

A Study to Assess the Level of Knowledge Regarding Water Borne Diseases and its Prevention Among Mothers of Under Five Children in Selected Rural Community Area Bangalore

Kulwinderjit Kaur¹, Ramesh Kumari², Gagandeep Kaur^{3*}

¹GNC, Amritsar, India.

²Mai Bhago College of Nursing Tarn Taran, India.

³Institute of Nursing University Regional Centre Shri Goindwal Sahib, India.

Abstract

The study was to assess the level of knowledge regarding water borne diseases and its prevention among mothers (18–34 years) of under five children in Rupena, Agrahara in Bommanahalli area Bangalore”. The objective was to study level of knowledge regarding water borne diseases and its prevention. The research methodology adopted for this study was descriptive in nature. Sixty mothers were selected for this by using convenient sampling method. Data was collected by using structured interview schedule. Major findings of the study were overall mean score is 26.83 with a mean percentage 89.43% and standard deviation 2.93. The aspect wise mean score knowledge was found in the area of waterborne diseases 90% cholera, 86.33% diarrhea, 88% dysentery, hepatitis 87% and polio 94.33%. A significant relationship was observed between education, food pattern and source of information with the knowledge. Whereas age, occupation, monthly income and type of family do not show any relationship of mothers regarding water borne diseases and its prevention. Result of this study reveals that 8.33% of mothers were having moderate knowledge of water borne diseases and its prevention and 91.67% of mothers were having adequate knowledge on water borne diseases and its prevention.

Keywords: Knowledge, prevention, water borne diseases, under five children, mothers, rural community

***Author for Correspondence:** E-mail: gagankang84@yahoo.com

INTRODUCTION

Water-borne diseases are caused by water that has been contaminated by human and animal waste and include diseases such as cholera, typhoid, shigella, polio, meningitis and hepatitis A and E. humans can act as hosts to the bacterial, viral or protozoal organisms that causes diseases. Millions of people have little access to the sanitary waste disposal or to clean water for personal hygiene. Among the so many reasons the absence of proper facilities can cause water borne diseases. Fresh water sources, drinking water and food are contaminated by throwing excreta into it.

The outbreak of cholera occurs seasonally and it is associated with poor nutrition and poverty that is why it is a disease that mostly occurs in developing countries^[1-4].

Cholera is a disease of developing countries as it occurs seasonally. Cholera is a disease that mainly linked with poverty and poor nutrition. It is relatively new disease than chickenpox and tuberculosis. It is traced in India in 1826. Due to cholera so many people are died which is estimated as 1830, 40,000 in a year^[5, 6].

Like Cholera, Dysentery is usually found in impoverished areas with poor sanitation and is spread by fecal contamination of food and water. Epidemics of dysentery are common in these areas impoverished areas with poor sanitation^[7].

In the spring 2000, the threat of water borne diseases increases as the spread of *E.coli* bacteria in water in a town resulted in so many deaths and made so many suffered from this disease (ill peoples). As the people are not receiving the filtered and purified water thus the disparity of water supply is also one of the big issue. People are forced to purchase the high cost poor quality of water from the vendors. All these responsible for poor personal hygiene and that spread the communicable diseases. Among them water borne diseases are more common. The onset of water borne diseases is enormous and largely attributed by the fact that the WHO has estimated that 1.1 billion people globally lack basic access to drinking water sources^[8].

LITERATURE REVIEW

A study was conducted to detect the occurrence of entero-pathogenic bacteria in children in Iran. In this study the populations selected were the children less than 5 years having diarrhoea. 1600 rectal swabs were collected from the children and examined. The result of the study shows that 6.8% *E.coli*, 3.4% *Shigella*, 2.9% *Salmonella*, 0.9% *Campylobacteria*, 0.7% *Yersinia* were detected from the rectal swabs^[9].

A Study conducted regarding water supply and occurrence of water borne diseases in Douala district. In these, children under five years were selected. The study revealed that the children were more vulnerable to diarrhea, gastroenteritis and dysentery. The study also revealed that the causes of the occurrence of water borne diseases are lack of access to potable

water, absence of sanitary facilities and environmental factors^[10].

