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## RESEARCH ARTICLE

# “A STUDY TO EVALUATE THE IMPACT OF CHILD TO CHILD APPROACH ON KNOWLEDGE OF CHILDREN REGARDING DENTAL HYGIENE IN A SELECTED RURAL AREA OF MYSURU DISTRICT”

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### ABSTRACT

**Background of the study:** United nation international children fund state that children are not only divine gifts, but also the mirror of a nation and hope of the world. Health of the children is a key factor in school entry as well as continued participation and achievement in school. The child spends most of the time in the school between the ages 6 and 15 years. Children are the more powerful channel for reaching out the public health information. It gives a more opportunity to prepare themselves. Child to child approach is a means of promoting health education through children. **Aim and objective:** This study was conducted to evaluate the effectiveness of child to child approach programme on knowledge of children regarding dental hygiene among children in a selected rural government school in Mysuru district Karnataka. **Methods:** A Pre-experimental One group pretest posttest design was used and 60 children were selected at Hommaragali Govt school Mysuru district using non probability convenience sampling technique. Data were collected using Selected personal variable and structured knowledge questionnaire to assess the knowledge regarding dental hygiene. A child-to-child approach was conducted for children studying 5<sup>th</sup> 6<sup>th</sup> and 7<sup>th</sup> standard students. The data were collected and analyzed using descriptive and inferential statistics. **Results:** The results of the study revealed that the significant difference between the mean pretest and post test knowledge scores was statistically tested using paired ‘t’ test and was found to be significant at 0.05 level of significance  $t_{(58)} = 14.3$  and The results also depicted that knowledge of children regarding dental hygiene had no association with their selected personal variables. **Conclusion:** The study has revealed that the child-to-child approach was effective in increasing the knowledge of children regarding dental hygiene among children. Therefore the study recommends that, it is essential to organize health campaigns and child-to-child approach to enhance the knowledge regarding dental hygiene among children.

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## INTRODUCTION

United Nation International children fund state that children are not only divine gifts, but also the mirror of a nation and hope of the world. Health of the children is a key factor in school entry as well as continued participation and achievement in school. Children are the biggest human investment for the future. It is rather unfortunate that even after 60 years of Independence our country has made little progress in improving the health condition of our school going children when compared to the developed countries. Children are an important group. The child spends most of the time in the school between the ages 6 and 15 years. Children are the more powerful channel for reaching out the public health information. It gives a more opportunity to prepare themselves.<sup>1</sup> Oral health is a fundamental component of overall health. In 2012, World Health Organization defined oral health as essential to general health and quality of life, and it is a state of being free from mouth and facial pain, oral and throat cancer, oral infection, and sores, periodontal (gum) disease,

tooth decay, tooth loss, and other diseases and disorders that limit an individual’s capacity in biting, chewing, smiling, speaking, and psychosocial wellbeing.<sup>2</sup> As per Census 2011, India, with a population of 121.1 Cr, has 13.59% (16.45 Cr) of its population in the age group 0-6 years and 30.76% (37.24 Cr) in the age group 0-14 years. While 69% of the total population of India resides in rural areas, 74% of the children (0-6 years) live in rural areas. In rural India, 33% of its population belonged to the age group 0-14 years whereas in urban areas, 26% of the total population is in age group 0 - 14 years. India has one of the largest proportions of population in the younger age groups in the world. 35.3% of the population of the country has been in the age group 0-14 years at the Census 2001. 41% of the population account for less than 18 years of age 28% constitutes children in the age between 6-10 years, 27% constitutes children in the age between 11-15 years and 16% constitutes.<sup>3</sup> Oral diseases are the most common disease that affect people throughout their life time. The Global Burden of Disease Study 2016 estimated that oral disease affects at least 3.58 billion people worldwide.

Indian Dental Associations (IDA) drafted the National Oral Health Programme to address the burden of dental diseases and to bring about 'optimal oral health' for all by 2020<sup>4</sup>. Children are the future of the country, and school is the most important place where they get first exposure to learn what is right and what is wrong, where they develop vision towards life, society and world. Thus, it is very important to make sure that children are getting right education with right approach in right environment of the school<sup>5</sup>. Child to child approach is a means of promoting health education through children. It was developed in the year 1978 by Dr David Morley (Institute of child health) and Dr. Hugh Hawes (institute of education) during the International year of children.

