

Assessment of Dentist's Perception of the Oral Health Care toward Child with Special Healthcare Needs: A Cross-sectional Study

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ABSTRACT

Aim: The study aimed to explore dentist's perception of the oral health care toward child with special healthcare needs (CSHCN).

Materials and methods: A total sample size of 250 was calculated. A 13-item validated questionnaire containing four domains were distributed among the participants. Descriptive analysis was used followed by one-way analysis of variance for comparison.

Results: The results showed 51.54% confidence, 71.33% knowledge, and 66.90% perception among the participants. A statistically significant results were found between three domains (p value < 0.0001).

Conclusion: The study concludes that there is a need to raise the level of knowledge and awareness about the oral health care of CSHCN among the dental students and professionals.

Keywords: Oral health, Perception, Special child.

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INTRODUCTION

The term child with special healthcare needs (CSHCN) is a catchy term that can be referred for a vast variety of disability. Children with special healthcare needs may be born with syndromes, psychiatric problems, terminal illness, and profound cognitive impairment. The designation of "child with special healthcare needs" is for children who face more day-to-day challenges than the other normal counterpart children of their age. They need extra support and additional services.

These children require more empathy than sympathy, so it is our duty as a dentist to acknowledge the issue and provide them with optimal dental facilities. Every pedodontist should follow "Every child has the fundamental right to his or her total oral health".¹ The World Health Organization estimates that the number of individuals with disabilities in the developed country comprises 10% of the population, whereas in developing country, it comprises of 12% of the population.² India is one of the fastest growing economies in the world, but its public health sector is still an aspect that is unmet.³

The awareness of dental health as a part of general health has increased exponentially, but there are still many aspect that are untouched. In a series of reports it has been highlighted that there is a limited access of oral healthcare facilities to people with special health care. The root of this problem starts in the dental college, where they are providing increasingly minimal educational and practical experience toward care for CSHCN. Dentists have reported low poise in caring for patients with special healthcare needs (SHCNs). It was also recorded that the training received by dental practitioners for SHCNs was bare minimum. As a result, the dental practitioners may be hesitant to treat these patients.⁴

Various studies conducted around the globe have revealed a low preparedness of the dentist by the Dental Institutes in the management of patients with SHCNs. Most of the directors of dental

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institute indicate that their postgraduate students required more guidance with these pediatric patients.^{5,6}

It was found that various barriers existed for the treatment of CSHCN, which included fear of the dentist, distance to the clinic, cost of the treatment, transportation difficulties, inability to sit on the chair, and unwillingness of the dentist.⁵

As per Indian Census of 2011, 2.68 crore people of the 121 crore population are "disabled" which constitutes 2.21% of the total population. In an era where the emphasis is about the "inclusive development" which is the path toward sustainable development, focused initiatives for the welfare of disabled persons are essential.⁷ Therefore, a need arises to overcome all these barriers while simultaneously spreading cognizance.

Data regarding dentist's perception toward oral care of disabled child and their level of gratification from the dental education is one aspect which is not yet studied thoroughly in India. So the aim of our study was to understand the gap between education and application of knowledge regarding dental health toward CSHCN.

MATERIALS AND METHODS

The present study was a cross-sectional questionnaire-based study conducted in the Department of Pediatrics and Preventive Dentistry, KLE V.K. Institute of Dental Sciences, KLE Academy of Higher Education and Research, Belagavi. Ethical approval was obtained from the research and ethics committee, and permission to conduct the study was obtained from the college. Sample size of 246 was calculated by standard sample size calculating formula and was rounded to 250.⁸

The questionnaires references were obtained from articles published in the recent past, and the questions were then precised to 13 questions that covered the important aspects required. The questionnaire consisted of four components. The first component asked the participants to provide their demographic data. The second component was framed to find the confidence of the participant. The third component of the questionnaire dealt with the perception of dentist in accordance of knowledge and quality of education received from the Dental Institute, and the last component dealt with the barriers that the dentists faced while treating a child with SHCN. The response to the questions were measured on a five-point Likert-type scale: "Strongly disagree," "Disagree," "Neutral," "Strongly agree," and "Agree".⁵

The validity of the content was approved by group of professionals. The inclusion criteria for the study were dental postgraduate students, dental interns, and dental practitioners in and around the city of Belagavi. The exclusion criteria for our study were undergraduate students who are still studying and the participants who do not give their consent.

