

“Pattern of Dental Diseases in Adult Patients: A study in several private dental clinics, Dhaka, Bangladesh”

Dr. Md. Mukhlachur Rahman¹, Dr. Farhana Nurul², Dr. Farzana Anar³

¹Assistant professor & Head, BDS (DDC), DDS (BSMMU), Dept. of Dentistry, Community Based Medical College Bangladesh (CBMCB), Mymensingh, Bangladesh

²Assistant professor, BDS (DDC), DDS (BSMMU), MPH(NIPSOM), Dept. of Periodontology & Oral Anatomy, MARKS Medical College, Dhaka, Bangladesh

³Assistant professor, FCPS (Conservative Dentistry & Endodontics), Community Based Medical College Bangladesh (CBMCB), Mymensingh, Bangladesh

Corresponding Author: Dr. Md. Mukhlachur Rahman

Abstract: The study was conducted to know the prevalence & pattern of dental diseases among Bangladeshi adult people, especially in Dhaka city, the capital of Bangladesh. It was a descriptive type of cross sectional study conducted in different private clinics, Dhaka, Bangladesh during the period from January 2017 to June 2017. The aim of this study was to find out pattern of common dental health problems in private dental clinics, Dhaka, Bangladesh. Purposive sampling technique was used for selecting subjects. Two hundred (200) patients from four (4) selected clinics were included in the study maintaining some inclusion and exclusion criteria. In our study, males are dominating the sex distributions among the participants, representing 60% of the total study subjects. The most affected age group was 41-50 years, representing 28% and in both groups. It showed 44% had caries and caries rate slightly more in male (52%) than female (48%) but not clinically significant. Filling 8%, more in female (69%) than male (31%), Gingivitis 48%, more in male (61%) than Female (39%), retained deciduous 5%, fractured teeth 16%, more in male (62.5%) than Female (37.5%), multiple problem 84.6% and others 6%. It was observed that the gingivitis was most prevalent condition. Gingivitis is the most common problem in our city based on our study results followed by other dental caries. Both genders are equally affected by this problem. Oral health is a part of overall health in human being and it is essential to improve oral health for improving individual health & well-being. In the conclusion, we can say oral health is an essential part of human health and need more research and training for the development of this arena.

Key words: Dental Diseases, Pattern, Adult Patients

Date of Submission: 27-06-2019

Date of acceptance: 13-07-2019

I. Introduction

Public Dental Health has been defined as "The science and art of preventing and controlling dental disease and promoting dental health through community effort" by the American Dental Association. The unique characteristics of dental diseases is that they are universally prevalent and do not undergo remission or termination if untreated and require technically demanding expertise and time consuming professional treatment. According to G. Dale¹ if deciduous teeth are retained beyond time of exfoliation, they are known to cause delay in eruption of permanent teeth and thus lead to malocclusion and other orthodontic problems, which will then need expensive corrective measures². More than 400 species of bacteria live in human mouth. Dr. Robert Genco points out that serious gum infection can release bacteria in the blood stream and can worsen the condition of patient suffering from heart disease, stroke and other similar ailments³. It is also known that periodontal diseases can even cause premature labour by release of prostaglandins by periodontal bacteria and also worsen conditions like diabetes and pneumonia. This study was an attempt to assess the prevalence of four dental diseases- dental caries, gingivitis, retained deciduous teeth & fractured teeth among the patients attending in four (4) private clinics, Dhaka, Bangladesh.

Dental caries:

At each age, dental examinations for caries and missing teeth were conducted by calibrated examiners. Before each examination, recording sheets were adjusted to account for teeth that had been missing at the previous assessment. Teeth were examined for dental caries and restorations, with 4 surfaces (buccal, lingual, distal, and mesial) being considered for canines and incisors, and a fifth surface (the occlusal) included for premolars and molars.

Gingivitis:

Bleeding from gum on visual examination or bleeding from sulcus on gentle probing & presence of deposits on teeth is diagnosed as gingivitis⁴. The gingival index (GI) was developed by Loe and Silness⁵ to describe the clinical severity and location of gingival inflammation using a mouth mirror and periodontal probe, the mesial, distal, buccal and lingual surface of six index teeth examined: maxillary right first molar, maxillary right lateral incisor, maxillary first premolar, mandibular left first molar, mandibular left lateral incisor and mandibular right first premolar.

The scores were defined based on severity from 0-3.

0 = Normal gingival

1 = Mild inflammation-light change in colour, slight edema but no bleeding on probing (BOP).

2 = Moderate inflammation- redness, edema and glazing, and BOP.

3 = Severe inflammation- marked redness and edema, ulceration and tendency to spontaneous bleeding.

