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Original Article

A survey on dental problems and awareness on dental health among Bangladeshi people

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ABSTRACT

To maintain dental health, finding out common problems, proper treatment and awareness regarding dental health is a basic concern of a human. The main purpose of this study is to aware people of common dental problems pattern and enhance their knowledge to ensure dental health. To conduct the study a survey was performed on dental patients of department of orthodontics & dentofacial orthopaedics at the largest dental hospital of Bangladesh "Dhaka Dental College & Hospital" at Dhaka, Bangladesh. The study was done from February 2017 to June 2017. From the study different dental problems, causes of problems were noticed as well as daily habits of patients have come to be noticed. This was a cross sectional study conducted among 100 patients, among them 55% patients were male and 45% patients were female; both were from infant to old. In this study most common dental problems were gingivitis (48%) and dental caries (42%). The causes of dental problems are found mainly brushing once a day (61%) and improper brushing (26%). From the study, some common awareness were noticed among patients like toothpaste brand change habit, brushing habit, dental flossing habit, patients scaling habit, regular doctor visiting habit etc. Good dental health is essential to improve individual overall health & well-being. The burden of dental problems is very high in Bangladesh and yet hugely unrecognized area. We urge to take this information & use it for program planning & advocating for the health of patients.

Keywords: Dental health, dental caries, oral health, oral hygiene.

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INTRODUCTION

Dental health is a fundamental component to general health, well-being, and quality of life. Dental health enables an individual to speak, eat and socialize. Dental health implies being free of chronic oro-facial pain and the absence of mouth diseases such as dental caries (tooth decay), periodontal disease (gum disease) [1].

The burden of dental disease affects children, adults and the elderly, disrupts life and causes considerable suffering, discomfort, embarrassment, and economic hardship. Dental caries generally is under control in most high income countries, much of the disease still remains untreated in populations of low and middle-income countries. In rich and in poor countries, the greatest burden of dental diseases lies on the disadvantaged and poor population groups, e.g. people of low education, low income, unemployed, or elderly and disabled people [2].

Over the past 20 years, a marked decline in the prevalence of dental diseases has been observed in several Western industrialized countries. Improved dental health is seen in the systematic decline in dental caries and a continually growing number of caries free individuals. This is ascribed to population-based preventive programmes with effective use of fluoride, improved participation in dental health programmes, changes in oral hygiene and sugar intake habits [3]. On the other hand, in many developing countries an increase in dental caries has resulted from unhealthy dietary habits, poor dental hygiene habits, limited use of fluoride and near to the ground use of dental health services, if available. In addition, urbanization and adoption of Western lifestyles observed in many developing countries and the absence of public prevention programmes have caused a rapid increase in dental caries [4].

The principal causes to poor dental health are shared by those responsible for chronic diseases; first of all, these factors are related to poor diet, tobacco use, excessive use of alcohol and physical inactivity [4]. Joint action of communities, professionals and individuals aimed at reducing the impact of sugar consumption and emphasizing the beneficial impact of fluoride can prevent dental caries and tobacco intervention and proper oral hygiene can help prevention of periodontal disease [5]. A study was done in London among 1072 patients to determine their knowledge on correlation between smoking and periodontal disease. This study highlights a general lack of awareness between smoking and periodontal diseases with only 6% of respondents knowing of this link. Seven per cent of respondents that were aware stated that smoking had a negative impact on periodontal health but were unable to state how [6].

Dental caries is one type of periodontal disease. Some factors found responsible for dental caries in patients attending Outpatient Department (OPD) of Dhaka dental College and Hospital in 2002. Ignorance, illiteracy, low family income, inadequate practice of oral hygiene, consumptions of sweeteners are found major contributory factors for dental caries [7].

To determine the oral hygiene practices, periodontal status and bad mouth breath (BMB) among the children age between 5 to 15 years of four-selected primary school at Fultola and Juri Upazilla of Moulovi Bazar District, a study was done among 250 students and found that bad mouth breath is a cause of concern among children associated significant factors were gum bleeding. Most of the respondents reported to be brushing on daily basis mainly at morning (76.8%) and two times 23.2 % and this may be one of the factors for high prevalence of poor oral hygiene as depicted by the presence of plaque, calculus, caries, gingival bleeding and BMB in this study population. The similar type of finding was found in a study at Tanzania within the study population, the factors significantly associated to BMB were gum bleeding and gingival plaque enhanced by tooth caries [8].

