DISCOVERY

Dental health care in Bangladesh: Prospects and Challenges

Shahin Zerin Mostarin[1✉], Priscilla Khyang[2], Snigdha Rani Roy[3]

This study aims to explore the prospects of dental health care in Bangladesh. A quantitative approach has been applied to obtaining the objective of the study. Data have been collected from 385 respondents of various professions through face to face interview. Prospects of dental health care are determined in terms of socio-demographic information of the respondents, facilities of dental health care services, and challenges regarding dental health care services. This study reveals that 22.86% of the respondents completed their secondary education while who are young aged. Most of the respondents (36.36%) are under worker group while 16.36% are craftsman and trader, 22.08% is an employee of various organizations and only a few (10.91%) are not actively participated in the work regularly. The majority (48.57%) of the respondents visited irregular basis while only 3.9% respondent visits regularly. About 90.65% of respondents have visited only emergency basis while only 9.35% visited for a regular checkup. About 40% of respondents are a medium consumer of soft drinks while 39.48% are higher and 8.57% consume soft drinks occasionally. It is mentionable that majority (43.12%) respondents are not a regular consumer of chewing gum which indicates a good habit of the respondent that can protect their dental health. It is also found that the majority (48.83%) of the respondents are using toothbrush while 25.71% using a chewing stick and 25.45% are using a finger for cleaning their teeth. An awareness building program should be triggered to develop awareness about dental health care services. It will reduce dental health related problems and saves thousands of people from serious health diseases.

INTRODUCTION

Dental health is a vital sign of oral health; happiness and value of life. Oral cavity ailment is the majority of an infectious syndrome that affects the lives of citizens and causes pain, uneasiness, irregularity, and demise (Halawany et al., 2017). The worldwide ailment diagnosis in 2016 estimates that oral cavity infection affects half of the global population (3.58 billion people) (World Bank, 2019). In some Asian-Pacific countries, some oral cancer (oral cavity and cavity) are among the three cancers (Singhal et al., 2013).

The expenditure on dental care is typically 5 percent of the total cost of health care and 20 percent of pocket health expenses (Mazid & Rashid, 2011). In Bangladesh, more than 80 percent of people have at least one or more oral cavity or dental problems (McDonald et al., 2005). Communities in rural areas do not know the purity of their mouths. Usually, they use sticks of Neem, ash to clean their teeth in the morning. in view of the fact that there are no dental clinic in the village, oral cavity patients should return to the upazila health center for their immediate medical attention (Nasrin et al., 2019; Sarker et al., 2019; Sarker et al., 2019; Amin et al., 2018; Sarker et al., 2018). In the existing medical institutions, it is very difficult to provide conservative and artificial treatments to farmers (Sarker et al., 2018). So after teeth loss,

most of them live without using prosthesis. Most parents in Bangladesh often disregard the care and care of the baby or the baby because these teeth are temporary and replaced by permanent teeth. If there is a loss of pre-breast milk, it will be difficult to chew it.

The number of dentist is lower than requirements in Bangladesh. In fact, 0.2 million natives have dentists. Oral health care in Bangladesh is done by a general practitioner in a district sanatorium. Here, the dental unit is presented for negligible operations, periodontal and conservative handling like taking out of teeth, scaling, filling, etc (Rahman et al., 2018; Islam et al., 2018; Islam et al., 2018; Khan et al., 2018). It makes the teeth of all patients free of charge. There is also a private dental clinic where dental care is done. Large business and trade organizations have their own dental surgeons. In rural areas, there is no regular dental treatment, except for volunteer tooth camps in some places (Khan et al., 2018; Prodhan et al., 2017; Sarker et al., 2017).

