

Original Article

Comparative Study of Oral Hygiene status in Blind and Deaf Children of Rajasthan

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Abstract

Introduction: The objectives of the study were to assess the dental caries and oral hygiene among visually impaired children and to compare these parameters with that of a group of deaf children.

Material and Methods: A total of 400, 5-16 year school going children were selected out of them. 200 children were blind and 200 children were deaf. Caries status was assessed using DMFT index in permanent teeth and using dft index in primary teeth. Oral hygiene status was assessed using OHI-simplified index.

Results: The study showed that the prevalence of dental caries was 73% and 69% in visually impaired and deaf children respectively. The oral hygiene status showed that the mean Value in Good Category was found to be 0.14 and 0.16, in fair category was 0.04 and 0.02 and in poor category was 0.22 and 0.33 in visually impaired children and deaf children respectively.

Conclusion: Blind children had more caries prevalence than deaf children in both permanent and primary teeth.

Key Words: Blind, Schoolchildren, Oral Hygiene, Dental Caries, Blind School

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Introduction

Oral health is an important aspect of overall health, for all children, and, is particularly more important for children with special health needs. The oral health of children who are visually impaired tends to be compromised as they are at a disadvantage and are often unable to adequately apply the techniques necessary to control plaque.¹ Dental caries is the most prevalent disease among children worldwide and —dental treatment is the greatest unattended health need of the disabled, particularly more so, in those with special health needs.² Oral health is a vital component of overall health,

which contributes to each individual's wellbeing and quality of life by positively affecting physical and mental healthiness, appearance and interpersonal relations.³ Individuals with special needs have greater limitations in oral hygiene performance due to their potential motor, sensory and intellectual disabilities and are thus, prone to poor oral health.⁴

These children are usually dependent on parents or guardians for carrying out daily activities including oral care. Studies performed by Anaise in Israel, Shaw *et al.*

in UK and Purohit *et al.* in South India found poor oral health attributes among special care children. Shaw *et al.* in 1986 and Rao *et al.* in 2005 reported poor oral hygiene status among special care children. A Study report of Purohit *et al.* in 2010 in South India showed a dental caries prevalence of 89.1% in special care children. They had significantly higher DMFT and dft than their healthy counterparts. These study reports clearly indicates that children with disabilities remain as a highly neglected group of the human society with very high unmet needs requiring special attention. Therefore, they are a special challenge to dental public health.

There were studies reported in the literature comparing the dental health of special care children with normal children. However, only limited studies have been done comparing dental health of different kinds of special care children. Comparing oral health attributes between different groups of special care children would be helpful in obtaining baseline data to understand oral health needs of these children and accordingly recommending appropriate preventive measures. Therefore, the present study was undertaken with an aim to compare the oral hygiene status and dental caries experience among institutionalized visually impaired and hearing impaired children of age between 7 and 17 years in Rajasthan.

Material and Methods

A total of 400, 5-16 year school going children were selected out of them 200 children were blind and 200 children were deaf from a residential school for blind and Deaf. Prior consent was obtained from the respective school authorities and from parents/ guardians through the school to conduct the study. The oral examination was done for the children in their respective

schools by making them seated on ordinary chair. Examination was done by a single examiner using mouth mirror and probe in natural day light. Caries status was assessed using DMFT index in permanent teeth and using dft index in primary teeth. Oral hygiene status was assessed using OHI-simplified index. The study continued for 5days in the school, the caregivers of the students were approached and oral examination was done under proper guidance of the care givers. The study was approved by the Ethical Committee for Research of the blind and deaf school.

Inclusion criteria

1. Age groups (5-16 years) with mixed dentition.
2. Presence of carious, missing and filled teeth in the observed dentitions.

Exclusion criteria

Patient's above the age of 16 yrs and below the age of 5 yrs

Results

Study showed that the dental caries prevalence in both visually impaired and deaf children. The overall prevalence of dental caries was 73% and 69% in visually impaired and deaf children respectively. Mean DMFT was 2.1 and 2.3 and dft 1.3 and 1.87 in deaf children and visually impaired children. oral hygiene status of both the visually impaired and the deaf children, it was classified as good, fair and poor. The Mean Value in Good Good Category was found to be 0.14 and 0.16, in fair category was 0.04 and 0.02 and in poor category was 0.22 and 0.33 in visually impaired children and deaf children respectively. It was observed in the study that 54% of the visually impaired and 45% deaf children used tooth brushes and tooth paste was used by all the visually impaired and deaf children.