Knowledge on Oral Hygiene and Oral Health Status among the Secondary School Students in Department of Dentistry, Rangpur Medical College Hospital, Rangpur, Bangladesh found that majority of students had an adequate level of knowledge on oral health but low level of oral health practices. Age had no influence on the level of oral health knowledge and practices of students [9].
The level of awareness and dental health knowledge in diabetic patients is good in Soudi Arabia. About the attitude and practice of the diabetic patients towards oral health, the overall oral hygiene measures in diabetic patients were found to be good in this study. Most of the patients consult the dentist, brush Journal of Education and Practice their teeth at least 0nce daily and regularly visit the dentist at least once a year for check up [10].

Dental care is the maintenance of healthy teeth and may refer to:

- Oral hygiene, the practice of keeping the mouth and teeth clean in order to prevent dental disorders
- Dentistry, the professional care of teeth, including professional oral hygiene and dental surgery
- Dental surgery, any of a number of medical procedures that involve artificially modifying

dentition; in other words, surgery of the teeth and jaw bones [11].

Another approach of dental care is dental health promotion among people. Dental health promotion focuses on individual behaviour, the socio-economic status and environmental factors. Underlying determinants that can also impact dental health, including non-milk extrinsic sugars consumption, alcohol consumption and smoking behavior.

Community participation is a key factor in dental health promotion. Inter-sectoral collaboration is where relevant agencies and sectors are involved in partnership to identify key dental health issues and to implement new methods to improve dental health.

The World Health Organisation has agreed on a health promotion approach as the foundation for dental health improvement strategies and policies for the population. Dental health promotion is based on the principles of the framework, Ottawa Charter. There are five areas of action outlined to achieve dental health promotion; building health public policy, creating supportive environment, strengthening community action, developing personal skills, re-orienting healthcare services [12]. Dental problems are important public health problems owing to the prevalence, socio-economic aspect, expensive treatment and lack of awareness. Though dental diseases are rarely life threatening, they do have an impact on the quality-of-life. Adequate information on pattern of dental diseases and to take necessary preventive program to fight against the dental problems is a burning issue in health sectors.

Arising from the aforementioned, it was apparent that the precise burden of dental diseases in Bangladesh was largely unknown. The data from this survey will thus be an indication of mass awareness of dental problems. The aim of this survey is to investigate the burden of dental diseases, common patterns of dental problems & their determinants, knowledge of people about proper dental care and dental health related quality of life.

METHOD

This is a perspective and observational study which is based on the evaluation of the information collected from the Department of Orthodontics & Dentofacial Orthopaedics of Dhaka Dental College & Hospital, Dhaka. To perform this study a survey was conducted among the patients who were facing any types of dentalproblems. Patients were not too much conscious and cooperative to ask them any question. For this reason method was designed to collect diagnostic reports and prescriptions of the patients. This study was conducted around 5 months (February 15 to June 15, 2017) collection period, 100 patients information were collected from Department of Orthodontics & Dentofacial Orthopaedics of Dhaka Dental College & Hospital, Dhaka. Dentists who were specialist in dental problems were also asked for queries. Finally 100 patients who have the complete information were selected for analysis.

This was absolutely essential for the purpose of obtaining information that actually represented the real scenario. Among 100 patients, 55% are male and 45% are female and they were in various age groups. Some confidential information was collected orally and some were collected by observation. Here all data was collected from the hospital, direct interview of patients and Dentists. The patients were randomly selected from Dhaka Dental College & Hospital. Questionnaires were developed based on the study of different journal papers to study perception and behavior of the respondents about dental problems. The data collected and gathered through the interview was examined for the number of parameters such as personal information, disease information and symptoms. Data analysis was done by using MS-Excel 2007.

