

# Awareness and Knowledge Regarding Treatment and Management of Children with Special Health Care Needs among Dental Professionals in India

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## ABSTRACT

**Aim:** To assess the awareness and knowledge regarding treatment and management of child with special health care needs among dental professionals in India

**Methods:** A multiple choice electronic survey was sent to dentists of India. The data obtained was subjected to descriptive analysis

**Results:** Majority of the dentists have witnessed a special child in their clinical practice but are not always able to determine the syndrome associated based on the symptoms, hence the child is further referred to a paediatric dentist

**Conclusion:** Although awareness regarding a special child is considerably high amongst the Indian dentists, there remains a need to improvise the facilities for better treatment of these children.

**Keywords:** Special health care needs, Awareness, Special child, Barriers

## INTRODUCTION

The AAPD defines 'Special Health Care Needs' (SHCN) as "any physical, developmental, mental, sensory, behavioural, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs. The condition may be congenital, developmental, or acquired through disease, trauma, or environmental cause and may impose limitations in performing daily self-maintenance activities

or substantial limitations in a major life activity. Health care for individuals with special needs requires specialized knowledge acquired by additional training, as well as increased awareness, attention, adaptation, and accommodative measures beyond what are considered routine."<sup>1</sup>

Disability affects 14% of the population in developed countries and 22% in developing countries, according to estimates by the World Health Organization.<sup>2</sup>In 2010, the US Census Bureau estimated that approximately 36.3 million Americans had a disability; about two-thirds of these individuals had a severe disability.<sup>3</sup>It is estimated that about 18% i.e., approximately 12.5 million children in the United States requires Special Health Care Needs (SHCN).<sup>4</sup>Health-care structure in India is overburdened by an ever-increasing population. Census 2001 revealed that 2.21% of the population in India i.e., approximately 26.8 million people have some form of disability. There is the possibility that a third of the total disabled population in India is made up of children, with estimates ranging from 6 to 10%.<sup>5</sup>

For children and adolescents with SHCN, unmet oral healthcare needs are nearly twice as common as they are for their peers without it, regardless of their income. Despite the legal and regulatory attempts to establish a barrier-free environment, multiple studies have repeatedly concluded

that people with disabilities still face substantial difficulties in accessing medical and dental care services.<sup>6</sup> Dental care is found to be the most common unmet health-care need for the differently abled children. Their oral health may be neglected because of focus on their disabling condition, other major diseases, or limited access to oral health care. Moreover, dental care is sought by them only on an emergency basis.<sup>7</sup>

It is evident that dental disease has a greater impact on the health and function of children with disabilities than those without disabilities. They are at greater risk for poorer oral health than persons in the general population, due to more frequent oral infections and periodontal disease, enamel irregularities, moderate-to-severe malocclusion, and craniofacial birth defects.<sup>8</sup> The difficulty in access to dental health care is explained not only by their physical condition but also by the inadequacy of trained dentists to treat them and lack of awareness among parents or caretakers regarding oral health care.<sup>9</sup>

A better comprehension of the utilization of dental care of this population and the hurdles that prevent access to dental services is important to identify the opportunities for improving the oral health of children with SHCN. Furthermore, health care professionals can work to minimize the difficulties encountered by the families of children with SHCN by determining the hurdles faced by them and assimilating effectual management approaches. The primary aim of this study was to evaluate and describe the unmet dental needs and the associated barriers that limit the access to oral health care among children with SHCN utilizing a questionnaire-based survey among the dental professionals.

