

Oral Health Knowledge and Attitude among Caregivers of Special Children in Tribal Population

Tivanani Venkata Durga Mahendra¹, Vyshnavi Mulakala²

¹Postgraduate Student, Sree Sai Dental College and Research Institute, Srikakulam, India.

²Internee, Undergraduate Student, Sree Sai Dental College and Research Institute, Srikakulam, India.

Corresponding Author: Tivanani Venkata Durga Mahendra

ABSTRACT

Introduction: Disabled children are usually dependent on others for their care. Parents, siblings, or caregivers often render this care. Unfortunately, the majority among the caregivers lack the knowledge of proper oral health care themselves and thus fail to recognize its importance resulting in not applying proper oral health behavior.

Aim: The study aims to assess the caregiver's knowledge, attitude, and practice of oral health-promoting factors towards special children in tribal population of southern India. **Materials and methods:** A total of 52 caregivers who are working in an institution for disabled children and 52 members from residential school as a control group.

Statistical Analysis: The obtained data are given for statistical analysis, and the results are subjected to the chi-square test to compare between demographical variables. Statistical significance was fixed at p-value <0.001.

Results: DMFT score of >3 is more in cases whereas, in controls, a score of ≤3 is highly seen and the level of knowledge and attitude of caregivers is reported.

Conclusion: In conclusion, many caregivers both in special child group and control group had good knowledge, but the same did not reflect in their attitude and practice.

Keywords: knowledge, Attitude, Oral health, Caregivers.

INTRODUCTION

Health is a universal human need for all cultural groups. General health cannot be attained or maintained without oral health. The mouth is regarded as the mirror of the body and the gateway to good health. [1]

American Academy of Pediatric Dentistry (AAPD) defines special health care needs (SHCN) as “any physical, 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. The condition may be congenital, developmental, or acquired through disease, trauma, or environmental cause and may pose limitations in performing daily self-maintenance activities or substantial limitations in significant life activity. [2]

Numerous studies have reported a poor state of oral health among high-risk groups of children with disabilities. [3-5] Disabled children are usually dependent on others for their care. Parents, siblings, or caregivers often render this care. Hence, these caregivers must know and are aware of the preventive practices for maintaining optimal oral health for this group under their supervision. [6,7]

Unfortunately, the majority among the caregivers lack the knowledge of proper oral health care themselves and thus fail to recognize its importance resulting in not applying proper oral health behavior. [8]

The role of caretakers working in an institution for disabled children is similar to that of school teachers. It may be even more

important because they are involved in children's daily diet, general hygiene, and oral healthcare. Despite this, no study to the best of our knowledge has focused on determining the role of such caretakers in promoting oral health among children. [9]

The study aims to assess the caregiver's knowledge, attitude, and practice of oral health-promoting factors towards special children in the tribal population of southern India.

MATERIALS AND METHODS

A total of 52 caregivers who are working in an institution for disabled children and 52 members from residential school as a control group in tribal population of southern India (Andhra Pradesh) and have

asked to fill the questionnaire regarding diet, the technique of brushing, their knowledge in maintenance of oral hygiene measures and their educational qualification, etc., Mouth mirror, straight explorer, was used to examine 186 children in both case and control groups respectively. Before the start of the study, informed consent of parent or guardians and school authorities were obtained.

STATISTICAL ANALYSIS:

The obtained data are given for statistical analysis, and the results are subjected to the chi-square test to compare between demographical variables. Statistical significance was fixed at p-value <0.001.

RESULTS

Table 1: DMFT score of children in case and control group.

Oral disease variables	Categories	Special children		Control		P value
		Frequency	Percentage (%)	Frequency	Percentage (%)	
DENTITION STATUS	0	42	22.6	84	45.2%	<0.001
	≤3	51	27.5	96	51.6%	
	>3	93	50.0	6	3.2%	
	TOTAL	186	100	186	100%	

The above table illustrates: DMFT score of >3 is more in cases whereas, in controls, a score of ≤3 is highly seen.

