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### RESEARCH ARTICLE

#### A STUDY TO ASSESS THE EFFECTIVENESS OF PLANNED TEACHING PROGRAMME ON PREVENTION OF WATERBORNE DISEASES AMONG THE MOTHER'S OF UNDERFIVE CHILDREN.

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#### Abstract

In developing countries it is the major problem of waterborne disease among the people of all age group in the India. The prevalence of the waterborne disease was high (WHO2010). More adult women are unaware about the waterborne disease. Hence, the investigators planned to assess the knowledge regarding prevention of waterborne disease among adult women of underfive children. The aim of the study was to assess the level of knowledge regarding prevention of waterborne disease among adult women at the age group of 19-59yrs in the selected community area. Find out the knowledge about waterborne disease among adult women in the age group of 19-59yrs in the selected community area and associate the knowledge level with selected demographic variables. The study was conducted in the Mahabalipuram village. A quasi experimental research design was used to conduct the study. A total of 50 samples were selected by using systematic random sampling. The knowledge level of the samples was assessed using a structured questionnaire. The collected data were analysed using the descriptive statistics and inferential statistics. The study results revealed that 4% of the adult women of underfive children are having inadequate knowledge and 66% of the adult women are having moderately knowledge and 30% of the adult women are having adequate knowledge. There was no association between the knowledge level and their demographic variables. The study concluded that efforts to be made to enhance the facilities for the person working in rural health centers to educate the rural public on prevention of waterborne diseases.

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**Introduction:-****“WATER IS ELEMENTAL, FUNDAMENTAL”****“WATER IS BUILDING BLOCK OF LIFE”****“WATER IS WE AND YOU NEED”**

Waterborne diseases most commonly are transmitted in contaminated fresh water. Infection commonly results during bathing, washing, drinking, in the preparation of food, or the consumption of food thus infected. Various forms of waterborne diarrheal disease probably are the most prominent examples, and affect mainly children in developing countries; according to the World Health Organization, such diseases account for an estimated 4.1% of the total daily global burden of disease, and cause about 1.8 million human deaths annually. The World Health Organization estimates that 88% of that burden is attributable to unsafe water supply, sanitation and hygiene. Microorganism causing diseases that characteristically are waterborne prominently include protozoa and bacteria many of which are intestinal parasites, or invade the tissues or circulatory system through walls of the digestive tract. Various other waterborne diseases are caused by viruses. (In spite of philosophical difficulties associated with defining viruses as "organisms", it is practical and convenient to regard them as microorganisms in this connection) Yet other important classes of water-borne diseases are caused by metazoan parasites. Typical examples include certain Nematodes, that is to say "roundworms". As an example of water-borne Nematode infections, one important waterborne nematodal disease is Dracunculiasis. It is acquired by swallowing water in which certain copepoda occur that act as vectors for the worm disease.

**Statement of the Problem**

Effectiveness of planned teaching programme on prevention of waterborne diseases among the mother's of underfive children in selected rural community, Kanchipuram district, Tamilnadu, India.

**Objectives:-**

- To assess the pre and post test knowledge on prevention of waterborne diseases.
- To assess the effectiveness of planned teaching programme on prevention of waterborne diseases among the mother's of underfive children.
- To find out the association between the level of knowledge on prevention of waterborne diseases with the selected demographic variable.

**Hypothesis:-**

**H1:-** There is a significant difference between the pre test and post test knowledge on prevention of waterborne disease.

**H2-** There is a significant association between the level of knowledge on prevention of under five children among the mother's of underfive children with selected socio demographic variable.

**Materials and Methods:** A Evaluative research approach and pre- experimental - one group pre test post test design was adopted. The study subjects were mothers of underfive children in the Mahabalipuram village, kanchipuram district Tamil Nadu.

**2.1 Sample Size:** 50 mothers of underfive children were selected by purposive sampling technique.

**Data were obtained by the following methods:-**

Structured Questionnaire was used to assess the knowledge mother of underfive children. The study period was one week, February (1-2-16 to 6-2-16). The data entry & analysis was done, using the Microsoft excel. Results were presented as percentage of number of mothers of underfive children with correct response. Mean and standard deviation of knowledge scores (at 95% Confidence Intervals).

**2.2 Ethical Clearance: -**

The research proposal was approved by the Institutional Human Ethics Committee of the Chettinad Academy of research and Education prior to the conduction of the study. A written permission was obtained from the Dean and HOD, Community Medicine Department, Chettinad Hospital and Research Institute, Kanchipuram. The investigator explained about the study to the adult women and obtained written consent prior to the data collection.

