International Journal of Dentistry and Oral Science (IJDOS)
ISSN: 2377-8075

Dentition Status Of Outpatients Of Different Age Groups - An Observational Study

Research Article

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Abstract

Oral health is a critically overlooked component of overall health and well being. Oral health has significant impact on the quality of life. Dental diseases are universal in nature. The presentation of caries can be variable . Neglect of oral diseases can largely lead to loss of tooth and also negatively affect the quality of life. This study aims to assess the dentition status and the prevalence of caries among outpatients of different age groups reporting to Saveetha dental college , Chennai . In order to assess dental caries, Decayed - Missing - Filled Teeth index [DMFT Index] were taken into consideration. The case sheets of all the Patients of OP Department of Saveetha dental college for the period of two months [DEC 2019 and JAN 2020] were collected from The data of 86 , 000 patients visited Saveetha dental college during the time period of June 2019 to March 2020. Among the reviewed data , 490 appropriate study samples were selected and tabulated . Then the tabulated data was transferred to statistical analysis software SPSS . The variables were defined and the data was statistically analysed. The study sample consisted of 490 cases of which 60.2% were Male and 39.8 % were Female. 45.3 % of the subjects were 20 to 25 yrs old and 54.7% of the subjects were 25 to 30 yrs old. The mean DMFT score was found to be more among Female subjects than Male subjects and was statistically significant using Independent T Test. Thus the mean DMFT value for Female subjects is greater than the mean DMFT values of the Male subjects. Therefore, the prevalence of dental caries is more in Female population. Based on the findings, it can be concluded that dental caries were found to be more prevalent among Females than Males.

Keywords: Oral Health; Dentition Status; Dental Caries; DMFT; Health Education.

Introduction

Oral health is a critically overlooked component of overall health and well being . It has high significance on the quality of life [13], appearance and self - esteem [14]. Dental disease may cause restriction of activities in school, work & home. Dental diseases significantly diminishes the quality of life for many children [21] and adults, especially those who are of low - income or are uninsured [28].

Oral diseases are the most common of the chronic diseases and are important public health problems because of their prevalence, their impact on individuals and society, and the expense of their treatment. Dental diseases are universal in nature [16]. The presence and severity may vary from one individual to another and is also affected by multiple factors such as Gender, Knowledge, Attitude, the affordability to dental/oral care [7, 12] and other factors like mineralisation of enamel [13], disasters [8], diet hygiene [10] and habits [5].

Tooth is in a constant state of demineralization and remineralization between the tooth and surrounding saliva. Demineralization occurs faster than remineralization When the pH at the surface of the tooth drops below 5.5 which causes decay [4, 22]. Several different treatments modalities can be used to restore teeth to proper form , function and aesthetics [18, 6] such as fluoride application [11] and sealants [9, 19, 20]. The preventive prophylactic

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Received: September 07, 2020
Accepted: September 29, 2020
Published: September 30 2020

Citation: Vigneshwaran Ravichandran, Jayashri Prabakar, Manjari Chaudhary. Dentition Status Of Outpatients Of Different Age Groups - An Observational Study. *Int J Dentistry Oral Sci.* 2020;S7:02:005:20-23. doi: http://dx.doi.org/10.19070/2377-8075-SI02-07005

measures , such as regular oral hygiene and dietary modifications [15, 21], helps to reduce dental caries [3]. The presentation of caries can be variable; though the risk factors and stages of development are similar. Initially, it appears as a small chalky area which gradually develops into large cavitations . Sometimes caries may be directly visible. However other methods of detections such as radiographs are used for less visible areas of teeth and to judge the extent of destruction. Neglect of oral diseases can largely lead to loss of tooth and also negatively affect the quality of life led by the person due to inability to chew , speak and also unpleasant esthetics [26]. In India, dental services are provided by both public and private sector, yet due to brain drain and improper distribution of health - care workers, oral health is still at the back foot [27].

This research was needed to assess the dentition status and treatment needs of the patients. The motive of this study is to provide information to the health care authorities. This may help them to provide and plan appropriate prevention and treatment programs for school children.

The aim of this study was to assess the dentition status and the prevalence of caries among outpatients of different age groups reporting to Saveetha dental college, Chennai, India. In order to assess dental caries, Decayed - Missing - Filled Teeth Index [DMFT Index] were taken into consideration.