This approach enable children to play a meaningful role in their own lives and to promote the health, education and wellbeing of themselves and their communities.<sup>7</sup> The purpose of UNICEF's program getting ready for school: A child-to-child Approach (2007-2013) was to facilitate the successful transition of young children into primary school through the use of older school children (young Facilitators) as providers of early childhood education support to younger children in their communities.

Program goals included improved school readiness and on-time enrolment among young children as well as increased family, community, and teacher support for young children's learning.<sup>8</sup> Child-to-child is an approach to health promotion and community development that is led by children. It is based on the belief that children can be actively involved in their communities and in solving community problems. Child to child projects involve children in activities that interest, challenge and empower them. In so doing, the approach "encourages and enables children to play an active and responsible role in the health and development of themselves, other children, their families and communities".<sup>7</sup>

## OBJECTIVES

- To assess the level of knowledge, of children regarding dental hygiene.
- To evaluate the effectiveness of child to child approach program on knowledge of children regarding dental hygiene.
- To find the association between level of knowledge scores of children regarding dental hygiene and their selected personal variable.

## HYPOTHESES

**H<sub>1</sub>:** There will be significant difference between the pretest and post-test knowledge score regarding the dental hygiene among children.

**H<sub>2</sub>:** There will be significant association between the level of knowledge regarding dental hygiene among children and their selected personal variables.

## METHODOLOGY AND DATA COLLECTION PROCEDURE

A pre-experimental one group pre-test post-test design was adopted for the study. The samples were collected by non-probability convenience sampling technique.

The sample consist of 60 children. The data was collected using structured knowledge questionnaire. The tool was validated by seven experts from the paediatric dentist and nursing. The reliability of the tool was established by using split half method and the Karl Pearson's coefficient of correlation (r) was 0.88. The pilot study was conducted from 30-03-2022 to 10-04-2022. The tool and the study were found to be feasible. The data were collected from 15/05/2022 to 30/06/2022. The data analysis was done by using both descriptive and inferential statistical method

# RESULTS

## SECTION I

### DESCRIPTION OF SELECTED PERSONAL VARIABLES OF STUDY SUBJECTS

**Table 1. Frequency and percentage distribution of children according to their selected personal variables**

Sl.no	Sample characteristics	Frequency (f)	Percentage (%)
1.	Age in year		
	1.1 10-11	29	48
	1.2 12-13	31	52
2.	Gender		
	2.1 Male	27	45
	2.2 Female	33	55
3.	Class of study		
	3.1 5 <sup>th</sup>	22	37
	3.2 6 <sup>th</sup>	19	32
	3.3 7 <sup>th</sup>	19	32
4.	Types of family		
	4.1 Joint	28	47
	4.2 Nuclear	32	53
5.	Education qualification of father		
	5.1 No formal education	16	27
	5.2 SSLC to PUC	40	67
	5.3 Degree and above	4	7
6.	Education qualification of mother		
	6.1 No formal education	14	23
	6.2 SSLC to PUC	45	75
	6.3 Degree and above	1	2
7.	Occupation of father		
	7.1 Cooli	23	38
	7.2 Private employee	8	13
	7.3 Self employee	26	43
	7.4 Govt. Employee	3	5
8.	Occupation of mother		
	8.1 House wife	52	87
	8.2 Private and cooli	4	7
	8.3 Self employee	3	5
	8.4 Govt. Employee	1	2
9.	Number of siblings		
	9.1 Single	27	45
	9.2 Two	29	48
	9.3 Three and above	4	7
10.	Birth order		
	10.1 1 <sup>st</sup> child	28	47
	10.2 2 <sup>nd</sup> or 3 <sup>rd</sup>	32	53
11.	Source of information		
	11.1 Family	9	15
	11.2 Media	2	3
	11.3 Health personnel	7	12
	11.4 Teacher	41	68
	11.5 Others	1	2
12.	Diet		
	12.1 Veg.	33	55
	12.2 Mixed	27	45

The selected personal variables are age, gender, class of study, type of family, education qualification of the father and mother, occupation of the father and mother, number of siblings, birth order, source of information and type of diet as shown in table 1

**IMPACT OF CHILD-TO-CHILD APPROACH REGARDING DENTAL HYGIENE**

**Frequency and percentage distribution of level of knowledge of children according to their pre test and post test scores.**

It is evident from Table 2 that, majority 48(80%) of the children had poor knowledge and 11(18.3%) children had average knowledge regarding dental hygiene in the pre-test. Where post-test, majority 43(71.6%) of them had good knowledge.