Many people living in Bangladesh have a habit of chewing the leaves and betel leaf without the knowledge of its adverse effects. That is why, it is very important to know the effects of the above leaves on the human body and the oral health system (Chhabra & Chhabra, 2012). Betel nuts have aricolin, tannin, alkaloid, and other stuff. Aricolin is almost as nicotine in cigarettes which makes inflammation of the mucous membranes and increases breathing. Acid breaks out of the stomach by chewing betel leaves make Alkaline heavily damaged. The oils contained in the betel leaf make the tongue less sensitive. Basically, balsam plays a role as a stimulant (Andås & Hakeberg, 2014). Those who accept the first leaf can have dizziness. Habitual and extreme use of

[1]Department of Oral & Maxillofacial Surgery (OMS), Dhaka Dental College, Bangladesh, Email: jerindnj@gmail.com; [2]Department of Oral & Maxillofacial Surgery (OMS), Dhaka Dental College, Bangladesh; [3]Department of Oral & Maxillofacial Surgery (OMS), Dhaka Dental College, Bangladesh;
✉Corresponding Author:
Shahin Zerin Mostarin; Department of Oral & Maxillofacial Surgery (OMS), Dhaka Dental College, Bangladesh; Email: jerindnj@gmail.com; Contact: 8801716872870

betel leaves lessens the flavor of the oral cavity. Some reactions have been found on the teeth and oral health due to leaf-eating. Tartars are fashioned at the roots of the teeth, which causing gum troubles. In many cases, bones with dental roots are subsequently separated. As a result, the teeth are stubborn and have a tooth loss. In some cases, the oral gland is found to be affected by the depletion of the anemia (Singhal et al., 2016).

Few studies have been focused the various issues of oral health (Chhabra & Chhabra, 2012; Singhal et al., 2016; Khatun et al., 2014; Mazid & Rashid, 2011) but almost no study focus the prospects and challenges of dental health care services in Bangladesh. Therefore, this study aims to explore the prospects of dental health care in Bangladesh focusing on challenges and opportunities. The findings of the study will be helpful for policymakers and dental health care related stakeholders to understand the status of the prospects of dental health in Bangladesh to make proper policy for improving the services at field level.

METHODOLOGY

Study Design

The present study was adopted as a quantitative oriented qualitative mixed approach. Data had been collected from Mirpur in Dhaka city focusing dental college students, dental college teachers, practitioners and patients.

Sampling and Data Collection

Data was collected from Mirpur-14 in Dhaka city from Dental college students, dental college teachers, practitioners, and patients. The population size was 1385, among them 10% i.e. 385 respondents were selected as sample. The random sampling method was followed to collect data from the respondents. Data was collected from a pre-designed interview schedule. The interview schedule was piloted by 20 respondents for checking its accuracy and avoiding any unnecessary items from the questionnaire. The interview schedule was finalized after pilot testing.

Data Processing and Analyze

Data were analyzed according to research objectives. Descriptive statistics was done to describe the variables properly. Data was corrected and verified on a regular basis which helps the research team to remove errors and inconsistencies. SPSS version 20.0 was used for statistical analysis.

Ethical Consideration

Verbal ethical consent was obtained from the ethical committee of college authority. A consent form was also given to each respondent for getting their consent before face to face interview.

RESULTS AND DISCUSSION

The results and discussion section is presented into four sub-sections; first, socio-demographic characteristics of the respondents; second, prospects of dental health care in Bangladesh; third, challenges of dental health care in Bangladesh and fourth, implications for policy recommendations.

Socio-Demographic Information of the Respondents

The study selected five demographic characteristics of viz. Age, education, own occupation, income, and family size which will help to focus the socio-demographic status of the respondents (Chhabra & Chhabra, 2012). The study reveals that most of the respondents are

under young aged ranging from 20 to 35 years. Only 17.4% of the respondents are more than 40 years. Similar results found by some researchers in other studies (Sarker, 2016a; Sultana et al., 2017; Sarker, 2016b; Nasrin et al., 2019). The study explores that 22.86% of the respondents completed their secondary education while 14.68% completed higher secondary, 11.17% completed bachelor and 22.08% completed their master degree. This study is also found that respondents are under various professions like a housewife, businessman, government service holders, non-government service holders, garments worker, teacher and others (Khatun et al., 2014). Most of the respondents (38.96%) are garments worker while 14.29% housewife, 7.79% businessman, 8.57% government service holders, 17.40% NGO service holders, 6.49% teachers and 6.49% other professions. Similarly, this study also assesses the income level of the respondents and reveals that most of the respondents (38.96%) having BDT 600 to BDT 8000 while 17.4% having less than BDT5000 and 15.58% having more than BDT15000. This study also computes the family size of the respondents and explores that 63.38% of respondents having a nuclear family while 26.49% having joint and 9.35% having extended family.