Materials And Methods

The present record based study was done in a university setting in Saveetha dental college , Chennai , India. The observational study was done by two examiners and the approval for this study was obtained from the Institutional ethics committee , Saveetha University, SDC/SIHEC/2020/DIASDATA/0619-0320.

The study was done for a period of 2 months (Dec 2019 to Jan 2020) with Type - 3 examination procedure. 520 case sheets were reviewed. Photographic verification was done for cross verification of the data for errors and simple random technique was followed to minimise sampling Bias. Assessment of dental caries was carried out using decayed, missing, and filled teeth (DMFT) index by Klein, Palmer, Knutson for permanent dentition. The tooth was considered carious (D component) if there was visible evidence of a cavity, including untreated dental caries. The missing (M component) included teeth with indications for extractions or teeth extracted due to caries. The filled (F component) included filled teeth.

The Case sheets of all the Patients in OP Department of Saveetha dental college for the period of two months [DEC 2019 and JAN 2020] were collected from the data of 86, 000 patients visited Saveetha dental college during the time period of June 2019 to March 2020. The obtained data were tabulated and entered in the MS excel sheet . The incomplete or censored data was managed by telephonic communication. The data was imported to SPSS and the variable definition process was done using tables and graphical illustration. By using the statistical software IBM SPSS Version 20.0. Statistical tests like descriptive statistics test and inferential statistics were done by keeping demographics, such as age, gender as independent variables and DMFT index scores as dependent variables. The results were expressed by means of Mean,Standard deviation & Percentage. Independent t-test and one-way ANOVA were used to compare the mean difference. The level of statistical significance was set at a value of $P < 0.05$

Results And Discussion

The Quality of life is increasingly acknowledged as a valid, appropriate and significant indicator of service need and intervention outcomes in contemporary public health research and practice. Assessing the consequences of impaired oral health from the patient's perspective has emerged as an important research area. The prevention of dental caries has long been considered as an important task for the dental health profession. Scientific research studies continue to make progress in identifying the best practices for diagnosing, treating, and preventing dental caries in our world communities. Conventional approaches for treating carious lesions in a surgical manner are being replaced by newer strategies that emphasize disease prevention and conservation of tooth structure.

In the present study, 520 case sheets from DIAS data were reviewed and 490 subjects were obtained for study which were all the patients of OP Department in Saveetha Dental College for a time period of two months (Dec 2019 and Jan 2020). The study sample consisted of 490 cases of which 60.2% were Male and 39.8 % were Female. 45.3 % of the subjects were 20 to 25 yrs old and 54.7 % of the subjects were between 26 to 30 yrs old (refer Figure 1 and 2).

The mean DMFT score for Male was 5.69 ± 2.98 and the mean DMFT score for Female was 6.64 ± 4.02 and was found to be statistically significant ($p < 0.05$) using Independent t test (refer Figure 3). The mean DMFT score for the Female population was

Figure 1. Distribution of study subjects based on Age The pic chart represents the distribution of the study population based on Age. Among the total study population (490) , 268 (54.7 %) were 26 to 30 yrs old and 222 (45.3 %) were 20 to 25 yrs old.

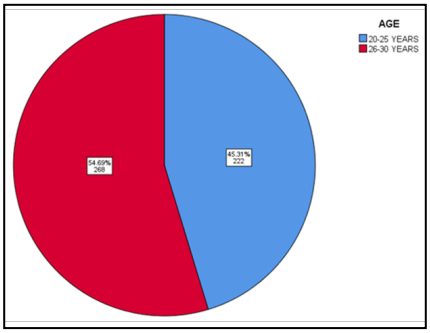


Figure 2. The bar graph represents the distribution of study subjects based on Gender. Among the total study population (490) , 295 (60.2 %) were Male and 195 (39.8 %) were Female.