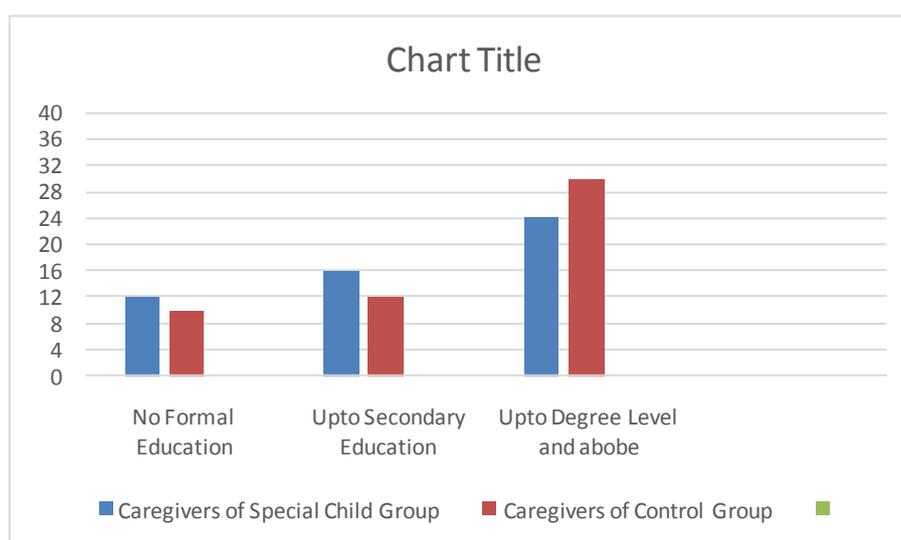


Figure 1: Education levels of caregivers: special child group and control group.

Above figure illustrates: The education levels of caregivers in special child group without formal education are 12 and in control group it is 10 upto higher secondary education 16 and 12 and Upto degree level and above 24 and 30 in special child group and control group respectively.

Table 2: Frequency and percentage distribution of the level of knowledge of caregivers in providing oral health care to special children.

	Teachers	Nurses	Layperson
1)Is oral health related to general health			
Yes	16 (30.76%)	8 (15.384%)	0
No	8 (15.384%)	4 (7.692%)	16 (30.769%)
2) Do you think disabled people are more prone to Oral health problems			
Yes	24(46.15%)	12 (23.076%)	8 (15.384%)
No	0	0	8 (15.384%)
3) Do you think cleaning teeth is important			
Yes	24(46.15%)	12 (23.076%)	12 (23.076%)
No	0	0	4 (7.692%)
4)Daily care of teeth can prevent Oral Disease			
Yes	24 (46.15%)	12 (23.07%)	4 (7.69%)
No	0	0	12 (23.07%)
5)Fluoridated toothpastes prevents dental decay			
Yes	16 (30.76%)	8 (15.38%)	0
No	8 (15.38%)	4 (7.69%)	16 (30.769%)
6)How many times it is ideal to brush teeth			
Not necessary	0	0	0
Whenever possible	0	0	4 (7.692%)
Once daily	12(23.07%)	12 (23.076%)	12 (23.076%)
Twice daily	12 (23.07%)	0	0
More than twice daily	0	0	0
7)What are the aids apart from brushing that is used			
Rinse with water	4 (7.692%)	4 (7.692%)	8 (15.384%)
Finger	8 (15.384%)	8 (15.384%)	8 (15.384%)
Mouthwash	12 (23.07%)	0	0
Tooth pick	0	0	0
Miswak	0	0	0
8)Which things can cause decayed teeth			
Sweetened confectionary	16 (30.76%)	8 (15.384%)	16 (30.769%)
Fruits like date	0	0	0
Tea/ coffee	4 (7.692%)	0	0
Carbonated drink	4 (7.692%)	4 (7.692%)	0
9)Have you seen or heard about powered tooth brush			
Never	8 (15.384%)	8 (15.384%)	16 (30.769%)
Only heard about it	16 (30.76%)	4 (7.692%)	0
Have seen it but not used	0	0	0
Used it	0	0	0

Above table illustrates the frequency and percentage distribution of the level of knowledge of the caregivers of special children, I.e., teachers, nurses, laypersons with regard to oral health-related to general health is 24 out of 52 (46.153%) replied has positive impact on general health, 44(84.613%) of them replied that special children are more prone to oral health-related problems, 48 (92.305%) of them replied cleaning of teeth is essential, 40(76.921%) of them replied daily care of teeth is essential, 24(46.153%) of them has knowledge on fluoridated toothpaste, 12(23.076%) of them has knowledge on using mouthwash and brushing twice a day, 40(76.922%) of them replied sweetened confectionery has can cause decayed teeth, 20(38.461%) of them has knowledge on powered toothbrush.

