AN OVERVIEW OF DECAYED MISSING FILLED TEETH (DMFT) IN PATIENTS REPORTING TO A HEALTH FACILITY AT SWAT

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Abstract

Objective: *To determine Decayed, Missing, Filled Teeth (DMFT) index of the patients visiting a single healthcare facility at Swat.*

Materials & Methods: *This cross-sectional study was conducted in Swat Medical Complex, Saidu Sharif, Swat, Pakistan, from June 2018 till September 2018. A sample of 125 patients was taken for this study using non-probability convenient sampling technique. After taking informed consent, a pre-designed performa was used to extract data based on examination. Data was tested using SPSS v.21.0, descriptive stats were applied for numerical and categorical variables. Relationship was measured using Chi-Square.*

Results: *Mean age of 125 patients was 28.83±17.38 years, having males 81.6% and females 18.4%. Occupationally, students were in high frequency with 36%, followed by laborers with 24%. The mean for decayed teeth (DT) was 1.60 ± 1.91, missing teeth (MT) 2.14 ± 4.48 and filled teeth (FT) was 0.38 ± 1.11, while overall mean of DMFT was 4.11 ± 4.94. In decayed, missing and filled status of these patients about, 51 (40.8%), 61 (48.8%) and 100 (80%) of patients had no DMFT respectively. Post cross tabulation chi-square revealed significant relationship between gender and major occupation of the person with DMFT.*

Conclusion: *This study from a single health care setting concluded a high DMFT index, having more males of middle age group than females. The study further concluded more DT patients than FT.*

Keywords: *Decayed; Missing; Filled; DMFT Index*

INTRODUCTION

Dental caries is an important disease related to the field of dentistry, causes tooth loss due to bacterial damage.[1] Different factors are responsible for caries, which directly or indirectly lead to demineralization of teeth which can be dietary associated, specific bacteria related and susceptible tooth surfaces.[2] Thus, dental caries is among the most prevalent dental diseases among children and is an important public issue.[3]

The rise in dental caries in developing countries is due to poor health services, inappropriate access, unhealthy foods and neglect toward the use of fluoride. Similarly, there is decrease in the levels of dental caries in developed countries due to decrease in sugar consumption and improved oral hygiene practices, participation in oral health programs and population based preventive programs. One of the reasons of increase in the prevalence of dental caries in developing countries is due to adoption of western

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way of life without stressing on the need to bring better and improved community health programs.[4] There are many others conditions of the body and oral cavity, which are caused by dental caries.[5] A pathfinder survey was conducted by World Health Organization (WHO) in many districts of Pakistan, according to which dental caries is 7 times more common than hay fever and 5 times more common than asthma in children, which is why we can say that it is the single most common chronic childhood disease.[6,7] It seems that the oral health status of the people of the northern districts of Khyber Pakhtunkhwa is not very good and there is high prevalence of dental caries. Latest data and information regarding the oral health status is necessary to plan better community dental health programs, and to better understand the changes that need to be made to improve the strategies of the public health programs carried out by the government.

We performed this study to investigate the prevalence of dental caries among the population to improve our understanding of the current situation to plan better dental public health programs in future.

MATERIALS AND METHODS

This cross-sectional study was conducted in Swat Medical Complex, Saidu Sharif, Swat, Pakistan, from June 2018 till September 2018. A sample of 125 patients was taken for this study using non-probability convenient sampling technique. Patients of any age and either gender visiting the above facility were included in the study, while all having any comorbidities, genetic and congenital deformity were excluded from the sample. Patients and attendants were explained the purpose of the study and informed verbal consent was taken from them. Basic demographic information was collected along with oral hygiene habits. The patients were examined in ordinary chair under natural light, after data collection. Presence of frank cavity was used as a criterion of dental caries, radiographs were not taken. Oral cavity for dental caries was examined by using tongue depressors, dental explorer and dental mirror. A pre-designed proforma was used to record the relevant information. Data was tested using SPSS v.21.0, where mean ± S.D was calculated for numerical variables while frequency and percentages for binominal variables. Chi-Square was used to measure the relationship where needed, P-value ≥0.05 will be taken significant.