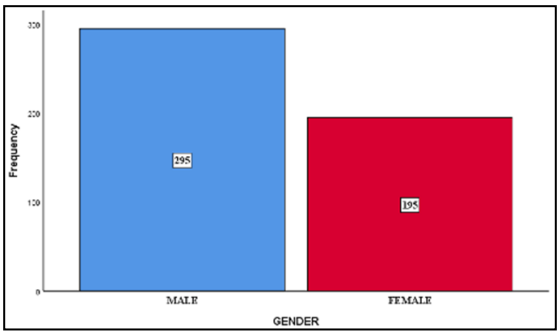


Figure 3. The bar graph represents the Comparison of Mean DMFT with the Gender of the Patients . The mean DMFT score for Male was 5.69 ± 2.98 and the mean DMFT score for Female was 6.64 ± 4.02 and was found to be statistically significant using Independent t test ($p < 0.05$) .The mean DMFT score for the Female population was greater than the Male population.

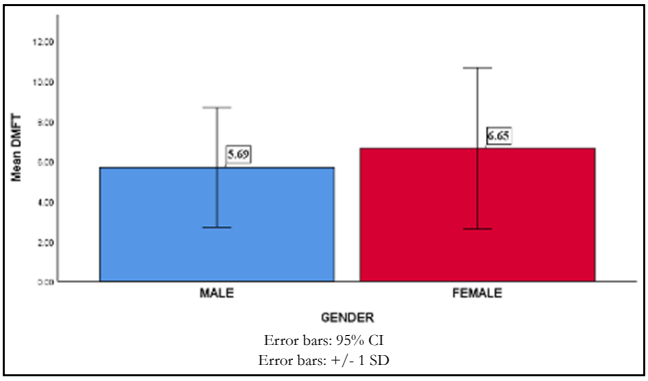
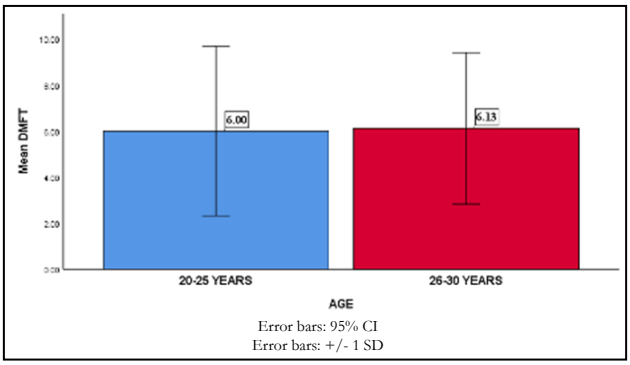


Figure 4. The bar graph represents the Comparison of Mean DMFT with the Age of the Patients. The mean DMFT score for the subjects between 20 to 25 yrs was 6.0 ± 3.68 and the mean DMFT score for the subjects between 26 - 30 yrs was 6.12 ± 3.28 and was found to be statistically insignificant ($p > 0.05$) using the Independent t test.



greater than the Male population, thus the dental caries was more prevalent in Females as compared to Male population. Therefore the dentition status of Female population was worse than that of the Male population as per the present study.

It was a proven fact that oral diseases greatly affect the quality of life [12, 23]. The dentition status had a strong association between Pain, Discomfort, Stress, Irritability and Functional disability with the decayed and missing component of DMFT Index.

The study of [25] had similar findings with the present study which includes that the prevalence was more in females as compared to Males. Also the study [24] had similar findings that Females were more prevalent to dental caries than Males.

On the other hand , the study of [1], have opposing findings that Males were slightly more affected than Females. The study [2] also have opposing findings that Males were more prevalent to Dental caries than Females .This opposing finding was because of the personal hygiene of the study subjects.

The mean DMFT score for the subjects between 20 to 25 yrs was 6.0 ± 3.68 and the mean DMFT score for the subjects between 26 - 30 yrs was 6.12 ± 3.28 and was found to be statistically insignificant ($p > 0.05$) using Independent t test (refer Figure 4). The previous study (2) shows similar findings with our present study.

Limitations

The present study had certain limitations . The overall population was not included for this study. Assessment of the entire population under this limited age group was not done in the present study to conclude the caries prevalence.

Future scopes

Future scopes like administration of health education and organization of health intervention programmes should be conducted . Further studies are essential to reveal the impact of the interventions on oral health status and also the quality of life.

Conclusion

As oral health often appears to be a low priority issue for Government and health policy makers, oral health care professionals should be at the forefront advocating for resource mobilization to improve access to appropriate oral health care for the population. The present study highlighted the dentition status and the prevalence of dental caries among the population. From the analysis of the present study, Prevalence of dental caries was more in Females as compared to Males.

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