## **MATERIALS AND METHODS**

### **Participants**

A cross-sectional descriptive study was conducted among dental professionals practicing in India to assess their awareness and knowledge regarding treatment and

management of child with special health care needs. Study participants included dentists with experience in paediatric dentistry or general practitioners. As these practitioners are more likely to have experience in treating children with disabilities, they were targeted for the project. At present, there is no comprehensive registry of this population. An online survey was to be conducted between June and September 2020, for which the author contacted several professionals to share a link to the survey with their members. All the professional representatives confirmed their state dental council affiliation. The investigator had no access at any time to a mailing list of the practitioners asked to participate in the study. Members were guaranteed anonymity, and the researchers had no direct access to them since a third party sent the link to the members. A web link was sent to dentists after explaining the purpose of the study. Users were led to an online survey containing 20 multiple-choice questions on clicking the link. An interdisciplinary group of paediatric dentistry experts drafted the questionnaire, which was then approved by the ethics committee. A pilot study of 20 dentists evaluated the validity and reliability of the questionnaire. This research took place over a period of four months. Three reminders were sent to the participants to respond to the questionnaire. The survey was completed online. Face validity and response time were evaluated. It took an average of five to ten minutes to complete the survey. The questionnaire was not statistically validated.

### **Questionnaire**

Demographic details like name, age, and address were not recorded to ensure anonymity. Within the first part of the questionnaire survey, demographic information was requested, including: gender, education, years of clinical practice, and specialty of the dentist. Another section related to treatment included whether or not they treated children with SHCN, what type

of disability they encountered, and the knowledge and training they had acquired for treating CSHCN. It also included ability to identify the syndrome/disorder, further referral of the patient, preferred management techniques and the factors affecting it. An evaluation was conducted to determine whether dentists provided parents with health-related advice and obtained post-treatment/ post-referral follow-up. Moreover, factors hindering dentists from providing better care for SHCN children as well as methods to encourage dentists to do so were examined in the study.

### STATISTICAL ANALYSIS

Google Forms© software was used for electronic data collection (Google, Mountain View, Santa Clara, USA). Statistical analyses were performed using SPSS (version 23) software. The significance level used for all tests was 0.05. Descriptive statistics were given for qualitative variables and presented in the form of frequency and percentage.

### RESULTS

Table 1 demonstrates the socio-demographic details of the participants who participated in the study which suggests that out of 628 dental practitioners who participated in the online survey, more than half of the participants i.e., 77.2% were females while 22.2% were males.

**Table 1: Sociodemographic and professional characteristics of the practitioners who participated in the study**

	n (628)	%
<b>GENDER</b>		
Female	485	77.2 %
Male	140	22.2 %
Prefer not to say	3	0.6 %
<b>EDUCATIONAL QUALIFICATION</b>		
Bachelor's degree	254	40.5 %
Master's degree	374	59.5 %
<b>YEARS OF CLINICAL EXPERIENCE</b>		
Less than 5 years	548	87.2 %
6 – 10 years	59	9.4 %
11 – 15 years	13	2.13 %
16 – 20 years	5	0.85 %
More than 20 years	3	0.42 %

Table 2 describes the field of speciality of the participants, showing

maximum participation from the field of paediatric dentistry i.e., 41.6% followed by 26.4% general practitioners.

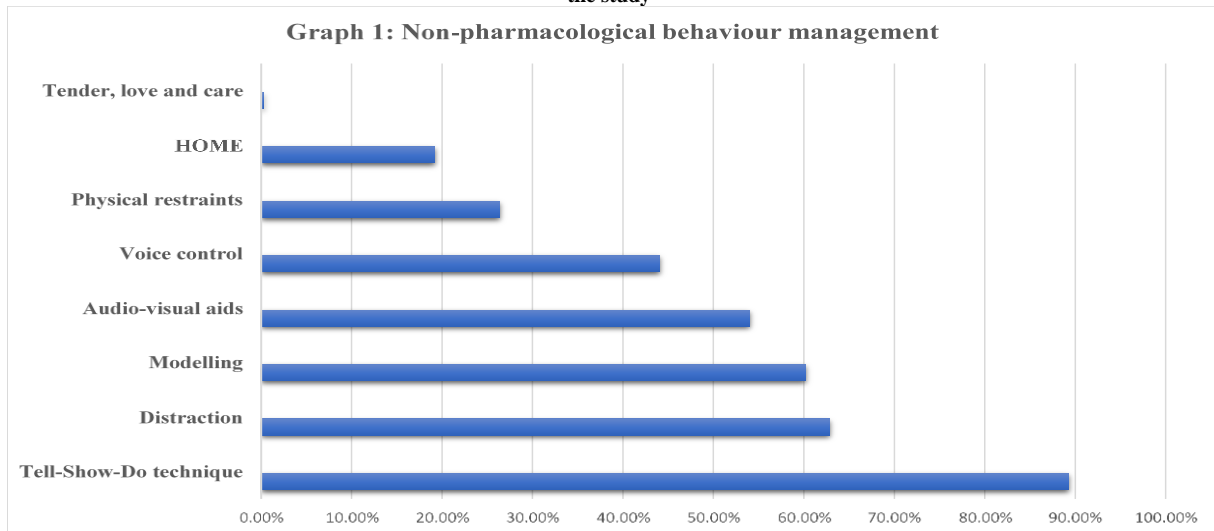
**Table 2: Field of speciality of the participants**