**Result:-**

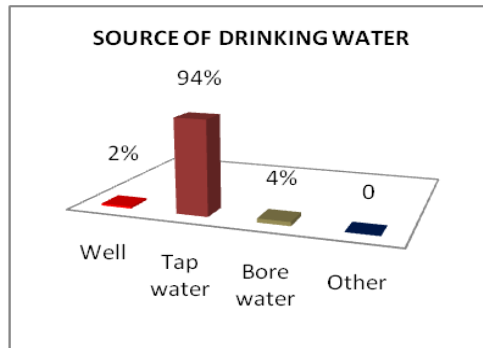


Figure no 4.3.Represent the source of drinking water.

Figure.4.2.Represent the per month family income

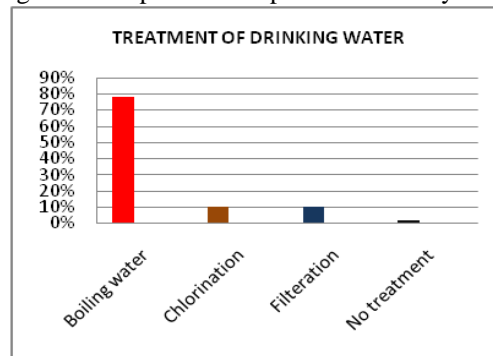


Figure .4.3. Represent the treatment of drinking water.

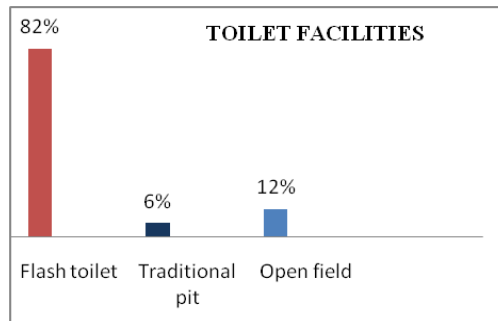


Figure: 4.4. Represent the toilet facilities.

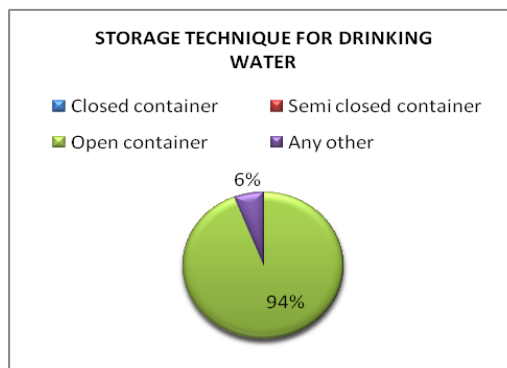


Figure.4.5: Represent the storage technique for drinking water

**Section-A: Distribution of demographic characteristics.****Table 4.1: Frequency percentage distribution of demographic variables of mother of under five children regarding prevention of waterborne disease.**

S.NO	Characteristics	Categories	N =50 Sample	
			Numbers	Percentage
1	Age of the mother	19-22 years	10	20%
		23-25 years	15	30%
		26-30 years	10	20%
		31-35 years	15	30%
2	Types of family	Nuclear family	28	56%
		Joint family	20	40%
		Extended joint family	2	4%
3	Mother's educational status	Professional or honour	2	4%
		Graduate or post graduate	12	24%
		Intermediate or post high school	20	40%
		High school certificate	8	16%
		No formal education	8	16%
4	Mother's Occupation	Profession	1	2%
		Semi profession	6	12%
		Clerical, shop, farmer	1	2%
		Semi skilled worker	1	2%
		Unskilled worker	7	14%
		Housewife	24	68%
5	Father's educational status	Professional or honour	9	18%
		Graduate or post graduate	8	16%
		Intermediate or post high school diploma	18	36%
		High school certificate	9	18%
		No formal education	6	12%
6	Father's occupation	Profession	7	14%
		Semi profession	9	18%
		Clerical, shop, farmer	5	10%
		Semi skilled		
		Unskilled worker	19	38%
		Unemployed	3	6%
7	Sources of drinking water	Well	1	2%
		Tap water	47	94%
		Bore water	2	4%
		Others	0	0%
8	locality	Urban	50	100%
		Rural	0	0%
		Any other then specify it	0	0%
9	Presence of industry, factories, companies near to the source of water	Yes	0	0%
		No	50	100%

The above table 4.1 shows that maximum of mother were between 23-25 years and 31-35 years it was (30%). Majority of family belong to nuclear family 28 and it was (56%). Majority of mother education is intermediate and post high school diploma is 20 and it was (56%). Majority of mothers are house wife is 34 and it was (68%). Majority of father education is intermediate and post high school diploma is 18 it was (36%). Majority of father's work are unskilled worker is 19 it was (38%). Majority of families living in urban is 50 and (100%) and there is no industry, companies near to village.

