Health Hazard among the Tobacco Users of a Select Rural Area of Bangladesh.

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Abstract
Introduction:*Tobacco use is a global public health problem. One person dies every six-second due to tobacco use. One in ten deaths is caused by tobacco.During the last century, the number of people dying from tobacco is approximately 100 million and is expected to rise to one billion deaths during the 21" century. Globally tobacco use is rising. Tobacco use can lead to various life-threatening ailments, and heart diseases are a major part of it. Regular tobacco consumption can also have a great impact on the financial side. The present study was conducted to observe the health hazards of tobacco consumption in a rural area of Bangladesh.*
Aim of the study: *The aim of the study was to observe the health hazards due to tobacco among tobacco users of a select rural area.*
Methods: *This was a descriptive cross-sectional study conducted on 150 adult males and females in Dumki Upazilla, Patuakhali. A purposive sampling technique was used for the selection of participants, and a semi-structured pretested questionnaire was used to collect data. One hundred and fifty(150) participants were selected as study participants. Ethical approval were taken from the respective medical college. Perform statistical analysis using SPSS software.*
Result: *17.33% were older than 60 years, and only 1.33% were younger than 20 years. The mean ± SD age was 46.78 ± 15.195 years. The male to female ratio was 3.167:1. 24.67% were illiterate, and 29.33% had primary levels of education, and only 1.33% completed their master's studies. 50.67% had a cigarette as the primary method of tobacco consumption, and 27.33% had Zarda. 25.33% had high blood pressure and 18% had low blood pressure as a major health problem. The majority of the participants (32.67%) had a monthly income of ≤ 5000, and 30.67% had a monthly income between 5,000 to 10,000. Only 8% had a monthly income of over 20,000.*
Conclusion: *Tobacco consumption can cause diseases in both male and female populations. In the present study, male predominance was observed among the participants. A lower level of education was observed, and the prevalence of smoking decreased as the education level of the participants increased. The major health problem faced by the participants was high blood pressure, followed by low blood pressure. Cigarette was the most common method of tobacco consumption among the participants.An effective awareness program and anti-smoking law should be executed to discourage the consumption of tobacco to protect people from the devastating consequences of tobacco usages for their own and the passive smoker.*
Keywords: *Smoking, Tobacco, Blood pressure, Cigarette*

I. Introduction

In the present world, cardiovascular diseases are on the rise, despite many medical advancements. Although CVD is generally thought to have increased risk associated with increased age, the number of younger populations facing CVD is on the rise. Among the risk factors of CVD, smoking remains the major risk factor among the younger population.[1]Tobacco use leads more commonly to diseases affecting the heart and lungs, with smoking being a major risk factor for heart attacks, strokes, chronic obstructive pulmonary disease (COPD), emphysema, cancer (particularly lung cancer, cancer of the larynx and mouth and pancreatic cancer). It also causes peripheral vascular disease and hypertension, all developed due to exposure time and level of doses of tobacco.[2]Tobacco is recognized as the single most preventable cause of death worldwide, as just in the year 2008, more than five million deaths occurred because of tobacco smoking. This number is expected to rise to one billion during this century if no proper steps are taken.[3] The primary difference between tobacco smoking

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and other health consequences is that while other health problems can take decades to develop, tobacco causes death in its infancy.[3]The increasing number of tobacco-related ailments and deaths in developing countries justifies calling it a public health disaster. If the current trend continues, by the year 2025, 70% of annual deaths caused by smoking are estimated to occur in the developing world.[4]Tobacco kills up to half of the regular users. The main smoking-related cause of mortality is cardiovascular diseases, chronic pulmonary diseases, and lung cancer, but up to 35 different diseases are reported to be associated with smoking.[5],[6] It has been observed that the younger a person is when starting to smoke the greater the risk of developing tobacco-related diseases and becoming a heavy smoker.[7]Apart from causing illness and premature death, tobacco use and production. results in other negative consequences such as economic loss for countries, poverty for individuals, child labor, deforestation, and other environmental problem in countries growing tobacco.[8] Tobacco cultivation fortifies the inequalities between people within nations, but also between underdeveloped, developing, and developed countries all over the world when human death, environmental and economic conditions are considered.[9]Many different studies have been conducted on the economical effect of tobacco smoking, in both large and small sample sizes. The adverse effects of tobacco on a patient's health have also been studied. The present study was conducted to observe the possible health hazard of tobacco consumption on the rural population of Dum Upazilla, Bangladesh.