RESULTS

Area of residence of patients: From the study, it was seen that among 100 patients, 31% patients are living in rural area,37% patients living in urban area and 32% patients living in small city as presented at table-1.

Table-1: Demographic presentations of patients

Area	No. of patients(%)
Rural	31%
Urban	37%
Small city	32%
Total	100%

Age distribution

From the study, it was seen that among 100 patients, 2%were infant, 11% adolescent 31% adult and 56% old age as presented at table-2.

Table-2: Age distribution

Age distribution	No. of patients (%)
Infant	2%
Adolescent	11%
Adult	31%
Old age	56%
Total	100%

Gender Distribution: From the study, it was seen that among 100 patients, 55% were male and 45% were female as presented at table-3.

Table-3: Gender Distribution

Gender	No. of patients (%)
Male	55%
Female	45%
Total	100%

Monthly Family Income: From the study, it was seen that among 100 patients, their family incomes were 46% below tk. 10000, 42% within the range tk. 11000-30000, 12% above tk. 50000 as presented at Figure-1.

Causes of the disease: From the study, it was seen that 26%of diseases caused due to improper brushing, 13% for food habit and 61% for brushing once a day as presented at Table-4.

Table-4: The reason that caused the diseases

Causes	No. of patients (%)
Improper brushing	26%
Food habit	13%
Brushing once a day	61%
Total	100%

Toothpastes used: From the study, it was seen that among 100 patients, 15% of patients used Pepsodent, 25% Colgate, 17% Closeup, 15% Sensodyne, 23% Mediplus and 5% others as presented at Figure -2.

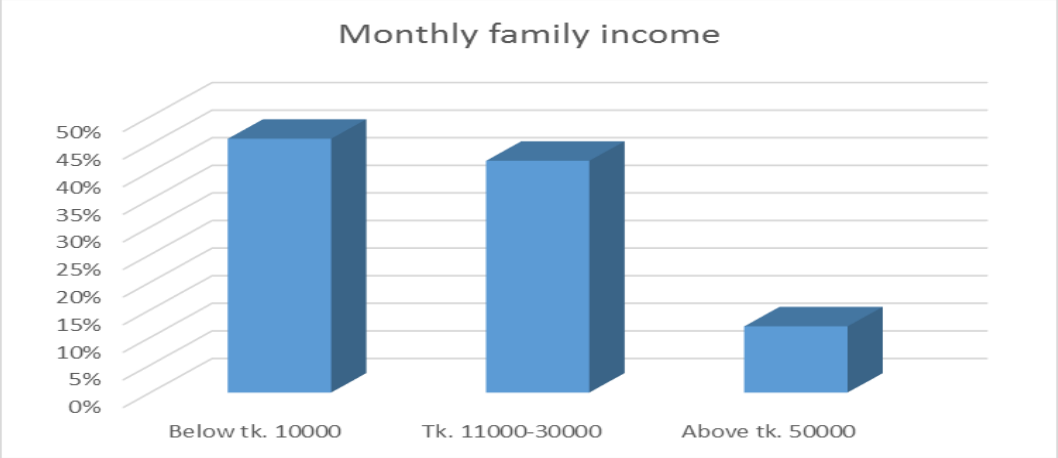

Figure 1: Graphical representation of patients' monthly family income.