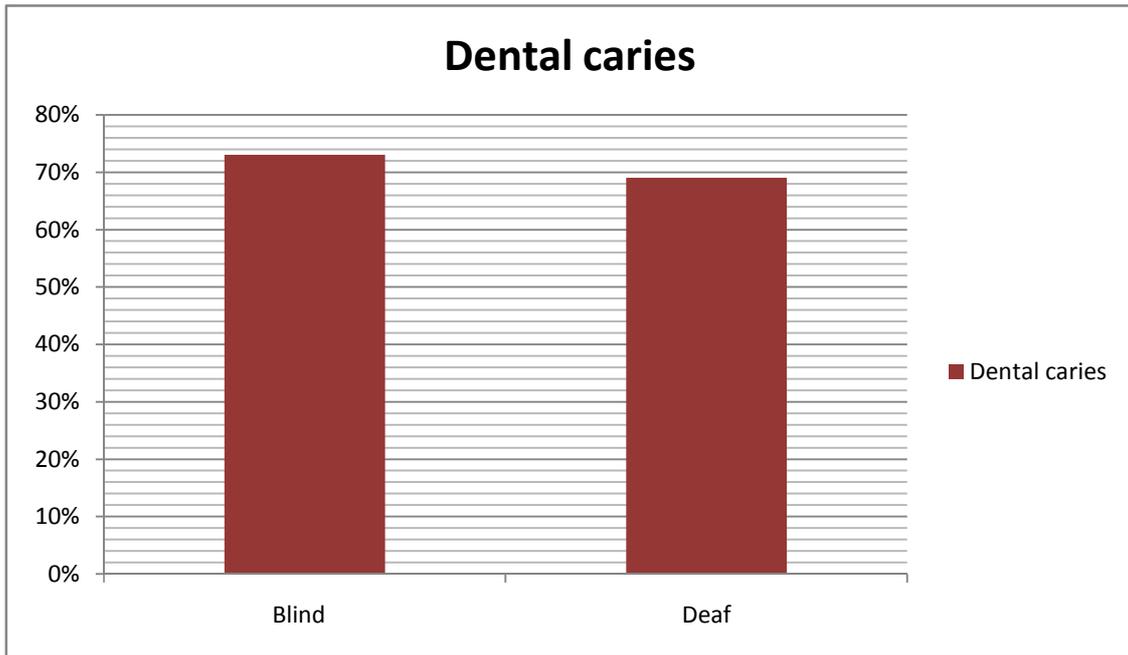


Figure 1: Bar Graph showing incidence of dental caries in blind and deaf children.

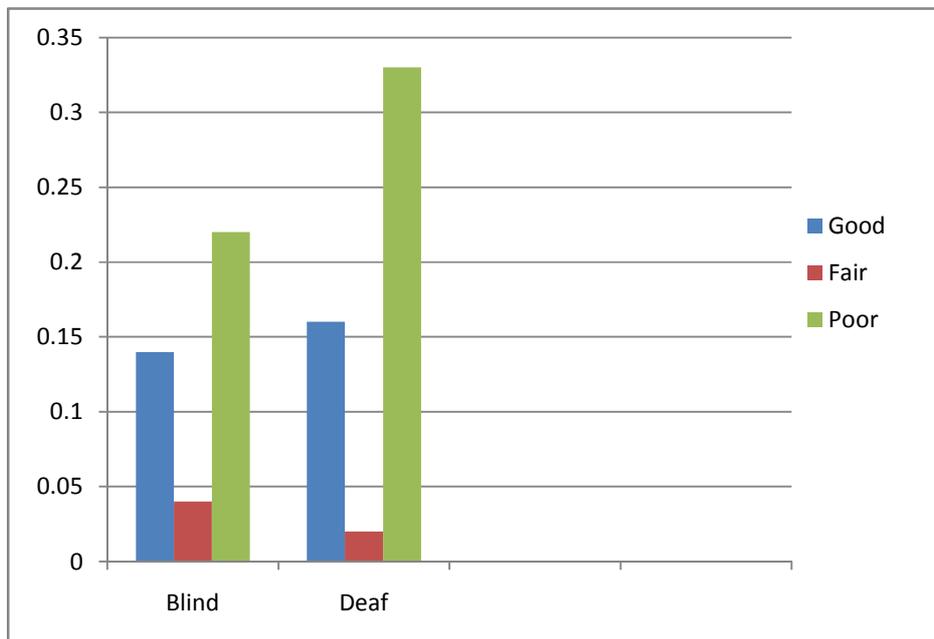


Figure 2: Bar graph showing Oral hygiene status of deaf and visually impaired children

