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RESEARCH ARTICLE

EFFECT OF CHILD TO CHILD APPROACH ON HAND HYGIENE PRACTICE AMONG PRIMARY SCHOOL CHILDREN.

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Abstract

Hand hygiene is a method that removes or destroys microorganisms on hands. Globally, 12% of all hospital admission among children aged from 0 to 14 years are due to infections. Among these, respiratory infections and infectious intestinal disease are responsible for 48% and 29% of child death respectively**.** The aim of the study was to assess the effect of child to child approach on hand hygiene practice among primary school children. The objective of the study wasto evaluate the effect of child to child approach on hand hygiene practice among primary school children. The study was conducted among 70 primary school children between the ages of 8 to 11 years. Design used was pre - experimental one group pre-test post-test design. Subjects were selected by using non- probability convenience sampling. Pretest was conducted by assessing the practice score of children with observation checklist on hand hygiene practice. Student trainers for providing training were selected using simple random sampling (lottery method). Training was provided to students trainers. Their efficiency were ensured after post- test. Then the student trainers were provided training to the allotted study participants. Post test conducted after 14 days by using same tool. Results showed that the mean hand hygiene post-test practice score was significantly (12.5) higher than the mean hand hygiene pre-test practice score (6.5) was calculated by paired t test. The obtained‘t’ value of (-29.7) was significant ($p<0.001$).Hence the findings reveals that child to child approach is an effective strategy to improve the hand hygiene practice of primary school children.

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Introduction:-

"Our hands do so much for us. They are capable of a wide variety of functions: touching, grasping, feeling, holding, manipulating, caressing, and performing daily activities and more. They are a vitally important part of who we are and how we see ourselves" [1].

Transmission of health related pathogens from a person to another person is through contaminated hands.Most of the pathogens mainly gram positive cocci like *Clostridium Difficile* must be capable of surviving for at least several

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minutes on hands. When growing conditions are capable like absence of hand washing are optimal for the microorganisms to continue the growth.While consuming the food without washing the hands can lead to diseases[1].

Hand hygiene is a method that removes or destroys microorganisms on hands. Globally, half of hospital visit and 12% of all admission among children aged from 0 to 14 years are due to infections[2]. Among these, respiratory infections 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[3].

In developing countries like India, poor sanitation and hygiene cause 100,000 child deaths per year[4] and 80% of the diseases are associated with poor domestic and personal hygiene; mostly children die annually due to diarrhea and acute respiratory infections[3]. Also, India has the highest number of stunted children worldwide with more than 40 percent of children[5].

A study conducted in rural Kerala shows a higher prevalence of diarrhea in coastal areas (10.6%) which were explained in the context of backwardness, poor health facilities and hygienic practices. The prevalence of diarrhea was higher in the instances where hands were never washed (41.2%) [6]. Children younger than 15 years in households washes hands with plain soap had a 53% lower incidence of diarrhea and a 34% lower incidence of impetigo[5].

Training is an important strategy that can be easily integrated with all other essential strategy components[8]. 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[7].

A comparative study was conducted to assess the impact of child-to child programme in increasing the knowledge, attitude and practice regarding diarrhoea among rural school going children in Mastmaradi and Shindoli village of district Belgam, Karnaataka. The study concluded that child-to-child programme was made significant improvement in knowledge, attitude and practices of study group students after the intervention when compared to control group students ($p< 0.0001$)[9].

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[10].

Almost four-fifth of all infections that cause illnesses can be prevented if child keep their hands properly washed and cleaned. Many children attend school and school children have been repeatedly implicated in the spread of infectious diseases within schools, homes, and the broader community, school-based hygiene and health promotion strategies have been shown to be cost effective[11]. School-aged children are receptive to learning and thus are more inclined than are adults to change their behaviour and adopt new, more healthful habits and can therefore act as agents of health change in the context of their social environments[12].

