

A study to assess the effectiveness of child to child approach on knowledge regarding hand washing among school children in selected school at Ernakulam district.

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Abstract: Background of the study : Our hands do so much for us. They are capable of a wide variety of functions: touching, grasping, feeling, holding, manipulating and performing daily activities and more. They are a vitally important part of who we are and how we see ourselves. Children love to play with mud and sand, which host a lot of germs which can cause illness. Keeping hands clean through improved hand hygiene is one of the most important step one can take to avoid getting sick and spreading germs to others. The present study was undertaken to evaluate the effectiveness of child to child approach on knowledge regarding hand washing among school children in selected school at Ernakulam district. **Objectives-**To assess the pre-test knowledge score regarding hand washing among school children in selected school at Ernakulam district. To find out the effectiveness of child to child approach on knowledge regarding hand washing among school children in selected school at Ernakulam district. To find out the association between the pre-test knowledge and selected demographic variables. **Hypotheses** (At 0.05 level of significance) **H1-** There will be significant difference in the mean pretest and posttest knowledge regarding hand washing among school children. **H2-** There will be significant association between selected demographic variables and knowledge regarding hand washing among school children. **METHODS-**Method of data collection The data was collected from the selected primary school at Ernakulam district. The main study was conducted at Government Vocational Higher Secondary School, Kuzhikad on 15/3/19. The pre-test was done among the 30 subjects, after the formal permission from the Head of the Institution. Using lottery method, researcher selected 10 subjects from the total 30 subjects and conducted teaching programme regarding hand washing. That 10 subjects selected another 2 subjects from remaining 20 subjects using lottery method and taught regarding hand washing thus child to child approach followed. The post test was conducted after 7 days, on the same subjects. **Result-**In the present study out of 30 subjects, majority of subjects 15(50%) were belonged to 8 years and 15(50%) were belonged to 9 years. According to gender majority of subjects 18(60%) belonged to male. Based on the area of residence, majority of the subjects 29(96.66%) were belonged to rural area. Distribution of occupational status of the father, major portion 12(40%) were belonged to coolie. In type of family more subjects, 21(70%) were belonged to nuclear family. Majority of the subjects 13(43.3%) have one sibling. 18(60%) of the subjects uses public tap as a water source. Majority of the subjects 17(56.66%) had pet animals. In that 7(47.05%) subjects had cat as their pet animal. Major portion 17(56.66%) of the subjects had previous knowledge regarding hand washing from teachers. At last majority of the response 22(73.33%) were belonged to the Hindu community. The mean pre-test knowledge score of subjects was 10.4. The mean posttest knowledge score of subjects was 24.2. This indicates that the mean posttest knowledge score after is higher than the pre-test knowledge score. The obtained t- value 19.006 was significant at the 0.05 level. So the selected hypothesis H1 is accepted. So the study found to be effective. **Interpretation and Conclusion** From the above findings investigator found that there was significant difference in pre-test and posttest knowledge among school children regarding hand washing after receiving child to child approach.

Key Words: Effectiveness, knowledge, school children, child to child approach.

1. INTRODUCTION:

Healthy child makes healthy generation. Children need to understand why it is important to wash their hands. To do this they need help from their parents, caregivers, and teachers or from a member of staff at their schools. Inculcating hand washing in children will provide practical advice so that children introduce the simple practice of hand washing into their everyday life. Teaching them the significance of proper hand washing is a very crucial step towards living a healthy life. Encouraging children from an early age to wash their hands will help to ensure that hand washing practice become a lifelong habit. The transmission of common communicable infections such as cold and flu can be prevented by following good hand hygiene. Our hands do so much for us. They are capable of a wide variety of functions: touching, grasping, feeding, holding, manipulating and performing daily activities. Hand washing helps to stop the spread of germs and illnesses. Once the bacteria and

germs are on a child's hands, they can travel to other areas of the body easily. Children spread germs by touching their eyes and mouth. Training is an important strategy that can be easily integrated with all other essential strategy components. Because lifestyle and behavioral choices are made in childhood, it is important that health education about hand hygiene be introduced very early to influence healthy behaviors. Child to child approach to health education is an innovative, simple, cost effective and participatory approach that makes use of the potentials of children to maximize the spread of health messages. It is an active method that encourages learning by activity and fun. In view of the above facts and interest in the topic, the researcher felt the need to assess the knowledge of school children regarding the hand hygiene and evaluate the effectiveness of child to child approach in enhancing the hand hygiene among school children.

