

A Study to Assess the Effectiveness of Health Education on Knowledge with Reference to Prevention and Home Management of Diarrhoea Among Mothers of Under Five Children in Selected Rural Area at Karad Taluka

Tina Joseph¹, Prakash Naregal²

¹MSc Nursing, Krishna Institute of Nursing Sciences Karad, Dist-Satara (Maharashtra), India

²Lecturer, Krishna Institute of Nursing Sciences, Karad, Dist-Satara (Maharashtra), India

Abstract:

Objectives:

- To assess the knowledge of mother of under five children with reference to diarrhea.
- To assess the knowledge of mothers of under five children with reference to prevention of diarrhea.
- To assess the knowledge of mother of under five children with reference to home management of diarrhea.
- To assess the effectiveness of health education on knowledge with reference to prevention and home management of diarrhea among mothers of under five children.
- To find the association of knowledge score on prevention and home management of diarrhea with selected demographic variable.

Methodology: The study was conducted on 100 mothers of under five children in selected rural areas of Karad. The tool used for data collection was a structured knowledge questionnaire. An evaluative approach was used. Non probability purposive sampling technique was used. Pre-experimental one group pretest post design was used. The study adopted King Imogene goal attainment theory. **Results:** The pre test and post test data analysis revealed that the mean post score (22.44 ±2.401) was higher than the mean pre test score (7±3.473). **Conclusion:** The study concluded that health education is an effective method for providing knowledge with reference to prevention and home management of diarrhea.

Keywords: Health education, knowledge, under five children, prevention of diarrhea and home management of diarrhea, Effectiveness.

1. Introduction

'The country's children is a supremely important asset'
-National Health Policy

Diarrhea is one of the commonest causes of morbidity among young children in developing countries as well as low income countries. A nationwide survey reveals that India has the highest infant mortality rate in the world. Diarrhea is the second largest cause of childhood mortality in the world. It is responsible for 4000 million episodes and 2.3 million death each year in under 5 years children in India. According to the report of UNICEF 2012, diarrhea causes 11% of death worldwide and 13% of death in India. In Maharashtra diarrhea causes 33% of under five mortality rate.¹

In year 2011, according to UNICEF diarrhea is responsible for 1.7 million infant mortality in India. In the last two decades the mortality due to diarrhea in children under five years has reduced. This reduction may be due to correct case management as per standard treatment guidelines recommended by WHO. And use of oral rehydration therapy as a keystone in the management.²

Each child under 5 years of age experiences an average of three annual episodes of acute diarrhea. Globally in this age group, acute diarrhea is the second leading cause of death (after pneumonia), and both the incidence and the risk of mortality from diarrheal diseases are greatest among children in this age group, particularly during infancy – thereafter, rates decline incrementally. Other direct consequences of diarrhea in children include growth faltering, malnutrition, and impaired cognitive development in resource-limited countries.

Mothers' basic knowledge about diarrhea depends on various factors such as educational status, prior experience of managing the disease and even ethnicity. Studies in the literature show that though most of the mothers were familiar with the term oral rehydration salt (ORS), there were knowledge gaps as regards its correct preparation and administration. The signs of dehydration due to diarrhea remain unnoticed by the majority of the mothers. There are certain fluids which are beneficial to give during diarrhea but most mothers in a rural community were unaware of most of these. Mothers' knowledge about diarrhea can be improved through Health education.³

2. Literature Survey

The reviewed literature for the present study is organized under the following headings:

- Literature related to the underfive mortality and morbidity due to diarrhea.
- Literature related to the incidence and prevalence of diarrhea.
- Literature related to knowledge on home management of diarrhea.

2.1 Literature related to the underfive mortality and morbidity due to diarrhea

A cross sectional study was conducted by Mohammed S, Tilahun M, Tamiru D in February 2012 on Morbidity and associated factors of diarrheal diseases among under five children. The objective was to determine the morbidity and associated factors of diarrheal diseases among under five children in Arba-Minch District. Result shows that prevalence of diarrhea among under-five index children was 30.5%, which was significantly associated with child's being from mothers of not attended formal education, age of the mother, mothers of poor hand washing practice. The study concludes that the level of diarrheal morbidity is high in the study area. As significant number of the mothers do not have adequate knowledge on the occurrence and risk factor of diarrheal disease. Enhancing community based behavior change communications using multiple channels and community health workers is recommended to reduce the occurrence of childhood diarrhea and associated consequences among children in the study area.⁴