In view of the above facts and interest in the topic the researcher felt the need to assess the practice of school children regarding the hand hygiene and evaluate the effectiveness of child to child approach in enhancing the hand hygiene and practice among primary school children.

Objectives:-

The present study is intended to evaluate the effect of child to child approach on hand hygiene practice among primary school children.

Hypothesis

H1: There is a significant difference between the pre and post-test practice scores of hand hygiene among primary school children.

Methods:-

Design and setting:-

The research design adopted for the study was pre- experimental one group pre-test post-test design. The study was conducted at St. Paul's Bethany School, Kolenchery in Ernakulum district of Kerala state among primary school children between the age group of 8-11 years studying in 3^{rd}- 5^{th} standard.

Sampling:-

The sample size was calculated using nMaster sample size calculation software. The sample size was 70 primary school children (8-11 years of age) who were studying at St. Paul's Bethany school at Kolenchery.

The size was estimated using the equation:-

$$n = \frac{(Z_{1-\alpha/2}+Z_{1-\beta})^2 \sigma^2}{\mu_d^2}$$

The researcher adopted non-probability convenience sampling technique to select the primary school children for the study.

Tools:-

1. Socio Demographic Proforma to collect socio demographic data.
2. Modified WHO hand washing technique checklist.

Data collection process

After obtaining ethical clearance from the Institutional Ethical Committee of Malankara Orthodox Syrian Church Medical College Hospital, formal permission was obtained from the Principal of St. Paul's Bethany School Kolenchery and informed consent obtained from student participants and their parents. Confidentiality was assured to all subjects and their parents. Study conducted among 70 subjects who fulfilled the inclusion criteria.

Phase 1:-

1. Student trainers were selected by simple random sampling.
2. Pre-test conducted by using modified WHO hand washing technique checklist.
3. Training for the student trainers were provided by the investigator and reinforced till they achieve the efficiency.
4. Post-test conducted using the same tool.

Phase 2:-

1. Subjects for study were selected by using non probability convenience sampling.
2. Pre-test was conducted using modified WHO hand washing technique checklist.
3. The study subjects were allotted to the student trainers at 1:5 ratio.
4. Training provided for the study subjects by the student trainers
5. Return demonstration was done by each subjects and they were reinforced to follow the correct technique of hand hygiene.
6. Post-test was conducted after the 14 days.

Results:-

1. Data were analyzed by descriptive and inferential statistics using Microsoft and SPSS software.
2. Descriptive statistics of socio demographic variables of primary school children.

Table 1:-Frequency (f) and Percentage (%) distribution of primary school children according to the socio-demographic variables.

n=70

Sl.No	Variables	Frequency (f)	Percentage (%)
1.	**GENDER**	38	54.3
	Male	32	45.7
	Female		
2.	**TYPE OF FAMILY**		
	Nuclear family	42	60.0

	Joint family	27	38.6
	Extended family	1	01.4
3.	**NUMBER OF SIBLINGS**		
	1	43	61.4
	2	15	21.4
	>2	5	07.2
	None	7	10.0
4.	**EDUCATION OF FATHER**		
	Primary education	12	17.1
	Secondary education	21	30.0
	Higher secondary	22	31.4
	Diploma	13	18.6
	Degree or above	2	02.9
5.	**EDUCATION OF MOTHER**		
	No formal education	1	01.4
	Primary education	13	18.6
	Secondary education	21	30.0
	Higher secondary	14	20.0
	Diploma	15	21.4
	Degree or above	6	08.6
6.	**OCCUPATION OF FATHER**		
	Government job	4	05.7
	Private job	35	50.0
	Self-employee	29	41.4
	Unemployed	2	02.9
7.	**OCCUPATION OF MOTHER**		
	Government job	1	01.4
	Private job	28	40.0
	Self-employee	18	25.7
	Unemployed	23	32.9
8.	**PREVIOUS KNOWLEDGE REGARDING HAND HYGIENE**		
	Yes	17	24.3
	No	53	75.7

From the study it was estimated that majority of (54.3%) the participants were male and 45.7% were female. Most of the participants (60%) are coming from nuclear family and 61.4 % of them having one sibling. In the study it was depicted that majority of (31.4%) participant's father having higher secondary education and majority of (30%) participant's mother having secondary education. It revealed that majority (50%) of father and majority (40%) of mother are private employers. And majority of (75.7%) participants having no previous knowledge regarding hand hygiene.

