ORIGINAL RESEARCH

Perception of Pedodontists Regarding Dental Care in Children with Special Needs in India: A Cross-sectional Study

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Abstract

Background: Pedodontists have a vital role in maintaining the overall health of children with special health care needs (CSHCN) by providing basic, preventive, comprehensive, and restorative dental care to such children. In doing so, Pedodontists face many challenges due to several environmental and nonenvironmental barriers.

Aim: The aim is to gain insight into the perceptions of Pedodontists in India on providing oral health care to CSHCN and the challenges they encounter in doing so.

Materials and methods: The self-administered questionnaire, with 20 questions, was made available through online resources to 250 randomly selected Pedodontists from all over India. The questionnaire evaluated the Pedodontists' practices, attitudes, level of knowledge/awareness, and the barriers they encounter during the management of CSHCN.

Results: Regarding attitude, even though 81.7% of Pedodontists were confident in managing CSHCN, 88.7% were in favor of developing super specialization in special care dentistry and skill upgradation at the postgraduation level. With regard to knowledge/awareness, about 98.6% of Pedodontists were aware of the dental home, and 45.1% were aware of Indian laws for disabled people. Even though inadequately motivated parents (39.4%) and lack of access to dentists providing care (22.5%) were stated as the greatest barriers to receiving dental treatment by CSHCN, lack of training was the major problem perceived by the Pedodontists in treating CSHCN.

Conclusion: The dental curriculum model, both at the undergraduate and postgraduate levels, needs to be revived to equip future dentists to deal with CSHCN. Special care dentistry should be adopted as a super-specialty in pediatric dentistry for treating CSHCN.

Clinical significance: This study enlightened us about the difficulties faced by pediatric dentists in providing dental health care to CSHCN and explored customized strategies to address these challenges, thereby improving the quality of dental treatment for such children.

Keywords: Barriers, Children with special health care needs, Oral health care, Pedodontists, Special care dentistry.

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Introduction

Children with disabilities experience multiple oral health issues as they can be attributed to various factors. Oral health may be overshadowed by the potentially life-threatening medical and physical problems among these patients because of their poor physical dexterity or as an adverse impact of the medications they take.[1] Poor oral health is a comorbidity when associated with a systemic disease. This potentiates the need for special dental care in children with special health care needs (CSHCN), as oral health is the gateway to general health.

Disability Discrimination Act, 2016 (Equality Act, 2010) entitles equal standards of health and health care for CSHCN as those of the general population.[2] However, dental care for CSHCN requires specialized knowledge, increased awareness, adaptation, and accommodation measures beyond what is considered normal.[3] Various studies have reported that CSHCN generally have a higher risk of diseases, especially oral diseases, compared with normal children and also have more unmet health care needs than the general population.[4] The most profound unmet health care need for CSHCN is oral health care and dental treatment.[5]

The term "unmet dental care needs" refers to the need for dental treatment but receiving late treatment or no treatment at all.[6] The obstacles in accessing essential dental care are typically physical impediments to dental facilities, financial constraints, and lack of education or awareness.

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McIver described five key barriers to accessing dental care for CSHCN as follows[7]:

- The primary medical care is the most urgent health care need.
- Parents often neglect to seek dental treatment for their child due to the primary burden of medical care for such a child.

- The child himself, because of his behavioral and physical limitations.
- Dentist.
- Payment of dental care.

Dentists, especially Pedodontists, have a vital role in maintaining the overall health of CSHCN at all stages. In the past, the focus was on delivering fundamental dental care, but there has been a shift toward prioritizing comprehensive oral health care for CSHCN. It is imperative to offer both basic and thorough preventive and therapeutic dental care to these children.[3] It is a greater challenge for Pedodontists to treat special children due to several environmental and nonenvironmental barriers.

This study gives an insight into the perceptions of Pedodontists in India on providing oral health care to CSHCN and the predicaments they face in doing so.