Dental Health Care Services in Bangladesh

The study assesses the dental health care services in terms of the socio-professional group, dental check-up durations, dental visit pattern and reasons for dental visits (Khatun et al., 2014). This study reveals that most of the respondents (36.36%) are under worker group while 16.36% are craftsman and trader, 22.08% is an employee of various organizations and only a few (10.91%) are not actively participated in the work regularly. The study also explores that most of the respondent 51.69% checkup their dental health within less than 2 years and rest 48.31% done their dental health checkup more than 2 years ago. Similarly, this study also analyzed dental specialist visit pattern of the respondents and reveals that the majority (48.57%) of the respondents visited irregular basis while only 3.9% respondent visits regularly. About 27.53% of the respondents never visited dental health care specialist which focuses on the deem prospects of the dental health care in Bangladesh. It indicates that a mentionable portion (27.53%) is not aware of dental health care. The study also explores that 90.65% respondent is visited only emergency basis while only 9.35% visited for a regular checkup.

Challenges of Dental Health Care in Bangladesh

The study assesses the challenges of dental health care in Bangladesh in terms of reasons of not bearing the treatment cost, the frequency of soft drink intake, the frequency of enjoying chewing gum, a tooth cleaning device and brushing frequency (Khatun et al., 2014). This study reveals that having not enough money is the main reason (63.9%) for not taking dental treatment while 26.49% having no self-willingness and 9.61% having lack of knowledge. About 40% of respondents are a medium consumer of soft drinks while 39.48% are higher and 8.57% consume soft drinks occasionally. Similarly, 17.4% of the respondents having a high level of the consumer of chewing gum while 20.78% are medium and 18.70% is a low consumer. It is mentionable that majority (43.12%) respondents are not a regular consumer of chewing gum which indicates a good habit of the respondent that can protect their dental health. It is found that majority (48.83%) of the respondents are using toothbrush while 25.71% using a chewing stick and 25.45% are using a finger for cleaning their teeth. This study also explores brushing frequency and reveals that 83.12% of respondents are doing brushing regularly while 11.69% doing 2 to 6 times a week and 5.19% are seldom users. It

Table 1 Socio-demographic characteristics of the respondents

Socio-demographic characteristics	Category	Respondent number	Percentage (%)
Age	20-30	130	33.77
	31-35	83	21.56
	36-40	45	11.69
	More than 40	67	17.40
Education	S.S.C	88	22.86
	H.S.C	95	24.68
	Bachelor	43	11.17
	Masters	85	22.08
	Can only read or write	14	3.64
	Cannot read or write	60	15.58
Own occupation	Housewife	55	14.29
	Businessman	30	7.79
	Govt. services	33	8.57
	N.G.O Services	67	17.40
	Garments worker	150	38.96
	Teacher	25	6.49
	Others	25	6.49
Income (BDT)	<5,000 BDT	67	17.40
	(6,000-8,000) BDT	150	38.96
	(9,000-11,000) BDT	53	13.77
	(12,000-14,000) BDT	55	14.29
	>15,000Tk.	60	15.58
Family size	Nuclear	244	63.38
	Joint	102	26.49
	Extended	36	9.35
	Others	3	0.78

