

A Study to Establish the DMFT Index amongst Adults Reporting to the Hospital

Vanita Gautam^{1*}, Hemant Kumar Halwai²

^{1*}Associate Professor, Department of Conservative Dentistry and Endodontics,

²Associate Professor, Department of Orthodontics and Dentofacial Orthopedics, UCMS College of Dental Surgery, Bhairahawa, Nepal.

ABSTRACT

Background: Despite of various technological advances and the truth that it is a preventable condition, it continues to be a major health issue. According to World Health organisation, it is amongst the three most common non communicable chronic conditions that require treatment and prevention. The aim of the present study is to determine the DMFT index amongst adults reporting to the department for routine dental check up.

Materials and Methods: The present study was conducted during a period of 6 months. The examiner was well versed with protocol of the study and was also provided with a recorder.

Dental examination was carried out with mouth mirror, probe, tweezer under complete dry conditions wearing protective barrier All the data thus obtained was arranged in a tabulated form and analysed using SPSS software. Percentage was obtained of the results. Data was also expressed as mean +/- Standard deviation.

Results: In the present study a total of 350 subjects were involved. Out of these there were 120 subjects between 20-30 years of age. There were 68.3% (n=82) subjects between 20-

30 years of age having dental caries. There were 178 decayed, 20 missing and 110 filled teeth amongst subjects aged between 20-30 years. The mean DMFT index was 2.2+/- 0.76.

Conclusion: The mean DMFT was comparable amongst all the age groups. The incidence of caries was maximum amongst 31-40 years of age.

Keywords: Caries, DMFT, Incidence.

*Correspondence to:

Dr. Vanita Gautam,
Associate Professor,
Department of Conservative Dentistry and Endodontics,
UCMS College of Dental Surgery, Bhairahawa, Nepal.

Article History:

Received: 08-12-2017, Revised: 26-12-2017, Accepted: 17-01-2018

Access this article online	
Website: www.ijmrp.com	Quick Response code 
DOI: 10.21276/ijmrp.2018.4.1.048	

INTRODUCTION

One of the major oral health problems amongst industrialised nations affecting 60-90% of the school children and majority of adults is dental caries. It is widely prevalent in Asian and Latin-American countries while not so prevalent amongst African countries.¹ It is a common chronic condition of childhood interfering with diet, speech, daily activities and nutrition. As it leads to pain that severely affects the normal food uptake. It ultimately leads to under nourished children with retarded cognitive development.² Despite of various technological advances and the truth that it is a preventable condition, it continues to be a major health issue. According to World Health organisation, it is amongst the three most common non communicable chronic conditions that require treatment and prevention.³ Oral health is a crucial part of person's overall health that contributes to a person's well-being. It positively affects the quality of life affecting both physical and mental health and habits.⁴ In a developing nation like India, there has been an sudden upsurge in the incidence of this disease over a short period of time. In the year 1920, the dental caries prevalence was

55.5% amongst 5 year and 12 year children and it rose to 68% in the year 1960 and then to 89% in the recent years.⁵⁻⁷ The aim of the present study is to determine the DMFT index amongst adults reporting to the department for routine dental check up.

MATERIALS AND METHODS

The present study was conducted during a period of 6 months. The study included subjects more than 20 years of age reporting to the department for routine dental check up. All the subjects were informed about the study and a written consent was obtained from all in their vernacular language. Subjects with special needs were excluded from the study. Adults belonging to ASA grade III or IV were also excluded from the study. Pregnant or lactating females were also not included in the study. The examiner was well versed with protocol of the study and was also provided with a recorder. Dental examination was carried out with mouth mirror, probe, tweezer under complete dry conditions wearing protective barrier. The number of decayed, missing and filled teeth were noted and recorded. Patient's demographics were also recorded.

A tooth was regarded as decayed if there was visible evidence of dental caries. Every subject was informed about good oral hygiene practices and importance of oral health. All the data thus obtained was arranged in a tabulated form and analysed using SPSS software. Percentage was obtained of the results. Data was also expressed as mean +/- Standard deviation.

RESULTS

In the present study a total of 350 subjects were involved. Out of these there were 120 subjects between 20-30 years of age. There were 100 subjects between 31-40 years of age. There were 80 subjects and 50 subjects between 41-50 years and 51-60 years of age respectively.

Table 1, Graph 1 shows the prevalence of dental caries according to age group. There were 68.3% (n=82) subjects between 20-30

years of age having dental caries. There were 79% (n=79) subjects between 31-40 years of age having dental caries. There were 77.5% (n=62) subjects between 41-50 years of age having dental caries. There were 54% (n=27) subjects between 51-60 years of age having dental caries.