1.1. NEED AND SIGNIFICANCE OF THE STUDY

Every October 15 since 2008, has been designated "Global Hand washing Day" an annual, global initiative which seeks to promote hand washing with soap – the most effective and cheap way of preventing diarrhea and respiratory infections. These two diseases, in combination, cause the majority of child mortality, causing millions of deaths in developing countries each year. Hand washing is significantly important in children as children are vulnerable to illness since they are very playful and more exposed to dirt, soil and other source of disease causing infections. Globally half of the hospital visit and 12% of all admission among children aged from birth to 14 years are due to infections. Among these, respiratory infection and infectious intestinal disease are responsible for 48% and 29% of child death respectively. Furthermore, worldwide about 400 million children are infected with worms due to poor hand washing practices. By teaching them proper hand washing techniques, school aged children can keep their own hands clean and also teach other children how to stop the spread of germs. Research shows that there is reduction in diarrheal diseases by nearly 50% by washing hands with soap and water. There are over 10 million episodes of food related infection in a year but most of these are probably related to lack of hand washing. Hand washing is highly habitual- a routine behavior that can be installed at an early age. Although children are aware of the importance of proper hand hygiene, education focusing on proper hand washing. A cross-sectional study done in Ethiopia to evaluate the knowledge, attitudes and practices on hygiene among rural school children and results stated that 52% of students had adequate knowledge of proper hygiene. Most students reported hand washing before meals (99.0%), but only 36.2% reported using soap. Although 76.7% of students reported that washing hands after defecation was important, only 14.8% reported actually following this practice. The study conclusion stressed the need for more hand washing and hygiene education in schools. In view of the above facts and interest in the topic the researcher felt the need to assess the knowledge of school children regarding the importance of hand washing and evaluate the effectiveness of child to child approach in enhancing the hand washing knowledge and practice among school children.

2. MATERIALS:

MATERIALS AND METHODS

Research approach

In this quantitative study with the evaluative research approach was used its goal is to evaluate Child to child approach in knowledge regarding hand washing.

Research design

The research design adopted for the study was pre-experimental with one group pre-test – posttest design.

Setting of the study

The setting of the study was Government Vocational Higher Secondary School Kuzhikad, Ernakulam district. The researchers selected this school due to easy accessibility and availability of suitable subjects for study.

Variables of the study

Dependent variables : Knowledge regarding the hand washing
Independent variables : Child to child approach

Demographic variables : Age, gender, area of residence, occupational status of father, types of family, number of siblings, source of water supply, pet animals, previous source of information, religion

Population and sample

Target population: School children studying 3rd-4th standards in school at Ernakulam district.

Accessible population: School children studying 3rd-4th standards who meet inclusion criteria in Government Vocational Higher Secondary School, Kuzhikad at Ernakulam district.

Sample: Thirty school children studying 3rd-4th standards in Government Vocational Higher Secondary School, Kuzhikad at Ernakulam district.

Sample size

In this study sample size consisted of 30 subjects from 3rd-4th standards in Government Vocational Higher Secondary School, Kuzhikad at Ernakulam district.

Sampling technique

Simple Random Sampling Technique was used.

Inclusion criteria

- Students those who are studying 3rd-4th standards.
- Students those who can understand, read and write Malayalam.
- Students those who are taken consent and assent

Exclusion criteria

- Students those who are not willing to participate in the study.
- Students those who are already participated in similar study.

Tools

The tool developed for the study consisted of a structured questionnaire. Tool developed for the study consisted of 2 parts that is Demographic data and structured questionnaire.

Section A- Socio Demographic data

Socio demographic data include age, gender, area of residence, occupational status of father, type of family, number of siblings, pet animals, previous source of information, religion.

Section B- Structured questionnaire to assess the knowledge regarding hand washing.

It contained 30 multiple choice questions with total score of 30. Each question has 4 options. One mark was awarded for correct response and zero mark was given for incorrect answer. The minimum attainable score was 0 and maximum was 30 level of knowledge was categorized as average and poor.

Validation of the tool

The tool was validated by faculty who are experts in the field of Child Health Nursing, Medical Surgical Nursing, Community Health Nursing, Obstetrics and Gynaecology.

Reliability of the tool

A pilot study was conducted to test the feasibility of the tool. The reliability of the measuring instruments is a major criteria for assessing the quality and adequacy. For the Study the reliability of instrument was analyzed by using split-half method which measures the stability of the instrument. The reliability was obtained as $r = 0.91$ which was desirable.