II. Objective
General Objective
- To find out any health problems after using tobacco.

Specific Objectives
- To find out the tobacco consumption habits among tobacco users.
- To find out the socio-demographic characteristic of tobacco users.

III. Methods
This was a cross-sectional study on the health hazards of tobacco and the pattern of tobacco consumption among the tobacco smokers of Dumki Upazilla, Patuakhali. The study participants comprised 150 male and female tobacco smokers of Dumki upazilla and Patuakhali town, living nearby college campus Kalikapur. The study was conducted in the short duration of one month, from March 2017 to April 2017, which resulted in a small sample size. A convenient sampling technique was used for the selection of the study participants, and all the information regarding key variables was recorded using a prepared questionnaire. Informed verbal consent was taken from each study participant, and ethical approval was obtained from the ethical review committee of Patuakhali Medical College, Patuakhali.

Inclusion Criteria
- Participants Older than 18 years
- Both male and female
- Currently active tobacco consumers

Exclusion Criteria
- Mentally ill.
- Unable to answer the criteria question.
- Younger than 18 years
- Non-smokers/ those who quit smoking for over a year

IV. Results
The present study was conducted with 150 male and female tobacco consumers. The majority of the participants (17.33%) were older than 60 years, and only 1.33% were younger than 20 years.The mean ± SD age was 46.78 ± 15.195 years. The male to female ratio was 3.167:1. 24.67% were illiterate, and 29.33% had primary levels of education, and only 1.33% completed their master's studies. Cigarette smoking was the most common method of tobacco consumption at 50.67%, followed by Zarda, at 27.33%. high blood pressure (25.33%) was the most common health problem among participants, followed by low blood pressure (18%). Cancer was also observed in 7.33% of cases. Majority of the participants (32.67%) had a monthly income of ≤ 5000, and 30.67% had a monthly income between 50001 to 10,000. Only 8% had a monthly income of over 20,000.

Table1: Distribution of the respondents according to age (n=150)

Age Group	Frequency	Percent
≤20	2	1.33
21-25	12	8.00
26-30	13	8.67
31-35	14	9.33
36-40	16	10.67
41-45	19	12.67
46-50	20	13.33
51-55	13	8.67
56-60	15	10.00
>60	26	17.33
Total	**150**	**100.00**

Table 1 Shows the Distribution of the respondents according to Age.Out of 150 respondents, the largest group of 17.33% respondents were older than 60 years of age. Following this, the second-largest group of 13.33% was from the age group of 46-50 years, and the third-largest group of 12.67% were from the age group of 41-45 years. 10.67% were from 36-40 years of age, 10% were from 56-60 years, 9.33% were from 31-35 years, 8.67% were from the age group of 51-55 years, and another 8.67% were from 26-30 years age group. 8% were from the age group of 21-25 years, and only 1.33% were less than 21 years of age. The mean ± SD age of the study population was 46.78 ± 15.195 years.
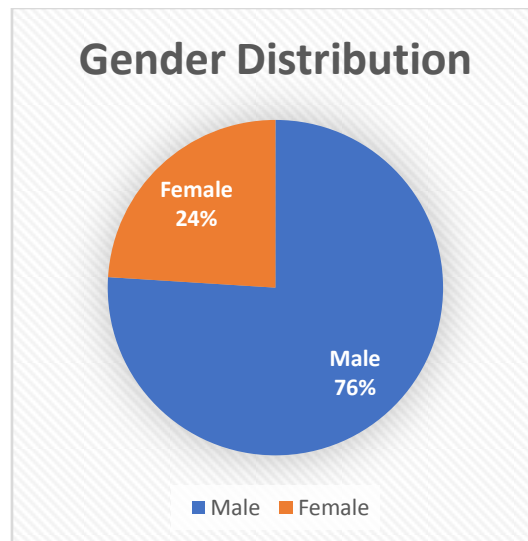
Figure 1: Gender Distribution of the participants.

Figure 1showsthe distribution of the respondents according to gender. Out of 150 respondents, 76% (114) were male and 24% (36) were female.The male: female ratio was 3.1:1

Table 2: Distribution of the respondents according to education level.

