

## Oral Health Status among Tobacco Users of Selected Rural Population

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### Abstract

**Introduction:** Tobacco smoking is a major risk factor for the development of oral cancer in developing countries. The prevalence of tobacco use is the highest amongst poor people of low educational background. Cancer of oral cavity is the commonest cancer in our country and ranked 5th among male and 4th in female.

**Objectives:** To assess the oral health status among tobacco users in a selected rural population of Dhamrai and Saturia Upazilla in Dhaka district.

**Materials and Methods:** This descriptive cross sectional study was conducted from 1st November 2018 to 15th January 2019. Non-probability purposive sampling was done and data was collected from 445 respondents.

**Results:** Among the respondents, 26% were day laborer and 24% were businessmen with family income were between Tk 5000-Tk 10000. About 78.65% of the respondents have tobacco smoking habit among them 75% had current tobacco chewing habit as jarda. 69.21% of the respondents did not complain of any oral problems. Oral health status among the current tobacco smokers and chewers showed that they had dental stain (90.78%), dental plaque (65.17%), dental calculus (44.49%), dental carries (53.03%), bad breathing smell (75%), soft tissue inflammation (23.82%), loose teeth (26.74%) and ulceration (8.54%) in their oral cavity.

**Conclusion:** Tobacco control protects the rights and health of non-smokers, specially babies, children, youth and pregnant women. The dangers posed to oral health from smoking and chewing tobacco are well documented but the lack of knowledge of the risks is a concern. So oral health should be given great importance from childhood and dental checkup should be done regularly. The general people should be made aware of it through various mass media.

**Key-words:** Rural population, Oral Health, Tobacco users.

### Introduction

Tobacco use is a global epidemic among common people. As with adults, it poses a serious health threat to youth and young adults. Tobacco use diminishes the immune response leading to oral infection, retards healing process following surgical and accidental wounding and promotes periodontal degeneration<sup>1</sup>. Nearly 75% of male smokers live in developing countries 50% of female smokers live in developed countries<sup>2</sup>. Cancer of the

oral cavity is the eighth most common cancer in the world among men in developing countries, particularly in areas of South Central Asia where cancer of the oral cavity is among the three most frequent types of cancer<sup>3,4,5</sup>. Tobacco smoking practice is believed to have begun as early as 5000–3000 BC in Mesoamerica and South America<sup>6</sup>.

Fresh leaves of plants in the genus *Nicotiana* processed to tobacco containing higher concentrations of nicotine used in the form of bidi, cigarette, pipe, pan, guhtka which is the major preventable cause of premature death and of several general diseases in the mouth<sup>7,8</sup>. The general and oral health of future generations are deteriorating due to increasing number of smokers and smokeless tobacco users among young people in different areas of the world. Tobacco use is highest amongst people of low educational background and the poor in most countries<sup>9</sup>. Three fourth of head and neck cancers are found in the oral cavity and oropharynx in the form of squamous cell carcinoma usually begin as leukoplakia, erythroplakia and erythroleukoplakia<sup>10</sup>. Oral cancer is one of the few cancers whose survival rate has not improved over last few decades among the adults under the age of forty years<sup>11</sup>. In Bangladesh, most of the population is unaware of hazards related to tobacco consumption<sup>12</sup>. Smokeless tobacco has been implicated as an added risk factor for numerous oral conditions. Oral cancer is the third most common cancer in Asia due to the habit of smokeless tobacco eating behavior with betel nut. Oral cancer is the sixth most common malignant tumor for both genders now a days<sup>13</sup>. Staining of teeth, decreased ability to taste and smell, nicotinic stomatitis and keratosis are common reversible oral conditions among smokeless and smoked tobacco users<sup>14-16</sup>.

### Materials and Methods

This cross sectional descriptive study was carried out to assess the oral health status among tobacco users in a selected rural population of Dhamrai and Saturia upazilla in Dhaka district from November 2018 to January 2019. Non probability purposive sampling was done and data was collected from 445 respondents. Data were documented in the master sheet and analyzed using SPSS 17.0 for Windows. Data were presented in the form of tables and diagram after correction and analysis.