Ethical consideration

Research protocol was presented before the institutional ethical committee and clearance was obtained. Permission was obtained from the Head Master where study was conducted. Written informed assent were given to the 30 subject's parents prior taking permission and after explaining the purpose and nature of the study. Written consent was obtained from the subjects after explaining about the study. Subjects were ensured that confidentiality will be maintained and the data collected only be used for research purpose.

Pilot study

A pilot study was conducted on 14/02/2019 in Government Higher Secondary School, Poothrikka at Ernakulam district. Six candidates were selected by simple random sampling technique. After the pilot study, data analyzed to find out the feasibility and calculated reliability was 0.91.

Procedure for data collection

Data collection for main study was conducted at Government Vocational Higher Secondary School, Kuzhikad at Ernakulam district. Prior permission for conducting the study was obtained by the researchers from the Head of the Institution. On 15/03/2019, at 12 pm, the researchers reached Government Vocational Higher Secondary School, Kuzhikad. Written informed consent and assent was obtained from the subjects and their parents after explaining the objectives of the study. Thirty subjects of 3rd-4th standard, who met inclusion criteria

were selected using simple random sampling technique and were assembled in a classroom at 12:15 pm. Pre-test was conducted for subjects at 1 pm and it lasts for 30 minutes. Using lottery method researcher selected 10 subjects and conducted the teaching programme regarding hand washing. Then each subject selected other 2 subjects using lottery method and conducted the teaching programme to the same, thus followed child to child approach for total 30 samples. A child to child approach on hand washing teaching programme was conducted for a period of 45 minutes. After 7 days post test was conducted to assess the post test knowledge of subjects.

Plan for data analysis

The data would be analyzed in the terms of descriptive and inferential statistics and presented using figures and table.

1. Descriptive analysis

Frequency and percentage analysis was used to describe the demographic characteristic of school children. Mean score, range and deviation were used to assess the knowledge regarding hand washing among school children.

2. Inferential statistics

A paired 't' test was carried out to assess the statistical significance and to compare pre-test and post test knowledge regarding hand washing among school children. The Chi-square (χ^2) analysis was used to determine the association between the pre-test knowledge and selected demographic variables.

3. ANALYSIS:

ANALYSIS AND INTERPRETATION.

ORGANIZATION OF THE STUDY FINDINGS

Section A: Assessment of Demographic variables

Section B: Assessment of pre-test and post test knowledge

Section C: Effectiveness of child to child approach

Section D: Association of pre-test knowledge and selected demographic variables

SECTION A SOCIO-DEMOGRAPHIC DATA

Table 4.1: Age wise distribution of the subjects

N=30

Sl.No.	Age	Frequency	Percentage
1	8 yrs	15	50%
2	9 yrs	15	50%

he above table 4.1 shows that regard to age, 50% of the subjects belonged to the age of 8 years and left 50% belonged to 9 years.

Table 4.2: Gender wise distribution of the subjects

N=30

Sl.No.	Gender	Frequency	Percentage
1	Male	18	60%
2	Female	12	40%

The above table 4.2 shows gender wise distribution, 60% belonged to male

Table 4.3: Distribution regarding area of residence of the subjects

N=30

Sl.No.	Area of residence	Frequency	Percentage
1	Urban	1	3.33%
2	Rural	29	96.66%

The above table 4.3 shows distribution on area of residence, 96.66% belonged to rural area.

Table 4.4: Distribution of occupational status of the subject's father

N=30

Sl.No.	Occupational status	Frequency	Percentage
1	Coolie	12	40%
2	Government employee	5	16.66%
3	Private employee	9	30%
4	Others	4	13.33%

The above table 4.4 shows distribution of occupational status of the subject's father, 40% belonged to coolie.

Table 4.5: Distribution regarding type of family of the subjects

N=30

Sl.No.	Type of family	Frequency	Percentage
1	Nuclear family	21	70%
2	Joint family	8	26.66%
3	Extended family	0	0
4	Broken family	1	3.33%

The above table 4.5 regards distribution of type of family, 70% belonged to nuclear family.

Table 4.6: Distribution of number of siblings of the subjects

N=30

Sl.No.	Number of siblings	Frequency	Percentage
1	No siblings	4	13.3%
2	1	13	43.3%
3	2	12	40%
4	3 and above	1	3.33%

The above table 4.6 shows distribution of number of siblings of participants, 43.3% belonged to 1 sibling.