Education	Frequency	Percent
Illiterate	37	24.67
Primary School	44	29.33
High School/SSC	42	28.00
HSC	13	8.67
Bachelor	10	6.67
Masters	2	1.33
Vocational	1	0.67
Others	1	0.67
Total	**150**	**100.00**

Table 2shows the distribution of the respondents according to Education. Out of 150 respondents, 24.67% were illiterate, and 29.33% received education up to primary school. 28% studied up to SSC, 8.67% studied up to HSC, and 6.67% studied up to Bachelor level. Only 1.33% completed their Master's education. Among the remaining 2 participants, 1 received vocational education and 1 received other forms of education.

**Table 3:** Distribution of the respondent by pattern of tobacco consumption

From of tobacco consumption	Frequency	Percent
Bidi	15	10.00
Cigarette	76	50.67
Hukkah	1	0.67
Gul	2	1.33
White Tobacco	11	7.33
Zarda	41	27.33
Others	4	2.67
Total	150	100.00

Table 3represents the distribution of respondents according to the type of tobacco consumption.Out of 150 respondents, 50.67% consumed cigarettes, 27.33% consumed Zarda, 10% consumed bidi, 7.33% consumed white tobacco, 1.33% consumed gul, 0.67% consumed hukkah and 2.67% consumed other forms of tobacco.

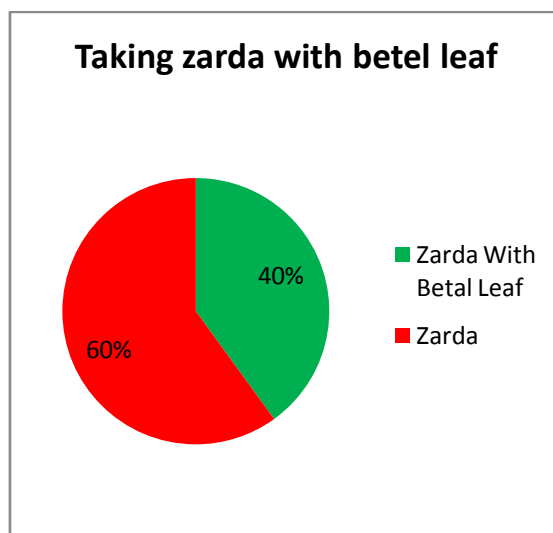**Table 4:** Distribution of the respondents according to health problems

Health problem of the respondents	Frequency	Percent
High blood pressure	38	25.33
Low blood pressure	27	18.00
Abdominal Pain	26	17.33
Breathlessness	21	14.00
Cancer	11	7.33
Oral/Dental Pain	20	13.33
Difficulty in Vision	7	4.67
Total	150	100.00

Table 4shows the distribution of the respondents according to their health problems. Among the 150 respondents,25.33% had high blood pressure, 18% had low blood pressure, 17.33% had abdominal pain, 14% suffered from breathlessness, 13.33% faced oral pain, 4.67% had difficulty in vision, and the remaining 7.33% faced Cancer.
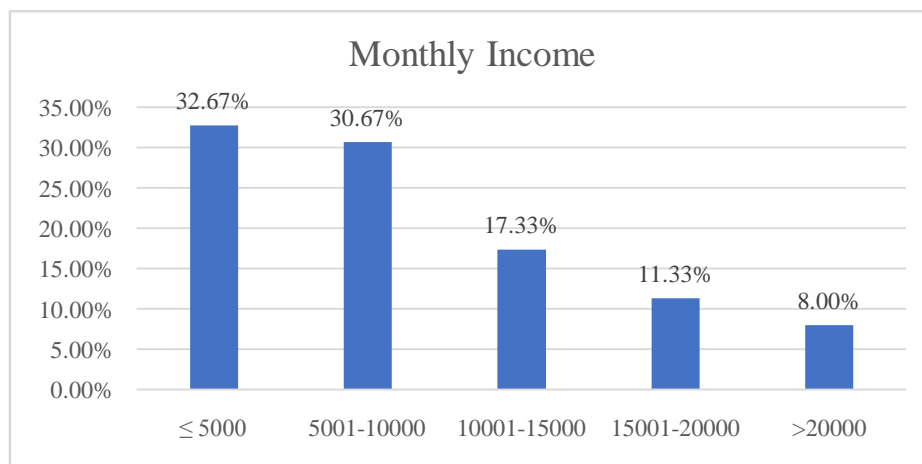
Figure 2: Bar diagram shows the distribution of respondents according to monthly income

Figure 2 shows the distribution of respondents according to their monthly income. Out of the 150 respondents, 32.67% hada monthly income of less than 5000 Tk, 30.67% had income within Tk5000-Tk10000, 17.33% had income within Tk10000-Tk15000, 11.33% had income within Tk15000-Tk20000 and 8% hada monthly income of over 20000

Figure 3: Distribution of the respondents according to the method of Zarda consumption (n=41)

Figure 3shows the distribution of respondents according tothe frequency of taking Zarda with pan. Here,40% of respondents took Zarda with Betel and 60% took Zarda without Betel leaf.