2.2 Literature related to the incidence and prevalence of diarrhea.

A study conducted by Ansari S, Sherchand J B, Parajuli K, Paudyal B M, Adhikari R M, Shrestha S et al between April 2011 and September 2011. Objective of the study was to assess the incidence of parasitic pathogens causing acute diarrhea in children under 5 years of age. The result of the study shows that the higher prevalence of diarrhea was in the age group of less than 2 years. Out of total 525 enrolled cases, protozoal parasites were found in 10.7% (56/525) of cases and helminthic parasites were found in 1.3% (7/525) of cases. Highest prevalence of 60.3% (38/63) of parasitic infection was found in the age group of 6 - 24 months followed by 7.9% (5/63) in the age group of less than 6 months of the total enrolled cases. *E. histolytica* were 6.7% (35/525) followed by *Giardia lamblia* 3.4% (18/525) and the least frequency was due to a *lumbricoides* constituting 0.6% (3/525).⁵

2.3 Literature related to knowledge on home management of diarrhea.

A case control study was conducted by Mengistie B, Berhane Y and Worku A in February 2011. Objective of this study was to identify the predictors of Oral Rehydration Therapy use among under-five children with diarrhea. The study revealed that caregivers previous

experience of Oral Rehydration Therapy use (AOR=4.05, 95% CI =2.63-6.22), seeking advice or treatment from health facilities, (AOR=3.25, 95% CI=2.06-5.11) and knowledge of Oral Rehydration Therapy (AOR=3.09, 95% CI=1.97-4.85) were found to be the positive determinants of Oral Rehydration Therapy use. They conclude that Health education should be strengthened on the benefit, preparation, early initiation of Oral Rehydration Therapy and the causes of diarrhea. Attention should be given to those who do not have previous experience of Oral Rehydration Therapy use and have less frequent contacts with the health facilities.⁶

3. Materials and Methods

The study was conducted on 100 mothers of underfive children in selected rural areas of Karad. The tool used for data collection was a structured knowledge questionnaire. An evaluative approach was used. Non probability purposive sampling technique was used. Pre-experimental one group pretest post design was used. The study adopted King Imogene goal attainment theory.

Results: Analysis and interpretation of the data was based on the projected objectives of the study viz.

- To assess the knowledge of mother of under five children with reference to diarrhea.
- To assess the knowledge of mothers of under five children with reference to prevention of diarrhea.
- To assess the knowledge of mother of under five children with reference to home management of diarrhea.
- To assess the effectiveness of health education on knowledge with reference to prevention and home management of diarrhea among mothers of fewer than five children.
- Find the association of knowledge score on prevention and home management of diarrhea with selected demographic variables.

4. Organization of study findings:

Section I:

It deals with the analysis of socio demographic variables of the samples.

Section II:

It deals with the analysis of data related to knowledge score with reference to prevention and home management of diarrhoea among mothers of fewer than five children before and after health education.

Section III:

It deals with the analysis of data to find out the association between pretest knowledge scores with selected socio-demographic variables.

Section I

It deals with the analysis of socio demographic variables of the samples.

Table 1: Demographic description of samples by frequency and percentage, N= 100

Sr. No.	Variable	Frequency	Percentage
Age of mothers			
1	Below 20 years	8	18%
	21-25 years	46	46%
	26-30 years	24	24%
	31 and above	12	12%
Religion			
2	Hindu	74	74%
	Muslim	26	26%
Type of family			
3	Nuclear	44	44%
	Joint	56	56%
Occupation			
4	House wife	63	63%
	Self employee	24	24%
	Laborer	13	13%
Monthly family income			
5	Rs.1000-3000	76	76%
	Rs.3001-5000	15	15%
	Rs.5001 and above	9	9%
Educational status			
6	Primary school education (1st -4th)	34	34%
	Higher primary school Education (5th-7th)	41	41%
	High school education (8th-10th)	16	16%
	PUC and above	9	9%
Age of child in years			
7	Less than one	17	17%
	One-two	10	10%
	Three-four	42	42%
	Five	31	31%
Number of under five children			
8	One	18	18%
	Two	72	72%
	Three	10	10%

The data presented in table 1 shows that in the study Maximum number 46% of mother's belonged to the age of 21 to 25 years. Majority of samples 74% were from Hindu religion. Maximum 56% mothers were from joint family. 63% of their mothers were housewives, 76% mother's family income 1000-3000/ months and 41% mothers were educated up to High primary school, 42% mothers had children below three-four years and 72% mothers had two under five children in the family.

Section II: It deals with the analysis of data related to knowledge score with reference to prevention and home management of diarrhoea among mothers of fewer than five children before and after health education.