Source: Field survey

Table 2 Prospects of dental health care in Bangladesh

Characteristics	Category	Respondent number	Percentage (%)
Socio-professional group	Craftsman, trader	63	16.36
	Employee	85	22.08
	Worker	140	36.36
	Has never worked	42	10.91
Last dental check-up	Within 2 years	199	51.69
	More than 2 years ago	186	48.31
Dental visit pattern	Regular (>once a year)	15	3.90
	Irregular (<once a year)	187	48.57
	Do not remember	77	20.00
	Never	106	27.53
Reasons for dental visit	Emergency	349	90.65
	Check-up	36	9.35

Source: Field visit

Table 3 Challenges of Dental Health care in Bangladesh

Challenges of Dental Health care	Category	Respondent number	Percentage (%)
Reasons for not bearing the treatment cost	Don't have enough money	246	63.90
	Self-willingness	102	26.49
	Lack of knowledge	37	9.61
The frequency of soft drinks intake	High (>once a day)	152	39.48
	Medium (once a day)	154	40.00
	Low (<once a day)	46	11.95
	Seldom/never	33	8.57
The frequency of chewing gum	High (>once a day)	67	17.40
	Medium (once a day)	80	20.78
	Low (<once a day)	72	18.70
	Seldom/never	166	43.12
Tooth-cleaning device	Toothbrush	188	48.83
	Chewing stick	99	25.71
	Finger	98	25.45
Brushing frequency	High (≥once a day)	320	83.12
	Moderate (2-6 t/week)	45	11.69
	Seldom/never	20	5.19

Source: Field survey

indicates that a good habit of the respondents to their brushing frequency. Similar findings obtained by Khatun et al. (2014) and Singhal et al. (2016)

Policy Implications

The results of this research suggest the following policies for enhancing dental health care services for people that secure their dental health.

• An awareness building program should be triggered to develop awareness about dental health care services. It will reduce dental health related problems and saves thousands of people from serious health diseases.

• The study reveals that a majority of the people do not visit the dental specialist which indicates that the facilities of dental health services are not available to general people. So, government initiative is necessary to overcome the situation in maintaining better dental health in Bangladesh.

• It is also found that educated peoples are also not aware of the dental health related problems which indicate a lacking of knowledge regarding dental health in the education system. So, dental health-related basic knowledge should be included in the academic syllabus so that student can learn from their childhood.

• The number of dental specialists is not enough in terms of the number of patients so government's initiatives are necessary to produce more dental graduates through establishing a specialized educational institution.

• The fee for dental treatment is so high and out of the low-income people so a monitoring task force is necessary to launch crackdown for reducing the treatment cost under people's ability.

CONCLUSION

The study explores that 22.86% of the respondents completed their secondary education while who are young aged. Most of the respondents (38.96%) are garments worker while 14.29% housewife, 7.79% businessman, 8.57% government service holders, 17.40% NGO service

holders, 6.49% teachers and 6.49% other professions. Most of the respondents (36.36%) are under worker group while 16.36% are craftsman and trader, 22.08% is an employee of various organizations and only a few (10.91%) are not actively participated in the work regularly. The majority (48.57%) of the respondents visited irregular basis while only 3.9% respondent visits regularly. About 90.65% of respondents have visited only emergency basis while only 9.35% visited for a regular checkup. About 40% of respondents are a medium consumer of soft drinks while 39.48% are higher and 8.57% consume soft drinks occasionally. Similarly, 17.4% of the respondents having a high level of the consumer of chewing gum while 20.78% are medium and 18.70% is a low consumer. It is mentionable that majority (43.12%) respondents are not a regular consumer of chewing gum which indicates a good habit of the respondent that can protect their dental health. It is also found that the majority (48.83%) of the respondents are using toothbrush while 25.71% using a chewing stick and 25.45% are using a finger for cleaning their teeth. An awareness building program should be triggered to develop awareness about dental health care services. It will reduce dental health related problems and saves thousands of people from serious health diseases. The number of dental specialists is not enough in terms of the number of patients so government's initiatives are necessary to produce more dental graduates through establishing a specialized educational institution. The fee for dental treatment is so high and out of the low-income people so a monitoring task force is necessary to launch crackdown for reducing the treatment cost under people's ability.

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