A Correlational Study to Assess the Knowledge and Practice Regarding Water Borne Diseases and Its Prevention Among Mothers with a View to Conduct a Health Education Programme at Selected PHC of Gurgaon

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Abstract: **Water borne diseases are cause for the deaths of millions of people every year. In developing countries four-fifth of all the illnesses are caused by water borne diseases. Diarrhoea, cholera and typhoid are among the most common water borne diseases. The purpose of the study was to assess the knowledge and practice regarding water borne disease.The research approach adopted for this study was descriptive survey and research design was correlational in nature. Methodology: A descriptive design was used to assess the knowledge and practice regarding water borne disease and its prevention. The sample consisted of 300 mothers of under five children. Purposive sampling technique was used for the selection of samples. The instrument for the data collection was a structured interview schedule and self -expressed rating scale. Part A: Consist of socio-demographic data, Part B: Consist of 30 items (structured questionnaire) to assess the knowledge regarding water borne disease & Part C: Consist of self -expressed rating scale. Results: Data gathered were analysed and interpreted in the light of objectives and hypotheses using descriptive and inferential ststistics.The result showed that out of 300 respondents 82(27%) of mothers are in age group of 18-24 years who were having under five children,244(81%), belong to Hindu religion,62(21%) went to middle education,98((33%) were not working ,171(57%) belong to nuclear family and 90(30%) having family income per month Rs 10,001-15,000/.Regarding the assessment of knowledge and practice score, mean knowledge score was 10.97 and mean practice score was 31.27.The score showed that 160(53.33%) were having poor knowledge but practice score indicated that 282(94%) were having good practices. The correlation between knowledge and practice scores showed not significant. Findings related to association of knowledge with selected demographic variables that had significant association with education at 0.05 level of significance. Findings related to association of practice with selected demographic variables showed that it had significant association with type of family and family income at 0.50 level of significance. Conclusion: From the data collected and analysis it can be concluded that there exists poor knowledge deficit on water borne disease and its prevention but good practices were found amongst the mothers. So to update and improve their awareness regarding the water borne disease and its prevention, an health education programmed was planned and organized.**

Keywords: **Water borne diseases, Diarrhoea, Under five children, Knowledge, Practice, Cholera, Typhoid, Mothers.**

1.   INTRODUCTION

Child is greatest gift to everyone that we will ever receive. In turn we must give unconditional love, values, skills and abilities, secures surrounding and good health to the child, Children are the future of the country. They constitute the most important and vulnerable segment of our population and are truly the foundations of our nation. The global under-five mortality rate has fallen by 53 per cent, from 91 deaths per 1,000 live births in 1990 to an estimated 43 in 2015. In 1990, 12.7 million children around the world died before reaching their fifth birthday; in 2015, that number has fallen to 5.9 million children. Over the same period, the number of new-born babies who died within the first 28 days of life declined

from 5.1 million to 2.7 million. The global picture of water and health has a strong local dimension with some 1.1 billion people lack basic access to drinking water resource, 2.4 billion people have inadequate sanitation facilities, which clearly accounts for many related acute and chronic diseases. Some 3.4 million people, many of them are young children die each from waterborne diseases such as intestinal diarrhoea, cholera, typhoid and dysentery. Today we have strong evidence that water-sanitation and hygiene-related diseases account for some 2,213,000 deaths annually. Diarrhoea occurs worldwide and causes 4% of the health loss to disability.

Diarrhoea is a leading killer of children, accounting for 9 per cent of all deaths among children under age 5 worldwide in 2015. This translates to over 1,400 young children dying each day. It is spread by contact with water containing multiple viruses and unfortunately, most supplies are contaminated from sewage and agricultural runoff, as the country's rapidly expanding population puts more and more pressure on natural resources. Cholera is the next disease on the list among the water borne disease, which can happen to both children and adults occurring when a person ingest water that is infected with the bacterium Vibrio cholera and which most alarmingly can kill in just a few hours. Researchers have estimated that each year there are 1.3 to 4.0 million cases of cholera, and 21 000 to 143 000 deaths worldwide due to cholera. Cholera is diarrhoeal in nature and it can kill in hours if left unattended. In India cholera related deaths are most common in places with shortage of good quality water. Typhoid fever is a systemic infection caused by Salmonella enterica serotype Typhi (S. typhi).The disease remains an important public health problem in developing countries. According to the most recent estimates (published in 2014), approximately 21 million cases and 222 000 typhoid-related deaths occur annually worldwide. To improve the economic progress of developing countries, water contamination and spread of infectious diseases must be handled. This is achieved through (drinking) water treatment sewage, waste and sewage water treatment and education on personal and food hygiene.

