

# Assessment of Knowledge, Attitude, Practices, and Barriers toward oral Health among Teachers and Caregivers of Children with Special Health Care Needs in Bareilly

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## ABSTRACT

**Introduction:** Special care dentistry aims at management and prevention of orodental diseases in disabled children. Due to physical or mental impairments, they spend most of their time in rehabilitation centers or special schools. Their teachers and caretakers play key roles in their lives. Therefore, it is crucial that their own knowledge, attitude, and practices toward oral health are satisfactory. **Aim:** The aim of the study was to assess the knowledge, attitudes, practices, and barriers toward oral health among teachers and caregivers of children with special health-care needs. **Methodology:** A closed ended questionnaire consisting of 35 questions based on demographic information, knowledge, attitude, practices, and barriers toward oral health was formulated and asked to be filled by 52 special school teachers and caretakers from special schools and rehabilitation centers of Bareilly. The data were collected and statistically analyzed. **Results:** Maximum participants were females. Majority of them were special educators. The knowledge related to oral health-related topics was found good among participants. Practices and attitude were unsatisfactory toward oral health. Majority of participant believed inadequacy of information related to oral health in curriculum is the chief barrier toward not seeking oral health. **Conclusion:** A huge change in oral health-related knowledge and practices in the society can be brought up by periodic reevaluation and reinforcement. To tackle the barriers, a preventive approach should be taken.

**Key words:** Caretakers, children with special health care needs, rehabilitation centres, Special school, teachers

## INTRODUCTION

Children are essential to the nation's present and future. Understanding a child's physical, psychological, social, cognitive, and emotional abilities is crucial to society's understanding of child development.<sup>[1]</sup> In a global survey conducted by UNICEF, in December 2021, 240 million children were reported as disabled. According to the 2011 Census (2016 Update), 2.21% (2.68 Crore) of all Indians are people with disabilities.<sup>[1]</sup>

Special care dentistry being an integral component of pediatric and preventive dentistry aims at management as well as the prevention of oral and dental diseases in disabled children. Children with special needs are more prone to develop dental or oral diseases, and their management also poses special challenges such as lack of attention and conversation, hypersalivation and drooling, self-stimulated hyperactive behavior, or sudden jerking movement.<sup>[2]</sup>

Due to their physical, mental, intellectual, or cognitive impairments such as cerebral palsy, attention deficit hyperactivity disorder, autism spectrum disorder, hearing, vision or speech

impairment, locomotory disabilities, etc, these children are sent either to rehabilitation centers or special schools.<sup>[1,2]</sup>

The teachers and caretakers of children with disabilities play key roles in their lives. Due to their training, school teachers have a significant impact on a huge number of kids, making them an important part in the development and implementation of preventative programs for oral health.<sup>[3]</sup> Therefore, it is crucial that their oral health knowledge is good and their behavior should reflect what the general public expect.<sup>[3]</sup>

We make an effort to evaluate the oral health practices among private and public-school instructors because there is not any research reported in the literature. The purpose of this study was to assess the knowledge, attitudes, practices, and barriers toward oral health among teachers and caregivers of children with special health-care needs (SHCN).

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## METHODOLOGY

A formal approval was acquired from the school administrators and all the school teachers before the commencement of the study. A closed ended questionnaire consisting of 35 questions based on demographic information, knowledge, attitude, practices, and barriers toward oral health was formulated and distributed among 52 special school teachers and caretakers from special schools and rehabilitation centers of Bareilly.<sup>[4]</sup>

The necessary information was to be filled out on a self-administered, closed-ended questionnaire.<sup>[4]</sup> While filling out the questionnaire, one of the researchers was constantly on hand, and participants were encouraged to contact him if they had any questions.

### Statistical analysis

For reliability, Cronbach's alpha was used. Version 25 of SPSS software was used to analyses the data. Data tabulation was done before data analysis. The Chi-square values were calculated for all the variables.

## RESULTS

The Chi-square values were calculated for all the variables.

### Demographic characteristics

The demographic characteristics of the study population are represented in Figure 1. The mean age of the study population was  $34.69 \pm 9.79$  years. The population was majorly females (37), that is, 71% and majority of them were special educator (42), that is, 80.7%. Most of the study population belonged to Jeewandhara Rehabilitation Centre (JDDRRI).