RESULTS

A total of 125 patients were included in the study with mean age of 28.83±17.38 years having males 102 (81.6%) and females 23 (18.4%). Maximum patients were from Swat 107 (85.6%), followed by 14 (11.2%) then 2 (1.6%) from Buner and Mardan each. In the occupation status of these samples maximum were students with 45 (36%), followed by laborers with 30 (24%), rest details are given in Table I. The mean for decayed teeth (DT) was 1.60 ± 1.91, missing teeth (MT) 2.14 ± 4.48 and filled teeth (FT) was 0.38 ± 1.11, while overall mean of DMFT was 4.11 ± 4.94

In decayed, missing and filled status of these patients about 51 (40.8%), 61 (48.8%) and 100 (80%) of patients had no DMFT respectively while rest data in detail is available in Table II.

Post cross tabulation chi-square was used to measure the relationship between gender and major occupation of the person with DMFT for significance; both the results were significant with p-value of 0.043 and 0.001 respectively. Rest the details are based on Table III and IV.

DISCUSSION

The present study was meant to show the prevalence of the dental caries among patients presenting at a health facility in Swat, the study further noted decayed, missing and filled teeth caused due to caries among these patients. The present study noted that dental caries is the most likely to be associated with

Table 1: Occupational Status of Dmft Patients

Occupation Status	Frequency	Percent
Student	45	36.0
Housewife	6	4.8
Driver	4	3.2
Farmer	9	7.2
Labourer	30	24.0
Teacher	6	4.8
Shopkeeper	8	6.4
Retired	7	5.6
Doctor	3	2.4
Unemployed	3	2.4
Engineer	1	.8
Child	3	2.4

Table 2: Status of Decayed Missing Filled Teeth

Number of Teeth	Decayed		Missing		Filled	
	Frequency	Percentage	Frequency	Percentage	Frequency	Percentage
0	51	40.8	61	48.8	100	80.0
1	18	14.4	18	14.4	16	12.8
2	28	22.4	17	13.6	5	4.0
3	9	7.2	5	4.0	2	1.6
4	7	5.6	8	6.4	0	0
5	8	6.4	5	4.0	0	0
6	2	1.6	4	3.2	1	0.8
7	0	0	1	0.8	0	0
8	0	0	1	0.8	0	0
9	1	0.8	0	0	1	0.8
10	1	0.8	0	0	0	0
13	0	0	1	0.8	0	0
14	0	0	1	0.8	0	0
22	0	0	1	0.8	0	0
28	0	0	2	1.6	0	0

Table 3: Cross Tabulation of DMFT with Major Occupation

DMFT	Major Occupation							X2	P-Value*
	Student	House-wife	Farmer	Labourer	Teacher	Shop-keeper	Retired		
0	22	0	0	1	0	0	0	245.2	0.001
1	7	2	2	5	2	0	0		
2	6	1	0	2	0	0	0		
3	4	0	1	2	0	2	1		
4	1	0	2	3	1	2	0		
5	1	0	0	5	1	2	1		
6	2	0	1	3	2	0	0		
7	1	0	0	0	0	2	0		
8	0	2	0	3	0	0	1		
9	1	0	1	3	0	0	0		
10	0	0	0	2	0	0	2		
13	0	0	0	1	0	0	0		
16	0	0	0	0	0	0	1		
18	0	0	1	0	0	0	0		
22	0	0	0	0	0	0	1		
28	0	1	1	0	0	0	0		

*Chi-Square applied.

patients, who were mostly middle aged and male in gender. The mean DMFT score for patients was found in this study was found to be as 4.11 ± 4.94 which is well above 3 as recommended by WHO.[13,14] The study revealed that in occupation, maximum frequency were noted of students followed by laborers.