The participants were given instructions regarding filling of the questionnaire, a written informed consent was taken, and a pilot study was conducted among 20 participants to ensure ease and clarity of answering the questionnaire; furthermore, these participants were excluded in the final study, and the questionnaire did not require any modifications.

The study was elucidated to the participants, and those willing to volunteer were asked to gather in a lecture hall at a programmed date and time. Written informed consent was obtained from all the participants, instruction regarding the questionnaire was given, and the questionnaire were then distributed among 250 participants. Abundant time was given to the participants to complete their questionnaire; thereafter, the questionnaires were collected from them. The identity of the surveyed was kept anonymous.

The collected forms were then analyzed and in MS excel sheet (Microsoft Corp.). The data were entered and using IBM SPSS software (version 20.0 Chicago IL, USA) percentages were calculated. The test-retest reliability of the survey questions was determined by administering the questionnaire to 15 participants selected randomly, and after 2 weeks a repeat test was done. The data were then subjected to statistical analysis, and based on test, the reliability, Cronbach' α co-efficient of 0.82 was calculated, which indicate acceptable internal consistency. Descriptive statistics was generated for all questions, and for each answer, frequency distributions and percentages were examined.

RESULTS

Our study includes forms from all the 250 participants of the survey, and there were no dropouts. The study included 66% female and 44% male; this could be related to the increasing strength of female population interested in dentistry as their profession (Table 1). Forty-eight percent of the participants were BDS Interns, 32% of the participants were MDS postgraduate students, and 21% of them were dental practitioners (Table 2). The mean age of the surveyed dentists was (mean \pm SD) 26.09 \pm 5.27 years. Of the dentist, 93% graduated in the year between 2009 and 2018. The mean experience of the surveyed dentists was around 3.21 \pm 4.44 years.

Participants were questioned related to their level of confidence and experience: 66.80% of the participants said that they treated 30 to 60 patients, 19.20% of the participants treated 60 to 90 patients, and only 11% of them treated 90 to 120 patients per month (Fig. 1).

When the participants were asked about how many CSHCN visit their clinic, 61.60% of them responded with 1–3 patients, 23.20% responded with 4–6 patients, 8.80% responded with 7–8, and 6.40% of them responded with more than 10 children in a month (Fig. 2).