Materials and Methods

From the published study of Adyanthaya et al.,[8] a prevalidated questionnaire was used in this cross-sectional study. Minor modifications were made, and the questionnaire was revalidated by subject experts. Ethical clearance (No.: EC/NEN/INST/2021/867) was obtained from the Institutional Ethics Committee, Indira Gandhi Govt Dental College (IGGDC), Jammu, India.

The questionnaire consisted mainly of 20 close-ended questions and was made available in electronic format, with responses collected from Pedodontists in online format. The survey was distributed *via* online sources to 250 Pedodontists chosen at random from different regions of the country, with the understanding that their response signified their agreement to take part in the study. The questionnaire assessed the knowledge/awareness, attitude, and practices of Pedodontists regarding the management of CSHCN. The respondents were requested to list the various barriers and challenges they encounter while providing care for CSHCN.

Statistical Analysis

The data was obtained from Google Forms, imported into a Microsoft Excel spreadsheet, and examined with SPSS (version 28.0.1.1). Calculation of frequencies and percentages was done. The Pearson correlation coefficient was used to determine the association between the variables. A histogram was used to gain insight into the barriers and challenges Pedodontists face in treating CSHCN.

Results

Out of 250 Pedodontists to whom the questionnaire was disseminated, 213 were considered valid (response rate 85.2%) based on the completion of the answers, while a few did not respond to the questionnaire. The majority of Pedodontists had 5–15 years of experience.

The research population's demographic makeup, including the years of practice as Pedodontists and the professional level, is depicted in Table 1.

Regarding attitude, even though 81.7% of Pedodontists were confident in managing CSHCN, about 54.9% believed postgraduation educational skill regarding CSHCN was only fair. There is an increasing need, with about 88.7% of Pedodontists, for the development of super specialization in special care dentistry and skill upgradation at various levels in the postgraduation curriculum (Table 2).

With regards to knowledge/awareness, about 98.6% of Pedodontists were aware of dental home and 45.1% were aware of Indian laws for disabled people. Lack of knowledge/awareness among parents was stated as the greatest factor affecting children from seeking preventive dental care (62%). Inadequately motivated parents (39.4%) and inadequate access to dentists providing care (22.5%) were stated as the greatest barriers to receiving dental treatment by CSHCN (Table 2).

Among the perceived barriers by Pedodontists when treating CSHCN, lack of special training is a major concerning barrier, followed by the concern regarding medical history, as depicted in the histogram (Fig. 1).

Figure 2 depicts that Pedodontists expressed their preference for treating physically disabled children and were least comfortable in treating children with hearing impairments.

Table 3 depicts the linear correlation model correlating various variables. The Pearson correlation coefficient (r) has been applied as the linear correlation coefficient. The coefficient quantifies the strength and direction of the linear relationship between the two variables. Both positive and negative correlations exist between various parameters. The highest correlated value of 0.677 for the parameters years of practice and frequency of children visits indicates a strong positive correlation, while a negative correlation is present for technique rendered to patients, frequency of children visits, and perceived barriers.

Discussion

According to American Dental Association (ADA) (2017), children with disabilities frequently necessitate special attention during dental procedures due to developmental or cognitive challenges. However, it is demanding for Pedodontists to treat CSHCN due to various barriers and practices. Recognizing and addressing these obstacles can serve as the initial action in implementing solutions to alleviate these challenges. The findings revealed that nearly all Pedodontists aspire to reduce the gap in dental care for special children, yet a majority of respondents encountered difficulties in this endeavor due to specific factors. The finding was similar to the conclusion made by Mueller et al.[9] and Bindal et al.,[10] but quite opposite to the results of Weil and Inglehart,[11] who pointed out that 60% of general dentists were reluctant to provide dental care to CSHCN.