Need of the study: The World Health Organization estimates that 88% of that burden is attributable to unsafe water supply, sanitation and hygiene. If no action is taken to address unmet basic human needs for water, as many as 135 million people will die from these diseases by 2020. Even if the explicit Millennium Goals announced by the United Nations in 2000 are achieved – unlikely given current international commitments – between 34 and 76 million people will perish from water related diseases by 2020.

A***im of the study:*** The aim of study was to assess the knowledge and practice regarding water borne disease and its prevention among mothers of under five children and deliver a health education programme.

PROBLEM STATEMENT:

A correlational study to assess the knowledge and practice regarding water borne diseases and its prevention among mothers with a view to conduct a health education programme at selected PHC of Gurgaon.

OBJECTIVES:

1.To assess the level of knowledge among mothers regarding water borne diseases and its prevention in selected PHC **2.**To assess the level of practice among mothers regarding water borne diseases and its prevention in selected PHC **3.**To determine the relationship between knowledge score and practice scores of mothers regarding water borne diseases & its prevention **4.**To determine the association of the mean knowledge score regarding water borne diseases and its prevention with selected demographic variables among mothers in selected PHC **5.**To determine the association of the mean practice score regarding water borne diseases and its prevention with selected demographic variables among mothers in selected PHC **6.**To prepare a health education program on water borne disease & its prevention.

2.   REVIEW OF LITERATURE

A cross-sectional study conducted by **Gasana, J., Mark, A.S., Gabriel, M., Howard, W. (2016)** study carried out from January to February (dry season) 2012 in Arba Minch Zuria, Southern Ethiopia. A total of 590 households were included in this study and a complete response was obtained from all (100%) respondents. The mean age of mothers was 29.5 (SD ± 6. 7), the range being from 15 to 45 years. The majority of mothers 565 (95.7%) were married. More than two-thirds (66.90%) of households had a family size greater than 5 people. The majority of mothers 366 (62%) did not attend formal education. The findings of this study showed that the prevalence of diarrhoea is high (30.5%). The occurrence of diarrhoea was positively associated with maternal education, age of the child, and personal hygiene.

Burnett, E., Dalipanda, T., Ogaoga, D., Gaiofa, J., Jilini, G., Halpin, A. et al. (2016) conducted household-level survey at Papua New Guinea, initiated a cholera prevention program which included cholera disease prevention and treatment messaging, community meetings, and a pre-emptive cholera vaccination campaign targeting 11,000 children aged 1–15 years in selected communities in Choiseul and Western Provinces about knowledge, attitudes, and practices regarding diarrhoea and cholera in areas targeted and not targeted for cholera vaccination. Respondents in vaccinated areas were more likely to have received cholera education in the previous 6 months (33% v. 9%; p = 0.04), to know signs and symptoms (64% vs. 22%; p = 0.02) and treatment (96% vs. 50%; p = 0.02) of cholera, and to be aware of cholera vaccine (48% vs. 14%; p = 0.02). There were no differences in water, sanitation, and hygiene practices.

Saju,C.R., C. J. Navya,C.J., Vidhu, M. Joshy,M. P., Radhamani M. V.(2016) conducted a cross- sectional study in a rural area among 103 mothers of under-five children with acute diarrhoea in the past six months Most mothers were in the higher income 80 (77.6%) group. Those who practised hand washing after toilet and before cooking was 96 (93.2%). Proportion of mothers using boiled water for drinking was 99(96.1%); bottle feeding 77(74.8%); and practised sanitary waste disposal methods 93(90.3%). The practice of using boiled water was statistically significant among higher income group (P =0.047). Occupation of the mother was significantly associated with the habit of child's eating out (P=0.019). This study shows that the practice of hand washing and use of boiled water for drinking was lower among lower socioeconomic families.

3. METHODOLOGY

The research approach selected for this study was **descriptive survey** approach and design selected for this study was **Correlational design,** the independent variable was the Health Education Programme on water borne disease & its prevention, the dependent variable was the knowledge and practice of mothers regarding water borne diseases & its prevention, setting was PHC or MCH clinic in rural area at Kasan & Bhorakala, the population was the **mothers of under five children of Gurgaon**. The sample consisted of **mothers who had children below 5 years of age,** in a selected PHC.**Purposive sampling technique** was used for selecting the mothers of under-five children; the sample size was **300** mothers of under five children.