Table 1: Distribution of the participants according to their gender

Male	44
Female	66

Table 2: Distribution of the participants according qualification

BDS interns	48.40
MDS postgraduate students	32.20
Dental practitioners	20.40

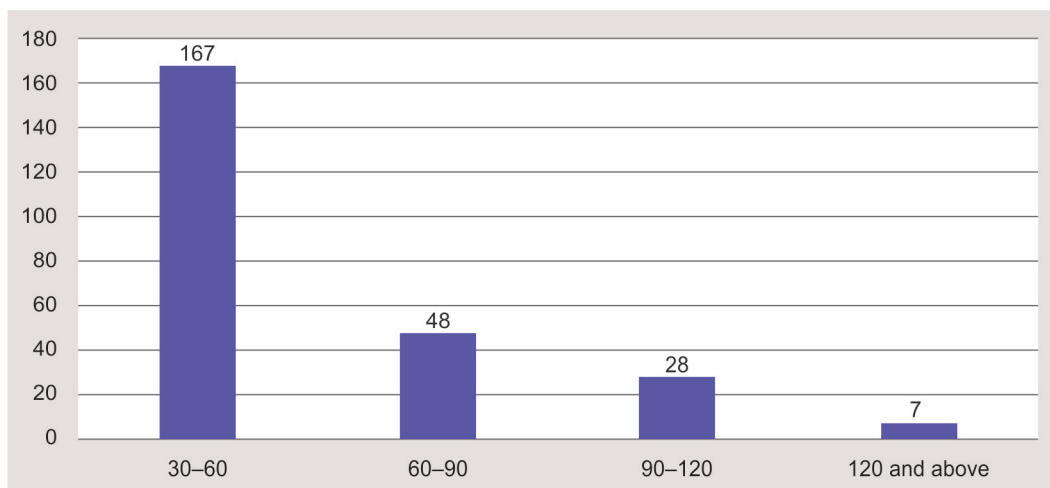


Fig. 1: How many patients do you treat per month?

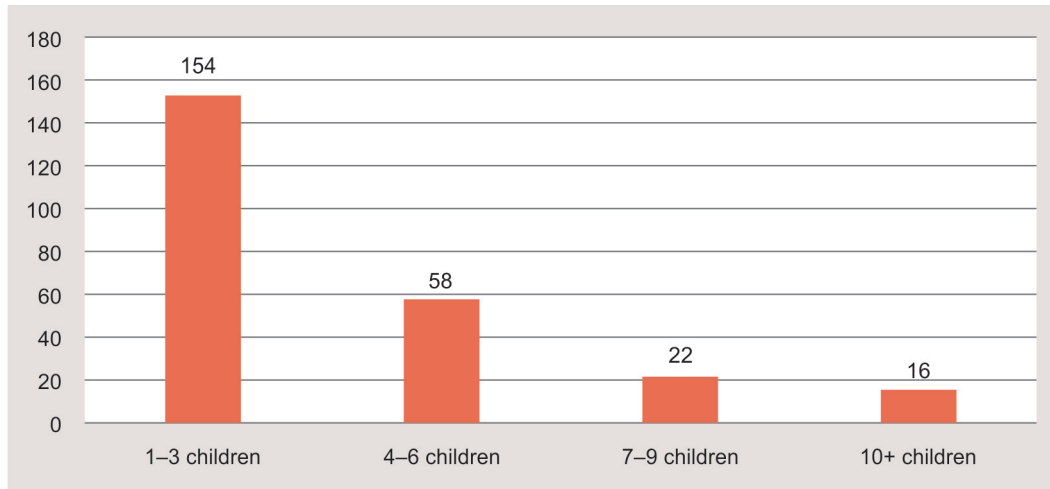


Fig. 2: How many children with special healthcare needs come to your clinic in a month?

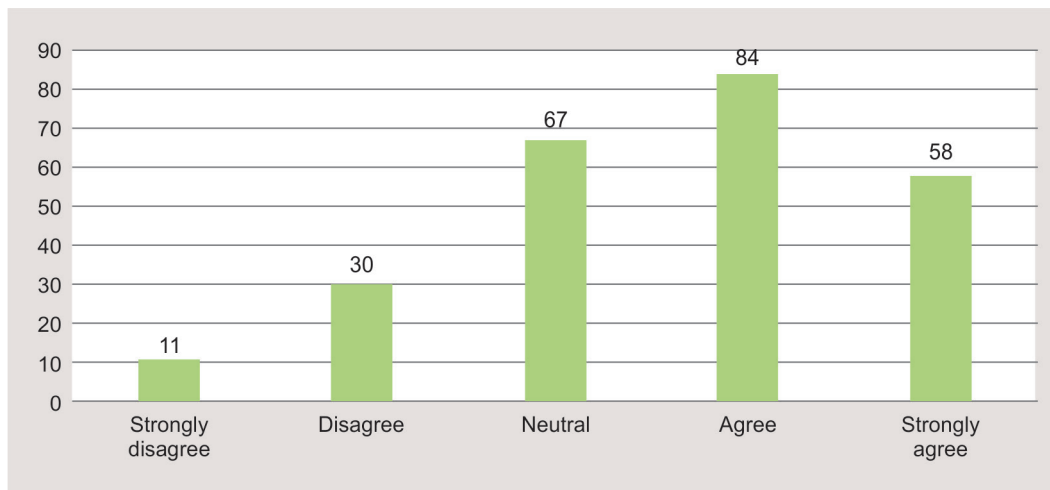


Fig. 3: Is a child with special healthcare needs treated at your clinic?