**Section B:****To assess the pre test and post test knowledge on prevention of waterborne diseases**

(N=50)

S.NO	KNOWLEDGE LEVEL	PRE TEST		POST TEST	
		F	%	F	%
1.	Inadequate	2	4%	0	0%
2.	Moderately adequate	33	66%	2	4%
3.	Adequate	15	30%	48	96%

**Section C:****To assess the effectiveness of planned teaching programme on prevention of waterborne disease.**

S.NO	LEVEL OF KNOWLEDGE	MEAN	STANDARD DEVIATION	DF	T-TEST	X <sup>2</sup>
1.	Pre test	16.94	2.371	49	11.76	0.05
2.	Post test	21.98	3.077			

Calculated 't' value is 11.76 in the 49 degree of freedom. 0.05 level of significance the table value of 't' is 2.000. So that the researcher reject the null hypothesis and accept the research hypothesis. The planned teaching programme was effective.

**Section D:****Table 4: Association between the levels of knowledge on prevention of waterborne diseases with the selected demographic variables.**

Sl.No.	Characteristics	Category	No. of sample	Knowledge						X <sup>2</sup>	Chi square Test
				Adequate		Moderate		Inadequate			
				N	%	N	%	N	%		
1.	Age of mother	19-22 years	10	0	0%	9	18%	1	2%	17.76	P=12.59 NS
		23-25 years	15	6	1%	9	18%	1	2%		
		26-30 years	10	5	1%	5	10%	0	0%		
		31-35 year	15	4	8%	10	20%	0	0%		
2.	Types of family	Nuclear family	28	10	2%	18	36%	1	2%	0.989	P=12.59 S
		Joint family	20	4	8%	13	26%	1	2%		
		Extended family	2	1	2%	2	4%	0	0%		
3.	Mother's education status	Professional or honour	2	1	2%	5	10%	0	0%	93.53	P=15.51 NS
		Graduate or post graduate	12	16	36%	7	14%	0	0%		
		Intermediate or post high school diploma	20	16	32%	3	6%	0	0%		
		High school certificate	8	0	0%	0	0%	2	4%		
		No formal education	8	0	0%	0	0%	0	0%		
4.	Mother's occupation	Profession	1	2	4%	1	2%	0	0%	7.9988	P=18.31 S
		Semi profession	6	4	8%	2	4%	0	0%		
		Clerical, shop, farmer	1	0	0%	0	0%	0	0%		
		Semi killed workers	1	0	0%	0	0%	0	0%		
		Unskilled workers	7	1	2%	6	12%	0	0%		
		Housewife	34	8	16%	24	48%	2	4%		
5	Father's education	Profession or honour	9	7	14%	0	0%	0	0%	70.433	P=15.51 NS
		Graduate or post graduate	8	6	12%	16	32%	0	0%		
		Intermediate or post high school diploma	18	2	4%	13	26%	0	0%		
		High school certificate	9	0	0%	4	8%	0	0%		

		No formal education	6	0	0%	0	0%	2	4%		
6	Father's occupation	Profession	7	3	6%	0	0%	0	0%	6.272	P=15.51 S
		Semi profession	9	11	22%	14	28%	0	0%		
		Clerical, shop, farmer	5	1	2%	17	34%	0	0%		
		Skilled workers	7	0	0%	2	4%	2	4%		
		Unskilled workers	19	0	0%	0	0%	0	0%		
		Un employed	3	0	0%	0	0%	0	0%		
7	Sources of drinking water	Well	1	0	0%	0	0%	1	2%	26.78	P=12.59 NS
		Tap water	47	15	30%	31	62%	1	2%		
		Bore water	2	0	0%	2	4%	0	0%		
		Others	0	0	0%	0	0%	0	0%		
8	Family's per month income	Below Rs.1600	0	0	0%	0	0%	0	0%	6.272	P=15.51 S
		Rs.1601-4809	4	0	0%	0	0%	0	0%		
		Rs.4810-8009	8	0	0%	0	0%	0	0%		
		Rs.8010-12019	24	8	16%	28	36%	2	4%		
		Above Rs.16020	14	7	14%	5	10%	0	0%		
9	Toilet facilities	Flash toilet	41	11	22%	28	56%	1	2%	4.827	P 9.49 NS
		Traditional pit	3	0	0%	0	0%	0	0%		
		Open field	6	3	6%	6	12%	1	2%		

The above table reveals that there is significant association between the knowledge and the demographic variables of per month family income, father and mother occupation and types of family. There is no association with respect to other demographic variables.

### Discussion:-

The findings are discussed based on the demographic characteristics, objectives of the study. Distribution of demographic characteristics

The study reveals that the study group of 20% is under 19-22 years of age, 30% of the women are having under than 23-25 years of age, 20% of the women are having at 26-30 years of age, 30% of the women are having at 31-35 years of age. Majority of mother were between 23-25 and 31-35 years.