### Results

Among the total 445 respondents 39.55% were of the age of 35-54 years, 89.43% were married, 84.71% were male and

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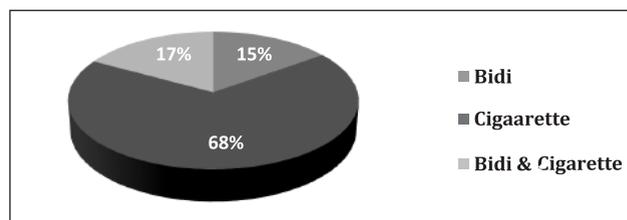
87.64% were Muslim. Most of the respondents (51.92%) were literate and among them 15.95% had secondary level education and only 11.23% completed graduation. About 26% of respondents were day labourer 56% lived in a nuclear family, 33.25% had family income ranging from Tk 5000-Tk1000 (Table-I). About 78.65% of the respondents were current smokers and 39.47% of them smoked less than 5 sticks a day and 31.14% of the respondents smoked tobacco for 15-29 years (Table-I). About 68% smoked cigarette (Figure-1). About 75% of the respondents consumed tobacco in the form of jorda (Figure-2). Among the 445 respondents 69.21% did not complain of any oral problems but on examination, 90.78% of them had dental stain and 75% had bad breath alongside other oral health problems (Table-III).

**Table-I:** Distribution of study population by demographic and socio-economic characteristics (n=445)

	Variables	Frequency	Percentage
<b>Sex</b>	Male	377	84.71
	Female	68	5.28
<b>Age in years</b>	15-34	98	22.02
	35-54	176	39.55
	55-74	152	34.15
	>75	19	4.26
	Mean± SD = 35.79 ± 11.73		
<b>Religion</b>	Muslim	390	87.6
	Hinduism	55	12.4
<b>Education</b>	Primary	89	20.34
	Secondary	107	24.03
	HSC/Equivalent	20	4.49
	Graduate	50	11.23
	Illiterate/ literate	214	48.08
<b>Occupation</b>	Student	9	2
	Service	53	12
	Business	107	24
	Agri-worker	80	18
	Day labourer	116	26
	Housewife	36	8
<b>Marital status</b>	Aged/Retired	44	10
	Unmarried	22	4.94
	Married	398	89.43

**Table-II:** Distribution of respondents by tobacco smoking related information

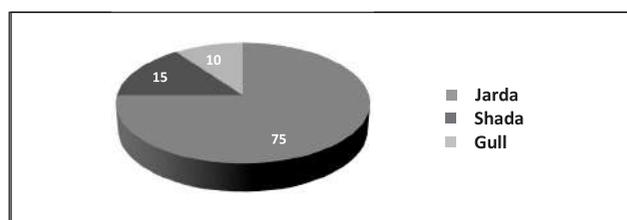
	Tobacco Smoking related characteristics	Frequency	Percentage
<b>Tobacco smoking habit</b>	Current	350	78.65
	Former	36	8.70
	Others(Non-smoke)	59	12.96
	Total	445	100
<b>Number of sticks smoking per day</b>	≤5	99	29.47
	6-10	96	28.47
	11-15	39	9.60
	16-20	58	15.89
	>20	58	16.56
	Total	350	100
<b>Duration of tobacco smoking in years</b>	0-14	97	27.71
	15-29	103	31.14
	30-44	72	20.57
	45-59	72	20.57
	>60	6	1.71
	Total	350	100



**Figure-1:** Types of tobacco smoked

**Table-III:** Distribution of respondents by tobacco chewing related information

	Characteristics	Frequency	Percentage
<b>Tobacco chewing habit</b>	Current	266	92.04
	Former	23	7.95
	Total	289	100
<b>Duration of tobacco chewing in years</b>	≤5	69	25.94
	6-10	40	15.04
	11-15	32	12.03
	16-20	28	10.53
	21-25	19	7.14
	≥26	78	29.32
	Total	266	100



**Figure-2:** Types of tobacco chewing

**Table-IV:** Distribution of respondents by oral health related problems(n=445)

	Oral health Problems	Frequency	Percentage
<b>Complaining oral problem</b>	Yes	137	30.78
	No	308	69.21
	Total	445	100
<b>On examination oral health status of tobacco users</b>	Bad breath	334	75
	Dental stain	404	90.78
	Dental plaque	290	65.17
	Dental calculus	198	44.49
	Dental caries	236	53.03
	Gum and soft tissue inflammation/pain	106	23.82
	Loose teeth	119	26.74
	Leukoplakia	33	7.14
	Erythroplakia	20	4.5
Ulceration	38	8.54	