The participants were then asked if a CSHCN was treated at their clinic for the elucidation of the results; scores were combined and expressed as "positive" responses (includes both agree + strongly agree) and "negative" responses (includes both disagree + strongly disagree);⁴ 56.08% of the participants positively responded to this question (Fig. 3).

Table 3 demonstrates the dentists perception about the knowledge regarding management of CSHCN. In case of referring CSHCN to a pedodontist, 78.4% participants responded positively to refer them. In all, 51.80% of the participants felt knowledgeable and comfortable in treating CSHCN, and 76.04% of the participants said that they would treat the chief complaint first while treating CSHCN.

Of the participating dentist, 50.8% said that they would treat the CSHCN under nonpharmacological method, while 52.08% of the participants believed that the CSHCN should be treated under pharmacologic method in a hospital set up. When the participants were asked if they received any hands-on/lecture training regarding management of CSHCN, 38.40% participants responded negatively to this question.

Of the participating dentists, 39% thought that their undergraduation did not prepare them for management of CSHCN, 67.80% participants said that their undergraduation curriculum

should add more syllabus for management of CSHCN, and 70% of them required more training regarding the same.

Figure 4 represents barrier-wise distribution of the entities. When the participants were asked about the barriers they face while treating CSHCN, 55.2% of them thought that the behavior of the patient was a more pronounced barrier than their level of training (39.2%), level of disability (36.4%), parent compliance (35.2%), level of disease (24.8%), office staff training (20.4%), and availability of the funds (13.6%) (Fig. 4).

The results of our study showed that the confidence, knowledge, and perception of dental practitioners (confidence = 53.09%, knowledge = 73.94%, perception = 69.27) were on a higher graph compared to that of dental interns and dental postgraduate students (Fig. 5).

Karl Pearson test was applied to measure the correlation between the three variables, namely, confidence, knowledge and perception. The result showed that the *t* value between confidence and knowledge was 5.7290, confidence and perception was 12.2330, and knowledge and perception was 48.9056, and the co-relation between all three of them was very highly significant (p value ≤ 0.001) (Table 4).

Table 3: Responses on questions related to knowledge of respondents

		<i>Strongly disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly agree</i>
Will you refer the CSHCN to a pedodontist?	No	10	12	32	85	111
	%	4.00	4.80	12.80	34.00	44.40
Do you feel knowledgeable and comfortable in treating CSHCN?	No	11	33	77	106	23
	%	4.40	13.20	30.80	42.40	9.20
Does your treatment modality follow the main cause?	No	7	13	39	109	82
	%	2.80	5.20	15.60	43.60	32.80
Do you treat CSHCN under nonpharmacologic method/ clinical set up?	No	6	20	97	99	28
	%	2.40	8.00	38.80	39.60	11.20
Do you treat CSHCN under pharmacologic method/ hospital set up?	No	2	13	103	87	45
	%	0.80	5.20	41.20	34.80	18.00
Have you received any hands on and/or lecture training regarding management of CSHCN?	No	45	51	61	79	14
	%	18.00	20.40	24.40	31.60	5.60
Do you believe that your undergraduation has prepared you for management of CSHCN?	No	46	54	62	71	17
	%	18.40	21.60	24.80	28.40	6.80
Do you think your undergraduate curriculum should add more syllabus about managing CSHCN?	No	10	16	55	93	76
	%	4.00	6.40	22.00	37.20	30.40
Do you desire additional training for managing child with special healthcare needs?	No	5	6	54	114	71
	%	2.00	2.40	21.60	45.60	28.40

