

Caries prevalence in the Visually Impaired population

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Introduction:

Oral health is a vital component of overall health, which contributes to each individual's well-being and quality of life by positively affecting physical and mental well-being, appearance, and interpersonal relations. Oral health is an important aspect of health for all children, and is all the more important for children with visual impairment. Because oral hygiene affects one's esthetics and communication, it has strong biological, psychological, and social projections. People with visual impairment deserve the same opportunities for oral health and hygiene as those who are healthy. Unfortunately, oral health care is one of the greatest unattended health needs of the visually impaired people.

Visual impairment is the loss or limitation of vision to take part of the normal life of the community on an equal level with others due to physical or social barriers. In visually impaired individuals the process of developing oral disease does not differ from normal individuals. There are no differences in prevention of the diseases and the treatment modalities between these groups. Students in residential school settings rarely

ABSTRACT:

Objective: The study aims to determine the caries incidence and the individual impact of caries on every tooth in 100 visually impaired students.

Study design:

The study sample consisted of 100 visually impaired students, concentrating mainly on dental caries.

Result:

We confirmed that most of the visually impaired students suffered dental caries. Highly significant P value ($P < 0.05$) was found.

We found the frequency in which each individual tooth got affected by dental caries. We confirmed the most commonly affected teeth and the least commonly affected teeth. This showed a significant P Value ($P < 0.05$).

Conclusion:

More than three fourth of the group of visually impaired students suffered dental caries. Lower first molar and upper first molar were the most commonly caries affected teeth.

Key words: dental caries, maxillary molar, mandibular molar

have the opportunity for formal dental care at the school site. Dental caries or periodontal diseases are not a priority of the visually impaired student's families. Improvements in oral health status can be achieved through on-site oral health care. More awareness of dental health care needs of these subjects is essential. These individuals often have worse oral health status than the general population. They tend to have a higher incidence of dental caries and difficulty in accessing dental care. The main reason for higher prevalence of dental caries in visually impaired individuals is the inadequate plaque removal. Visually impaired cannot visualize the plaque on the teeth surfaces, so even understanding the importance of oral hygiene is difficult of them, which results in the progression of dental caries as well as inflammatory disease of the periodontium. So, there is utmost need of individual training is oral care and plaque control in order to reduce the prevalence of dental caries among visually impaired students. Health care providers must have unique communication skill to deal with these special needs to visually impaired individuals. So, we explore into the world of the visually impaired to investigate their oral health. So in future we could increase the access for special preventive and clinical services for them on priority basis.

Material and method:

The study sample consisted of 100 visually impaired students, concentrating mainly on dental caries and soft tissue manifestations, Oral health knowledge, Oral hygiene status, means of oral cleaning, frequency of oral cleaning, type of cleaning agent used, frequency of a dental visit and dental awareness. All of these 100 visually impaired students were between the age of 6-21 years. Sample size was selected according to random sampling.

The visually impaired students were mainly from Poonamalle School for the Visually Impaired and The Study Centre for the Visually Impaired both situated in Chennai. All students were from different socio economic status and standards.

The representative sample includes two major groups.

1. Totally visually impaired students who completely lack vision.
2. Partially visually impaired whose limited vision restrict their normal activities.

Prior consent to the study was obtained from the respective school authorities. General

questionnaires, regarding oral health check up and questionnaires to evaluate knowledge about role of sugar in dental caries and frequency of visiting dentist was completed. They were examined by single examiner to control the examiner variability. To avoid false readings caused by other means of artificial light source, subjects were examined at their respective schools under natural white light seated on an ordinary chair. A trained clerk also assisted during the process. Information regarding the tooth cleaning habits of each subject was obtained.

Discussion:

Dental health is a very significant aspect of health for all people, and is all the more important for children with visual impairment. When dental health care is in unattended it surely affects the mental, emotional and social dimensions of the visually impaired individual. These visually impaired students lack the chance for any dental care at school. It is no need to say that these individuals have very had oral health than the general population. They obviously show a higher incidence of dental caries and periodontal problems.