56% of the women are belongs to nuclear family, 4% of the women are belong to joint family, 4% of the women are belong to extended joint family. Majority of women are belongs to nuclear family.

4% of the women are having professional education, 24% of the women are post graduated, 40% of the women are have completed their graduation degree, 16% of women are undergraduate and 16% of the women are illiterate. Majority of women are educated in (68%).

68% of the women are housewife, 2% of the women are professional worker, 12% of the women are semiprofessional worker, 16% of the women are daily wages, and 2% of women farmers, Majority of the occupation for women are housewife and it (68%).

14% of father of under five children are professional worker, 18% of fathers of under five children are completed their graduations, 10% of fathers of under five children is working as a farmer, 52% of fathers of under five children are working as a coolie, 6% of father of under five children are not working. Majority of fathers of under five children are working as coolie i.e. (52%).

48% of the family are having income from 8010-12019, 28% of the family are having income more than 16020, 16% of family having income from 4810-8009, 8% of family are having the income from 1601-4809. Majority of family's income is between 8010-12019 which was (48%).

94 % of the family using tap water for drinking purpose, 2% of the family using well for drinking purpose, 4 % of family using bore water for drinking purpose, Majority of family using tap water for drinking purpose ( 94 %).

82% of the family using flash toilet, 6 % of the family using traditional pit and 12% of the family using open field. Majority of the family's using flash toilet 82%.

54% of families paying bill for water from Rs100-Rs500, 42% of families paying bill for water above Rs500, 4% of families are not paying any money for water. Majority of families paying bill from Rs 100-Rs 500 (54%).

78% of families treating water by boiling, 10% of families treating water by chlorine, 10% of families doing filtrations of water, 2% of families are not using any methods of treatment of water. Majority of families treating water by boiling method (78%)

94% of families keeping drinking water in a close container and 6% of families using semi-open container for keeping the drinking water. Majority of families keeping drinking water in closed container (94%).

Hence it is stated that there is a significant association between levels of knowledge with selected demographic variables of the women like age of the women, educational status, family income, types of family, method of treating the drinking water, method of storing of drinking water, types of toilet, and source of water. With regard the null hypothesis is rejected.

#### **The major finding of the study was discussed under the objectives:-**

##### **Objective -1:-**

To assess the pre test and post test knowledge on prevention of waterborne diseases.

In assessing the knowledge of Mother on prevention of waterborne disease measures 4% women having inadequate knowledge 66% of the mother's are having moderate knowledge and 30% of the women are having adequate knowledge. Form the above discussion, it showed that the aspect wise mean scores mothers on prevention of waterborne disease. The mean score of the mother's on prevention of waterborne disease mean is 16.94 and standard deviation is 2.371. Table value is less then calculated values so reject the null hypothesis and accept the research hypothesis there will be significant difference between pre test and post test.

##### **Objective –II:-**

To assess effectiveness of planned teaching programme on prevention of waterborne diseases among the mother's of underfive children.

The effectiveness of planned teaching programme on prevention of water borne diseases among the mother's of underfive children. The study finding revel that calculated 't' value is 11.76 in the 49 degree of freedom and in 0.05 level of significance the table value is 2.000.so that reject the null hypothesis and accept the research hypothesis. The planned teaching programme was effective.

##### **Objective- III:-**

To find out the association between the level of knowledge on prevention of waterborne diseases with the selected demographic variable.

Chi-square test and "t" test was used to identify the influence of demographic variables on knowledge on prevention of waterborne diseases among mother of underfive children. The study findings revealed that there is significant association on prevention of waterborne disease among mothers of underfive children with demographic variables. The association between demographic variables in relation with the knowledge aspects of mother's of underfive children with aspects of knowledge on prevention of waterborne disease. It is showed there is no significant difference between knowledge aspects with age, educational status, income, at p value <0.05 level of significant. The demographic variable such as age of the person, educational status, family income, occupation, types of family, storing of water, method of treating, toilet facilities, source of water, showed no significant.

#### **Conclusion:-**

The finding of the present study reveals that 4% of adult women are having inadequate knowledge and 66% of adult women are having moderate knowledge and 30% adult women adequate knowledge in the pre test but in post test it has been found that there is 4% of adult women are having moderate knowledge and 96% of adult women are having adequate knowledge. There by the collected data gives us the result that these study groups had moderate knowledge regarding prevention of waterborne disease in pre test and adequate knowledge in post test. The

researcher felt that by conducting structured teaching programme the study group has gain adequate knowledge on prevention of waterborne disease.

**Recommendations:-**

1. A Comparative study to assess the level of knowledge regarding the waterborne disease and its preventive and management can be taught to the mother.
2. Similar study on a large population with a follow up to find out number of mother with a good knowledge regarding prevention of waterborne disease.

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