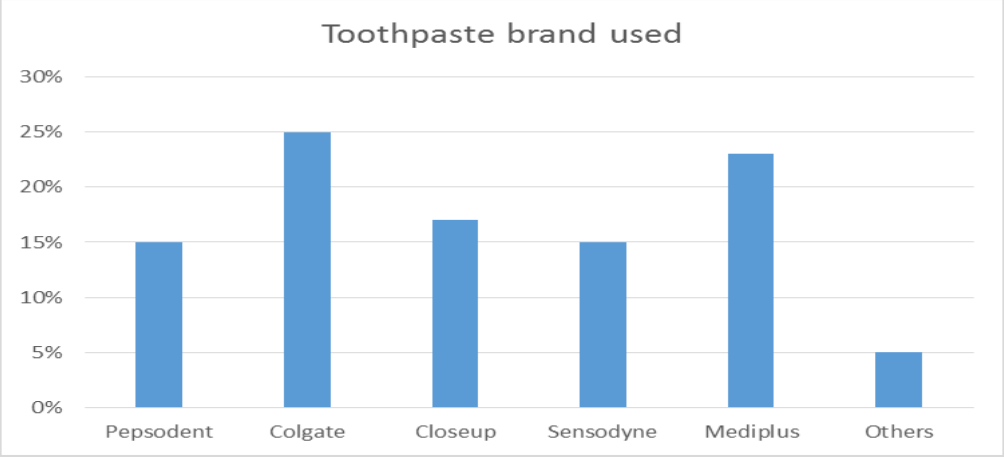

Figure 2: Graphical representation of toothpaste brand used.

Toothpaste brand changed by the patients: From the study, it was seen that among 100 patients, 3% of patients changed their toothpaste brand after every month, 7% after every two months, 20% after every three months, 30% used same brand all the time and 40% didn't remember when they changed their toothpaste brand as presented at Figure -3.

Brushing habit: From the study, it was seen that among 100 patients, 73% brushed once a day and 27% brushed twice a day as presented at Figure -4.

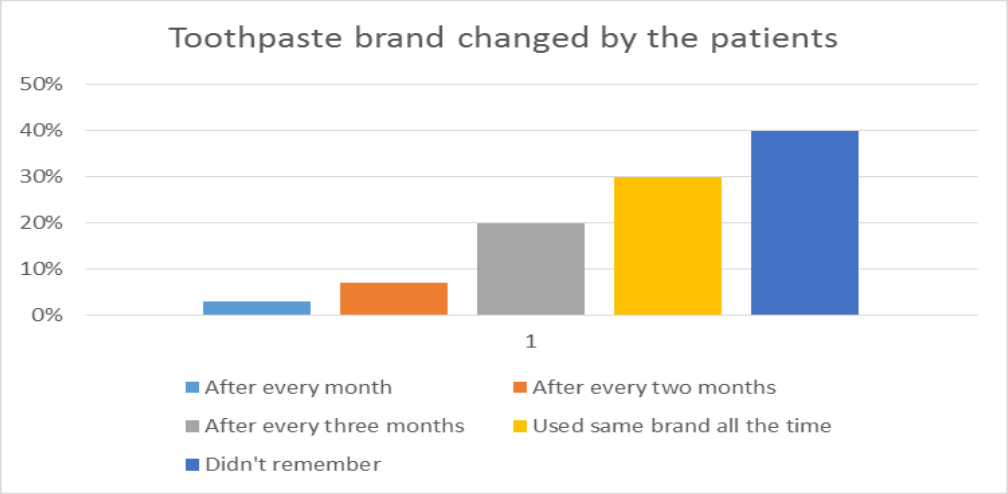

Figure 3: Graphical representation of changing of toothpaste brand.