The average score of each tooth was calculated by dividing the score of each tooth surface by the number of surfaces examined. The final numerical score per person obtained using the following formula: Score per person = sum of individual tooth scores / number of teeth examined

Retained deciduous teeth:

Deciduous tooth is retained beyond the time of exfoliation is diagnosed as retained deciduous teeth⁶.

Fractured teeth:

Teeth with broken edges with no obvious evidence of caries are diagnosed as traumatic fractured teeth. This is confirmed by eliciting history of trauma after diagnosing fractured teeth⁷.

II. Objectives

General objective:

To assess the pattern of Dental Diseases in Adult Patients in Bangladesh

Specific objectives:

To know more about dental problems in Bangladesh

III. Material and Methods

A cross sectional study was conducted in different private clinics, Dhaka, Bangladesh during the period from January 2017 to June 2017. In this study, a total number of 200 patients (120 males & 80 females) were selected from the selected clinics. The aim of this study was to find out pattern of common dental health problems in private dental clinics, Dhaka, Bangladesh. Each of the subjects was selected in respect of some inclusion and exclusion criteria. A data collection sheet with necessary measurements for each subject was filled. Clinical Examination of each participant carried the following criteria: The teeth showing discoloration, chalky appearance of enamel, softened enamel or broken surface by visual examination or probing is defined as carious tooth. The caries Index DMF⁷ was developed by Klien, Polemar & Knutson. DMF = D indicates a decayed tooth, M indicates a missing tooth, F indicates a permanently filled tooth due to decay. All teeth except 8's are examined. There are no scoring patterns. In the provided boxes the decayed, missing, filled tooth or surfaces are marked & finally the total counts are made. The decay-missing-filled index or decayed, missing, and filled teeth index is one of the most common methods in oral epidemiology for assessing dental caries prevalence as well as dental treatment needs among populations and has been used for about 75 years

IV. Result

A cross sectional study was conducted in different private clinics, Dhaka, Bangladesh during the period from January 2017 to June 2017. In this study, a total number of 200 patients (120 males & 80 females) were selected from the selected clinics. The aim of this study was to find out pattern of common dental health problems found in adult patients in private dental clinics, Dhaka, Bangladesh. Males are dominating the sex distributions among the participants, representing 60% of the total study subjects. The most affected age group is 41-50 years, representing 28% and in both group. It is showed 44% had caries and caries rate slightly more in male (52%) than female (48%) but not clinically significant. Filling 8% , more in female (69%) than male (31%), Gingivitis 48%, more in male (61%) than Female (39%), retained deciduous 5%, fractured teeth 16% , more in male (62.5%) than Female (37.5%), multiple problem 84.6% and others 6%. It was observed that the gingivitis was most prevalent condition. This was followed by dental caries, fractured teeth, restored teeth and retained deciduous teeth.

Table I: Age and sex distribution of the study participants (N=200)

Age in years	n	%	n	%	Total (%)
	Male		Female		
18-20	10	5	7	3.5	8.5
21-30	18	9	13	6.5	15.5
31-40	20	10	18	9	19
41-50	34	17	22	11	28
51-60	20	10	12	6	16
61-70	18	9	8	4	13
70 years and more					
Total	120	60	80	40	100

Table II: Gender wise distribution of dental morbidities (N=200)

Dental condition	Total no. affected	Total %	Male affected	Male (%)	Female affected	Female (%)	P-value
Dental Caries	88	44	46	52	42	48	0.7684
Filling for Caries	16	8	5	31	11	69	0.0001*
Gingivitis	96	48	59	61	37	39	0.0001*
Retained deciduous teeth	10	5	4	40	6	60	NS
Fractured teeth	32	16	20	62.5	12	37.5	0.0001*
Multiple problems	168	84	92	54.76	76	45.24	0.1524
Other problems	12	6	4	66	3	33	0.1797