Table 3: Frequency and percentage distribution of level of the attitude of caregivers in providing oral health care to special children.

	Teachers	Nurses	Laypersons
1) How do you rate your personal Oral health			
Excellent	0	0	0
Very good	8(15.384%)	00	0
Good	12(23.076%)	8 (15.384%)	0
Fair	4 (7.692%)	4 (7.692%)	8 (15.384%)
Poor	0	0	8 (15.384%)
2)How would you rate the oral health care for the disabled			
Easy	0	0	0
Difficult	4 (7.692%)	0	0
Very difficult	8 (15.384%)	12(23.076%)	8 (15.384%)
Challenging	12 (23.07%)	0	8 (15.384%)
I don't know	0	0	0
3)How many times should we visit a dentist in a year			
When you have a problem	20 (38.46%)	8 (15.384%)	16 (30.769%)
Frequently	0	0	0
Once every year	4 (7.692%)	4 (7.692%)	0
Twice every year	0	0	0
I don't know	0	0	0

4)When you should change your tooth brush			
Whenever you like	0	0	4 (7.692%)
When bristles are out of shape	8 (15.384%)	8 (15.384%)	12 (23.076%)
Every three months	8 (15.384%)	0	0
Every six months	8 (15.384%)	4 (7.692%)	0
I don't know	0	0	0
5)How did you learn to take care of oral health of the inhabitants			
Previous training programs	8 (15.384%)	8 (15.384%)	0
By myself	12 (23.07%)	0	0
From other co-workers	4 (7.692%)	4 (7.692%)	0
I did not learn	0	0	16 (30.769%)
6) Do you think oral health training can be helpful for you to deliver better oral care to the inhabitants			
Yes	24 (46.15%)	12(23.076%)	8 (15.384%)
No	0	0	8 (15.384%)
Don't know	0	0	0
7)Which of the following do you think you need to be able to give better oral health care to the present group			
Audio video training	8 (15.384%)	8 (15.384%)	0
Hands on training	16 (30.76%)	4 (7.692%)	16 (30.769%)
No training required	0	0	0

Table 4: Frequency and percentage distribution of the level of knowledge of caregivers in providing oral health care to control children.

	Teachers	Nurses	Laypersons
1)Is oral health related to general health			
Yes	24(46.15%)	12(23.076%)	4 (7.692%)
No	0	0	12 (23.07%)
2) Do you think disabled people are more prone to Oral health problems			
Yes	24(46.15%)	12 (23.076%)	16 (30.769%)
No	0	0	0
3) Do you think cleaning teeth is important			
Yes	24 (46.15%)	12 (23.076%)	16 (30.76%)
No	0	0	0
4)Daily care of teeth can prevent Oral Disease			
Yes	24 (46.15%)	12 (23.076%)	8 (15.384%)
No	0	0	8 (15.384%)
5)Fluoridated toothpastes prevents dental decay			
Yes	20 (38.46%)	8 (15.384%)	0
No	4 (7.692%)	4 (7.692%)	16 (30.76%)
6)How many times it is ideal to brush teeth			
Not necessary	0	0	0
Whenever possible	0	0	4 (7.69%)
Once daily	8 (15.384%)	8 (15.384%)	12 (23.07%)
Twice daily	16 (30.76%)	4 (7.69%)	0
More than twice daily	0	0	0
7)What are the aids apart from brushing that is used			
Rinse with water	4 (7.692%)	4 (7.692%)	8 (15.384%)
Finger	4 (7.692%)	4 (7.692%)	8 (15.384%)
Mouthwash	16 (30.76%)	4 (7.692%)	0
Tooth pick	0	0	0
Miswak	0	0	0
8)Which things can cause decayed teeth			
Sweetened confectionary	16 (30.76%)	8 (15.384%)	16 (30.76%)
Fruits like date	0	0	0
Tea/ coffee	4 (7.692%)	0	0
Carbonated drink	4 (7.692%)	4 (7.692%)	0
9)Have you seen or heard about powered tooth brush			
Never	8 (15.384%)	8 (15.384%)	16 (30.76%)
Only heard about it	16 (30.76%)	4 (7.692%)	0
Have seen it but not used	0	0	0
Used it	0	0	0