Table 1 describes the distribution of the knowledge-based responses of the study population: In a question based on frequency of brushing, 98% of participants responded correctly. About 63% had correct knowledge about the role of fluoride in general health. Majority of them responded correctly about prevention of dental problems, dentists' role in polishing and cleaning teeth, and whether they knew about the medium where it can be stored showing good knowledge about oral health.

Table 2 describes the distribution of the attitude-based responses of the study population: Attitude-related questions like – if any attempt made to give education related to teeth and mouth to their students, where 53.8% of participants responded negatively. About 61% participants did not find it necessary to visit dentist periodically, showing their unsatisfactory attitude toward oral health and hygiene.

Table 3 describes the distribution of the practice-based responses of the study population: About 67% of participants were not using any oral hygiene aid other than toothbrush, 76.9% were not using appropriate amount of toothpaste for brushing, and only 42.3% of participants were employing all possible methods to give oral health education to such children showing need of monitoring their practices regularly.

Table 4 describes the barrier domain scores: 84.6% of participants think that the oral health knowledge included in the curriculum is inadequate in comparison with general health and 63.5 % of participants consider long treatment hours as the main barrier toward not seeking oral healthcare.

## DISCUSSION

All children are different and special in their own ways. American Academy of Paediatric Dentistry defines SHCN as any physical,

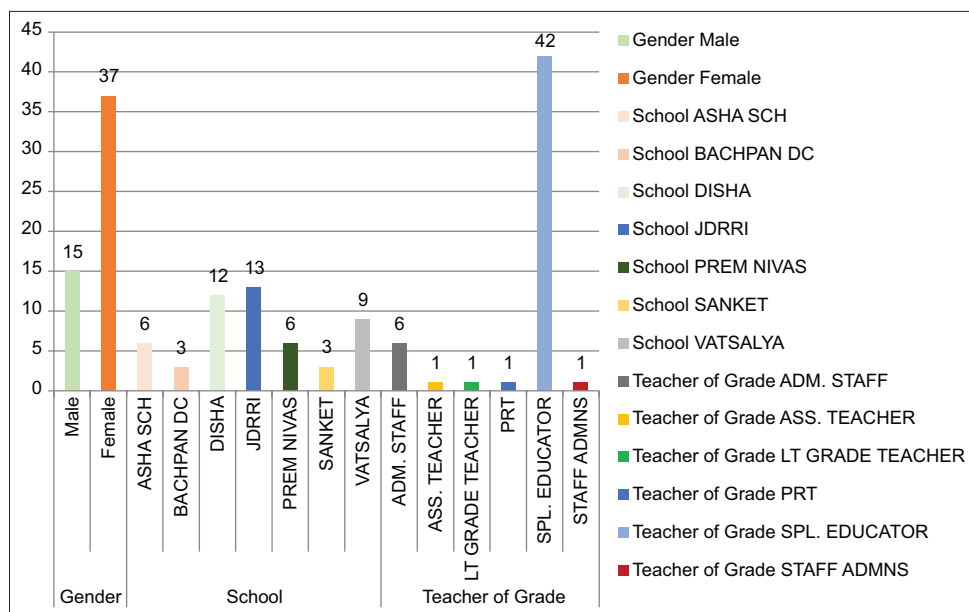


Figure 1: Demographic characteristics of the study population

**Table 1:** Distribution of the knowledge-based responses of the study population

Knowledge related question	Frequency	Percent	Chi-square	P-value
How many times do you brush?				
A day once	0	0	48.07	<0.0001*
After every meal	1	1.9		
Twice	51	98.1		
I don't brush	0	0		
How often do you visit dentist?				
Once a month	16	30.8	4.308	0.116
Once in 6 months	12	23.1		
Once in 3 months	24	46.2		
Once in 10 years	0	0		
More than one	0	0		
Has oral health got any role in fluoride in general health?				
Yes	36	69.2	7.692	0.006*
No	16	30.8		
Don't know	0	0		
What does irregular tooth brushing cause				
Decay	0	0	2.577	0.276
Gum disease	19	36.5		
Bad breath	0	0		
Stains on teeth	0	0		
Nothing	12	23.1		
All	21	40.4		
Why do we get dental problems?				
Eating sweets and ice creams	0	0	1.231	0.267
Not brushing properly	22	42.3		
Not rinsing the mouth	0	0		
Not regularly visiting a dentist	0	0		
All	30	57.7		
How can you prevent dental problems				
Avoiding sweets and sticky foods	4	7.7	33.385	<0.0001*
Brushing properly	2	3.8		
Mouth rinsing after meals	27	51.9		
Regularly visiting a dentist	0	0		
All	19	36.5		
Do you know dentist can polish and clean your teeth				
Yes	40	76.9	15.077	<0.0001*
No	12	23.1		
Does your tooth paste contain fluoride				
Yes	33	63.5	3.769	0.052
No	19	36.5		

(Contd...)