Criteria for selection of samples:

Inclusion criteria - 1) Mothers who were attending PHC or MCH clinic in rural area at the timing of data collection. 2) Mother who had children below 5years. 3) Mothers who were willing to participate and available during data collection. 4) Mothers who could understand Hindi.

Exclusion criteria -

1) Mothers who had already been exposed to education on waterborne diseases. 2) Mothers who had hearing problem. 3) Mothers who had any psychiatric problems or sensory impairment.

Data collection tool and techniques:

Structured interview schedule was prepared for data collection-

S.NO	TOOL	PURPOSE	DATA COLLECTION TECHNIQUE
1. A. B.	**Structured Interview Schedule** Demographic data Structured Knowledge Interview Schedule	To collect the demographic data To assess the knowledge of mothers regarding water borne disease.	Interviewing Interviewing
2.	**Self-expressed Rating scale**	To assess the practice of water borne diseases & its prevention.	Interviewing

1. Development of the tools:

Part A – Demographic data

Part B – Structured knowledge interview schedule

Part C – Self -expressed rating scale

Description of the structured interview schedule:

Part A: Consists of questions to collect baseline data, regarding socio demographic variables of mothers of under five children such as Age, Religion, Education Occupation, Type of family and family income.

Part B: It includes structured questions for collection of information regarding knowledge of mothers of under five children about water borne disease. It include 30 multiple choice questions. These tools, which were in English was translated into Hindi by professors. Therefore the same translated version was used for data collection. The total possible score for knowledge was 30."Good knowledge" was described by an aggregate score of 21-30, and "average knowledge" by 11-20 and "poor knowledge" by 1-10.

Part C: It includes self -expressed rating scale which was used to collect data regarding practice aspect, it include 20 questions regarding water borne disease prevention among the mothers of under five children. The total possible score for knowledge was 40."Good knowledge" was described by an aggregate score of 27-40, and "average knowledge" by 14-26 and "poor knowledge" by 1-13.

Data collection procedure:

Administrative permission was obtained from concerned authority of the selected Primary Health Centre, Gurgaon to conduct the final research study. Data was collected from January to February. Written consent was taken and the confidentiality of their responses was assured. The purposive sampling technique was used to select the members of under five children. Collected the data from mothers after that health education programme was conducted on the same day by the researcher.

Plan for data analysis:

Data analysis was planned by using descriptive and inferential statistics. Frequency and percentage distribution would be used to analyse demographic variables. A chi square (χ^2) test would be done to determine association between the levels of knowledge and practice with their selected socio demographic variables of mothers. Spearman's rank correlation coefficient was used to find the relationship between knowledge and practice regarding water borne diseases & its prevention.

Ethical Consideration:

Ethical clearance obtained from the ethical committee of the institution. Consent from sample had been taken at the time of data collection.

4. DEMOGRAPHIC PROFILE

The highest 82(27%) of the mothers of under five children were in age group of 18-24 years, majority of mothers 244(81%) belonged to Hindu religion, highest 62(20.66%) had middle education , majority of them 98(33%) were not working, most of mothers 171(57%) belonged to nuclear family and 90 (30.00%) in the income group of 10,001-15,000/-month.

Knowledge regarding waterborne disease and its prevention:

In the present study 53.33% of the mothers had poor knowledge, 45.33% had average knowledge and 1.34% had good knowledge and practice score were 0%, 6%, 94% which were poor, average and good respectively.

Practice regarding water borne disease and its prevention:

In the present study out of 300 respondent highest percentage, 62(20.66%) had middle education,55 (18.33%) were primary education, 52(17.33%) were illiterate or secondary education, 46(15.33%) were senior secondary education and 33(11.00%) in any other category.

Co efficient of Correlation knowledge and practice scores:

The calculated value was r= 0.067*at the level P= 0.05 level of significance where as the table value was 0.095 which showed that there was no relationship between knowledge scores and practice scores.

Knowledge scores with selected demographic variables:

In the present study the maternal knowledge score was poor and practice score was good toward the water borne disease and its preventive measures.

Association of expressed practice scores with selected demographic variables:

In the present study the knowledge of mothers had significant relationship with education.

5.   DISCUSSION

The researcher in the study assessed the knowledge and practice regarding water borne disease and its prevention among mothers of under five children with a view to conduct a health education programme.