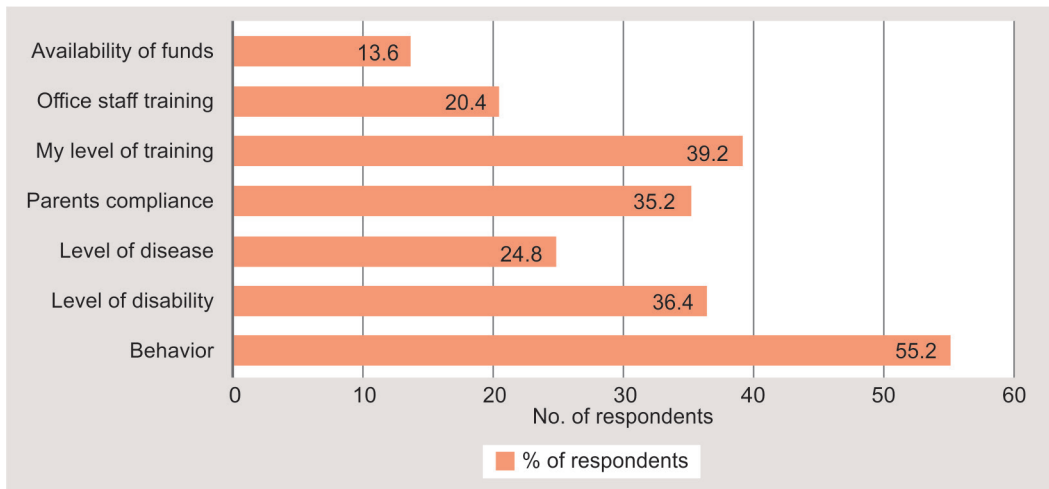


Fig. 4: Barrier-wise distribution

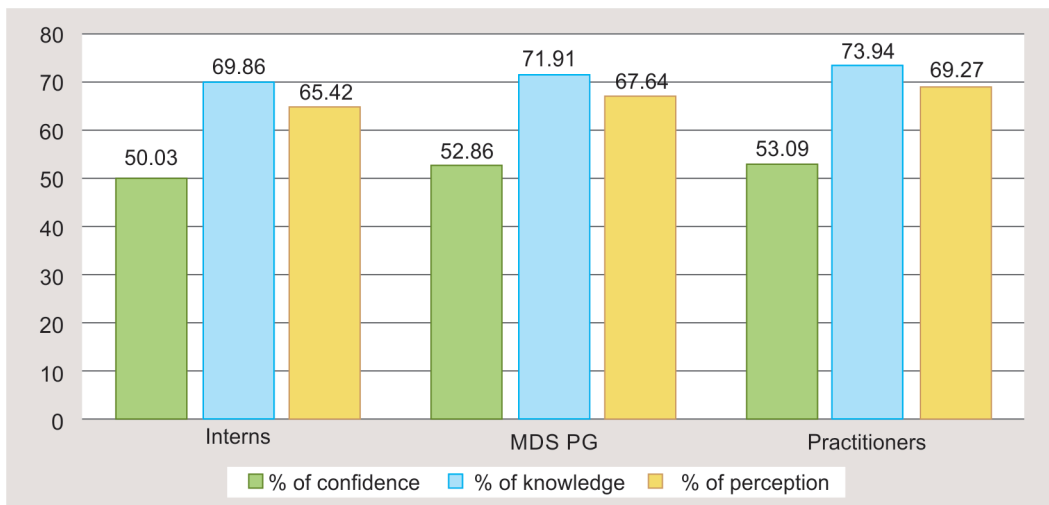


Fig. 5: Comparison of qualification with respect to mean percentage of confidence, knowledge and perception scores

Table 4: Correlations among confidence, knowledge and perception scores by Karl Pearson's correlation coefficient method