A study was conducted on the outbreak sources of Shigellosis. It includes a piped public water supply. 242 cases of acute diarrhoeal illness occurred in Sam Nago sub district, Tak Province. About 30% of the cases were culture positive multiresistant *Shigella flexneri*. The outbreak affected all age groups, with the highest attack rate 9.4% in children < 5 year old. The first 10 cases occurred during 1 and 5 and a subsequent 158 cases 65.3% clustered between 6 and 10. Most cases 93% occurred in the villages sharing the common piped water system A. the inhabitants who were served by system A had a significantly $P < 0.01$ higher attack rate of infection 7% than those who used the other piped public water system B 0.1% or well water 0.3%. A case control study revealed a significant association between disease and drinking unboiled piped water^[11].

A case control study was conducted to identify a sudden outbreak of severe diarrhea that was reported from the village in Orissa. After the sudden occurrence all the wells were chlorinated immediately and the cases were managed symptomatically.

Descriptive epidemiology suggested clustering of cases around one public well. *Vibrio Cholerae El T or O1*, serotype Ogawa was isolated from 4 of 6 rectal swabs. The water from the public well was associated with the outbreak (matched odds ratio: 12.95% confidence interval 1.2–44.1).

Due to this the well water was protected immediately. So this study shows the broader use of epidemiological methods to implement the public health actions guided by epidemiologic data to control a cholera Epidemic^[12].

OBJECTIVES OF THE STUDY

1. To assess the Level of Knowledge Regarding Water Borne Diseases and its Prevention among mothers of Under Five Children.
2. To find the association of knowledge among mothers of under five children with selected demographic variables.

PURPOSE OF THE STUDY

In our country 38–40% of our general population includes children. They are the leaders of tomorrow. The major health care concept faced by these children are the water borne diseases commonly include diarrhea, cholera, polio, dysentery, hepatitis etc. literacy, poverty, pollution, overpopulation made it difficult to provide health care services. Hence prevention seems to be the overall solution in promoting the health of the Children. Water and poor sanitation claims millions of deaths in the developing countries. Worm infestations contributed 13.9% of admission in the pediatric hospitals. Most of the children were anemic and eosinophilic due to water borne diseases. Thus this increases the mortality rates in children. “Health for all by 2025 AD” will remain a dream unless the mothers of under five children gain enough information regarding water borne diseases. So the investigator felt that there is a need to undertake a study to assess the knowledge regarding water borne diseases and its prevention among mothers of under five children.

METHODOLOGY

The objective of this study was to assess the knowledge of mothers of less than five year children regarding water borne diseases and its prevention Descriptive research approach was used. Descriptive survey design helps the researcher to assess the knowledge 60 samples of mothers age group 18–34 years who are living in the Rupena Agrahara was selected for the study. Convenient sampling technique was used. Structured

questionnaire was administered. Socio demographic variables includes Age, Educational status, occupation, family income, type of family, food pattern, sources of information. Validity was checked by 7 experts. Reliability was checked by correlation coefficient i.e., $r = 0.92$.the proposed study was conducted after the approval of dissertation committee of Chinai College of Nursing. The data was analyzed by using descriptive and inferential statistics.

DATA ANALYSIS

Organization of the Findings

The data was organized and presented in three sections

Description of Socio Demographic Variables of Mothers in Frequencies and Percentage Analysis.

Table 1: Frequency and Percentage Distribution of Mothers According to their Age in Years.

S.No.	Age in years	Frequency	Percentage
1	18–22	19	31.67
2	23–28	30	50
3	29–34	11	18.33
4	Total	60	100

Table 2: Frequency and Percentage Distribution of Mothers According to their Educational Status.

S.No.	Educational status	Frequency	Percentage
1	Illiterate	9	15
2	S.S.L.C	36	60
3	Graduate	15	25
4	Total	60	100

S.S.L.C = Secondary School Leaving Certificate

Table 3: Frequency and Percentage Distribution of Mothers According to their Occupation.