Effects of child to child approach in terms of hand hygienic practices.

Comparison of pretest and posttest practice score of primary school children

Table 2:-Frequency and percentage of pretest and posttest practice score of primary school children. n=70

Category	Pre-test		Post-test	
	f	%	f	%
Poor	9	12.9	0	0
Average	61	87.1	5	7.1
Good	0	0	65	92.9

The practice score of hand hygiene assessed by observation checklist before and after training with child to child approach revealed that during the pretest majority (87.1%) had average practice score, 12.9% had poor practice score and none of the study subjects had good practice score. Whereas in the posttest the practice score of the subjects were improved after intervention, majority (92.9%) had good practice score and only 7.1% had average practice score.

Comparison of practice score of hand hygiene of primary school children before and after training with child to child approach.

Table 3:- Mean, SD and comparison of practice score of hand hygiene of primary school children before and after training with child to child approach.

n=70

	Mean	SD	Mean difference	SD of mean difference	t test	df	p value
Pre test	6.5	1.1	-6	1.7	-29.7	69	0.001
Posttest	12.5	1.3					

p <0.05 significant

The data shows that the mean hand hygiene practice score after the training with child to child approach was significantly (12.5) higher than the mean hand hygiene practice score before the training (6.5) was calculated by paired t test. The obtained't' value of (-29.7) was significant (p<0.001). This indicated that the difference between means (-6) was a true difference and has not occurred by chance. So the researcher accepted research hypotheses H_1. The difference between the mean pretest and posttest is due to the effect of training by child to child approach. This indicates that child to child approach is effective in improving the practice of children in hand hygiene.

Discussion:-

Objective: -

To evaluate the effect of child to child approach on hand hygiene practice among primary school children.

Comparison of pre-test and post-test level of practice score of primary school children on hand hygiene practice to evaluate the effect of child to child approach.

From the study to assess the effect of child to child approach on hand hygiene practice among primary school children, it was observed that the mean of post-test practice score (12.5) after the training with child to child approach on hand hygiene practice of primary school children were higher than the mean of pre-test practice score (6.5). There was a significant improvement in hand hygiene practice score of primary school children after the training with child to child approach. The obtained t value (t=29.7) was statistically significant (p<0.001). This indicates that the difference between mean was a true difference not occurred by chance. Therefore accepted the research hypotheses H1. Hence the child to child approach is an effective teaching program in increasing the practice of hand hygiene among children.

A similar study was conducted to assess the impact of child-to child programme in increasing the knowledge, attitude and practice regarding diarrhoea among 208 rural school going children in Mastmaradi and Shindoli village of district Belgam, Karnataka. The result showed that the pretest mean knowledge score (1.44) was significantly lower than the posttest mean score (23.57) among study group whereas in control group pretest mean knowledge score (4.04) was higher than the posttest score (3.20). The mean difference of attitude score (1.24) was significantly lower than posttest attitude score (2.96) among study group which was statistically significant ($0.27, p>0.0001). The practice pre-test score (2.24+/-1.36) was significantly lower than the post-test score (3.96+/-0.27) was statistically significant (p< 0.0001). The study concluded that Child-to-child programme was made significant improvement in practices of study group students after the intervention when compared to control group students. These similarities is due to similarity in intervention and subjects of the study.