So far, no study has evaluated the perception of Pedodontists solely regarding the challenges they face while managing CSHCN. Only one study in Saudi Arabia by Nayak et al. has compared the perception of general dentists (447) and Pedodontists (76) regarding the treatment.[12] It was in accordance with the current study that the most significant factor hindering CSHCN from seeking dental care was the lack of sufficient knowledge and awareness

Table 1: Demographic makeup of the research population

Demographic data of the dentists		*Number*
Years of practice as Pedodontists	• <5 years	87
	• >5–15 years	65
	• >15 years	61
Professional level	• Professor	20
	• Reader	14
	• Assistant professor	48
	• Lecturer	37
	• Resident	39
	• MDS student	55

Table 2: Attitude, knowledge, and practices of the dentists regarding management of CSHCN

Question	*Options*	*Percentage*
Attitude of Pedodontists regarding management of CSHCN		
Postgraduate education skill w.r.t CSHCN	• Excellent	15.5
	• Good	21.1
	• Fair	54.9
	• Poor	8.5
Self-assurance	• Yes	81.7
	• No	18.3
Need for development of super-specialty in special care dentistry	• Yes	88.7
	• No	11.3
Level of skill upgrade required in postgraduation study	• Theoretical training	16.9
	• Clinical training	8.5
	• Various levels of treatment and assistance in special care dentistry	74.6
Frequency of knowledge upgradation through educational conferences	• Annually twice	35.2
	• Annually once	12.7
	• Once in 2 years	52.1
Knowledge/awareness of the Pedodontists for the management of CSHCN		
Awareness about dental home	• Yes	98.6
	• No	1.4
Awareness about persons with disabilities act	• Yes	45.1
	• No	54.9
Factors that affect child from seeking preventive dental care	• Lack of knowledge and awareness among parents	62
	• Lack of knowledge and awareness among physicians	8.5
	• Higher degree of dental care anxiety among CSHCN	29.6
Barrier to receive dental treatment by CSHCN	• Access to dentist giving care	22.5
	• Limitations in childs cooperation	12.7
	• Dentist expertise and experience	15.5
	• Less motivated parents	39.4
	• Financial constraints	9.9
Practices of Pedodontists regarding management of CSHCN		
Self-trained for medical emergencies	• Yes	80.3
	• No	19.7
Clinic accessible to person with disabilities	• Yes	66.2
	• No	32.4
Clinic equipped with suitable equipment for person with disabilities	• Yes	45.1
	• No	53.5
Staff skilled in handling Children with Special Health Care Needs (CSHCN)	• Yes	46.5
	• No	50.7
Techniques followed for managing child behavior	• Using behavior management technique	70.4
	• Conscious sedation	5.6
	• GA	23.9
Treatment rendered by you to CSHCN	• Emergency treatment	26.8
	• Extraction	7
	• Treatment requiring restorative work	22.5
	• Multivisit treatment and/or dentures	1.4
	• Treatment of periodontal problems	0.2
	• Oral hygiene instructions and preventive treatment	40.8
Category of special children Pedodontists would prefer treating better	• Hearing loss	11.3
	• Vision impairments	12.7
	• Mentally challenged	22.5
	• Physically disabled	50.7
Types of disabilities frequently visited in clinic	• Physical disabilities	7
	• Mental health disabilities	62
	• Medically disabled	29.6