* $P < 0.05$ is statistically significant, NS=Not significant

V. Discussion

Gingivitis is the commonest dental problem encountered. The prevalence of gingivitis observed in this study was 48% and higher prevalence in males (61%) than in female (39%). This findings are in disagreement with JoseA⁸ who found only 15% prevalence of gingivitis with higher prevalence in female (56%) than in male (44%). Sutcliff survey also shows high prevalence among females⁹.The prevalence of dental caries observed in this study was 44%. Both males and females were almost equally affected by caries with slightly higher prevalence among males. A study conducted by Jose A and Joseph M R⁸ in rural Kerala reports 54.3% prevalence of dental caries and both males and females were almost equally affected by caries with slightly higher prevalence among males. A study conducted by Sogi G¹⁰ in Davangareusing DMFT/DMFS score reports higher prevalence in females that is statistically significant. A Study conducted by Cand.Odont. SeverreAuckland and Cand.Odont. JohnyBjelkaroe¹¹ reports 45.8% prevalence of dental caries. Findings of this present study are in agreement with Jose A and JohnyBjelkaroe.The prevalence of fractured tooth observed in this study was 16%, and higher in male (62.5%) than in female (37.5%). One of the WHO also reports higher incidence of fractured teeth among boys. This may well be explained by the more aggressive eating habits of the boys¹². Also chances of fights and falls are commoner among them which also contribute to fracturedteeth¹³. Among 200 male and female subjects only8 had dental filling and among of all those subjects more females (69%) have dental fillings than males (31%). Jose A¹¹ also reports 3.18% dental fillings and higher in males which disagreed with present study. As age advances retained deciduous teeth become less but still 5% Subjects had retained deciduous teeth with both males and females were equally affected. Jose A found 7% retained deciduous teeth.⁹Gingivitis is the commonest problem in Bangladesh according to present study. The second most dental problem was dental caries. The prevalence of orthodontic problems was comparable to the observations made by others. Males and females are equally affected with slight variations in the nature of problems among bothgenders.

Limitations of the study

This was a cross-sectional descriptive study in a single center with small sample size. So, the result might not be reflected in the whole community.

VI. Conclusion

Good oral health is essential to improve individual overall health & well-being. We urge to take this information & use it for program planning & advocating for the health of patients. It is only through working together that we can make excellent oral health a reality for these patients. Since the number of orthodontists available to treat patients in Bangladesh is limited, there is a high demand on each practitioner. Therefore current orthodontics students should receive more education & training in the management of malocclusion to improve the overall quality of dental care for the patients.

References

- [1]. G. Dale. Guidance of Occlusion: Serial Extraction. In Graber T.M., Swain.B.F. eds.Orthodontics Current Principles and Technique.
- [2]. Genco R¹, Offenbacher S, Beck J.: Periodontal disease and cardiovascular disease. Journal of American Dental Association 2 J Am Dent Assoc. 2002 Jun;133 Suppl:14S-22S
- [3]. Peter S.: Essentials of Preventive and Community Dentistry. 1st ed. New Delhi; Arya Medi publications 1999: 8.C. V. Mosby Company, 1985; 284 - 95.
- [4]. Hossain MZ, Haque S, Yasmin S, et al. Prevalence of malocclusion and treatment facilities at Dhaka Dental College and Hospital. J of Oral Health. 1994; 1:4-6.
- [5]. Loe H, Silness J .Periodntal disease in pregnancy. I. prevelance and severity. ActeOdontolScand 1963; 21: 533-51.
- [6]. Niaz A, Kamran C. Prevalence of malocclusion and its aetiological factors' of Oral Health 1996; 2:12-16.
- [7]. Debnath T., Ashok's Public Health & Preventive Dentistry, 2nd Edition: 2007; P-58-59.
- [8]. Study of malocclusion in Dhaka Dental College; An epidemiological overview by Sattar MH, Khaleque KA, Haq ME; 7th Bangladesh National & 3rd SADAF Dental Conference, 1995; Presentation B-7; Session 7.
- [9]. JOSE A and JOSEPH M R. Prevalence of dental health problems among school going children in rural Kerala.
- [10]. Sogi G., Bhaskar D.J. Dental Caries and Oral Hygiene Status of 13 to 14 year Old School Children of Davangere. J Indian SocPedoPrev Dent 2001; 21: 113 - 116.
- [11]. Cand.Odont. SeverreAukland and Cand.Odont. JohnyBjelkaroe. The Dental Health of School Children in Betul District Madhya Pradesh. J Indian Dent Assoc 1982; 54: 367 -369.
- [12]. Health situation in the south east Asia Region 1994-1997 World Health Organization, Regional office for South East Asia, New Delhi, 1999. P 170.
- [13]. Poureslami H.R. and Amerongen W.E. (2009) Early Childhood Caries (ECC): an infectious transmissible oral disease. Indian J. Pediatr. 76 (2), 191- 194.
- [14]. Selwitz R., Ismail A. and Pitts N. (2007) Dental caries. The Lancet 369, 51-59.
- [15]. Brodeur J.M. and Galarneau C. (2006) The High Incidence of Early Childhood Caries in Kindergarten-age Children. Journal of College of Dentists of Quebec Supplement 6.

Dr. Md. Mukhlachur Rahman. “Pattern of Dental Diseases in Adult Patients: A study in several private dental clinics, Dhaka, Bangladesh.” IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), vol. 18, no. 7, 2019, pp 01-04