Table 4.7: Distribution of source of water supply of subjects

N=30

Sl.No.	Source of water supply	Frequency	Percentage
1	Own well water	8	26.66%
2	Bore well water	4	13.33%
3	Public tap	18	60%
4	Others	0	0

The above table4.7 shows distribution on source of water supply, 60% belonged to public tap.

Table 4.8 : Distribution of name of pet animal of the subjects

N=30

Sl.No	Name of pet animal	Frequency	Percentage
1	Dog	6	35.29%
2	Cat	7	47.05%
3	Birds	3	17.64%
4	Others	0	0

The above table4.8 regards distribution on name of pet animal of the subjects,47.05% belonged to the cat.

Table4.9: Distribution on previous knowledge of hand washing of subjects

N=30

Sl.No.	Previous knowledge	Frequency	Percentage
1	Teacher	17	56.66%
2	Mass media	2	6.66%
3	Health personnel	6	20%
4	Books	5	16.66%

The above table4.9 shows distribution on previous knowledge of the subjects,56.66% belonged to teacher.

Table 4.10: Distribution of religion of the subjects

N=30

Sl.No.	Religion	Frequency	Percentage
1	Hindu	22	73.33%
2	Christian	7	23.33%
3	Muslim	1	3.33%
4	Others	0	0

The above table4.10 shows distribution of religion of the subjects, 73.33% belonged to Hindu

SECTION B
ASSESSMENT OF PRE-TEST AND POST TEST KNOWLEDGE REGARDING HAND WASHING IN SCHOOL CHILDREN

Table 4.11: Distribution of pre-test knowledge level among subjects

N=30

Sl.No.	Sample characteristics	Frequency	Percentage
1	Excellent(86-100)	-	-
2	Good(70-85)	-	-
3	Average(35-69)	3	10%
4	Poor (<34%)	27	90%

PRE-TEST KNOWLEDGE LEVEL

N=30

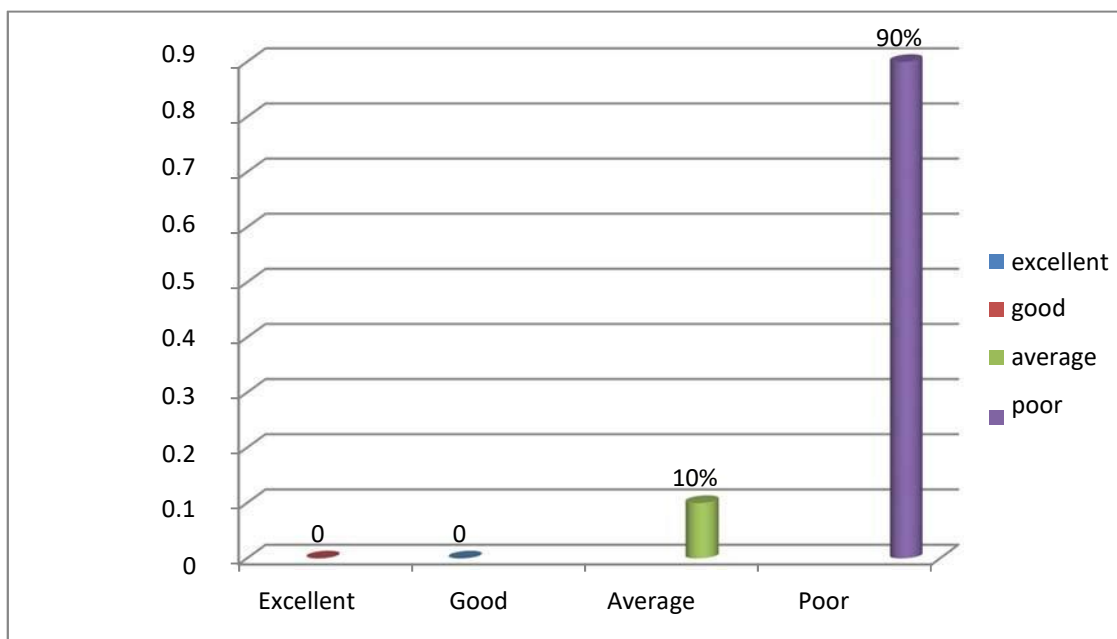


Figure 4.1: Bar diagram showing distribution of pre-test knowledge level

The above table 4.11 and figure 4.1 shows distribution of pre-test knowledge level among subjects, 90% belonged to poor.

