

Dental Negligence among Visually Impaired Children – A Call for Attention.

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Short Communication

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ABSTRACT

Visually impaired patients present a unique population that challenges the dentists' skill and knowledge. Hence, the purpose of this study was to investigate the oral health status of visually impaired children. A cross-sectional survey was conducted among visual impaired students of Siddaganga institution, Tumkur. The students underwent oral examination and interviewed regarding their oral health behaviour. The prevalence of dental caries in the visual impaired students was high (68.9%). About 78% of the children reported with anterior tooth (11/21) fracture. It is crucial to improve oral health status of the visual impaired students. Oral health promotion program should be provided to promote good oral health and prevent oral diseases including the supportive environment conducive to good oral health behaviour continuously.

INTRODUCTION

"Just because a man lacks the use of his eyes doesn't mean he lacks vision".

- Stevie Wonder. ^[1]

Visually impaired patients present a unique population that challenges the dentists' skill and knowledge ^[2,3]. People with visual impairment are at a higher risk of developing oral diseases namely periodontal disease because of greater difficulty in attaining good oral hygiene ^[3]. They differ from normal patients with regard to professional relationship between patient and the dentist. Therefore with adequate training and understanding of various medical complications and handicapping conditions and with adequate alteration in the dentist's treatment protocol, these patients can be managed well.

Providing a comprehensive dental care for visually impaired is not only rewarding but is also a community service that health care provider are obligated to fulfil ^[4]. The need for the baseline data is crucial to provide the input on which aspects of oral health promotions and services that need to be improved.

METHODOLOGY

A cross sectional study involving face to face interview and oral examination and assessment of visual impairment was conducted. All the 76 students residing in Siddaganga Blind Residential School were included in the study. The study was explained to the students in the local language and prior permission was obtained from the institution.

Interview was conducted for all the students by using a pretested structured questionnaire form to collect the following personal information, oral hygiene habits, and dental service utilization. Data regarding visual impairment was taken from the concerned authority.

A full mouth clinical examination was conducted by two examiners who were trained and calibrated to record the indices. The status of dental health was assessed by using Dentition Status & Treatment Needs Index, Visual Plaque Index & Degree of fracture. Ethical clearance was obtained from the institutional ethical committee. The responses to the questionnaire items were reported as percentages.

RESULTS

A total number of 76 children were examined in the study aging from 5–17 years. There were 48 Males & 28 females. Among them 37 were partially and 39 were completely blind. 98% of the participants showed plaque when examined through visual plaque index. Degree of fracture was noticed among 76 – 79% of the children for 11/21. Out of 76 subjects examined, 51(68.9%) were affected by dental caries and only 2.6% had got filling done.

Table 1: No. of subjects with Dentition status

Sl.No	Crown/ root status	No. of subjects (Percentages %)
1	Sound	24 [31.5]
2	Decayed	51 [68.9]
3	Filled & decayed	2 [2.6]
4	Filled & no decayed	2 [2.6]
5	Missing due to caries	2 [2.6]
6	Missing any others	2 [2.6]
7	Sealant	0 [0]

2.6% children suffered from missing teeth & most of them required curative & emergency treatment. [Table 2] It was observed that all the subjects used tooth brush & paste & cleaned their teeth once daily. All of them consumed occasionally sweets in between the meals & most of the students had symptomatic dental problems but only few (2.6%) reported to a dentist.

Table 2: No. of subjects with Treatment Needs

Sl.No	Treatment Needs	No. of subjects (Percentages %)
1	No treatment	25 [32.8]
2	1 Surface filling	37 [48.6]
3	2–4 surface filling	25 [32.8]
4	Pulp care + restoration	6 [7.8]
5	Extraction	7 [9.2]
6	Other treatment	4 [5.2]

DISCUSSION

Two of the most common oral diseases affecting mankind are dental caries and periodontal disease. Although the disease mechanisms are different, both diseases are initiated by the presence of microbial dental plaque. Dental plaque that is present on tooth surfaces will affect the oral hygiene status of an individual by gingivitis followed by periodontitis. So in other words, presence of dental plaque, calculus and gingival bleeding are indications of oral hygiene status and this directly affects periodontal status. (American Academy of Periodontology 2001) Hence, Visual Plaque Index was chosen to score the oral hygiene status ^[1].

In this study, the overall percentage of sites with plaque for all the subjects was a mean of 98%. It was similar to the study conducted by Ceyhan Altun et al ^[5]. This can be considered as poor oral hygiene due to ineffective plaque control or oral hygiene measures. However, the absence of a control group measuring plaque levels makes it difficult to conclude that plaque levels among the low vision group is worse off compared to a sighted population. What may be concluded is that plaque level for this group was high and it should be of concern as this may lead to dental caries or periodontal disease.

Among the two groups of vision classification: partially blind and completely blind, plaque levels were highest for completely blind group, but this difference was not found to be statistically significant. Overall the prevalence of Dental caries was higher among the blind students in the present study which is similar to the other studies ^[3,6,7,8].

In the present study, reported oral hygiene behavior was acceptable for frequency of brushing although, the percentage reporting brushing once a day was higher as opposed to the recommended at least twice a day similar to the study conducted by Tuti Ningseh Mohd-Dom et al^[1]. Degree of upper anterior tooth fracture was higher among the study subjects which was similar to the study conducted by Au Shuk yuen^[9].

Another interesting finding is that more than half of the respondents admitted having experienced a dental symptom – namely; tooth sensitivity, tooth ache and oral malodour. It is unfortunate that in spite of having these symptoms, most of them have not visited the dentist for a long time.

Utilization behavior appeared to be inadequate, with high reports of symptomatic attendance, and even evidence of non-attendance. Similar findings were observed in the studies conducted by Mohammad Sami Ahmad et al [6], Tuti Ningseh Mohd-Dom et al [1] & Manish jain et al [7]. This may be due to that most people would seek dental treatment if they were in great pain, otherwise they would think that their oral condition was good even it was not; especially because they lack the capacity to detect signs of abnormalities within the oral cavity in a visual manner.

Since visually impaired students cannot visualize the plaque deposit on tooth surface, they need regular dental visit, education and motivation regarding oral health hygiene measures and its impact on oral as well as overall health [6].

Even though, recommendations for future research involving a larger sample size to allow for a better representation of the target population and to improve external validity, questionnaires should be developed specifically and translated into Braille to improve the internal validity of the study.

CONCLUSION

The children exhibited suboptimal levels of oral health with majority of the children showing a high caries prevalence and fracture of upper anterior. Teaching good oral hygiene practices to the blind children requires a special approach with time and patience.

Post study: All the children's were treated for respective findings and oral hygiene instructions manual was prepared and given in Braille language. As Hellen Keller said **"The best & the most beautiful things in the world cannot be seen or even touched. They must be felt with the heart."**

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