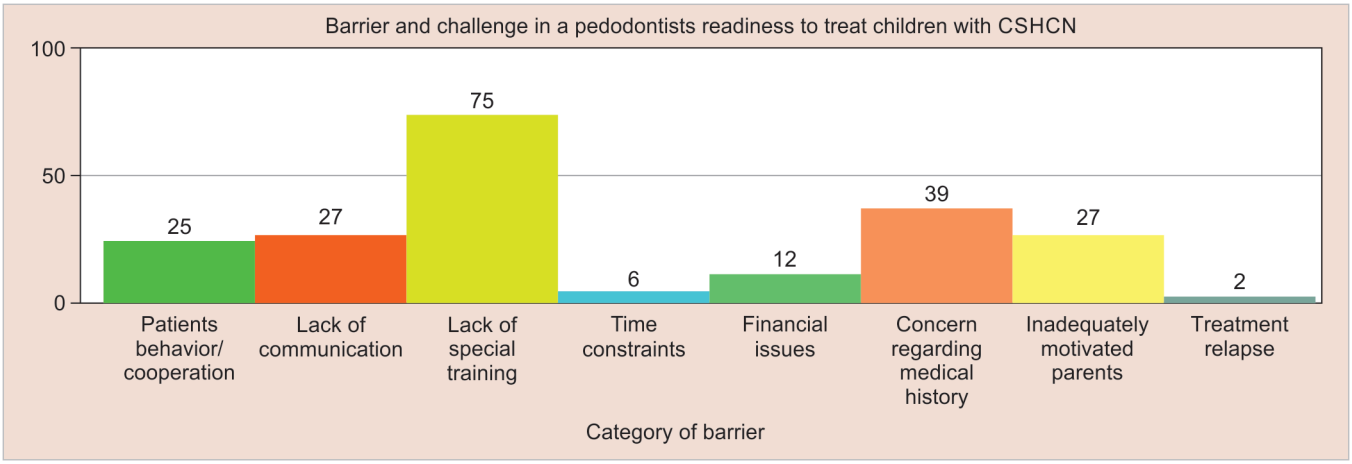

Fig. 1: Histogram of barriers and challenges Pedodontists face in treating CSHCN

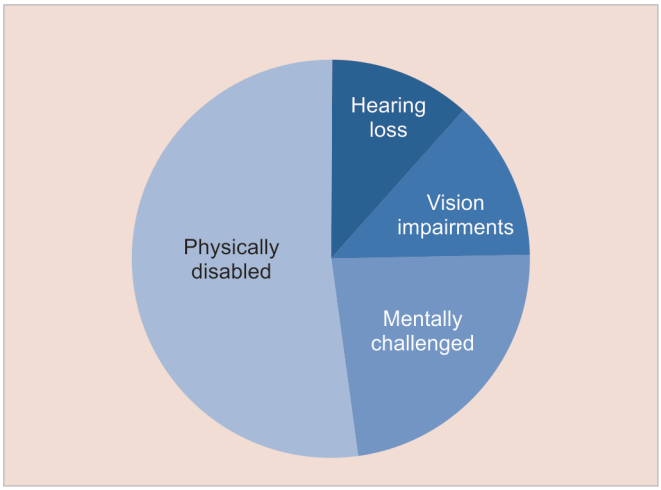

Fig. 2: Categories of special children preferred by Pedodontists for treatment

among the parents of these children. Inadequately motivated parents were identified by the surveyed population as the major barrier to receiving dental treatment by CSHCN, in contrast to the findings of Nayak et al.,[12] who reported limitations in the child's cooperation as the major barrier.

The present study suggests that Pedodontists find it more comfortable treating children with hearing loss (11.3%), followed by vision impairment (12.7%) and children with mental disabilities (22.5%) due to challenges in managing their behavior. Their lack of awareness about dental care or their fear of dental treatments may be the reasons for their resistive behavior, which might compromise the provision of safe dental care.[13] The category preferred was physically disabled children (50.7%). This was in agreement with the study conducted in Saudi Arabia by Nayak et al. in 2022.[12]

The majority of patients with developmental and physical impairments may be handled at the dental clinic with the assistance of their parents or other primary caregivers. Protective stabilization may be beneficial in patients with mental disabilities for whom standard behavior control techniques are ineffective.[13] Evidence from the studies suggests that parental contentment with general anesthesia (GA)-assisted dental care has been consistently increasing in recent times, and that it is presently favored over traditional approaches to manage behavior in dental settings.[14–16] However, the American Academy of Pediatric Dentistry (AAPD) recommends sedation or GA as the last resort when protective stabilization is not feasible.[17] The findings from the present study showed that Pedodontists employed more conservative approaches using behavior management techniques such as voice control, tell-show-do, or distraction for managing the behavior of these children, in contrast to the study by Nayak et al., where Pedodontists preferred to use GA to manage these children.[12]

