

Knowledge, Attitude, and Practices of Dental Practitioners in Thiruvananthapuram on Oral Health Care for Children with Special Needs

Soumya Rajan¹, Sobha Kuriakose², Bobby J Varghese³, Firoz Asharaf⁴, Suprasidh Suprakasam⁵, Athira Sreedevi⁶

ABSTRACT

The objective of this study was to investigate knowledge, attitude, and practices of dental practitioners in Thiruvananthapuram, India regarding dental management of children with special healthcare needs (CSHCN).

Materials and methods: A structured questionnaire was given to 400 dental practitioners. The data were analyzed using SPSS software (version 23.0) and Chi-square test was used.

Results: The response rate was 94%. An estimated 73.8% treated children, 66.5% showed willingness to treat CSHCN, and 70.8% had attended CSHCN in their practice. A partial knowledge in dental management of CSHCN was reported by 67.5%. An estimated 36% had undergone training in special care dentistry (SCD) but 45% were not sure whether they can provide dental care with the graduate-level training. Knowledge regarding guidelines for CSHCN was known to 19.5% and that regarding timing of the first dental visit was known to 69% of participants. Tooth extraction (43.1%) and a subsequent caries treatment (39.1%) were the most frequently done procedures, and nonpharmacological management (46.5%) was the mostly used behavior management technique. Among the barriers faced by dentists in treating CSHCN, time consumption (55.6%) and lack of training (55.1%) were commonly enlisted. Further training and improved facilities would motivate the respondents in providing better care to CSHCN.

Conclusion: This study suggests that majority of the dentists participated had a partial knowledge on SCD and were willing to treat CSHCN. Insufficient training in the field of SCD was a major drawback, which prevented most general dentists from effectively managing CSHCN. Additional training and improving facilities can improve dental care to CSHCN.

Keywords: Barriers, Special care dentistry, SHCN.

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INTRODUCTION

Special care dentistry (SCD) is the improvement of oral health of individuals with special healthcare needs (SHCN).¹ In India, around 6.6 million (24.5%) children are having SHCN.² Individuals with SHCN have a higher risk for oral diseases.³ Difficulties faced in accessing dental care SHCN were untrained dentists, inadequate reimbursement, patient's behavioral problems, etc.⁴

Although various studies have been reported, there is not of much information regarding the oral healthcare access among CSHCN in India. The purpose of this study was to evaluate the knowledge and attitude of dental practitioners in Thiruvananthapuram, India concerning dental management of CSHCN, and practices adopted in treating those children.

MATERIALS AND METHODS

The study sample comprised 400 dentists practicing in Thiruvananthapuram. After explaining the purpose of the study, the questionnaires were distributed among the dentists. The completed questionnaires were collected after one week.

The questionnaire consisted of 18 questions. The validity of the questionnaire was confirmed using a pilot study. The first part of questionnaire focused on demographic details and included age, gender, qualification, type of practice, and years into practice. The other section, concerning treatment, included whether they treated child patients and children with SHCN, willingness to treat

¹⁻⁵Department of Pedodontics and Preventive Dentistry, Sri Sankara Dental College, Thiruvananthapuram, Kerala, India

⁶Department of Public Health Dentistry, Sri Sankara Dental College, Thiruvananthapuram, Kerala, India

Corresponding Author: Soumya Rajan, Department of Pedodontics and Preventive Dentistry, Sri Sankara Dental College, Thiruvananthapuram, Kerala, India, Phone: +91 9447453441, e-mail: dr.soumyarajan@gmail.com

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SHCN children, as well as knowledge and training acquired to treat SHCN. It also included frequently done treatment procedures and preferred management techniques. Whether the dentists were providing health-related parent counselling was evaluated. The barriers the dentists faced in treating children with SHCN and methods to motivate the dentist to provide better care were also analyzed.

Data analysis was carried out using SPSS (version 23). In addition to descriptive statistics, a Chi-square test was used for a comparison among different variables. Statistical significance was set at p value <0.05 .

RESULTS

The study population comprised 400 dentists. Totally, 374 completed questionnaires were returned, providing a response rate of 94%. Majority of respondents were aged between 31 years and 40 years (35.5%), 26.3% aged below 30 years, 22.0% aged between 41 years and 50 years, 8% in the range of 51–60 years and 2.3% above 61 years. Table 1 shows gender distribution among the respondents.

Postgraduates were more in number (50.2%) when compared with graduates in our study population. Specialtywise distribution of respondents is shown in Table 2. Most of the dentists included in the study worked in private clinics (42.8%), 8% as consultants, 12% in hospitals, and 31.3% as a combination of all. An estimated 138 dentists (34.5%) had <5 years experience, 86 (21.5%) had 5–10 years experience, 98 (24.5%) had 10–20 years experience, and 54 (13.5%) had >20 years of experience.