Table 2: Distribution of frequency and percentage of knowledge scores of mothers of under five children with reference to prevention and home management of diarrhoea, n=100

Knowledge score	Pretest		posttest	
	Frequency	Percentage	Frequency	Percentage
Good (Mean+SD)	15	15	22	22
Average (Mean+SD to Mean-SD)	62	62	63	63
Poor (Mean-SD)	23	23	15	15

Table no: 2 reveals that in pre test majority 62(62%) mothers had average knowledge, 23(23%) had poor knowledge and 15(15%) had good knowledge; where as in post test 63(63%) had average knowledge, 22(22%) had good knowledge and 15(15%) had poor knowledge in total knowledge score of the study.

Table 3: Mean , Median, and Standard deviation of total knowledge score of mothers of under five children with reference to prevention and home management of diarrhoea, n=100

Area of analysis	Mean	Median	Standard deviation
Pre-test	7	6	3.473
Post-test	22.44	22.5	2.401
Difference	15.44	15.44	1.072

Paired 't' test value is 20.156; p,<0.0001

The above table no:3 shows that total knowledge score with reference to prevention and home management of diarrhoea before and after health education of 100 observation with difference mean of 15.44 and standard deviation of 1.072 The computed 't' test statistic value is 20.156. Since the p value for the test is less than 0.05, the null hypothesis is rejected at the 95 % confidence level. It shows that the health education is effective method for improving the knowledge of mothers with reference to prevention and home management of diarrhoea.

Table 4: Association between knowledge score and selected demographic variables, N=100

Sr. No.	Socio demographic Variable	Pretest knowledge score			Chi-square value	P value	Df
		Good	Average	Poor			
Age of mothers							
1	Below 20 years	3	11	4	1.912(NS)	0.9276	6
	20-25 years	7	26	13			
	26-30 years	3	17	4			
	31 and above	12	8				
Religion							
2	Hindu	11	47	16	0.3437(NS)	0.8421	2
	Muslim	26	0.26				
Type of family							
3	Nuclear	6	27	11	0.2392(NS)	0.8873	2
	Joint	9	35	12			
Occupation							
4	House wife	9	39	15	0.1356(NS)	0.9978	4
	Self employee	4	15	5			
	Laborer	2	8	3			
Monthly family income							
5	Rs.1000-3000	10	49	17	1.155(NS)	0.8854	4
	Rs.3001-5000	3	8	4			
	Rs.5001 and above	2	5	2			

Educational status							
6	Primary school education	0	20	14	46.231(S)	<0.0001	6
	Higher primary school	3	32	6			
	High school education (8th-10th)	5	9	2			
	PUC and above	7	1	1			
Age of child in years							
7	Less than one	2	11	4	7.002(NS)	0.3188	6
	One-two	1	6	3			
	Three-four	9	28	5			
	Five	3	17	11			
Number of under five children							
8	One	2	11	5	5.793(NS)	0.2152	4
	Two	9	47	16			
	Three	4	4	2			

The findings in the table: 4 reveal that there was a significant association between knowledge of mother of under five children regard to educational status of mother (46.231). Insignificant association was found between the variables age, religion, type of family, Occupation of mother, Monthly income of family, age of child in years, and number of fewer than five children in family.

Above table shows that due to health education, there was an increase in knowledge with reference to prevention and home management of diarrhoea among mothers of fewer than five children.

5. Discussion

In the present study Mean, Standard deviation of total knowledge score of mothers was 7 ± 3.473 , which was increased in post test to 22.44 ± 2.401 with a mean difference of 15.44. Paired t value is 20.156 showing that health education was effective. The above findings were supported by a similar study conducted in Al Maki area, Gezira state in 2010 revealed that through health education there is a significant improvement in mother knowledge and practice with respect to homecare of underfive children with diarrhoea.

A cross-sectional survey was conducted by Mukhtar A, Izhm M I M, and Pathiyil R S from June to August 2010 on mother's knowledge among a marginalised community in Morang district of Nepal. Result of the study was Mothers had some basic knowledge about the prevention of diarrhoea, and fluids/foods which can or cannot be given during bouts of diarrhoea. Knowledge about signs of dehydration was poor. Only 8.5% of the mothers stated that the purpose of giving ORS solution during diarrhoea is to prevent the child from getting dehydrated. Conclusion of the study was Knowledge about signs of dehydration and the management approaches of diarrhoea at home were poor. Thus, there is a need for public health educational interventions.⁷

6. Conclusion

Based on the analysis of findings of the study, the following inference was drawn. The total pretest mean knowledge score of the mother was 7, which indicates that the mothers had inadequate knowledge with reference to prevention and home management of diarrhoea. In the

posttest the mean knowledge score of the mothers was 22.44 in which there is a significant difference of 15.44 which is a net benefit to the mothers due to the effectiveness of health education. Obtained pre and post test scores paired t value is 20.156 and p value was, 0.0001 which is considered extremely significant, indicates significant improvement in total knowledge with reference to prevention and home management of diarrhoea. Thus it was inferred that the health education was effective to improve mother's knowledge with reference to prevention and home management of diarrhoea.