**SECTION II**

**Table 2. Frequency and percentage distribution of level of knowledge of children according to their pre test and post test scores**

Level of Knowledge	Pre test		Post test	
	F	%	F	%
Poor knowledge (0-14)	48	80	14	23.3
Average knowledge (15-21)	11	18.3	3	5
Good knowledge (22-30)	1	1.6	43	71.6

n=60

**Table 3. Mean, median, standard deviation, range, SEM and Paired T-Test of knowledge scores of children**

Test	Mean	Median	Range	Standard deviation	SEM
Pre test	9.6	9	3-19	±3.8	0.49
Post test	21.6	23	12-30	±5.19	0.67

n=60

The data presented in Table 3 shows that, the mean pre-test knowledge score is 9.6 with standard deviation of ±3.8 and ranged from 3-19 and the mean post-test knowledge score is 21.6 with the standard deviation of ±5.19 and ranged from 12-30. This indicates that there was an increase in mean knowledge scores of children after the child-to-child approach.

**Table 4. Mean, mean difference, standard deviation difference, standard error and paired 't' value of pre-test and post-test knowledge scores of children**

Test	Mean	mean difference	standard deviation difference	standard error	paired 't' value
Pre test	9.6	12	± 1.39	0.18	*14.3
Post test	21.6				

n=60

The data presented in the Table 4 shows that the mean difference between knowledge pre-test score and post-test score is 9.6. To find the significant difference in mean knowledge scores, paired 't' test was computed and obtained value of paired 't'= 14.3, p<0.05 is found to be significant. Hence the null hypothesis is not accepted. It is inferred that there is significant improvement of knowledge after child-to-child approach.

**SECTION III**

**ASSOCIATION BETWEEN THE KNOWLEDGE AND SELECTED PERSONAL VARIABLES CHILDREN**

**Table 5. Chi-square values between level of knowledge of children and their selected personal variables**

Sl.no	Sample characteristics	Poor Knowledge	Average and good knowledge	Chi-square value
1	Age(in years)			0.2
	1.1 10-11	6	23	
	1.2 12-13	8	23	
2	Gender			0.16
	2.1 Male	7	20	
	2.2 Female	7	26	
3	Class of study			2.72#
	3.1 5 <sup>th</sup>	6	16	
	3.2 6 <sup>th</sup>	2	17	
	3.3 7 <sup>th</sup>	6	13	

n=60

4	Types of family			0.89
	4.1 Joint	5	23	
	4.2 Nuclear	9	23	
5	Educational qualification of father			1.18#
	5.1 No formal education	3	13	
	5.2 1st to PUC	10	29	
	5.3 Degree and above	1	4	
6	Educational qualification of mother			1.53#
	6.1 No formal education	4	10	
	6.2 1st to PUC	9	35	
	6.3 Degree and above	1	1	
7	Occupation of father			3.57#
	7.1 coolie and self	9	39	
	7.2 private	4	4	
	7.4 government	1	3	
8	Occupation of mother			1.07#
	8.1 Housewife and self	12	42	
	8.2 Private and coolie	1	3	
	8.4 Government	1	1	
9	Number of siblings			1.88
	9.1 Single	6	21	
	9.2 Two and above	8	25	
10	Birth order			0.89
	10.1 1st child	5	23	
	10.2 2nd or 3 <sup>rd</sup>	9	23	
11	Source of information			5.6#
	11.1 Family and media	1	10	
	11.3 Health personnel	4	3	
	11.4 Teacher and others	9	33	
12	Diet			1.06
	12.1 Veg	6	27	
	12.2 Mixed	8	19	

$\chi^2_{(1)}=3.84$ ;  $\chi^2_{(2)}=5.99$ ;  $p>0.05$ \* # = Yates correction done

The data presented in table 5 shows that, there was no statistically significant association between the level of knowledge of the children with their selected personal variables. Hence, the null hypothesis accepted and it is inferred that level of knowledge of school children regarding dental hygiene among children is not influenced by their selected personal variables.

**CONCLUSION**

Thus, the study was concluded that, the child-to-child approach was effective in enhancing knowledge regarding dental hygiene among children. Therefore, the study reinforces the need to organize health campaigns and teaching programs which sensitize the children to enhance the knowledge regarding dental hygiene among children.

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