Table 2 illustrates the DMFT index amongst different age groups. There were 178 decayed, 20 missing and 110 filled teeth amongst subjects aged between 20-30 years. The mean DMFT index was 2.2 +/- 0.76. There were 139 decayed, 29 missing and 92 filled teeth amongst subjects aged between 31-40 years of age. The mean DMFT was 1.8 +/- 0.54. There were 152 decayed, 49 missing and 99 filled teeth amongst subjects aged between 41-50 years. The mean DMFT index was 2.1 +/- 0.51. There were 34 decayed, 64 missing and 37 filled teeth amongst subjects aged between 51-60 years. The mean DMFT index was 1.2 +/- 0.32.

Table 1: Prevalence of dental caries according to age group

Age group	Frequency	Percentage
20-30 years	82	68.3
31-40 years	79	79
41-50 years	62	77.5
51-60 years	27	54

Graph 1: Prevalence of dental caries according to age group

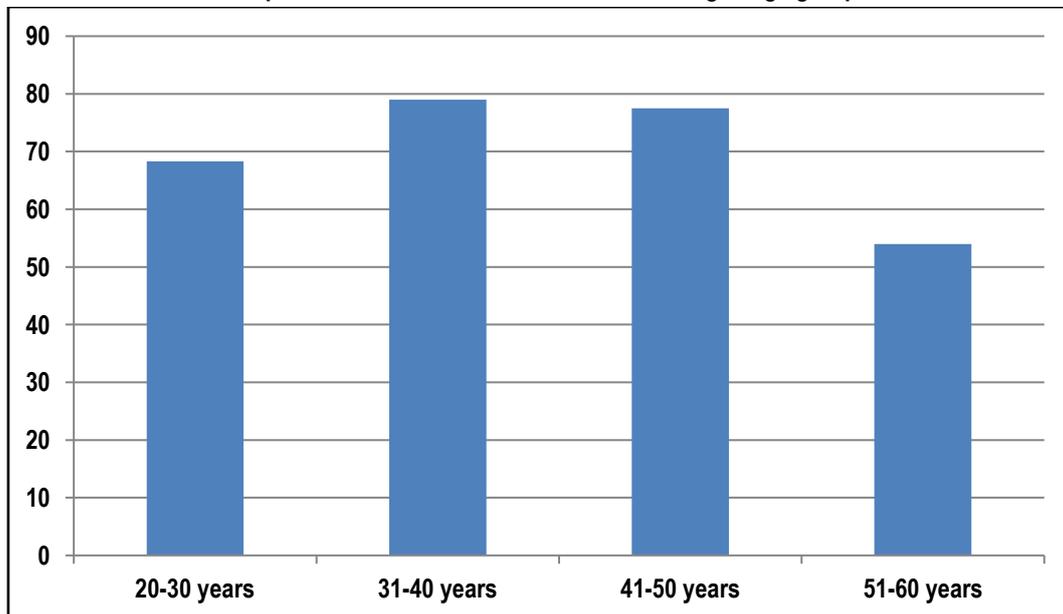


Table 2: DMFT index according to age group

Age group	Decayed		Missing		Filled		Total (DMFT)	Mean
	N	%	N	%	N	%		
20-30 years	178	57.8	20	6.4	110	35.7	308	2.2 +/- 0.76
31-40 years	139	69.5	29	14.5	92	46	200	1.8 +/- 0.54
41-50 years	152	50.7	49	16.3	99	33	300	2.1 +/- 0.51
51-60 years	34	24.5	68	48.9	37	26.6	139	1.2 +/- 0.32

DISCUSSION

Good overall health is a chief goal for people and the society in which they reside. Sir William Osler has shown that the oral health is significant and is the mirror of overall general health. Dental caries occurs because of complex interaction with due

course of time between acid forming bacteria and fermentable carbohydrates, and various other host factors like teeth and saliva.⁸ During adolescence, the relationship between biological, behavioural, socioeconomic, and psychological conditions have a

pronounced effect on caries development.⁹ In the year 2007, the World health organisation has reported that 60%–90% of the school going children around the world had caries.¹⁰ The SiC index has been developed to raise attention to the subjects who have the high caries scores amongst every population.¹¹ It is a useful indicator that throws light on the situation amongst the most caries prone individuals and this can be included in the population-based oral health related surveys in the future together with the mean DMFT score.¹² According to the present study, there were 178 decayed, 20 missing and 110 filled teeth amongst subjects aged between 20-30 years. The mean DMFT index was 2.2+/- 0.76. There were 139 decayed, 29 missing and 92 filled teeth amongst subjects aged between 31-40 years of age. The mean DMFT was 1.8 +/-0.54. There were 152 decayed, 49 missing and 99 filled teeth amongst subjects aged between 41-50 years. The mean DMFT index was 2.1+/- 0.51. There were 34 decayed, 64 missing and 37 filled teeth amongst subjects aged between 51-60 years. The mean DMFT index was 1.2+/- 0.32. As per the conceptual model given by Petersen¹³ to elucidate the severity of Dental caries the determinant factors are classified as either distal or proximal. The distal level is associated with socio-environmental factors and availability of oral health services; on the contrary the proximal level is associated with modifiable behaviour, like oral hygiene practices, life style changes and the acquirement of oral health services. According to the present study, there were 68.3% (n=82) subjects between 20-30 years of age having dental caries. There were 79% (n=79) subjects between 31-40 years of age having dental caries. There were 77.5% (n=62) subjects between 41-50 years of age having dental caries. There were 54% (n=27) subjects between 51-60 years of age having dental caries. Petry et al.¹⁴ in their study found a significant relation between the regular use of dental care services and caries status. The regular use of dental care services has been an important factor in lesser incidence of caries because this variable is associated with social and behavioural factors and is an important determinant in the difference regarding caries severity amongst different populations.^{15,16}

