women tobacco consumers if they quit consumption.
- v. The government should increase taxes on smokeless chewing tobacco to create disincentive to reduce tobacco consumption.
- vi. Government should be strict in implementing all laws prohibiting tobacco use.
- vii. The tobacco control project should be implemented targeting low income people including women.

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