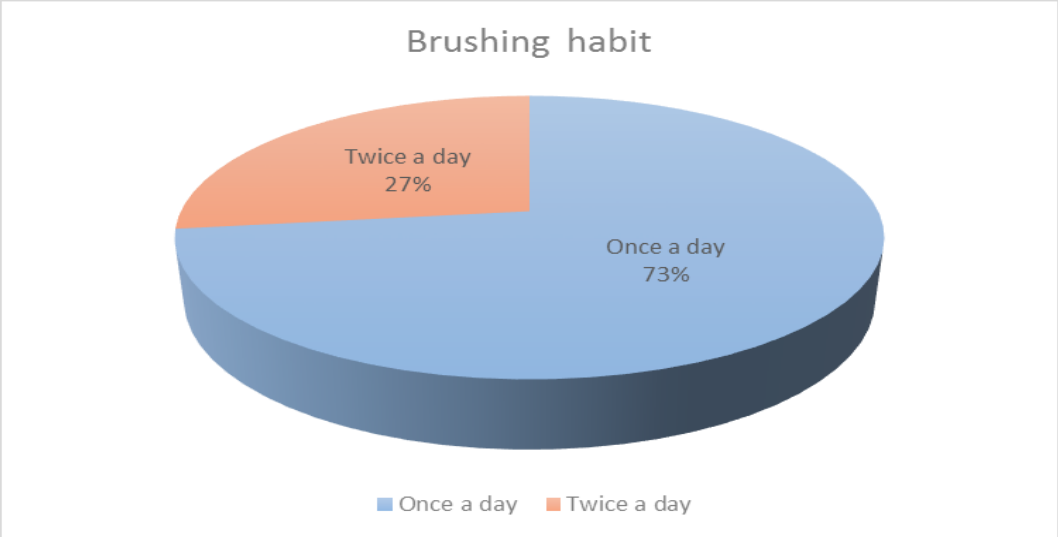

Figure 4: Graphical representation of brushing habit.

Dental flossing habit: From the study, it was seen that among 100 patients, 0% did flossing once a day, 3% 2-3 times in a week, 11% once in a month and 86% never did flossing as presented at table-5.

Patients who went for scaling: From the study, it was seen that among 100 patients, 7% patient said they went for scaling and 93% said they did not go for scaling as presented at Figure -5.

Last visit to a dentist: From the study, it was seen that among 100 patients, 10% of them visited dentist less than 6 months ago, 21%less than one year ago, 27% over a year ago, over two years ago and 9% never visited a dentist as presented at Figure-6.

Reasons for visiting doctor: From the study, it was seen that among 100 patients, 3% of them visited for regular check up, 9% for cleaning, 57% for tooth or gum problems, 14% for dentures, 2% for braces and 15% for other problems as presented at Figure -7.

Types of Dental Problems: From the study, it was seen that among 100 patients, 42% of them had dental caries, 3% had fractured teeth, 48% had gingivitis, 3% had multiple problems, and 4% had other problems as presented at Figure-8.

Table-5: Dental flossing habit

Flossing habit	No. of patients (%)
Once a day	0%
2-3 times in a week	3%
Once in a month	11%
Never	86%
Total	100%

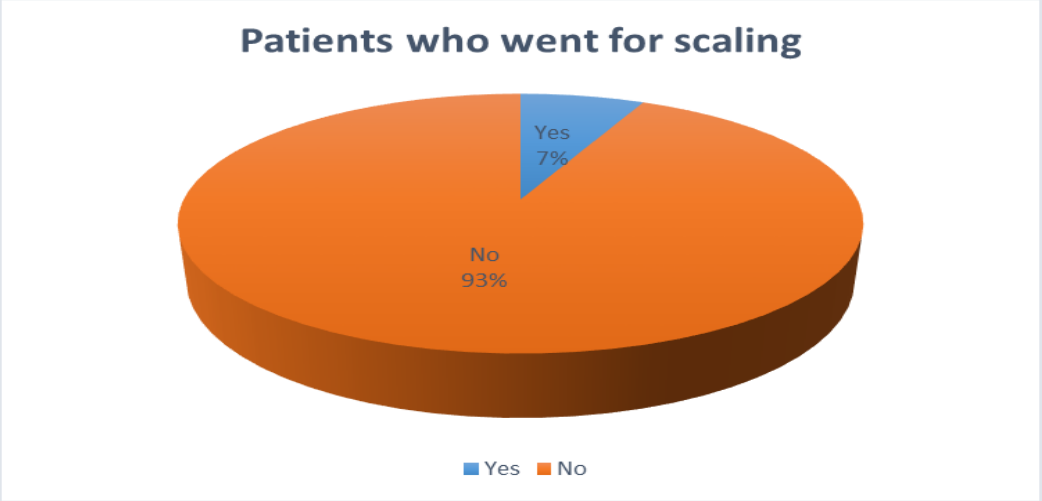

Figure 5: Graphical representation of patients who went for scaling.