Table 4.12: Distribution of post test knowledge level among subjects

N=30

Sl.No.	Sample characteristics	Frequency	Percentage
1	Excellent(86-100)	26	86.6%
2	Good(70-85)	4	13.3%
3	Average(35-69)	-	-
4	Poor(<35)	-	-

POST TEST KNOWLEDGE LEVEL

N=30

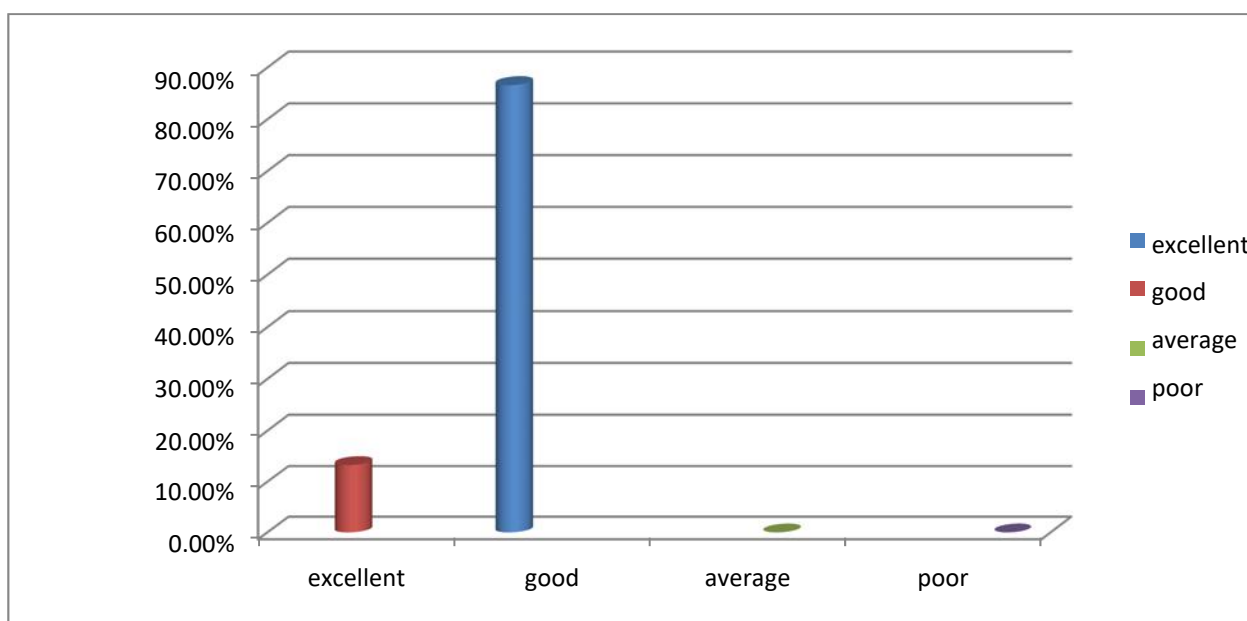


Figure 4.2: Bar diagram showing distribution of post test knowledge level

The above table 4.12 and figure 4.2 shows distribution of post test knowledge level among participants, 86.6% belonged to excellent.

SECTION C

EFFECTIVENESS OF CHILD TO CHILD APPROACH

This section deals with the effectiveness of child to child approach by the comparison of knowledge level of pre-test and post-test.

Corresponding null hypothesis: There was an association between the mean post-test knowledge level.

Table.4.13: Distribution of pre-test and post test knowledge level of subjects

			N=30
Knowledge level	Mean	Standard deviation	t-value
Pre-test	10.4	2.61	
Post test	24.2	3.03	19.006***

t(29)- 3.66***, significant at p<0.001

The above table 4.13 shows that calculated value is higher than the table value at 0.001 level of significance. This interprets that the mean post-test knowledge level regarding hand washing of school children are higher than that of the pre-test knowledge level. Thus the null hypothesis of H0 is rejected.

Table.4.14: Effectiveness of child to child approach on knowledge distribution of subjects

