Original Article

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 status among 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 degeneration¹. Nearly 75% of male smokers live in developing countries 50% of female smokers live in developed countries². 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 cancer³,⁴,⁵. Tobacco smoking practice is believed to have begun as early as 5000–3000 BC in Mesoamerica and South America⁶.

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, guhha which is the major preventable cause of premature death and of several general diseases in the mouth⁷,⁸. 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 countries⁹. 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 erythroleukoplakia¹⁰. 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 years¹¹. In Bangladesh, most of the population is unaware of hazards related to tobacco consumption¹². 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 days¹³. Staining of teeth, decreased ability to taste and smell, nicotinic stomatitis and keratosis are common reversible oral conditions among smokeless and smoked tobacco users¹⁴-¹⁶.

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 |
|-------------------|-----------|------------|
| Sex               |           |            |
| Male              | 377       | 84.71      |
| Female            | 68        | 5.28       |
| Age in years      |           |            |
| 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 |
| Religion          |           |            |
| Muslim            | 390       | 87.6       |
| Hinduism          | 55        | 12.4       |
| Education         |           |            |
| Primary           | 89        | 20.34      |
| Secondary         | 107       | 24.03      |
| HSC/Equivalent    | 20        | 4.49       |
| Graduate          | 50        | 11.23      |
| Illiterate/literate | 214     | 48.08      |
| Occupation        |           |            |
| Student           | 9         | 2          |
| Service           | 53        | 12         |
| Business          | 107       | 24         |
| Agri-worker       | 80        | 18         |
| Day labourer      | 116       | 26         |
| Housewife         | 36        | 8          |
| 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 |
|----------------------------------------|-----------|------------|
| Tobacco smoking habit                  |           |            |
| Current                                | 350       | 78.65      |
| Former                                 | 36        | 8.70       |
| Others(Non-smoke)                      | 59        | 12.96      |
| Total                                  | 445       | 100        |
| Number of sticks smoking per day       |           |            |
| ≤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        |

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

| Characteristics | Frequency | Percentage |
|-----------------|-----------|------------|
| Tobacco chewing habit | Current | 266 | 92.04 |
|                  | Former   | 23  | 7.95  |
|                  | Total    | 289 | 100   |
| Duration of tobacco chewing in years |          |      |
| ≤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    |

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

| Oral health Problems                  | Frequency | Percentage |
|---------------------------------------|-----------|------------|
| Complaining oral problem              |           |            |
| Yes                                   | 137       | 30.78      |
| No                                    | 308       | 69.21      |
| Total                                 | 445       | 100        |
| On examination oral health status of tobacco users |          |      |
| 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       |

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 result does not accord with Jabeen et al, where 35.8% were illiterate and 32% had secondary level education18. 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. Respondents occupational status shows that among 370 respondents majority were either businessmen 42% or agricultural worker (20%). This finding is similar with the 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.

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 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). 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 Jensen EJ and Overgaard E. Smoking patterns, knowledge of tobacco related health effects and desires to quit among 14-17 year-old boarding school pupils in Denmark, 1987-90. Tobacco Control 1993; 2:296-99.

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 1-5years and less than 1 year respectively. A study among adult Bangladesh 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.

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 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.

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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