Another contradictory study to determine the effectiveness of traditional and child to child approach of health education among 100 primary school children in Lucknow. The study found the mean difference in the knowledge scores of children significant in traditional health education group (t=5.61, p <0.05), child to child group (t=6.42,

p<0.05). A significant difference in the post health education knowledge scores were observed (t=2.06, p<0.05).This study revealed that both the traditional health education technique and child to child approach of health education has significant improvement in the knowledge level of the children. These difference is may be due to the different sample size and design of the study.

Conclusion:-

The findings of the study revealed that, the effect of child to child approach on practice of hand hygiene is found to be effective.

From this study it is evident that there is an effect of child to child approach on hand hygiene practice among primary school children. Thus the children can be used as a change agent in the community. Children play an important role in spreading health messages.Therefore we should not underestimate and forget our important resources, the children, while working positively towards Health for All.

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References:-

1. Smith D.G. Grasping the Importance of Our Hands. [INTERNET]. IN MOTION. [UPDATED 2006 DEC]. 16(6):50. AVAILABLE FROM: http://www.prs-research.org/Texts/InMotion/16-6-document.pdf
2. (FDA: Hand Hygiene in Retail and Food Service Establishments (2003); US FDA CFSAN, http://vm.cfsan.fda.gov/~comm/handhyg.html).
3. Besha B, Guche H, Chare D, Amare A, Kassahun A, Kebede E, Yeheyis T. Assessment of Hand Washing Practice and it's Associated Factors among First Cycle Primary School Children in Arba Minch Town, Ethiopia, 2015. Epidemiology (Sunnyvale). 2016;6(247):2161-1165.
4. Rukmini .S. "More than a fifth of the world's child diarrhoeal deaths occur in India". "News", 2th June 2017, https://www.huffingtonpost.in/2017/06/01/more-than-a-fifth-of-the-world-s-child-diarrhoeal-deaths-occur-i_a_22120552/.
5. Khambete Aarti Kelkar. "Stunting in India: the sanitation connect". "Your story", 17th August 2017, https://yourstory.com/2017/08/stunting-india-sanitation-connect/
6. Chitra A Grace, Nair V Mohanan. Prevalence of diarrhoeal diseases –An indicator for poor environmental sanitation. IMA Kerala Medical Journal. March 29, 2010;Voliii (1)b: Availablefromhttp://keralamedicaljournal.com/2010/03/29/prevalence-of-diarrhoeal-diseases-an-indicator-for-poor-environmental-sanitation/
7. Mbakaya BC, Lee PH, Lee RL. Hand Hygiene Intervention Strategies to Reduce Diarrhoea and Respiratory Infections among Schoolchildren in Developing Countries: A Systematic Review. International journal of environmental research and public health. 2017 Apr 1;14(4):371.
8. World Health Organization (WHO). A Guide to the Implementation of the WHO Multimodal Hand Hygiene Improvement Strategy. 2009. Available online: http://www.who.int/gpsc/5may/Guide_to_Implementation.pdf(accessed on 19 December 2015).
9. Walvekar PR, Naik VA, Wantamutte AS, Mallapur MD. Impact of Child to Child Programme on Knowledge, Attitude Practice Regarding Diarrhoea among Rural School Children. Indian Journal of community medicine. 2006 Apr 1;31(2):56-9.
10. Leena KC, D'souzaSr J. Effectiveness of child to child approach to health education on prevention of worm infestation among children of selected primary schools in Mangalore. NitteUniv J Health Sci. 2014;4:1.
11. R.Nivetha. Effectiveness of structured teaching programme on knowledge, practice and attitude regarding hand washing among school children(dissertation on the internet). Vellore: The TamilnaduDr. M.G.R. Medical University; 2016(cited 2017 Sept8): Available from:http://repository-tnmgrmu.ac.in/2759/1/3002378nivethar.pdf
12. Lopez-Quintero C, Freeman P, Neumark Y. Hand washing among school children in Bogota, Colombia. American Journal of Public Health. 2009 Jan;99(1):94-101.