Among the dentists participated in the study, 295 (73.8%) treated child patients, 266 (66.5%) dentists were willing and 93 (23.3%) were not willing to treat CSHCN. There was a statistically significant association among age, specialty, and willingness to treat CSHCN (p value < 0.05). More than half of the respondents—that is 283 (70.8%)—had treated CSHCN. Totally, 173 dentists (43.3%) had treated CSHCN patients and 108 dentists (27%) had referred them to a specialist.

In the present study, 270 dentists (67.5%) reported to have a partial knowledge in the dental management of CSHCN. Only 58 (14.5%) were well versed and 48 (12%) had no knowledge in SCD. There was statistically significant association between knowledge and willingness to treat CSHCN (p value < 0.05).

Only 19.5% of dentists were aware of guidelines for management of CSHCN and among them 11.8% were aware of AAPD guidelines. Regarding the first dental visit, 276 dentists (69%) had knowledge of scheduling the timing for first dental visit. 238 dentists (58%) have not undergone any training in SCD. Only 83 dentists (20.8%) had undergone training in the field of SCD during graduation, 32 dentists (8%) had received information during postgraduate training, and continuing dental education courses, other certified courses provided information to 12 (3%) and 30 (7.5%) have

gained information through multiple platforms. An estimated 180 participants (45%) were not sure whether the under graduate training enabled them to treat CSHCN. Only 110 dentists (29.4%) were able to treat CSHCN with the training they got during the graduate course.

Tooth extraction was the most frequently done procedure (43.1%) for CSHCN by dentists in the present study. Table 3 provides information on the type of treatment done and the frequency of procedures performed.

The behavior control technique preferred by most dentists for treating CSHCN in the present study was nonpharmacological technique (44.5%). An estimated 25.5% dentists preferred sedation and 24% preferred general anesthesia for achieving behavior management of CSHCN. The values are represented in Figure 1. The association between specialty of postgraduation and behavior management technique adopted had statistical significance (p value < 0.05). Likewise, there was statistically significant association between the training obtained and the management technique used (p value < 0.05). Those who had undergone training preferred the nonpharmacological behavior management technique (58.4%). Half of the respondents (46.5%) provided health related counseling to the parents of CSHCN.

Problems encountered while providing dental care for CSHCN were lack of training (55.1%) and prolonged time consumption (55.6%). Other barriers mentioned were a lack of financial benefits (20.5%), a lack of adequate infrastructure (14.6%), behavior and communication difficulties with patients (39.9%), a previous bad experience (6.1%), concerns regarding medical history (32.2%), a lack of trained assistants (20.7%) and disturbance reported by other patients while treating CSHCN (11.7%) (Fig. 2).

Factors that could motivate the participants in the study to provide better care to CSHCN were additional training (76.9%), improving facilities (51.6%), increasing remuneration (15.4%), and

Table 1: Gender distribution among study participants

Sex	N (%)
Male	207 (51.7)
Female	169 (42.3)

Table 2: Specialty-wise distribution of respondents

Specialty	N (%)
Oral medicine and radiology	23 (5.8)
Oral and maxillofacial pathology	17 (4.3)
Pedodontics and preventive dentistry	39 (9.8)
Conservative dentistry and endodontics	34 (8.5)
Prosthodontics and crown and bridge	27 (6.8)
Orthodontics and maxillofacial orthopedics	21 (5.3)
Oral and maxillofacial surgery	14 (3.5)
Periodontology	21 (5.3)
Public health dentistry	7 (1.8)
Graduates	173 (43.3)

Table 3: Frequency and type of treatment performed in CSHCN

Procedure	N (%)
Emergency dental aid	86 (22.9)
Caries treatment	147 (39.1)
Periodontal treatments	25 (6.6)
Tooth extraction	162 (43.1)
Routine examination	122 (32.4)