The above table 3 illustrates the frequency and percentage distribution of the level of attitude of the caregivers of special children among teachers, nurses, laypersons concerning their oral health care among 52 members, i.e., 8 (15.384%) replied excellent, 20(38.461%) very good, 16(30.769%) fair, 8 (15.384%) poor. Oral health care of disabled children 20(38.461%) replied challenging, 28(53.844%) very difficult, 4(7.692%) difficult. Frequency of visiting a dentist per year 44(84.614%) of them replied whenever there is a problem, 8(15.384%) of them replied once a year. Rate of change of toothbrush 12(23.076%) in every

6months, 8(15.384%) in every 3months, 28 (53.844%) when bristles out of shape, 4(7.692%) whenever they want. 16 (30.769%) of them taken the previous training program. 44(84.614%) replied about the need for oral health training programs. Type of training programs, I.e., 16 (30.769%) replied Audio-Visual aids, 36(69.23%) hands-on training program.

Above table 4 illustrates the frequency and percentage distribution of the level of knowledge of the caregivers of control group, I.e., teachers, nurses, laypersons with regard to oral health-related to general health is 40(76.921%) out of 52 replied has positive impact on general health, 52(100%) of them replied that special children are more prone to oral health-related problems, all of them replied cleaning of teeth is important, 44(84.614%) of them replied daily care of teeth is important, 28(53.844%) of them has knowledge on fluoridated toothpaste, 20(38.461%) of them has knowledge on using mouthwash and brushing twice a day, 40(76.921%) of them replied sweetened confectionery has can cause decayed teeth, 20(38.461%) of them has knowledge on powered toothbrush.

Table 5: Frequency and percentage distribution of level of the attitude of caregivers in providing oral health care to control children.

	Teachers	Nurses	Layperson
1)How do you rate your personal Oral health			
Excellent	0	0	0
Very good	8 (15.384%)	0	8 (15.384%)
Good	12 (23.07%)	8 (15.384%)	8(15.384%)
Fair	4 (7.692%)	4 (7.692%)	0
Poor	0	0	0
2)How would you rate the oral health care for the children.			
Easy	12 (23.07%)	8 (15.384%)	0
Difficult	8 (15.384%)	4 (7.692%)	8 (15.384%)
Very difficult	4 (7.692%)	0	8 (15.384%)
Challenging	0	0	0
I don't know	0	0	0
3)How many times should we visit a dentist in a year			
When you have a problem	12 (23.07%)	8 (15.384%)	16 (30.769%)
Frequently	0	0	0
Once every year	8 (15.384%)	4 (7.692%)	0
Twice every year	4 (7.692%)	0	0
I don't know	0	0	0
4)When you should change your tooth brush			
Whenever you like	0	0	4 (7.692%)
When bristles are out of shape	8 (15.384%)	8 (15.384%)	12 (23.076%)
Every three months	8 (15.384%)	0	0
Every six months	8 (15.384%)	4 (7.692%)	0
I don't know	0	0	0
5)How did you learn to take care of oral health of the children			
Previous training programs	12 (23.07%)	8 (15.384%)	0
By myself	8 (15.384%)	4 (7.692%)	8 (15.384%)
From other co-workers	4 (7.692%)	0	4 (7.692%)
I did not know.	0	0	4 (7.692%)
6)Do you think oral health training can be helpful for you to deliver better oral care to the children.			
Yes	24 (46.15%)	12 (23.076%)	12 (23.076%)
No	0	0	0
Don't know	0	0	4 (7.692%)
7) Which of the following do you think you need to be able to give better oral health care to the present group			
Audio video training	16 (30.76%)	8 (15.384%)	0
Hands on training	4 (7.692%)	4 (7.692%)	8 (15.384%)
No training required	4 (7.692%)	0	8 (15.384%)

Table 5: The above table illustrates the frequency and percentage distribution of the level of attitude of the caregivers of special children among teachers, nurses, laypersons concerning their oral health care among 52 members, i.e., 16(30.769%)

replied very good, 28(53.844%) fair, 8 (15.384%)poor. Oral health care of disabled children 20(38.461%) replied easy, 20(38.461%) difficult, 4(7.692%) very difficult. Frequency of visiting a dentist per year 36(69.23%) of them replied whenever

there is a problem, 12(23.076%) once per year, 4(7.692%) twice per year. Rate of change of toothbrush 12(23.076%) in every 6months, 8(15.384%) in every 3months, 28(53.844%) when bristles out of shape, 4(7.692%) whenever they want. 20(38.461%) of them taken the previous training program. 48(92.304%) replied about the need for oral health training programs. Type of training programs, I.e., 24(46.153%) replied AV aids, 16(30.769%) hands-on training, 12(23.0765%) no need of any programs.