	N	%
Paediatric Dentistry	261	41.6
Oral Surgery	23	3.6
Prosthodontics	45	7.2
Orthodontics	28	4.5
Periodontics	16	2.5
Endodontics	59	9.4
Public health dentistry	14	2.3
Oral medicine and radiology	6	1
Oral pathology	9	1.5
General practitioner	167	26.4
<b>n = 628</b>		

Of the total number of dentists who participated in the study 85.7% (538) had witnessed a CSHCN in their clinical experience, of which the most encountered disability was a mentally challenged child (80%), followed by physically challenged (54.4%) and medically compromised (50.3%). Majority of the practitioners (43.5%) were unsure when asked about the capability to identify the syndrome based on the symptoms, while 33.9% found it possible to identify the syndromes. On questioning about the treatment / referral of the patient; 44.8% practitioners preferred referring the patient to a paediatric dentist, while 30.5% preferred referring them to a Paediatrician and about 13.9% were comfortable treating the patients themselves. 362 participants (57.6%) found both pharmacological and non-pharmacological means to be efficient behaviour management modalities.

Diagram 1 depicts that 236 (37.5%) respondents preferred non-pharmacological behaviour management techniques of which tell-show-do turned out to be the most preferred technique (89.2%) followed by distraction (62.8%) and modelling (60.2%). Less than 5% dentists chose to use only pharmacological behaviour management techniques prioritizing conscious sedation (57.4 %) followed by general anaesthesia (53.5%) and oral sedation (29.9%)

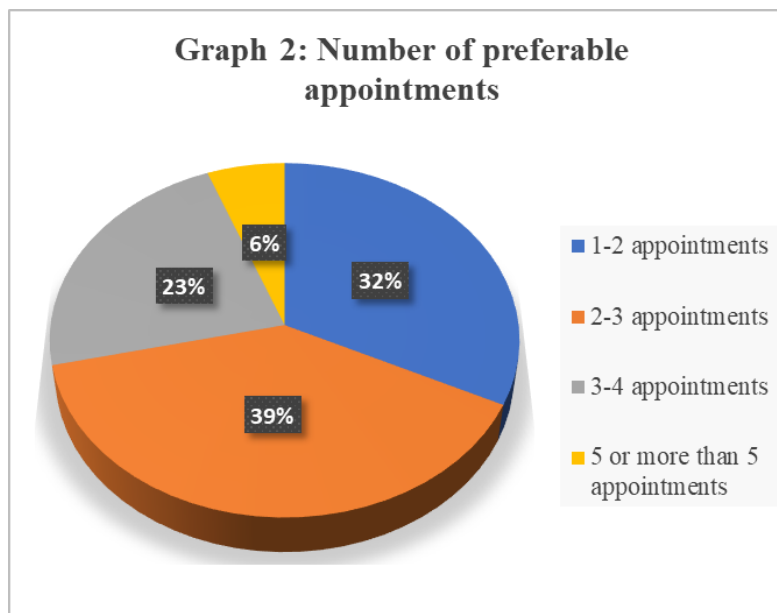
**Graph 1: Preferences of various non-pharmacological behaviour management techniques among the practitioners participating in the study**