S.No.	Occupation of the mother	Frequency	Percentage
1	House wife	19	31.67
2	Private job	35	58.33
3	Government job	6	10
	Total	60	100

Table 4: Frequency and Percentage Distribution of Mothers According to their Monthly Income.

S.No.	Monthly income of the mother	Frequency	Percentage
1	Less than ` 3000	7	11.67
2	` 3000–5000	24	40
3	Above ` 5000	29	48.33
	Total	60	100

Table 5: Frequency and Percentage Distribution of Mothers According to Type of Family.

S.No.	Type of family	Frequency	Percentage
1	Single	31	51.67
2	Joint	27	45
3	Nuclear	2	3.33
	Total	60	100

Table 6: Frequency and Percentage Distribution of Mothers According to Food Pattern.

S.No.	Food pattern	Frequency	Percentage
1	Vegetarian	7	11.67
2	Non Vegetarian	53	88.33
3	Total	60	100

Table 7: Frequency and Percentage Distribution of Mothers According to Sources of Information.

S.No.	Sources of information	Frequency	Percentage
1	Television	20	33.33
2	Radio	13	21
3	Newspaper	27	45
4	None	0	00
5	Total	60	100

Table 1 shows that majority of the mothers (50%) were in the age group of 23–28 years, (31.67%) were in 18–22 years, (18.33%) were in 29–34 years of age. Table 2 shows that majorities (60%) of mothers have done S.S.L.C, 25% of them were graduates and 15% were illiterate. Table 3 shows that 58.33% mothers were on private jobs, 31.67% were house wives and 10% were doing government jobs. Table 4 shows that majorities 48.33% of

them have monthly family income above ` 5000, 40% of them have family Income of ` 3000–5000 and 11.67% of them have family income of less than ` 3000. Table 5 shows that majority 51.67% belongs to single family, 45% belongs to joint family and 3.33% belongs to nuclear family. Table 6 shows that majority 88.33% were non vegetarian and 11.67% were vegetarian. Table 7 shows that 45% gains knowledge through newspaper, 33.33% through T.V and 2% through Radio.

Assessment of Knowledge of Mothers Regarding Water Born Diseases, Cholera, Diarrhea Dysentery, Hepatitis, Polio and its Prevention

Table 8: Frequency and Percentage Distribution of Mothers According to level of knowledge.

S.No.	Knowledge level	Frequency	Percentage
1	Inadequate (<50%)	0	0
2	Moderate (51–75%)	5	8.33
3	Adequate (>75%)	55	91.67
	Total	60	100

This table shows that frequency and percentage of level of knowledge among mothers regarding water borne diseases and its prevention. It shows that 8.33% of mothers were having moderate knowledge and 91.67% were having adequate knowledge regarding water borne diseases and its prevention.

Relationship Between Overall Knowledge on Water Born Diseases and its Prevention with Socio Demographic Variables of the Mothers Such as Age, Educational Status, Occupation, Monthly Income, Type of Family, Food Pattern and Sources Of Information.

Table 9: Frequency and Percentage Distribution of Mothers According to Demographic variables.

S.No	Demographic variables	No.	%	Level of knowledge						Chi ²
				Inadequate		Moderate		Adequate		
				F	%	F	%	F	%	
1.	Age of mother									
	18–22	19	31.7	0	0	16	84.21	3	15.79	2.37 NS
	23–28	30	50	0	0	29	96.67	1	3.33	
29–24	11	18.3	0	0	10	90.91	1	9.09		
2.	Educational status									
	Illiterate	9	15	0	0	6	66.67	3	33.33	8.87 S
	S.S.L.C	36	60	0	0	35	97.22	1	2.78	
Graduate	15	25	0	0	14	93.33	1	6.67		
3.	Occupation of the mother.									
	House wife	19	31.67	0	0	16	84.21	3	15.79	2.24 NS
	Private job	35	58.33	0	0	33	94.29	2	5.71	
Government job	6	10	0	0	6	100	0	0		
4.	Monthly income of the mother									
	Less than ` 3000	7	11.67	0	0	5	71.43	2	28.57	4.65 NS
	` 3000–5000	24	40	0	0	22	91.67	2	8.33	
Above ` 5000	29	48.33	0	0	28	96.55	1	3.45		
5.	Type of family									
	Single	31	51.67	0	0	29	93.55	2	6.45	4.71 NS
	Joint	27	45	0	0	25	92.59	2	7.41	
Nuclear	2	3.33	0	0	1	50	1	50		
6.	Food pattern									
	Vegetarian	7	11.67	0	0	5	71.43	2	28.57	4.24 S
Non Vegetarian	53	88.33	0	0	50	94.34	3	5.66		
7.	Sources of information									
	Television	20	33.33	0	0	16	80	4	20	6.2 S
	Radio	13	21	0	0	17	94.44	1	5.56	
	Newspaper	27	45	0	0	27	100	0	0	
None	0	00	0	0	0	0	0	0		