In caries examination, among the 100 students, 78 students (78%) were affected by dental caries. Only 22 students (22%) were free from dental caries. Among the caries affected teeth. Lower first molar was the most commonly affected tooth. Among the 78 caries affected students 73 students (93.5%) had their lower first molar affected. Maxillary first molar was the second most commonly affected tooth. Among the 78 caries affected students, 63 students (8.7%) had their upper first molar affected. Lower second molar was the third most commonly affected tooth. Among the 78 caries affected students, 57 students (7.305%) had their lower second molar affected. Upper second molar was the fourth most commonly affected tooth. Among the 78 caries affected students, 53 students (67.9%) had their upper second molar affected. Upper second premolar was the fifth most commonly affected tooth. Among the 78 caries affected students. 31 students (39.7%) had their upper second premolar affected. Lower second premolar was the sixth most commonly affected tooth. Among the 78 caries affected students. 24 student (30.7%) had their lower second premolar affected. Upper first premolar was the seventh most commonly affected tooth. Among the 78 caries affected students, 19 students (24.3%) had their upper first premolar affected.

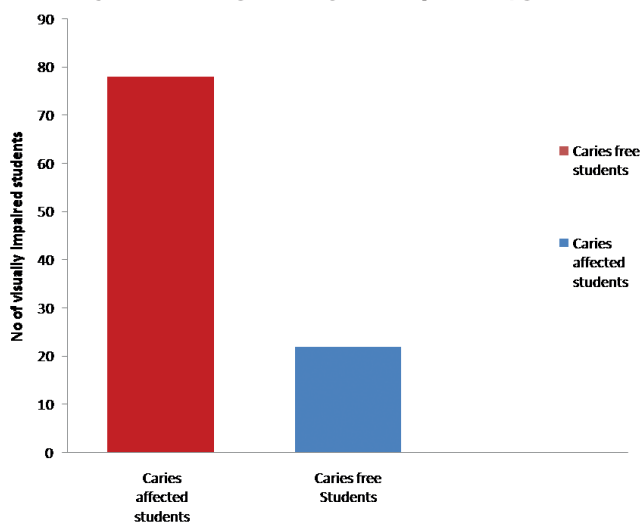
Result:

Caries affected Students		Caries free students		Proportion's Test	P. Value	Statistical significance
No	Percentage	No	Percentage			
78	78	22	22	4.70	P<0.05	Significant

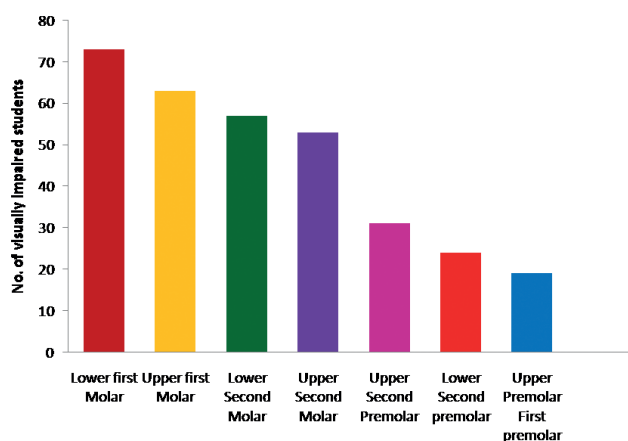
Result:

Caries affected teeth	Caries affected students		Chi-square value	P value	Statistical significance
	No	%			
Lower First Molar	73	93.5	653.69	P<0.05	Significant
Upper first molar	63	80.7			
Lower second molar	57	73.05			
Upper second molar	53	67.94			
Upper second premolar	34	39.76			
Lower second premolar	24	30.76			
Upper first premolar	19	24.35			

GRAPH 1-CARIES PREVALENCE



GRAPH 2-CARIES AFFECTED TEETH



Colour Plates:



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