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RESEARCH ARTICLE

EFFICIENCY AND EFFECTIVENESS OF ORAL HEALTH MANUAL AMONG CAREGIVERS OF SPECIAL CHILDREN – A BEFORE AND AFTER COMPARATIVE STUDY

*¹Dr. Muhammed Bilal and ²Dr. Senthil Murugappan

¹Post Graduate, Department Of Conservative Dentistry & Endodontics, Sri Rajiv Gandhi College of Dental Sciences, Bangalore

²HOD, Department Of Public Health Dentistry, Indira Gandhi Institute of Dental Sciences, Pondicherry

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ABSTRACT

Aim: The aim of this study was to determine the Efficiency and Effectiveness of Oral Health Manual designed for care givers of Special children. **Methods:** Caregivers at Sathya Special School, Pondicherry were selected. A total of 100 caregivers participated in this study out of which 93 participants took the pre-test and 89 took the post test. A 14 multiple choice question bank was designed to evaluate the knowledge amongst the care gives based on the specially designed copyrighted manual prepared with regards to oral hygiene maintenance. **Results:** The test reveals there was a significant raise for percentage of correct answer before and after with a increase of 10 percentages which was found to be statistically highly significant with P Value .000 **Conclusion:** It is evident that the knowledge of the caregivers of special children about the oral health practices and their attitude towards oral hygiene maintenance is better

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INTRODUCTION

Special health care refers to "any physical, developmental, mental, sensory, behavioural, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs". The condition may be congenital, developmental, or acquired through disease, trauma, or an environmental cause and may impose limitations on performing daily self-maintenance activities or cause substantial limitations in a major life activity [American Academy of Pediatric Dentistry, 2012]. Oral diseases such as caries and poor oral hygiene can have negative impacts on the life of healthy children as well as children with special health care needs [Sheiham, 2006]. Children with disabilities have been shown to have poorer oral health than their nondisabled counterparts [Suris, 1993; Altun, 2010; Ozgul, 2014]. Variable access to dental care, inadequate oral hygiene and disability-related factors could be the few main reasons for this observation [Stiefel, 1993; Grewal, 2015]. It has been identified that educating people involved in the care of special need individuals is beneficial particularly with regard to oral health [Waldman, 2009; Shah, 2011]. Disabled children and adults living in long-term accommodations are usually dependent on others for their personal care.

*Corresponding author: Muhammed Bilal,

Post Graduate, Department Of Conservative Dentistry & Endodontics, Sri Rajiv Gandhi College of Dental Sciences, Bangalore.

Parents, siblings or caregivers usually render this care. Hence, it is important that these caregivers have the knowledge and are aware of the preventive practices for maintaining optimal oral health for this group under their care [Petersen, 2003; DeMattei, 2012]. The aim of this study is to determine the Efficiency and Effectiveness of Oral Health Manual designed for care givers of Special children.

METHODOLOGY

Source of Data: For the purpose of the study the caregivers at Sathya Special School, Pondicherry were selected. A total of 100 caregivers participated in this study out of which 93 participants took the pre-test and 89 took the post test. The 89 caregivers who reverted with the post-test were selected for the study. The caregivers were informed about the purpose of the study and informed consent was received from them.

Study Setting: A 14 multiple choice question bank was designed to evaluate the knowledge amongst the care gives based on the specially designed copyrighted manual prepared with regards to oral hygiene maintenance. The intervention manual was in the form of an oral health instruction in the Tamil language and with illustrations depicting different brushing techniques as per the requirements of the children, various types of specially designed brushes owing to dexterity issues, dietary considerations and preventive methods.

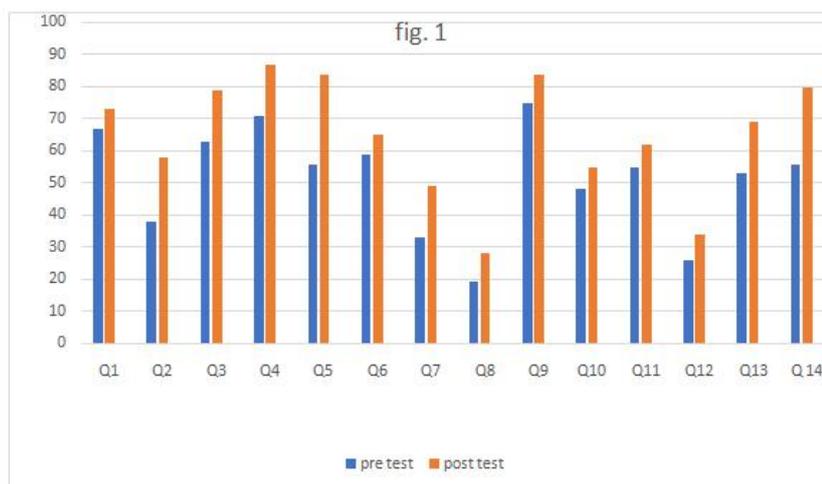


Chart 1. Percentage of correct answers for pre-test and post-test

Mean score and SD before and after				
	Mean	N	Std. Deviation	Std. Error Mean
Pretest	47.79	14	15.587	4.166
Posttest	58.07	14	16.509	4.412