The results of this study showed that lack of knowledge/awareness among parents (62%) is the greatest factor affecting the child from seeking dental treatment. Inadequately motivated parents (39.4%) and no proper access to dentists providing care (22.5%) are the main barriers that prevent CSHCN from receiving comprehensive dental treatment. CSHCN who live in rural areas have a higher prevalence of unmet dental care needs compared to their urban counterparts. This is due to challenges in accessing care and lack of awareness among their parents regarding the necessity for dental treatment.[18] Evidence from global literature suggests that effective oral hygiene practices, parental awareness, and constructive parental attitude and outlook significantly contribute to the maintenance of ideal oral health for their dependents.[19] Inadequate knowledge and level of education are the major factors preventing caregivers from favorable oral health behavior.[20,21] Training programs should be strategized to enhance caretakers' awareness, comprehension, and proficiency in oral health care practices. The current study's findings align with the study done by Bernabé et al. in 2011,[21] which found a significant positive correlation (62%) between caregivers' educational attainment and the frequency of dental appointments. Caregivers with higher levels of education tend to reside in more favorable socio-economic and social conditions, resulting in increased utilization of dental services.[21]

About 54.9% of Pedodontists were of the view that postgraduate educational skill in dealing with SHCN children was only fair, which is not in agreement with the findings of Nayak et al.[12] The positive observation in the current study is that 74.6% of Pedodontists showed their agreement/consensus regarding upgradation in both theoretical and clinical training at the postgraduate level for the better management of CSHCN and knowledge upgradation through education conferences and CDE programs,[22] as also reported by Nayak et al.[12] Attending regular dental education conferences would help in providing evidence-based dental care to underprivileged children.

Table 3: Pearson correlation coefficient (r) values indicating correlation between various parameters of Pedodontists managing CSHCN

	Correlation				
	Years of practicing	*Frequency of children visit*	*Postgraduate dental training*	*Perceived barriers*	*Technique rendered*
Years of practicing	1	0.677	0.278	0.541	0.174
Frequency of children visit	0.677	1	0.597	0.158	–0.292
Postgraduate dental training	0.278	0.597	1	0.226	0.612
Perceived barriers	0.541	0.158	0.226	1	–0.096
Technique rendered	0.174	–0.292	0.612	–0.096	1

Lack of specialized training was the major barrier and challenge stated by Pedodontists for managing CSHCN, followed by preexisting medical conditions and inadequately motivated parents, which is in agreement with the studies by Adyanthaya et al.,[8] Rao et al.,[23] Dao et al.,[24] but contrary to the results of Wasnik et al.[25] and Nayak et al.,[12] who reported the child's behavior and cooperation as the major barrier. As reported by Nazar et al.,[26] preexisting medical conditions are the major barrier in treating CSHCN. Also, the financial burden on parents is worsened by frequent visits and expensive dental treatment,[27] and in this study, about 12% of financial constraints acted as a barrier or challenge to Pedodontists.

Conclusion

Few potential strategies to be adopted to remove the barriers faced and help Pedodontists fulfill the treatment requirements of CSHCN are:

- It's crucial to revive the dental curricular model and offer more coherent and clinical education concerning the treatment of CSHCN to both undergraduates and postgraduates.
- Parents/caregivers of CSHCN need to be instructed and trained about dental issues, oral hygiene guidance, and dietary counseling.
- Special care dentistry should be adopted as a super-specialty in Pediatric dentistry for treating CSHCN worldwide. In countries like Malaysia, Brazil, the UK, Australia, and New Zealand, special care dentistry has already been adopted as a super-specialty.

Clinical Significance

The clinical significance of this study is that this article highlights the difficulties faced by pediatric dentists in providing dental health care to CSHCN and explores customized strategies to address these challenges, thereby improving the quality of dental treatment for such children. Following the strategies to be adopted, as suggested by this study, will help bring CSHCN into mainstream dentistry.

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