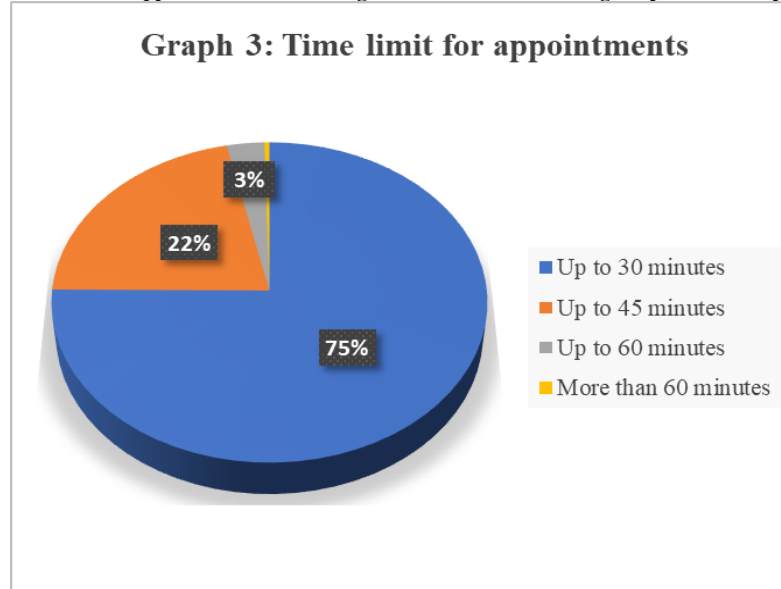
When asked about the effect of parental presence in the dental clinic, 62.9% participants had experienced that it was easier to treat the child around the parents as they tend to be more co-operative, while 31.6% had experienced vice-versa and 5.5% believed this caused no significant difference in the child behaviour. Another factor affecting the child behaviour could be the presence of other kids in the operating

area. About 280 (44.6%) dentists were able to provide better treatment when the child was alone in the operatory compared to 242 (38.6%) dentists who experienced easier delivery of treatment around number of other kids in the clinic. Factors like number of appointments and time limit for the appointments are also significant when treating a CSHCN as shown in diagrams 2 and 3.

**Graph 2: Number of preferable appointments for treating a child with SHCN among the practitioners participating in the study**



Graph 3: Preferable time limit of appointments for treating a child with SHCN among the practitioners participating in the study



Positive responses were received for questions regarding parent counselling, post-treatment referral, dental insurance for CSHCN and medico-legal consent which is described in table 3.

Table 3: Responses of the participants

	N	%
Do you advice "parent counselling" regarding oral and general health of the child, to the parents post treatment?		
Yes	780	97.4 %
No	20	0.6 %
Do you take post-treatment/ post-referral follow-up of the patient?		
Yes	648	81 %
No	16	2 %
Sometimes	136	17 %
Do you think it is essential to provide "Dental insurance" to special child to ensure a better oral health?		
Yes	752	94 %
No		6 %
Do you think it is essential to acquire a "Medico-legal consent" before treating a special child?		
Yes		89 %
No		1 %
Maybe		10 %

It is not uncommon for the CSHCN to face difficulty in accessibility and availability of oral health care services. It is essential to be aware of the possible barriers faced by the child to thus overcome the same. It was found that the most common barrier according to majority of practitioners is the unawareness of the parents regarding the oral health of the child (84.4%) followed by anxious/ fearful behaviour of the child (72.3%), difficulty in communication with the child (61.8%) and lack of adequate knowledge and proper training of the dentist (50.5%). A few other possible causes for lack of facilities were difficulty assessing the clinics/ services (32.4%), incapability of the dentist to manage or treat the child