**Table 1:** (Continued)

Knowledge related question	Frequency	Percent	Chi-square	P-value
Do you know what floss is				
Yes	33	63.5	3.769	0.052
No	19	36.5		
have you visited a dentist before				
Yes	30	57.7	1.231	0.267
No	22	42.3		
Did you come across any dental emergency in the form tooth/teeth loss in your school premises?				
Yes	27	51.9	0.077	0.782
No	25	48.1		
If complete loss of permanent tooth occurs: do you know it can be replaced back?				
Yes	32	61.5	2.769	0.096
No	20	38.5		
If a tooth is broken do you know that the broken piece is useful?				
Yes	19	36.5	3.769	0.052
No	33	63.5		
If yes, do you know that it should be stored in either in coconut water, milk, egg white and carried to the dentist immediately				
Yes	14	26.9		
No	38	73.1	11.077	0.001

developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health-care intervention, and use of specialized services or programs.<sup>[5]</sup>

Oral health problems are common among children with special health-care requirements, making it difficult for parents, teachers, and caregivers to provide them efficient oral health care. These children, due to physical or mental limitations, seek oral healthcare only after the occurrence of any orodental disease.<sup>[1]</sup> Nevertheless, it is important for us to understand as health professionals that “A child with unique needs will motivate you to be a special kind of person.” So, being pediatric dentist, it is our responsibility to reach this neglected section of the society in their preventive phases.<sup>[6]</sup>

Special school teachers and caregivers from rehabilitation centers should be viewed as an important asset for promoting oral health awareness for these disabled children since they are actively putting the fundamental tenets of the WHO’s framework.<sup>[7]</sup>

The findings of the present study suggest that participant’s efforts to promote oral health are dependent on their knowledge, their attitude, and practices. This was in line with other studies conducted. Dharmashree *et al.* (2005)<sup>[1]</sup> reported that only 41.9% of teachers and 10% of caretakers knew the benefits of fluoride, 48.7% of teachers and 30% of the caretakers had taken the children to visit the dentist which shows unsatisfactory knowledge, attitude, and practices toward oral health.

Similar findings were reported by Mahendra *et al.*, (2019),<sup>[8]</sup> when she conducted a survey on 52 caregivers who were working in an institution for disabled children and 52 members in a

residential school were taken as control group, result showed that many caregivers both in special child group and control group had good knowledge, but the same did not reflect in their attitude and practice.

In our analysis, maximum participants were found to be females, that is, 71% of the total study population.

Ministry of Human Resources and Development (MHRD), Government of India (G.O.I.) have also signified the role of teachers in their student’s lives. In a study conducted by Khurana *et al.* (2020),<sup>[9]</sup> under the aegis of MHRD, G.O.I, to assess the effectiveness of oral health training programs on 52 Kendriya Vidyalaya teachers, Khurana *et al.* assessed effectiveness of oral health training program for teachers in India, where the comparative assessment of before and after training mean oral health knowledge scores revealed the increase in knowledge of teachers which was highly significant ( $P = 0.001$ ). This shows the need for continuous reinforcement of correct information about oral and dental health-related topics among teachers.<sup>[9]</sup>

Similar to our study, Alyafei *et al.* (2020)<sup>[10]</sup> explored barriers toward oral health among caregivers of disabled children and found lack of awareness and knowledge as the main barrier toward not seeking the dental health.

As found in this study, inadequate knowledge about oral health and special care of disabled children, among teachers, and caregivers a change in curriculum is required from Government. Working in the same direction, MHRD, G.O.I., have issued a guiding manual on oral healthcare for teachers and, manual on special care dentistry, that is, oral health for families with SHCN.