V.   Discussion

Bangladesh is one of the poorest developing countries worldwide, with various forms of health hazards. Tobacco consumption, considered the greatest preventable health hazard globally, is at large in our country, and it affects the physical and financial health of a person and a society. Although the prevalence of tobacco-dependent populationshas not been studied extensively, the consequence and adverse effects of smoking are common knowledge in the medical community, scientifically recognizing smoking as the most common suicidal weapon. In a country like ours where the average life expectancy is around 72 years,[10] the average health care cost for a smoker can be as much as 40% higher than non-smokers.[11]Tobacco consumption, either through smoking or other means, has become an addiction for many of our country, but only 1% of Bangladeshi people can be considered rich and can cope with the severe health issues accompanied by tobacco consumption. Day by day, millions of people are being deprived of essential nutrients and foods, but in the background, the tobacco industryis growing rapidly.As a result, cigarette and bidi and smokeless tobacco consumption are now gathering a high momentum triggering prevalence among all kinds of people in the country.[12],[13]The present study was conducted to observe the effects of tobacco consumption on the rural areas of Bangladesh. The study was conducted with the 150 currently smoking population of rural Dumki upazilla of Patuakhali. According to the present study, the mean age of the study participants was 46.78 years. The largest group of participants (17.33%) were older than 60 years, and only 2 participants were younger than 20 years. This was quite different from some other Bangladeshi studies where the mean age of the participants was much lower.[14][15] In retrospect, the previously mentioned studies were conducted in different areas with a larger sample size, and smaller age range compared to the current study. The present study observed mail predominance in the participants, with 23.70% female smokers. Although in different ratios, the male predominance in tobacco consumers is quite frequently observed in many Asian countries.[16][17] In this regional study, the majority of the participants had very low levels of education, and 24.67% were illiterate. This was greatly influenced by the location of the study being a rural area of Bangladesh, along with the average income of the participants. Majority of the participants had an average monthly income of 5000 BDT. About 33% had monthly income between 5000 to 10000 BDT, and only about 8% had an income higher than 20000. Cigarette was the most common method of tobacco consumption, with over half the participants smoking cigarettes. Zarda was a common method of consumption in 27.33% of the participants, and 10% were Bidi consumers. Gul and hukkah were also used but by very few participants. White tobacco or tobacco leaf was the primary method of tobacco consumption for 11 participants. Along with this, a total of 22 participants consumed tobacco leaf regularly or irregularly. The most common health problem faced by the participants was high blood pressure, affecting 25.33%, and low blood pressure affecting 18%. Oral or dental pain was observed in 13.33% of the participants. This was much lower compared to another study, where 63.7% had observed dental problems as a result of tobacco consumption.[18] Various other health problems like abdominal pain (17.33%), breathlessness (14%), and difficulty in vision (4.67%) were also observed, with 7.33% having cancer from tobacco consumption. Zarda is also known for its harmful effects on health [19], and 41 of the 150 participants were regular Zarda consumers. Among them, 40% consumed Zarda with betel leaf, but 60% consumed Zarda as is.

Limitations of The Study

The study was conducted in a rural region with a small sample size. The basic level of education of the participants was low, and awareness regarding the harmful effects of tobacco consumption was also low. So, the results may not represent the whole community**.**

VI. Conclusion

Tobacco has many harmful effects, as observed in this study. Tobacco consumption can cause diseases in both male and female populations. In the present study, male predominance was observed among the participants. A lower level of education was observed, and the prevalence of smoking decreased as the education level of the participants increased. The monthly income of the participants was quite low, with very few participants earning over 20,000 BDT monthly. The major health problem faced by the participants was high blood pressure, followed by low blood pressure. Cigarette was the most common method of tobacco consumption among the participants.

VII. Recommendation

The study was conducted with a small sample size. A better understanding of smoking and its adverse effects needs to be spread around to the general populace, and the availability of tobacco and cigarettes needs to be regulated properly. Moreover, knowledge regarding the short and long-term effects of smoking needs to be taught to the participants.

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