N=30

	Excellent	Good	Average	Poor
Pre-test	-	-	10%	90%
Post-test	86.6%	13.3%	-	-

EFFECTIVENESS OF CHILD TO CHILD APPROACH

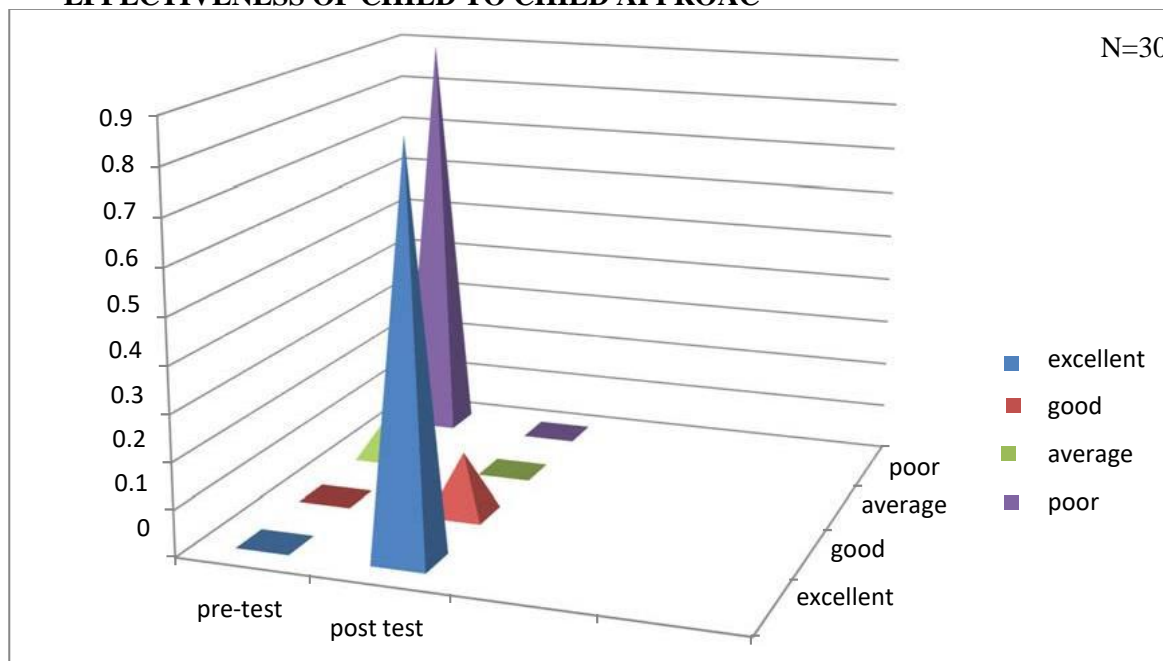


Figure 4.3: Pyramid diagram showing the effectiveness of child to child approach on knowledge distribution

The above table 4.13 and figure 4.3 interprets that the mean post test knowledge is higher than mean pre-test knowledge. i.e., the child to child approach on knowledge regarding hand washing was effective

SECTION-D

ASSOCIATION OF PRE - TEST KNOWLEDGE AND SELECTED DEMOGRAPHIC VARIABLES

Table 4.14- Distribution of pre- test knowledge of selected demographic variables of age, gender, area of residence, occupational status of father, type of family, source of water supply, previous knowledge.

Demographic Data	Average		Poor		Chi-square value	Table value	Significance
	No.	%	No.	%			
AGE							
8 Years	10	33.3%	5	16.66%	0.06	3.84	not significant
9 Years	10	33.3%	5	16.66%			
GENDER							
Male	19	63.3%	4	13.33%	0.148	3.84	not significant
Female	8	26.6%	3	10%			
AREA OF RESIDENCE							
Urban	0	0	1	3.33%	12.13*	3.84	significant
Rural	22	73.3%	7	23.3%			

OCCUPATIONAL STATUS							
Occupational Status	Average		Poor		Chi-square value	Table value	Significance
	No.	%	No.	%			
Coolie	9	30%	3	10%	5.08		
Govt. employee	5	16.66%	1	3.34%		9.49	significant
Private sector	6	20%	3	10%			
Others	2	6.66%	1	3.33%			
TYPE OF FAMILY							
Nuclear	18	60%	3	10%	3.81*	3.84	significant
Joint	5	16.66%	4	13.33%			

Broken	0	0	0	0		
SOURCE OF						
WATER SUPPLY						
Own well	7	23.3%	8	26.6%	7.134*	3.84 significant
Bore well	3	10%	4	13.33%		
Public tap	13	43.3%	18	60%		
SOURCE OF						
INFORMATION						
Teachers	12	40%	17	56.6%	3.98	9.49 not signfica

Mass media	3	10%	2	6.66%
Health personnel	3	10%	6	20%
Books	1	3.33%	5	16.66%

The table 4,14 shows there is significant association between pre test knowledge and selected variables like area of residence, type of family, occupational status, and source of water supply.

4. CONCLUSION:

The study enlightens importance of the research reveals that there was a significant lack of knowledge regarding hand washing among school children in selected school at Ernakulam District and child to child approach has a significant role in improving knowledge. The study revealed that there was association between knowledge and selected demographic variables

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