The results of this study shows some very astonishing figures where mean for decayed teeth (DT) was 1.60 ± 1.91, missing teeth (MT) 2.14 ± 4.48 and filled teeth (FT) was 0.38 ± 1.11. A study

Table 4: Cross Tabulation of DMFT with Gender

DMFT	Gender		X2	P-Value*
	Male	Female		
0	17	12	25.53	0.043
1	15	4		
2	6	3		
3	10	1		
4	12	0		
5	10	0		
6	10	0		
7	4	0		
8	4	2		
9	5	0		
10	4	0		
13	1	0		
16	1	0		
18	1	0		
22	1	0		
28	1	1		

*Chi-Square applied.

done on females in Nigeria had different DMFT score as whole and separate DT, MT and FT means as compared to this study, with DMFT score of 0.67 ± 1.6 and mean decayed teeth DT of 1.8 ± 1.1, missing teeth MT of 2.2 ± 2.0 and filled teeth FT of 1.5 ± 1.0.15 The comparison shows that in Nigerian females, means of DT, MT and FT all are higher than this study while means of DMFT as a whole is much less than this study which might be due to outliers of this study or a particular patient having major caries issues. A few more studies revealed DMFT variance from 3.09 to 7.89, which is in similarity with results of this study.[16-17] Another study conducted at Kosovo demonstrated a much higher DMFT score 12.52 ± 7.912 than usual and the same is observed in DT, FT, MT scores having means of 3.15, 7.31, 2.05.18 These results are remarkably higher from finding of this study, pointing a much higher prevalence of dental caries at Kosovo.

A study held at Jinnah Postgraduate Institute Karachi involving different districts of the different provinces proved that with advancing age, the prevalence of dental caries increases where DMFT index increases from 1.20 to 18.34 to an old age, the same was observed in this study.19 The study by Mehar R, et al.[19] showed higher mean of DT as compared to FT which means that the option of treatment or its availability is limited to all, while this study at a center of Swat also proved the same theory. The relationship of dental caries with age advancement is not a new debate which is directly associated with treatment availability. The senile changes take over with age but the lack of sense or knowledge among general population make them unaware of treatment and the reason is that DT is much more than FT. As this study was being conducted in a health center so one can say that many among general population who are still unaware of this because of their illiteracy can have higher DMFT index, resultantly affecting these results further towards much more dangerous condition. In another study reported from Sindh, there is sudden decrease of the DMFT score where 1037 patients were analyzed and score was of about 1.00 only, the reason can be that study was conducted at an outpatient department of private medical college; the sample presented there can be of educated class properly overseeing their teeth health.[20] The fluctuation in results of different studies on things like age, education and treatment modalities adopted etc.

This study showed a higher number of students presented to the center for the treatment for whom the DMFT score was measured which directly points out the affect of education on these students from primary to doctorate level. It is the education which makes them visit the specialist for the required treatment. The study shows a significant relationship between occupation and DMFT score, while the same was being shown by study conducted at Nigeria.[15] The study also showed significant relationship of gender with DMFT score, where male dominancy is more than females. The reason behind male dominancy is not that their number is actually high but due to the fact that local culture doesn't allow females out of homes much and then for dental treatment, people underestimate it until it get further complicated. People report mostly once pain starts.

The reason behind such a high prevalence and DMFT index can be improper policies regarding caries management in urban and rural setting, costly treatment, cultural with religious mindset of the people, busy schedule and illiteracy etc. This cross-sectional study can prove pivot for further investigations in this regard. Short sample size, only health care setting and one district were the limitations of the study, however the study can make oral health care

providers and relevant authorities to take required steps early to decrease the prevalence of this disease.

CONCLUSION

This study from a single health care setting concluded a high DMFT index, having more males of middle age group than females. The study further concluded more DT patient than FT, questioning the treatment options available or utilized by patients. This study results will enlighten the experts of the field for the required measures to decrease this highly morbid condition.

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