Table 2. Paired samples test 1

Paired Samples Test									
		Paired Differences			95% Confidence Interval of the Difference				
		Mean	Std. Deviation	Std. Error Mean	Lower	Upper	t	df	Sig. (2-tailed)
Pair 1	Pretest - Posttest	-10.286	6.474	1.730	-14.024	-6.548	-5.945	13	.000

The multiple choice questions had to be filled by the caregivers before and after the intervention. The answers were evaluated, assessed, and documented for reference with post-test. After a period of two weeks the same questionnaire was given to be filled in as post-test. The answers were evaluated, assessed, compared and documented by the same examiner. All data was statistically analysed using SPSS 17 for windows. Percentage of correct answer before and after were tabulated for each question and paired T test was done to find out the significant raise in score before and after with P value <.05

RESULTS

A total of 89 caregivers took part in this survey. 14 questions were given to each of them and the answers have been analysed to give the following results: Table 1 indicates the data in terms of mean and standard deviation. For pre-test the results are 47.79 ± 15.59 (N= 14) and for post-test is 58.07 ± 16.51 (N=14).

Paired Sample T Test: The test reveals there was a significant raise for percentage of correct answer before and after with a increase of 10 percentages which was found to be statistically highly significant with P Value .000

DISCUSSION

Oral disease represents a major health problem among individual with disabilities (Health, 2014; Lewis, 2009; Anders, 2010).

It has been previously shown that children requiring tooth brushing assistance have poorer oral hygiene and more periodontal disease than those able to brush their teeth, reflecting the inadequacy or discrepancy in the efficiency with which oral care may be provided by care providers (Andersen, 1995; Mofidi, 2002; Chambers, 2015). In recent times, there has been an increasing awareness about the overall health and hygiene of special and differently-abled children. However, Oral health care of special needs people seems to be a challenging task for caregivers (Prabhu, 2010). In order to overcome these challenges, we designed an oral health manual with illustrations and guidelines in the regional language to facilitate better understanding. Importance of dietary considerations, newer brushing equipment's and alternative techniques were highlighted in the oral health manual specially designed for the caregivers of differently-abled children. The effectiveness of the study was evaluated using the same multiple choice questionnaire given as pre and post-test before and after the manual was provided respectively. Altaf H. Shah et al. (2017) conducted an analytical study on Oral health knowledge and attitude among caregivers of special needs patients at a Comprehensive Rehabilitation Centre and concluded that Caregivers showed a deficiency in the proper oral health attitude. To improve oral health attitudes of caregivers, dental education plus training programs should be given high priority. Our results were consistent with studies by Abd Allah et al. (2018) in which results showed that a statistically significance difference was found between the percentage of caregivers in answering the questions with right answers before and after the program where a higher percentage

answered the right answer after the program than before. The manual has therefore proved effective in improving the overall oral hygiene knowledge. However, the oral hygiene of the children need to be assessed for a further, detailed evaluation.

Conclusion

Within the limitations of this study, it is evident that the knowledge of the caregivers of special children about the oral health practices and their attitude towards oral hygiene maintenance is better. More than 70% of the care givers are well versed with the oral hygiene practice and modification for special children. Oral health programmes and service outreach has improved the knowledge level.

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Annexure

The following information was obtained using a questionnaire

-] How often is it recommended to brush a child's teeth in a day?
-] At what angle should the brush be held while brushing teeth?
-] What amount of toothpaste should be dispensed while brushing teeth?
-] Is oral health related to general health?
-] What will you do if you notice bleeding gums in a child?
-] Which of these foods are more prone to cause dental decay?
-] Toothbrush attached to a long wooden scale can be used in?
-] Which of the following can be used to help children who find difficulty in grasping objects?
-] How do you handle hygiene of wheel chair prone children?
-] How will you brush the teeth of an uncooperative child?
-] Do you think differently abled children are more prone to dental decay?
-] Have you seen or heard of powered toothbrush?
-] Does milk teeth require attention and care?
-] What is your main source of oral health information?