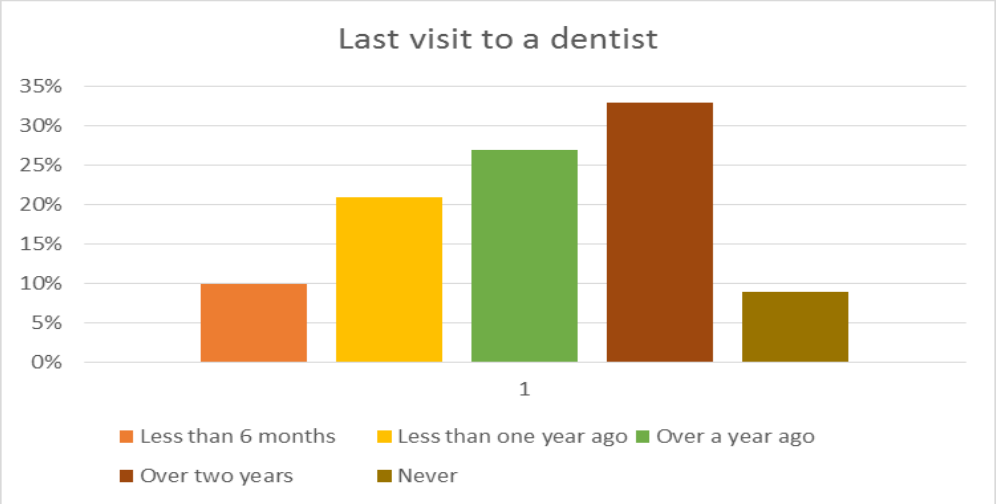

Figure 6: Graphical representation of patients' last visit to a dentist.

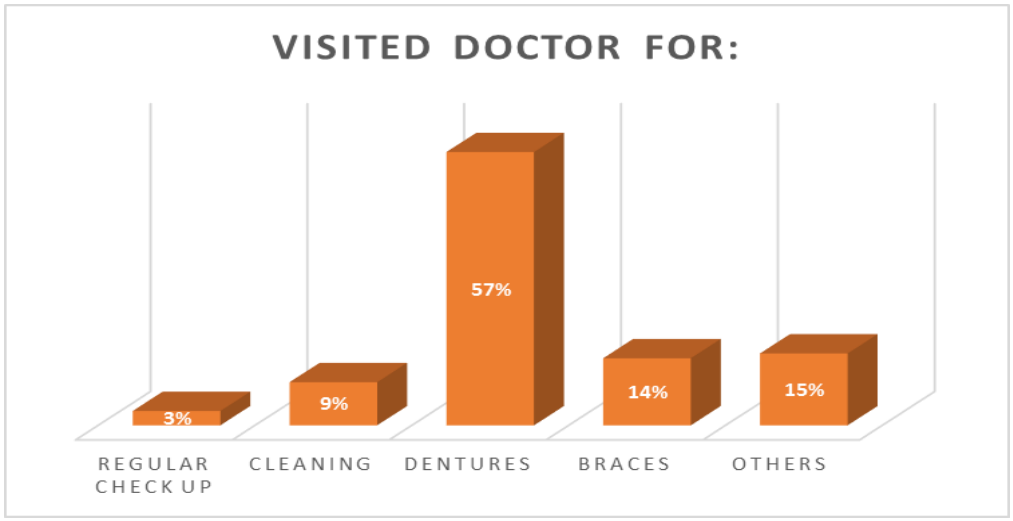

Figure 7: Graphical representation for patients' visit to doctor.