(24.7%), anxious nature of the child due to long waiting time (21.3%) and difficulty in travelling (21.1%). Modified services or clinical set-up like specially trained nurses/ staff to handle any emergency situation concerning the child (65.2%), provision to move the patient from wheelchair to dental chair (59.7%), general anaesthesia/ conscious sedation (56.1%), lifts (45%) and ramps (31.6%) to the clinic, immobilization devices (25.6%) and use of tele dentistry (24.5%) were provided by most of the practitioners to make the treatment easier or more comfortable for the child. More than half participants believe that further training (81%) & education (72.1%) could help the

dentists improve their knowledge regarding treatment and management of a CSHCN.

## DISCUSSION

Disabilities in special children have a profound impact on their individuals as well as their surrounding environments including their families and society and the delivery of healthcare services to them. It is imperative that oral health be maintained and constantly evaluated as it is crucial to the maintenance of community health. This study was thus conducted to increase awareness among the dentists regarding the treatment management of CSHCN. The present study revealed that (86.4%) of the dentists reported that they had encountered child with special health care needs in their clinical experience, which was similar to the results of Adyanthaya *et al.*<sup>9</sup> The results of the survey stated that nearly 70% of the dentists witnessed CSHCN as compared to the 86.4% in this study. Baird *et al.*,<sup>10</sup> investigated the availability of facilities for physically disabled people at dental practices (n=123) in Leicestershire and found that the facilities for this population was poor and lacking which was also found in this study. Most dentists were uncertain that their dental education had prepared them to treat CSHCN which was also reported in a study conducted by Dao *et al.*<sup>11</sup> In the current study, it was found that most dentists believed that they require specialized training and further education for the treatment of a special child. The dentists report that the most challenging aspect of patient care for children with special health care needs was parental unawareness, followed by fearful children & difficulties communicating. These findings are in contradiction to Milano and Seybold,<sup>12</sup> who found that inadequate financial reimbursement accounted for most of the reasons why dental services could not be provided to the patients. The majority of the professionals (81%) stated that the barrier faced in managing patients with special needs was inadequate training, which is in line with the study conducted by

Rao *et al.* in 2003.<sup>13</sup> The results of this study confirm those of Casamassimo *et al.*, in 2012<sup>14</sup> which states that dentists who have not been exposed to hands-on training or lectures are less likely to treat patients requiring SHCN. In this study, significant correlations were found between degree of the dentist, specialty of the dentist, and number of years of dental practice with regard to the treatment of CSHCN. However, Salama *et al.*,<sup>15</sup> found no such correlation.

## Limitations Of The Study

The results of this study should be viewed within their inherent limitations. There is no register of dentists who meet the recruitment criteria, so it was impossible to determine the rate of participation. The mailing list was not accessible to the investigators to ensure anonymity and confidentiality.

In addition, the responses are self-reported rather than based on observed behaviour. Practically, there may be a discrepancy between what the practitioners say they will do and what they actually do.

In addition, the sample is heterogeneous and there is no equal distribution of practitioners by country. It is once again due to the lack of a suitable register to identify dentists who qualify to be included in the study. A self-selected convenience sample was thus accepted. It is evident that the numbers of practitioners were clearly insufficient to represent standard practices in any other country. Since dental care is provided in varying contexts, the results cannot be generalized.

## CONCLUSION

Children with SHCN are more likely than otherwise healthy children to have oral diseases since they lack oral health education, access to care, and preventive measures such as fluoride supplements and pit and fissure sealants. Dentists and their dental teams need to have the right attitude and skills in order to provide successful treatment to children with CSHCN. When

compared with otherwise healthy children, children with SHCN have always had poor oral health. The importance of oral health in overall health, wellness, and determining the success of dental treatment is certainly on the rise. It is evident that inadequate training among dentists is one of the main barriers to treating these patients, and therefore, more sessions should be conducted to modify the undergraduate dental curriculum to expose dental students to a wider range of special cases at an earlier stage of their careers.

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