NS - Not Significant S - Significant

The above table shows the result obtained on chi square analysis of association between level of knowledge on water borne diseases and its prevention with demographic variables. Among the variables accounted the association of knowledge of mothers with demographic variables such as educational status of mother, food pattern, sources of information were statistically significant and age, occupation, monthly family income, type of family were not significant at 5% level with knowledge level.

DELIMITATION

1. This study is delimited to mothers between the age group of 18–34 years.
2. This study is delimited to mothers of under 5 children.
3. This study is delimited to 60 samples.

CONCLUSION

The following conclusions were drawn from the present study. Majority of the mothers (50%) were in the age group of 23–28 years, (31.67%) were in 18–22 years and (18.33%) were in 29–34 years of age. (60 %) of mothers have done S.S.L.C, 25% of them were graduates and 15% were illiterate. 58.33% mothers were on private jobs, 31.67%

were house wife's and 10% were doing government jobs. 48.33% of them have monthly family income above ` 5000, 40% of them have family Income of ` 3000–5000 and 11.67% of them have family income of less than ` 3000. Majority 51.67% belongs to single family, 45% belongs to joint family and 3.33% belongs to nuclear family. 88.33% were non vegetarian and 11.67% were vegetarian. 45% gains knowledge through newspaper, 33.33% through T.V and 2% through Radio. It shows that 8.33% of mothers were having moderate knowledge and 91.67% were having adequate knowledge regarding water borne diseases and its prevention. Among the variables accounted the association of knowledge of mothers with demographic variables such as educational status of mother, food pattern, sources of information were statistically significant and age, occupation, monthly family income, type of family were not significant at 5% level with knowledge level.

REFERENCES

1. Basavanthappa B.T. *Nursing Research*. 1st ed. New Delhi: Jaypee brothers medical publishers; 1998: 24p.
2. Basavanthappa B.T. *Community Health Nursing*. 1st ed. New Delhi: Jaypee brothers medical publishers; 1998.
3. Marlow D.R., Redding B.A. *Textbook of Pediatric Nursing*. 6th ed. 1998.
4. Gupta M. C. *Textbook of Preventive and Social Medicine*. 3rd ed. New Delhi: Jaypee publishers; 2003.
5. Rao K.S. *An Introduction to Community Nursing*. 3rd ed. New Delhi: B.J. Publishers; 2000.
6. Park K. *Textbook of Preventive and Social Medicine*. 15th ed. Banarsidas Bhanot publishers; 2005.
7. Gupta. *An outbreak of cholera associated with an unprotected well*. Chennai: National institute of epidemiology; 2009.
8. Mabiza et al. An outbreak of dysentery in rural Zimbabwe. *Journal of health and nutrition*. 2009.
9. Polit and Hungler. *Nursing Research*. 5th ed. J. B. Lippincott Company; 1995.
10. James S.P. *Child Health Nursing*. California: Addison-Wesley Publishing Company; 2000: 227p.
11. Cookfair J.M. *Nursing Care in the Community*. 2nd ed. New York: Library of congress in publications Data; 1997: 318–20p.
12. Sachdeva A. *Advances in Pediatrics*. 1st ed. New Delhi: Jaypee publishers; 2007: 1000p.