

# Oral Hygiene Status in Special Needs Children.

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## Abstract

**Aim:** Analyse the oral health and challenges faced by children with special needs and to educate them about the benefits and ways of maintaining good oral hygiene.

**Material and Methods:** 100 participants with special needs were divided into two groups: intellectually disabled and physically disabled. Oral examination was done and clinical parameters like plaque index (PI), Oral hygiene index-simplified (OHI-S) and organoleptic assessment was done. Parents / guardians were asked to answer a questionnaire addressing different aspects of the children oral health and challenges faced for maintaining good oral hygiene. Data regarding the factors that could impair tooth-brushing were also collected, including the patient's ability to rinse his / her mouth, capacity to open the mouth and keep it open during toothbrushing.

**Results:** According to this study, the OHI-S mean value and halitosis score of physically disabled group is less than intellectually disabled group.

**Conclusion:** Even though efforts have been made to improve the oral health of these less fortunate children, there has been a shortfall of government policies. So, to improve the general and oral health of such special child's specific steps must be taken to provide medical facilities and spreading awareness about importance of maintaining good oral hygiene.

**Keywords:** Special need children, Oral hygiene, Halitosis

## INTRODUCTION:

According to World Health Organization, Health is a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity. WHO classified intellectual disability on the basis of intelligence quotient (IQ) into mild ID (IQ 50-70), moderate ID (IQ 35-50), Severe ID (IQ 20-35) and profound ID (IQ below 20).<sup>[14]</sup> Healthy development of the child is of basic importance; the ability to live harmoniously in a changing total environment is essential to such development. The extension to all peoples of the benefits of medical, psychological and related knowledge is essential to the fullest attainment of health. Children with Special Needs (CWSN) are those who have some type of disability and require exceptional care and extra help. The Maternal and Child Health Bureau (MCHB) has defined

children and adolescents with special healthcare needs (SHCN) as those “who have or are at increased risk for a chronic physical, developmental, behavioural, or emotional condition and who require health and related services of a type or amount beyond that required by children generally.”<sup>[11]</sup> The Convention on the Rights of Persons with Disabilities defines living with a disability as having a long-term physical, mental, intellectual or sensory impairment that – in interaction with the environment – hinders one’s participation in society on an equal basis with others. (UNICEF). Children with disability appears to have more compromised oral hygiene than those without disability.

The prevalence, incidence and severity of periodontal diseases are higher in disabled people/child compared to non-disabled patients, mainly because special needs patients with mental, neurological and/or motor disorders present decreased dexterity and are unable to brush their teeth satisfactorily. Variable access to dental care, inadequate oral hygiene and disability related factors may account for the difference. Oral health of the children with disabilities are greatly influenced by the severity of impairment and their living conditions. Daily mechanical control of dental biofilm at home is the most efficient and safe way to control caries and periodontal diseases. However, clinical practice has shown that patients with special care needs usually present poor oral hygiene and their parents/caregivers refer home toothbrushing as a challenging activity. Studies have shown that children with disabilities are more likely to have unmet dental needs than any other medical needs. Oral health of especially abled children is greatly depending on the severity of impairment and their living conditions as these children have limitations in performing oral hygiene measures due to their physical and intellectual disabilities. These children depend on their parents and caregivers for general care and day to day works.<sup>[12]</sup>

The American Health Association defines a child with disability as a child who for various reasons cannot fully make use of all his or her physical, mental, and social abilities.<sup>[8]</sup>

Many of the children and even the caregivers did not have the sufficient knowledge about maintaining a good oral hygiene and its effect on individuals’ health. People with disability deserves the same opportunities for health care as any other person.

Dental care professionals play an important role not only in providing much needed care for these children but also in educating parents and children about good oral hygiene and motivating them to engage in productive oral promotion efforts.

The aim of this study was to analyse the oral health and challenges faced by children with special needs and to educate them about the benefits and ways of maintaining good oral hygiene.

## **MATERIAL AND METHODS:**

It was an observational study. The participants were screened from the camps conducted in special children’s homes and schools by Mahatma Gandhi Dental College and Hospital, Jaipur. The inclusion criteria taken was age group: 6 to 18 years of age, physically disabled children and intellectually disabled children while children with Systemic disorders, Children who have undergone dental treatment in last 1 month, Children who received any periodontal therapy/surgery in last 1 month, Children with normal intellectual level, Children with no disability was excluded.