7. Future Scope

Nursing implication

The findings of this study have implications for nursing practice, nursing education, nursing administration and nursing research.

a) Nursing practice:

Nurses can arrange some educational sessions like educational exhibition and demonstration for the mothers as well as for staff nurses for improving their knowledge and quality of nursing care. Nurses working in the community could collaborate with the anganwadi workers to improve the Knowledge of mothers on prevention and home management of diarrhea and provide improved child care.

b) Nursing education:

Nurses at post graduate level need to develop skills in preparing various teaching methods in various specialized areas at the level of mothers. Nurse educators can arrange the interactive methods with the mother who has children with history of diarrhea for easy understanding of how to care children with diarrhea. Making use of advanced technology like LCD projector and power point presentations not only improve the performance of teacher but also help the mothers to understand very easily and can develop their interest in teaching

c) Nursing administration:

The present study has proven effectiveness of health education enhancing the Knowledge of mothers with reference to prevention and home management of diarrhea. So the nurse administrator can take initiative to provide facilities to conduct research such educational programs in the hospital as well as in community.

The nurse administrator can collaborate with the other health care providers to organize programmes on diarrhea.

d) Nursing research:

The study helps the nurse researcher to develop insight into the development of teaching module and material for mothers with reference to prevention and home management of diarrhea for improving their knowledge and quality of home care.

One of the aims of nursing research is to contribute the knowledge to the mothers, to improve the quality of

living. This is possible only if nurses take initiative to conduct the further research.

References

- [1] <http://www.indiaonline.com/Markets/News/PrintNews.aspx?NewsId=5642936761>
- [2] Rehan H S . KAP of mothers regarding diarrhea Indian j. preventive of social medicine vol.34,No 1and 2,2003.
- [3] Haroun H M, Mahfouz M S, and Salah A. Assessment of the effect of health education on mothers in Al Maki area, Gezira state, to improve homecare for children under five with diarrhea. Journal of family and community medicine [journal article]. sep 2010 [cited 2013 Dec 12].;17(3) Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3045106/>
- [4] Mohammed S, Tamiru D. Morbidity and associated factors of diarrheal diseases among under five children in Arba-Minch district, Southern Ethiopia, 2012. Science Journal of Public Health [journal article]. June 10, 2013 [cited 2013 Dec 12].;1(2) Available from: <http://article.sciencepublishinggroup.com/pdf/10.11648.j.sjph.20130102.19.pdf>
- [5] Ansari S, Sherchand J B, Parajuli K, Paudyal B M, Adhikari R P, Shovita S. Pattern of Acute Parasitic Diarrhea in Children Under Five Years of Age in Kathmandu, Nepal. Scientific research [journal article]. September 2012 [cited 2013 Dec 12].;2(3) Available from: <http://www.scirp.org/journal/PaperInformation.aspx?PaperID=22824>
- [6] Mengistie B, Berhane Y, and Worku A. Predictors of Oral Rehydration Therapy use among under-five children with diarrhea in Eastern Ethiopia: a community based case control study. BMC Public health [journal article]. 24 November 2012 [cited 2013 Dec 12].;12 Available from: <http://www.biomedcentral.com/1471-2458/12/1029>
- [7] Mukhtar A, Ibrahim M, Izhm M, Pathiyil R S. A survey of mothers' knowledge about childhood diarrhoea and its management among a marginalised community of Morang, Nepa, The Australasian medical journal [journal article]. 2011 [cited 2013 Dec 12].;4(9) Available from: <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3562904/>

Author Profile



Ms. Tina Joseph. Msc.(N), Msc Nursing Krishna Institute of Medical Sciences Deemed University, Krishna Institute of Nursing Sciences Karad, Dist-Satara (Maharashtra) 415539, India



Mr. Prakash Naregal. Msc.(N)² is working as Lecturer, Krishna Institute of Medical Sciences Deemed University, Krishna Institute of Nursing Sciences, Karad, Dist-Satara (Maharashtra) 415539