Discussion

The greatest challenge that people who are handicapped have had to face has been society's misperception that they are a "breed apart", because historically they have been pitied, ignored or even hidden away in homes and institutions. Providing health care services for individuals with the special health care needs of these handicapped individuals will continue to be a challenge in the 21st century.

Good health is a fundamental goal for people and the societies in which they live. Sir William Osler has stressed the significance of oral health as the mirror of general health. People with physical and intellectual disabilities (PID) form a subgroup the special needs population. They have limited ability to be advocates of their health and little is known about their oral health, also they experience substantially higher levels of oral disease and have extra barriers to accessing dental care.⁵ In a study conducted by Al-Qahtani and Wyne⁶ the mean DMFT score was 7.35 (SD: 3.51) in deaf children while, in the present study mean DMFT in deaf and blind children was 2.1 and 2.3. In a study done by Manish Jain et al.⁷ the mean DMFT in deaf children was 2.17 which was closer to the mean DMFT - 2.10 of our study.

The higher levels of dental disease in these handicapped people seem to be due to poor use of dental services and lack of dental awareness. Improved access to dental services as well as oral health education is necessary to ensure that optimum dental health is within the reach of these less fortunate children

The removal of plaque from teeth is a skill that can be mastered only when the individual has the dexterity to manipulate a toothbrush and an understanding of the objectives of this activity. It is obvious that many disabled individuals will find the maintenance of their own oral hygiene much

more difficult than normal individuals because those with hearing impairment cannot understand and respond to the instructions given and those who are blind lack the vision to understand and master the technique of oral hygiene practices. Studies have shown that oral hygiene can be improved significantly by providing intensified daily brushing by dental personnel, by the development of self-help workshops, by providing effective staff training, or by a combination of all these approaches.

Although these handicapped (hearing impaired and blind) subjects are entitled to the same standards of health and care as the general population, there is evidence that they experience poorer general and oral health, and have unmet health needs and a lower uptake of screening services. Oral health and quality oral health care contribute to holistic health, which should be a right rather than a privilege.

Many children of both groups were also suffering from dental pain, which was untreated and none of them had any filled tooth until the date of examination as they neither visited a Dentist nor a qualified dental surgeon is been appointed by the authorities to take care of their dental problems. This implies that both groups were completely deprived of dental care with very high unmet needs. These findings are in agreement with the study reports of Jain *et al.* in India and Brown in Saudi Arabia revealing a high need for dental care among handicapped children. Thus, these underserved children need a special attention by the Dentist community.⁷⁻¹¹

In India and in many other countries, the academic curriculum does not train dentists to treat these children. Hence, there is a need to make dental personnel and dental students aware of the special problems posed by these handicapped children and to provide suitable training, if any dental health

programmes for the rehabilitation of these children is to be attempted. However, in some countries these problems have been recognised and dental hygienists and dental therapists provide care for such children. Furthermore, in the UK a specialty of Special Needs Dentistry has been created and there is a three-year postgraduate training programme for dentists who wish to become specialise in this area.^{12,13} The only limitation of the present study was that no data was recorded about the level of mental capacity and motor skills of the study subjects as it was beyond the scope of this research. Further, studies are recommended in this direction in order to achieve more definite conclusions.

Conclusion

Deaf children had more caries prevalence than blind children in both permanent and primary teeth.

Caries prevalence was more in subjects who brush their teeth independently, without guidance of Caretaker and do it once daily as well as do not change their brush until it is worn out. Caries prevalence was more in subjects who take more sweets in their diet, coupled with poor teeth cleaning habits.

To summarize, a high caries prevalence demonstrates extensive unmet needs for dental treatment in the visually impaired together with their nonprioritization. It is an alarming situation needing immediate attention and a prevention-based intervention programme for these special groups of subjects by voluntary health agencies to improve their oral health.

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