Variables	t value	p value
Between confidence and knowledge	5.7290	0.0001*
Between confidence and perception	12.2330	0.0001*
Between knowledge and perception	48.9056	0.0001*

* $p \leq 0.05$ —significant, $p \leq 0.01$ —highly significant, $p \leq 0.001$ —very highly significant

DISCUSSION

Oral health constitutes a major health problem among individuals with disability. The incidence and prevalence of oral disease and/or disability among this group is higher compared to the general population. Poor oral and gingival health has been observed among these population. The main challenge here is to educate the parent about the importance of oral health and its impact on the general health. So it is our responsibility as a community to tackle this issue as it is the need of the hour. There are various branches in the medical field such as pediatric neurologic, pediatric endocrinologist, pediatric surgeon, and so on, but when it comes to dentistry, only pediatric dentist are the specialist who can take this issue into account, educate the parent, and the society as a whole.²

Surveys of the health caretakers is a paramount tool for the assessment of healthcare practices and the clinical setting in which it is delivered. Our study was a cross-sectional, questionnaire-based study that aimed in exploring dentists perception of oral health care toward CSHCN. The study included five-point Likert-type scale for the response, since the scale is summative in nature and has high reliability.⁹ It targeted dental interns, postgraduate students, and dental practitioners working in healthcare facilities in the city of Belagavi, India, in 2018.

Researchers distributed 250 questionnaires, and the response rate was high with 250 questionnaires reaching back to us indicating the increase in primacy given to the dental health demand of CSHCN. It also indicates that dentist are more aware of the problem and are willing to bridge the gap for the same. A similar study was conducted by Alamoudi et al. which showed a response rate of 54%; in our study, it was 100% which was on a higher side.⁵

A positive response was seen among the participants when they were asked if they would refer a CSHCN to a pedodontist. In all, 76.04% of the participating dentists said that their treatment plan would follow the main cause modality, i.e., the chief complaint would be treated first. This indicated that there has been a changing trend, and dentists are becoming more aware about the treatment modality for CSHCN.

The current study reveals dentist's low discernment of their capabilities in providing oral health care for CSHCN. Almost one-half of the participants said that they would not treat CSHCN in their clinic and they did not feel knowledgeable and comfortable enough to treat CSHCN. This finding was in accordance to Wolff et al., Alamoudi et al., and Salma et al.^{4,5,10}

Investigators of the current study revealed the dentist discontentment with the components of dental education system, namely, theoretical and clinical experience. More than one-third of the dentist stated that they believe that their undergraduation

did not prepare them well to manage CSHCN, and also more than 60% of the dentist thought that their undergraduation should add more syllabus, undergo some curriculum changes, and provide them with more information and knowledge in treating CSHCN. This finding agrees with the study conducted by Alamoudi et al., Casamassimo et al., and Dao et al. who found that most of their survey participants felt lack of equipment/unequipped to treat patient with SHCN.^{4,5,11}

Of the dentist, 74% said that they would prefer an additional training in the form of a hands-on workshop or an audio-visual lecture to provide more insights about the management of CSHCN.

When the participants were asked to mark the barriers that they feel are hurdle for them to treat CSHCN, more than one-half of the dentists thought that the behavior of the patient was the more pronounced barrier to treat CSHCN; so from the result we have gathered to understand that the lack of training and education provided to the budding dentist on oral health care of CSHCN in turn acts as a barrier to understand their behavior and to provide them with utmost care and efficacious treatment.

The limitation of our study was that it could have been conducted over larger geographical area covering a larger sample size. The future prospective of our study can be that it can be conducted using a digital platform targeting a larger population of dentists.

CONCLUSION

Conclusions drawn from the finding of our study are:

- That the majority of the participating dentists did not perceive that their undergraduation prepared them well for treating CSHCN.
- A correlation exists between the quality of dental education and the attitude of dentists in surveyed population.
- There is a dire demand for campaigns to broaden horizon of knowledge for professional dentist toward this issue.

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