\* Multiple responses

## Discussion

In this study about 42.97% of the respondents was illiterate and 56.15% took formal education. Among them, 27.02% have got primary level education. This study result does not accord with Jabeen et al, where 35.8% were illiterate and 32% had secondary level education<sup>18</sup>. This study shows that 87.64% of the respondents belonged to Muslim religion and the rest (23%) belonged to Hindu religion whereas in the

study on Oral health status among the adult tobacco users in Bangladesh: conducted by Kabir et al shows that majority (94.2%) of the respondents were Muslim that accords with our study<sup>17,19</sup>. Respondents occupational status shows that among 370 respondents majority were either businessmen 42% or agricultural worker (20%). This finding is similar with the study Jabeen et al where majority 51% of the males were either businessmen or agricultural workers. But this study does not accord with the study on Prevalence and trends of cigarette smoking in different occupational groups that shows that the prevalence of current smokers ranged from 23 (professional) to 57% (service occupations) in men and from 15 (artists and writers) to 59 (repair and craft occupations) in women<sup>18,19</sup>.

Among 370 respondents, majority (83%) were current smokers and among them 100% were male. This finding does not accord with the findings of the Jabeen et al where only 33.2% respondents were current smokers and the rest 66.8% were currently<sup>18</sup> non-smokers and among the current tobacco smokers almost all were male 98.3%. This study shows that there is marked consumption of tobacco mainly in the age group of 35-54 years. But the study in Central India shows that there is marked consumption 72% of tobacco and associated products among the geriatric population (60 years & above)<sup>20</sup>. Among the current smokers, 75% smoke tobacco in cigarette form and 16% smoke it as bidi. Smoking was found to be 21-56% among men in South Asian countries with very little information available about women. Another study of Al Haddad et al shows that Cigarettes 21% water pipes 13.0% and cigars 1.6% were popular. Another study shows that 71.3% subjects consumed tobacco in the form of betel quid or khaini and 63.3% males were tobacco smokers in the form of cigarettes and bidis<sup>21-23</sup>.

These study shows 43.24% of respondents belong to the age group of 35-54 years and 33.18% are smoking tobacco for duration of 11-20 years, whereas in a study of Jamnagar District states adolescents were in the age group of 17-19 years and they were addicted for more than 12 months. Another study by Kabir et al shows 46.8% respondents use tobacco for the duration of more than 5 years, 33.6% and 19.4% use tobacco for the duration of 1-5 years and less than 1 year respectively<sup>24,19</sup>. A study among adult Bangladeshi population showed where current smoking and gul usage were significantly higher in males 42.2% than females 2.3% while chewing tobacco was more common in females 21.6%. On average a smoker consumed 9.3 sticks a day with males, which also supports this study where 83% of the respondent were current smokers, male respondents were 87% and 17% respondents uses less than 5 stick per day. Another study shows that 31.5% take up to 5 cigarettes per day; 13.6% and 15.7% take 6-10 cigarettes, more than 10 cigarettes per day respectively<sup>19</sup>.

This study result revealed that there were dental stain 90.78%, dental plaque 65.17%, dental calculus 44.49%,

dental carries 53.03%, bad breathing smell 75%, soft tissue inflammation 23.28%, loose tooth 26.74%, leukoplakia 7.14%, Erythroplakia 4.5% and ulceration 8.54% were present in 30.78% respondents' oral cavity (Table-IV) whereas, Jabeen et al shows that 95% of the tobacco consumers had dental stain, 73% had dental plaque, 66% had dental calculus, 59% had dental caries, 27% had soft tissue swelling, 15% had Leukoplakia, 4% had Erythroplakia and 5% had ulceration in their oral cavity that almost accords with our study findings<sup>17-19</sup>.

## Conclusion

The dangers posed to oral health from smoking and chewing tobacco are well documented but the lack of knowledge of the risks is a concern. So oral health should be given great importance from childhood and dental checkup should be done regularly. The general people should be made aware of it through various mass media. Tobacco control protects the rights and health of non-smokers, specially babies, children, youth and pregnant women. Oral health should be given great importance from childhood and dental checkup should be done regularly. The general people should be made aware of it through various mass media.

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