The study was approved by Ethical committee and an informed consent was obtained from parents/guardians. A total of 100 disabled individuals between 6 and 18 years were examined. To avoid false readings caused by other means of artificial light source, subjects were examined at their respective schools under natural light while seated on an ordinary chair, unless the subject was confined to a wheelchair. Examination was carried out using mouth mirror and William’s probe. Help of Teachers/care

taker were utilized for communication with the children. The subject’s level of oral hygiene was assessed using Plaque Index (Silness and Loe) <sup>[15]</sup> and the simplified oral hygiene index (OHI-S),<sup>[16]</sup> which was chosen because it was depicted as a “sensitive, simple method for assessing group or individual oral hygiene quantitatively. The OHI-S was developed for the study of variations in gingival inflammation in relation to the degree of intellectual sub normality in children, but has proven useful as an epidemiological tool for evaluating oral health programs in both the general population and disabled groups. For primary dentition, the modified version of the OHI-S by Miglani et al <sup>[17]</sup> was used, in which the index teeth are: the maxillary right second molar (tooth 55), the maxillary right central incisor (tooth 51), the maxillary left second molar (tooth 65), the mandibular left second molar (tooth 75), the mandibular left central incisor (tooth 71), and the mandibular right second molar (tooth 85). The scoring system was similar to the original OHI-S. All the parents were interviewed at the school, based on a 14 item pre structured questionnaire and the answers were recorded. It was made available in English and Hindi. Parents were encouraged to speak freely about their feelings, concerns, and beliefs regarding oral health and treatment needs of their children. The questions included sections covering the following areas: educational status of parents, concerns and awareness regarding oral health, access to dental services  
The data collected was then sent for statistical analysis and results were obtained.

**RESULTS:**

On intergroup comparison of oral hygiene index simplified the mean values obtained for intellectually disabled group and physically disabled group are 2.94 and 2.57 respectively. On inter group comparison of oral hygiene index simplified the results obtained in intellectually disabled group was 7(14%) good, 23(46% fair, and 20 (40%) poor prognoses, while in physically disabled group it was 22(44%) good,10(20%) fair and 18(36%) poor as shown in table 2. On organoleptic assessment the data obtained in intellectually disabled group was 2% (score 0), 8% (score 1), 14% (score 2), 36% (score 3), 22% (score 4) and 18% (score5) respectively while in physically disabled it was observed as 22% (score 0), 21% (score 1), 18% (score 2), 12% (score 3), 15% (score 4) and 12% (score5) respectively as shown in table 3.

**Table 1: Debris index, calculus index and oral hygiene index**

TYPE OF DISABILITY	DI-S	CI-S	OHI-S
<b>Intellectually Disabled</b>	1.44 (0.83)	1.48 (0.9)	2.94 (1.71)
<b>Physically Disabled</b>	1.26 (1.05)	1.31 (1.01)	2.57 (2.05)

\* Data are expressed as mean (standard deviation)

**Table 2: Oral Hygiene Index Simplified**

TYPES OF DISABILITY	GOOD	FAIR	POOR
<b>Intellectually Disabled (n = 50)</b>	7 (14%)	23 (46%)	20 (40%)
<b>Physically Disabled (n = 50)</b>	22 (44%)	10 (20%)	18 (36%)

**Table 3: Organoleptic Assessment**

TYPE OF DISABILITY	Halitosis (Score 0)	Halitosis (Score 1)	Halitosis (Score 2)	Halitosis (Score 3)	Halitosis (Score 4)	Halitosis (Score 5)
<b>Intellectually Disabled (n = 50)</b>	1 (2%)	4 (8%)	8 (14%)	18 (36%)	10 (22%)	9 (18%)
<b>Physically Disabled (n = 50)</b>	10 (22%)	9 (21%)	9 (18%)	6 (12%)	10 (15%)	6 (12%)

**DISCUSSION:**

Most studies of oral disease prevalence in disabled groups found significantly poor levels of oral hygiene, which was confirmed in the present study. The findings highlighted the difficulties encountered by disabled individuals in maintaining an adequate level of oral hygiene. The reasons for poor oral hygiene in disabled children have been attributed to low powers of concentration and lack of motor skills. In the present study, the intellectually disabled children had a proportionally higher number of individuals with poor oral hygiene as compared to physically disabled children. This study also revealed that more individuals with intellectual disability have moderate to severe halitosis as compared to physical disability. The data collected by questionnaires shows that the major problem faced by intellectually disabled children is the inability to express their problems while in children with physical disability it is lack of awareness and their debilitating illness. The findings of this study are in accordance with study conducted by Dinesh Rao et al. (2005) [9], Amitha M. Hegde et al. (2015) [12] and Denise Belucio Ruvière. (2010) [6] Limitations of this study was limited sample size and follow-up. So, more follow-up studies with larger sample size should be done.

**CONCLUSION:**

Even though efforts have been made in the western world to improve the oral health of these less fortunate children, there has been a shortfall of government policies. So, to improve the general and oral health of such special children’s specific steps must be taken to provide medical facilities and spreading awareness about importance of maintaining good oral hygiene.

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