

**A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED
TEACHING PROGRAM ON KNOWLEDGE AND KNOWLEDGE ON PRACTICE
OF DENTAL CARIES AMONG CHILDREN OF 6 TO 10 YEARS IN
GOVERNMENT PRIMARY SCHOOL AT KEERANATHAM, COIMBATORE**

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ABSTRACT

Dental caries is one of the common infections worldwide, especially in children below 10 years of age. The food particles entrapped between the teeth cause the growth of bacteria, which on the process of their metabolism release lactic acid that degrades the enamel, thus resulting in the dental caries. This study has been designed to understand how far training about oral health and good dental practices can bring about awareness among the school going children.

Keywords: Dental caries, children, metabolism, lactic acid, awareness

INTRODUCTION

Dental caries is the destruction of enamel, dentine and cement which leads to the formation of cavity in the crown or root surface. Destruction is resulted from the production of lactic acid from food sugar especially sucrose by the activity of the bacteria *Lactobacillus sp.* and *Streptococcus mutants* (Vankoppaen, 2005). Children are the most prone population to dental caries worldwide and especially the children belonging to the age group of 6- 10 years. WHO reports that about 50- 60% of the school children in industrialized countries are affected by dental caries. Children belonging to the lower socioeconomic group are more likely to have dental caries due to their poor eating practices (Usha Giridhas, 2008). Other factors that results in dental caries is poor nutrition (Bruno- Ambrosias *et al.*, 2002) and the consumption of higher amounts of carbohydrates and sugars (Dinesh Mohan, 1986).

Brushing and flossing are the best methods to prevent dental caries (Parthasarathy, 2004). Brushing at night plays a major role in preventing the formation of caries. Bacteria are the main causative agents for dental caries as they metabolize the food articles which get trapped in between the teeth and produce lactic acid on the process. This lactic acid produced erodes the enamel of the teeth, thus causing dental caries. The only effective way

to prevent this is by spreading awareness on oral hygiene and proper brushing practices, which is the basis for this study.

METHODOLOGY

RESEARCH APPROACH

Evaluative approach was used for the study and the study was aimed at assessing the knowledge of children in the age group of 6- 10 years regarding the knowledge on dental caries and the practices which can prevent the formation of dental caries.

RESEARCH DESIGN

The study was conducted among the school children of Government primary school, Keeranatham, Coimbatore. The knowledge and knowledge on practice regarding dental caries among the children were assessed in the pretest and further they were given a training regarding dental health and practices. The difference in the knowledge was then determined using post test, where the students were subjected to the same questions as in the pre test and the improvement in their understanding was assessed. The independent variable was the structured teaching program on prevention of dental caries and the dependent variable was the knowledge about dental caries and the practices that can prevent the formation of dental caries.

SAMPLING TECHNIQUE

Simple random sampling technique by lottery method was used to select the samples for the present study. The sample size was fixed as 50. The children between 6- 10 years, who were capable of reading and writing tamil and/ or English were selected for the study.

Questionnaires were distributed to the children and consisted of three sections. The first section, Section A dealt with vital details like age, sex, educational status, type of family, occupational status and religion. Section B had 15 questions which were aimed at assessing the knowledge of the children regarding dental caries. The maximum mark given in this section was 15. Section C consisted of 20 questions related to the assessment of practice of school children regarding the prevention of dental caries.

STATISTICAL ANALYSIS

The data was subjected to various statistical analysis like t- test and co efficient of variation. All these tests were done for both knowledge and attitude change in the pre and post test data.

RESULTS AND DISCUSSION

The details obtained through Section A of the questionnaire have been tabulated in **Table I**. Majority of the children belonged to the age group of 8- 10 years and female students were more in number than male students. The majority of the participants had one sibling with both the parents having only primary school education. Most of the participants' fathers and mothers were coolies with an income less than 3300 rupees a month and public water supply were the water source.

Statistical analysis

The statistical data results have been tabulated (**Tables 2.1, 2.2, 3.1 and 3.2**). It can be seen from the results that there is significant difference in the knowledge and attitude of the test population in the pre and post test analysis.

The pretest mean score of knowledge was 7.46 and the post test score was 11, which indicates a rise in the knowledge among children following the training. Similarly the post test score of practice among school children was also found to rise following the training. The correlation between awareness and training was thus proved by his study.

Table 1- Data collected in Section A

S. No.	Demographic variables	Number	Percentage
1	Age		
	6- 8 years	34	68
	8- 10 years	16	32
2	Sex		
	Male	22	44
	female	28	56
3	Number of siblings		
	One	6	12
	Two	33	66
	Three and above	11	22
4	Type of family		
	Nuclear	34	68
	Joint	16	32

5	Father's education		
	Illiterate	13	26
	Primary	19	38
	Secondary	12	24
	Higher secondary	6	12
	Graduation and above	0	0
6	Mother's education		
	Illiterate	9	18
	Primary	23	46
	Secondary	16	32
	Higher secondary	2	4
	Graduation and above	0	0
7	Father's occupation		
	Cooli	50	100
	Non professional	0	0
	Professional	0	0
	Business	0	0
8	Mother's occupation		
	House wife	22	44
	Cooli	28	56
	Professional	0	0
	Non professional	0	0
9	Residential area		
	Urban	0	0
	Rural	50	100
10	Total monthly income		
	Below 3000	49	98
	3001- 4500	1	2
	4501- 6000	0	0
	6001 and above	0	0

11	Sources of water supply		
	Well	8	16
	Bore well	2	4
	Public water supply	40	80

Table 2.1- Comparison of pretest and post test knowledge score regarding prevention of dental caries among the children

S. No.	Knowledge	Mean	SD	t value	Level of significance
1	Pre- test	7.46	2.107	10.47	0.05
2	Post- test	11	1.93		

Table 2.2- Comparison of pretest and post test knowledge on practice score regarding prevention of dental caries among the children

S. No.	Knowledge	Mean	SD	t value	Level of significance
1	Pre- test	10	2.130	15.48	0.05
2	Post- test	16	2.25		

Table 3.1- Correlation between knowledge and knowledge on practice in pretest score regarding prevention of dental caries among the children

S. No.	Knowledge	Mean	SD	r
1	Knowledge	7.46	2.107	+0.02
2	Knowledge on practice	10	2.130	

Table 3.2- Correlation between knowledge and knowledge on practice in posttest score regarding prevention of dental caries among the children

S. No.	Knowledge	Mean	SD	r
1	Knowledge	11	1.93	+0.4
2	Knowledge on practice	16	2.25	

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