**Table 2:** Distribution of the attitude-based responses of the study population

Attitude related question	Frequency	Percent	Chi-square	P-value
Regular cleaning of mouth can prevent				
Bleeding from gums	1	1.9	15.385	0.002*
Loosening of gums	17	32.7		
Loss of teeth	15	28.8		
Bad smell	0	0		
All	19	36.5		
Do you think it is required to visit the dentist periodically to maintain oral health				
Yes	20	38.5	2.769	0.096
No	32	61.5		
Do you use any oral hygiene aid other than toothbrush				
No	35	67.3	3.56	0.05*
Yes	13	25.0		
Only few	4	7.7		
Are the topics related to teeth and mouth present in school curriculum				
Yes	25	48.1	0.077	0.782
No	27	51.9		
Have you been trained to give education on topics related to teeth and mouth to school children				
Yes	29	55.8	0.692	0.405
No	23	44.2		
Have you made an attempt to give education related to teeth and mouth to your students				
Yes	24	46.2	0.308	0.579
No	28	53.8		
Do you think oral health education has benefitted your school children?				
Yes	28	53.8	20.161	<0.0001*
No	3	5.8		
What are the measures you take to promote oral health in your class?				
Good oral health	5	9.6	13.423	0.001*
Tooth brushing	25	48.1		
Floss and mouthwash	0	0		
Visit to dentist	0	0		
Others	22	42.3		
Does your training include first aid course?				
Yes	26	50.0	14.226	<0.0001*
No	5	9.6		
If yes, did the first aid course cover the management of dental trauma? If no, have you attended any of the first aid training courses on your own?				
Yes	24	46.2	0.308	0.579
No	28	53.8		

Management of a disease cannot be always accessible or feasible to a major section of society. Therefore, preventive approach should be taken to completely eradicate the barriers among society toward not seeking dental health.

## CONCLUSION

This study revealed satisfactory knowledge, but poor practices and barriers toward oral health among teachers and caretakers of children with disabilities.

**Table 3:** Distribution of the practice-based responses of the study population

Practice related question	Frequency	Percent	Chi-square	P-value
How do you clean your teeth				
Tooth brush and tooth paste	34	65.4	4.923	0.027*
Tooth brush and tooth powder	18	34.6		
Finger and tooth powder	0	0		
Neem sticks	0	0		
How often do you change your brush?				
Once in 3 months	26	50.0	0.00	1.00
Once in 6 months	26	50.0		
Yearly once	0	0		
When bristles get frayed up	0	0		
What amount of paste you apply on your brush				
Full length of bristles	12	23.1	15.07	<0.0001*
Half-length of bristles	40	76.9		
Pea sized amount	0	0		
Do you press the paste in between the bristles				
Yes	38	73.1	11.077	0.001*
No	14	26.9		
Do you rinse your after meals				
Yes	50	96.2	44.308	<0.0001*
No	2	3.8		
Sometimes	0	0		
How do you clean your tongue				
Tongue cleaner	25	48.1	5.346	0.069
Fingers	12	23.1		
Tooth brush	15	28.8		
If you know any other oral hygiene aid, then which one do you use?				
Mouth wash	16	30.8	7.592	0.006*
Dental floss	36	69.2		
Tooth pick	0	0		
All	0	0		
What kind of oral health education have you given to your school children?				
About the type of teeth, function, structure and eruption	12	23.1	7.231	0.065
About brushing, good dietary habits, injurious oral habits	11	21.2		
Education about tooth decay, gum diseases, irregular teeth, their causes, treatment and prevention	21	40.4		
All of the above	8	15.4		
What methods are you employing to give oral health education to school children?				
Oral health talks	29	55.8	24.50	<0.0001*
Model charts and posters	1	1.9		
All of the above	22	42.3		
How have your students responded to oral health education?				
Favorably	17	32.7	43.56	0.001*
Unfavorably	35	67.3		

**Table 4:** Distribution of the barrier domain responses of the study population

Barrier domain score	Frequency	Percent	Chi-Square	P-value
Do you find difficulty in finding the dentist in your community?				
Yes	17	32.7	6.231	0.013*
No	35	67.3		
Do you think that the oral health knowledge included in the curriculum is inadequate in comparison with general health?				
No	8	15.4	24.923	<0.0001*
Yes	44	84.6		
Do you think sending the child during school hours for dental treatment is difficult?				
Yes	28	53.8	0.308	0.579
No	24	46.2		
Do you think the distance to travel to dentist takes more time?				
Yes	22	42.3	1.231	0.267
No	30	57.7		
What is your reason for not visiting dentist				
High cost	12	23.1	44.769	<0.0001*
Long treatment time	33	63.5		
Multi visits	4	7.7		
Long waiting hours	3	5.8		

A huge change in oral health-related knowledge and practices in the society can be brought up by periodic re-evaluation and reinforcement. To tackle the barriers, a preventive approach should be taken and it is the time to work in a continuous and comprehensive way for the upliftment of oral health status of special need children.

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