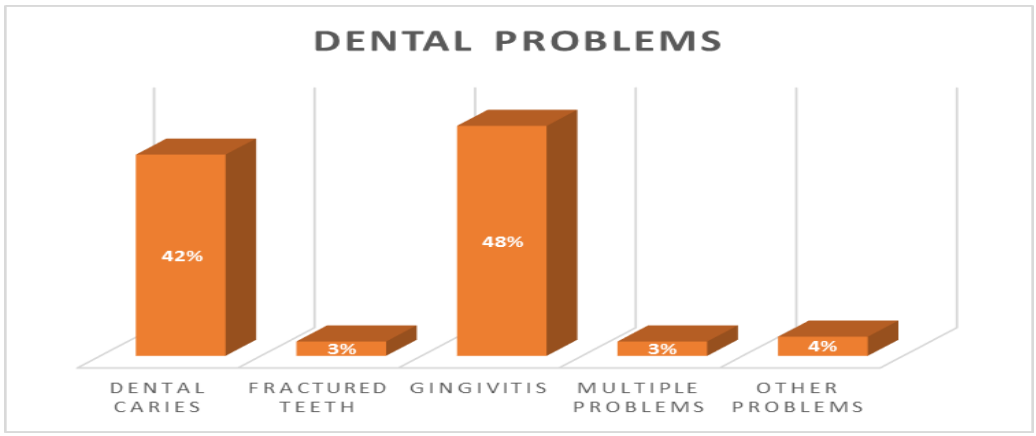

Figure 8: Graphical representation of dental problems.

DISCUSSION

This study assessed the level of dental awareness and dental hygiene practices of the patients. The cross-sectional study design took into consideration accessibility to the target group.

From the study, it was seen that among 100 patients, 31% patients are living in rural area,37% patients living in urban area and 32% patients living in small city as presented at (Table-1).

Among all the patients, 2% were infant, 11% were adolescent, 31% were adult and 56% were old age presented as (Table-2).

In our observation of 100 patients 55% of them were male and 45% of them were female respondents presented as (Table-3).

Various questions were asked regarding the knowledge on oral health, such as cleaning of teeth, food habit, how often they visited dentist etc.

Majority of the patients (61%) believed that the manifestation was due to brushing teeth once a day, while (26%) said that it was due to improper brushing and had no awareness about healthy teeth (Table-4).

Gingivitis was the most common dental problem encountered at 48%. Other dental problems found in 42% suffering from dental caries, 3% had fractured teeth, 3% had multiple problems and 4% had other problems as presented in (Figure-8).

Results showed that approximately 9% of the patients never visited a dentist, 10% visited less than 6 months ago, 21% visited less than one year ago, 27% visited over a year ago and 33% visited over 2 years ago (Figure-6).

When subjects were asked about the habit of brushing their teeth, 73% of them brushed once a day and 27% of them brushed twice a day (Figure-4).

The results of present study showed that about 57% of the respondents reported that they would only visit the dentist when they have tooth or gum problem. Whereby 3% were for regular checkup, 14% of them for dentures, 2% for braces and 15%

for others (Figure-7). Results showed that 0% did flossing once a day, 3% 2-3 times in a week, 11% once in a month and 86% never did flossing as presented at (Table-5).

From the study, it was seen that among 100 patients, 7% patient said they went for scaling and 93% said they did not go for scaling as presented at (Figure -5).

This could be due to low socioeconomic factor or lack of proper knowledge on brushing aids. Major portion of the patients had monthly family income below 10000 (46%), within the range 11000-30000 (42%) and above 50000 (12%) presented at (Figure-1).

Figure-2 revealed that all participants brushed their teeth with Pepsodent 15%, Colgate 25%, Closeup 17%, Sensodyne 15%, Mediplus 23% and others 5%.

Their habit of changing toothpaste brand might also affected their dental health. The study said that 3% of the patient changed toothpaste brand after every month, 7% after every two months, 20% after every three months, 30% of them used the same brand all the time and 40% couldn't remember when they changed their toothpaste brands (Figure-3). Results showed that in all of studied variables, male and female had slight variations. This study presented a comprehensive overview of the dental health behavior, knowledge and attitude among the people of Bangladesh. People are not truly aware of dental health. Results of this study showed that oral hygiene habits, oral health knowledge level among the people of Bangladesh is poor and needs to be improved.

Conclusion

The present survey showed that the levels of dental health knowledge and attitudes were low. Poor quality of life in terms of experience of pain and discomfort from teeth was common in interviewed; however, due to limited access to dental care most people remained underserved. Dental visits were infrequent and mostly carried out for emergency care. The multivariate analysis of dental caries experience revealed the existence of socio-behavioral determinants of dental health;

Gingivitis and dental caries are currently somewhat higher among the non privileged population groups. Government should take necessary steps against these problems and create dental awareness among the people of Bangladesh.

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