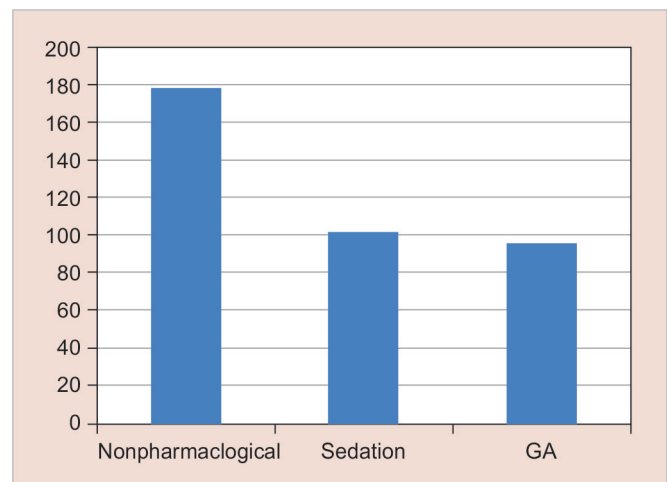


Fig. 1: Behavior management techniques employed in managing CSHCN

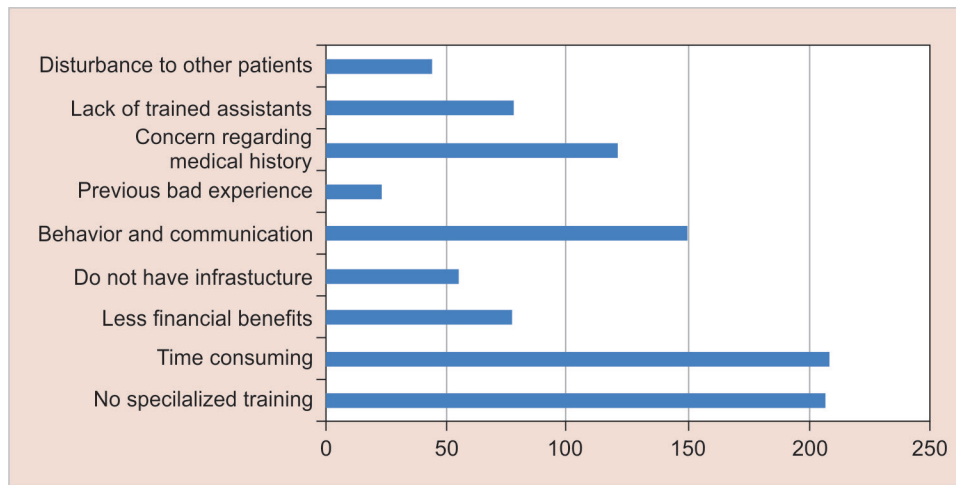


Fig. 2: Barriers encountered in treating CSHCN

other factors (6.9%), including provision of dental home for CSHCN and starting of referral centers.

DISCUSSION

This study gathered information regarding involvement of dental practitioners in the district of Thiruvananthapuram, Kerala, India in providing dental care to children with SHCN. The impact of disability in special children does not only affect the individuals themselves, but also impacts the surrounding environment including family and support systems, as well as delivery of healthcare services.⁵ Oral health maintenance is essential for community health and requires constant evaluation.⁶

The study population had more postgraduates (50.2%) compared to graduates and among those having postgraduation, 9.8% were pediatric dentists, followed by endodontists (8.5%) and prosthodontists (6.8%). Dentists showing willingness to treat CSHCN in our study was 66.5%. There was a statistical significant association between age, specialty, and willingness to treat CSHCN (p value < 0.05). This finding from our survey that 66.5% of the total respondents were ready to treat CSHCN is encouraging, keeping in mind that 43.3% of them were general dentists. According to a study by Folakemi, 76% of respondents showed the willingness to treat children with SHCN.⁷ In another study by Tsai et al., 9.6% of dentists were unwilling to do treatment for SHCN patients, main reason cited was frustration during treatment.⁸ A total of 81.4% of dentists in Malaysia showed willingness to treat.⁹

From our study, it appears that most of the dentists are providing dental care for CSHCN (70.8%). An estimated 43.3% of dentists had treated and 27% of dentists had referred CSHCN patients to a specialist. These findings were in accordance with another study showing that 83.6% of Nigerian dentists had treated SHCN.⁷ But in a study by Doichinova, 71.3% had never treated children with SHCN.⁶ Findings of the survey by Halawany showed that 56% of respondents treat children with SHCN but the dentists who had undergone training was only 8.6%.¹⁰ Only 3% of general dentists in a survey conducted in Ontario treat patients with SHCN, whereas 60% of pediatric dentist treat SHCN children.⁴ According to a study by Casamassimo, only 10% of general dentists treat CSHCN often.¹¹

Majority of dentists in this study had a partial knowledge on dental management of children with SCHK (67.5%). There was a statistically significant association between knowledge and

willingness to treat among dentists. Totally, 64.6% of dentists in a survey in Nigeria rated their knowledge as fairly adequate. A higher proportion in the older age group had adequate knowledge according to that study.⁷ This is obvious when we considered the level of knowledge according to the number of years after graduation. Contradictory results were obtained in the study among dentists in Sofia, Bulgaria, which found that 92% of dentists reported to have no knowledge.⁶