In our study the highest (27%) of the mothers of under five children were in age group of 18-24 years, had middle education (20.66%).majority of them were not working and in the income group of 10,001-15,000 per month. Majority (57%) percentage of them was from nuclear family. Majority (81.33%) of mothers belonged to Hindu religion. In a study by **N. Sumathi (2012**) findings showed that highest (36.5%) percentage of the mothers of under five children were in the age group of 26-30 years, had higher secondary school education(41%).Majority of them were house wives and in the income group of Rs. 5001 – 7000. Highest (78%) percentages of them were from nuclear family. Almost all of them were belongs to Hindu religion. Fifty percentages of them had received information through health personnel and family members. In our study 53.33% of the mothers had poor knowledge, 45.33% had average knowledge and 1.34% had good knowledge and practice score were 0%, 6%, 94% which were poor, average and good respectively. In a study by **Abdinia, B. (2014)** study showed that the 28.8% of the mothers had a good knowledge while the 46.5% had medium and 24.7% suffered low knowledge and practice score was 51.98%, 30.03% and 17.99% of the mothers was poor, medium and good, respectively in water borne disease and its treatment.

In our study out of 300 respondent highest percentage, 62(20.66%) had middle education,55(18.33%) were primary education, 52(17.33%) were illiterate or secondary education, 46(15.33%) were senior secondary education and 33(11.00%) in any other category. In a study by **Venkata Ramanaiah D et al. (2015)** Out of the 120 respondents, 44(53%) of them had attended basic education, 40(33%) went to secondary school and 36(14%) went to the university. This is due to the fact that, the majority of the population with only basic education cannot really understand what water borne diseases are as well as measures geared at preventing them. In our study the maternal knowledge score was poor and practice score was good toward the water borne disease and its preventive measures. The findings of the study was relevant with the study by **Yelein s.s Altin.S (2001)** who found the knowledge, attitude and practice of mothers towards water borne disease, use of ORS and preventive measures. The maternal knowledge and practices with regards to these were inadequate and in some areas grossly deficient. In our study the knowledge of mothers had significant relationship with education. In a study conducted by **Amir Abdollah Ghasemi et. al. (2013)** the knowledge of the mothers had significant relationship with the age of the mother, education of the father, number of children, occupation of the mother, and the source of the knowledge. There is an association of education with knowledge scores which shows improvement in education can improve the knowledge level.

6.   CONCLUSION

Mothers were deficit in knowledge regarding water borne disease and its prevention. Good practice was found regarding water borne disease and its prevention among mothers of under five children. There was no correlation between knowledge scores and practice scores. There was a significant association of knowledge score with educational status and no association with variables like Age, religion, occupation, type of family and family income per month of mothers. There was a significant association of practices scores of mother with type of family, family income per month and no significant association with age, religion, education, and occupation varibles.Prepared and administered the health education programme on water borne diseases &its prevention.

REFERENCES

[1]   Burnett, E., Dalipanda, T., Ogaoga, D., Gaiofa, J., Jilini, G., Halpin, A., et al. (2016) knowledge, attitudes, and practice regarding Diarrhea following an Oral Cholera vaccination Campaign in the Solomon Islands.PLOS Negl Trop Dis ,10(8), doi.org/10.1371/journal.pntd.0004937

[2]   Gasana, J., Mark, A.S., Gabriel, M., Howard, W. (2016).*public* health crisis resulted from the switching of the water. *Int J Environ Res Public Health*, 13(4), 358- 361 doi:10.3390/ijerph13040358

[3]   Venkata Ramanaiah, D., Salam, NMA.,Arumugam, A.,Ravi Prabhu, G.(May,2015). Sociodemographic Profile of Acute Diarrhoeal Diseases in a Tertiary Care Hospital, Tirupati. IOSR Journal of Dental and Medical Sciences (IOSR-JDMS), 14(5). ISSN: 2279-0853

[4]   Saju, C.R., C. J. Navya, C.J., Vidhu, M. Joshy, M. P., Radhamani M. V.(2016). A study on selected behavioural factors of mothers influencing acute diarrhoea in under- five children in a rural part of Kerala, India. *Int J community Med Public Health*, 3(8), 2211-2216 doi: 10.18203/2394-6040.ijcmph20162572

[5]   Pathak, h., (2015). Effect of water borne diseases on Indian economy. Retrieved from available from http; // www. Gits4u.com

[6]   World health organisarion. (2016). *Media Centre*. Retrieved from http://www.who.int/mediacentre/factsheets/ fs107/en/

[7]   Chabba, A, .S. (2013).*Water Borne Diseases in India*.Retrieve from https://en.wikipedia.org/wiki/Cholera