DISCUSSION

Oral health in special needs patients is one of the most desolated aspects of care. The degree of unmet dental needs amongst this populace is highly compromised when compared to the general population.

Disabled children and adults living in long-term accommodations are usually dependent on others for their care. Parents, siblings, or caregivers often render this care. Hence, it is essential that these caregivers have the knowledge and are aware of the preventive practices for maintaining optimal oral health for this group under their care. Unfortunately, the majority among the caregivers lack the knowledge of proper oral health care themselves and thus fail to recognize its importance resulting in not applying appropriate oral health behavior. [10]

It is known that good oral health can help in improving general health, self-esteem, social integration, and thereby the quality of life. [11,12] It has been demonstrated that oral health education is well recognized and shows improvement of attitudes and knowledge towards dental health care, especially among caregivers of special needs patients. [13]

The study aims to assess the caregiver's knowledge, attitude, and practice of oral health-promoting factors towards special children. The caregivers rendering their services to special children are teachers, nurses, laypersons who are

institutionalized in tribal populations of southern India.

DMFT score of >3 is seen in 50% of children with disabilities, and a score of ≤ 3 is most common in the control group. The high prevalence of dental caries is due to poor oral hygiene maintenance.

The level of knowledge of the caregivers of special children was anticipated, and their response has been recorded. The results of the study were noted, and knowledge of caregivers is represented as follows. 24(46.153%) out of 52 replied that there is an association between oral health on general health, 44(84.614%) of them replied that special children are more prone to oral health-related problems and the need of cleaning of teeth is essential, the role of caregivers is utmost important in providing daily care of teeth, thus caregivers should have knowledge on preventive oral hygiene measures in preventing or reducing the incidence of caries by using fluoridated supplements among those 24(46.153%) of them has knowledge on fluoridated toothpaste, 12(23.076%) of them has knowledge on using mouthwash and brushing twice a day, diet also plays a vital role in occurrence of oral cavities thus knowledge on sticky and sweetened food substances is crucial thus 40(76.921%) of them replied sweetened confectionery has can cause decayed teeth, very few had knowledge on recent advances I.e. 20(38.461%) of them has knowledge on powered toothbrush.

The level of attitude of the caregivers of special children among teachers, nurses, laypersons with regard to their personal oral health care out of 52 members replied as 8(15.384%) excellent, 20(38.461%) very good, 16(30.769%) fair, 8(15.384%) poor this gives an idea about their attitude towards maintaining proper oral hygiene measures and their attitude in providing Oral health care of disabled children 20(38.461%) replied challenging, 28(53.844%) very difficult, 4(7.692%) difficult because of their aggressive

behavior, non cooperation, can't understand or communicate. The knowledge and attitude on frequency of visiting a dentist per year 44(84.614%) of them replied whenever there is a problem, 8(15.384%) of them replied once a year and the change of toothbrush majority of them I.e., 28(53.844%) replied whenever bristles are out of shape, 4(7.692%) members replied whenever they want thus the need of educating the caregivers is important. Very few of them have attended the previous training program, and 44(84.614%) members have answered the need for oral health training programs. Type of training programs that are easy to understand and better way to communicate, of which 16(30.769%) has replied Audio-Visual aids, 36(69.23%) out of 52 replied that hands-on training program is effective.

Similarly, in the control group, the level of knowledge and attitude of the caregivers in rendering oral hygiene measures to children in residential schools. It was found that there is a need for educating the caregivers regarding the proper way of maintaining the oral hygiene measures, improving the knowledge on the use of fluoridated supplements, and recent advances like a powered toothbrush. The level of attitude in the frequency of changing the toothbrush, visiting the dentist, and the use of additional supplements. However, it is easy to perform proper hygiene measures in the control group children than compared to special children because the level of understanding and communication is better in the control group. There are high chances of a positive impact on caregivers and children by conducting educational programs and dental exhibitions in a simple, easy, and effective way to communicate the importance of maintaining proper oral hygiene.

CONCLUSION

We conclude, many caregivers both in special child group and control group had good knowledge, but the same did not reflect in their attitude and practice. It is

worthwhile to attempt regular oral health promotion education programs, with stress on attitude toward treatment modalities for their children. This study also emphasizes the need to initiate a positive attitude toward oral hygiene measures, diet restrictions, use of fluoridated supplements, and treatment modalities.

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