In the present study, only 20.8% of participants had training in SCD during the graduate course. An estimated 45% were not sure whether the graduate training enabled them to treat CSHCN. Only 29.4% of dentists included in the study were able to treat CSHCN with the training they got during the graduate course. Another study that investigated the perception of dental practitioners in Malaysia concluded that 81.4% of the dentists who participated in the survey did not have adequate training in SCD, still only 34.3% dentists showed willingness to undergo further training.⁹ An Ontario survey showed that 85% of general dentists had undergone training during graduation in SCD and 40% got training by continuing education. A total of 95% of pediatric dentists got training during post graduation and 29% reported to have underwent continuing education.⁴ In a survey by Declerck et al.,¹² 40% of dentists have undergone training in SCD during graduation. An estimated 79% of dentists preferred specialized guidelines and 21% received training through higher education.⁶ Of the participants in a study in Ireland, 41% had previous training and 47% had undergraduate training in SCD. Many participants were willing to undergo further training in SCD.¹³ Owing to certain obstacles such as insufficient behavioral management skills and lack of training in the field, most of the dental professionals are not willing to provide treatment to this group of patients.

Tooth extraction (43.1%) followed by caries treatment (39.1%) were the most frequently done procedures for CSHCN by dentists and parent counseling was provided by half the survey respondents (46.5%) in the present study. In another survey, emergency dental aid followed by caries treatment were the frequently performed procedures in CSHCN, whereas dental prevention and prophylactic examinations were rarely done.⁶ Emergency services, extractions, and caries management were the commonly reported treatments done in Irish SHCN population.¹³ Treatments commonly done by Malaysian dentists for SHCN patients in a study by Priyadarshni et al. include emergency services, extractions, and restorations.

Oral hygiene instructions and preventive dental care was done only in 5.6%.⁹ Pediatric dentists provide more preventive procedures than general dentists.⁴ Professional tooth cleaning was most commonly done and orthodontic treatment was least performed in a survey among dentists in Flander.¹² According to Glassman and Miller, "people with special needs are the most underserved of the underserved in our society."¹⁴ This outlines the development of programs that are community based, to include oral care plans that embed customized oral health care with the patient in the setting where they reside.

A nonpharmacological behavior management method was frequently (44.5%) used by dentist than sedation or GA for CSHCN in the present study. The association between postgraduate specialization, training undergone in SCD, and behavior management technique used had statistical significance (p value < 0.05). Those who had undergone training preferred the nonpharmacological behavior management technique (58.4%). Similar results were found in survey by Folakemi. Sedation was more commonly used by dentists who did not have adequate training in management of SHCN. Very few respondents used GA.⁷ Premedication and GA were used in the study by Doichinova for CSHCN.⁶ Nitrous oxide and oral sedation were the preferred techniques in other similar surveys.^{11,13,15} All the above-mentioned studies suggests that behavioral management is a major challenge in treating special children. Successful treatment for these patients depends on the dentist's ability to manage the patient with appropriate behavior management techniques as cooperation is often lacking in children with special needs.

Major barriers encountered by dentists while providing dental care for CSHCN in the present survey were lack of training (55.1%) and prolonged time consumption (55.6%). Time consumption, difficulty in treating, uncooperative behavior of children, and professional barriers such as inadequate undergraduate training and staff training were listed as the most common barriers for treating CSHCN in yet another similar study.⁷ Challenges faced by Malaysian dentists for treating SHCN were lack of training (60.8%) and behavior management difficulties (50%).⁹ Patients' disease level and behavior as well as insufficient training were the major barriers found in the survey by Salama et al.¹⁵ Lack of time to treat SHCN patients was reported by Edwards and Merry.¹⁶ CSHCN patients' behavior and poor cooperation level were stated as barriers in other surveys.^{11,12} Dentists who had undergone training in SCD perceived few barriers.¹¹

In the present study, additional training (76.9%), improving facilities (51.6%), and increasing remuneration (15.4%) would provide motivation for the dentists to provide increased care to CSHCN.⁸ Education and improving reimbursement would increase the access for SCD.¹⁵ Provision of adequate facilities and a revised curriculum, which should also incorporate community outreach for students, will help overcome many of the earlier-mentioned barriers faced in our study.

CONCLUSION

On the basis of this study's findings, the following conclusions can be made:

- Most of the dentists participated in our study had a partial knowledge on dental management of CSHCN.
- Insufficient behavioral management skills and lack of training in the field prevented majority of general dentists from providing effective treatment to CSHCN.
- Willingness to treat CSHCN was significantly higher in our study and it had a direct association with the age and specialty of the dental professionals.
- The most common reasons given to improve the practitioner's ability to care for CSHCN were additional training, improving facilities, and increasing remuneration.

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