CONCLUSION

From the above study it is clear that the knowledge about dental caries is not much amongst the subjects. The mean DMFT was comparable amongst all the age groups. The incidence of caries was maximum amongst 31-40 years of age.

REFERENCES

1. Petersen PE, Lennon MA. Effective use of fluorides for the prevention of dental caries in the 21st century: the WHO approach. *Community Dent Oral Epidemiol.* 2004;32(5):319-21.
2. Grewal H, Verma M, Kumar A. Prevalence of dental caries and treatment needs in the rural child population of Nainital District, Uttaranchal. *J Indian Soc Pedod Prev Dent.* 2009;27(4):224-6.
3. Marrs JA, Trumbley S, Malik G. Early childhood caries: determining the risk factors and assessing the prevention strategies for nursing intervention. *Pediatr Nurs.* 2011;37(1):9-15.
4. Rao D, Amitha H, Munshi AK. Oral hygiene status of disabled children and adolescents attending special schools of South Canara, India. *Hong Kong Dent J.* 2005;2(2):107-12.

5. Joshi N, Rajesh R, Sunitha M. Prevalence of dental caries among school children in Kulasekharam village: a correlated prevalence survey. *J Indian Soc Pedod Prev Dent.* 2005;23(3):138-40.
6. Damle SG, Patel AR. Caries prevalence and treatment needs amongst children at Dharavi, Mumbai. *Community Dent Oral Epidemiol.* 1994;22(1):62-3.
7. Dash JK, Sahoo PK, Bhuyan SK, Sahoo SK. Prevalence of dental caries and treatment needs among children of Cuttack (Orissa). *J Indian Soc Pedod Prev Dent.* 2002;20(4):139-43.
8. Selwitz RH, Ismail AI, Pitts NB. Dental caries. *Lancet* 2007;369(9555):51–9.
9. Peres MA, Peres KG, de Barros AJ, Victora CG. The relation between family socioeconomic trajectories from childhood to adolescence and dental caries and associated oral behaviours. *J Epidemiol Community Health* 2007;61 (February (2)):141–5.
10. World Health Organization: Oral Health Fact Sheet No. 318; 2007, Available from: <http://www.who.int/mediacentre/factsheets/fs318/en/print.html>.
11. Bratthall D. Introducing the Significant Caries Index together with a proposal for a new global oral health goal for 12-year-olds. *Int Dent J* 2000;50(December (6)): 378–84.
12. Nishi M, Stjernswärd J, Carlsson P, Bratthall D. Caries experience of some countries and areas expressed by the Significant Caries Index. *Community Dent Oral Epidemiol* 2002;30(4):296–301.
13. Petersen, P.E. Sociobehavioural risk factors in dental caries—International perspectives. *Community Dent. Oral Epidemiol.* 2005, 33, 274–279.
14. Petry, P.C.; Victora, C.G.; Santos, I.S. Adults free of caries: A case-control study about awareness/ consciousness, attitudes and preventive practices. *Cad. Saúde Pública* 2000, 16, 145–153.
15. Holst, D.; Schuller, A.A.; Aleksejuniené, J.; Eriksen, H.M. Caries in population—A theoretical, causal approach. *Eur. J. Oral Sci.* 2001, 109, 143–148.
16. Greenland, S. Model-based estimation of relative risks and other epidemiologic measures in studies of common outcomes and in case-control studies. *Am. J. Epidemiol.* 2004, 160, 301– 305.

Source of Support: Nil.

Conflict of Interest: None Declared.

Copyright: © the author(s) and publisher. IJMRP is an official publication of Ibn Sina Academy of Medieval Medicine & Sciences, registered in 2001 under Indian Trusts Act, 1882.

This is an open access article distributed under the terms of the Creative Commons Attribution Non-commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

Cite this article as: Vanita Gautam, Hemant Kumar Halwai. A Study to Establish the DMFT Index amongst Adults Reporting to the Hospital. *Int J Med Res Prof.* 2018 Jan; 4(1):247-49. DOI:10.21276/ijmrp.2018.4.1.048