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A pre- experimental study to assess the effectiveness of educational intervention on knowledge and practice regarding diarrhea management among mothers of under-five children in under five clinic of sub-district hospital bijbehara, Anantnag, Kashmir

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ABSTRACT

Introduction: Each day thousands of under five children around the world suffer from diarrhea. Diarrhea can cause severe illness and even can lead to death in under five children. As per World Health organization diarrhea is defined as the loose, watery stools that occur more frequently than usual. Diarrhea is usually caused by virus, or sometimes, contaminated food. Less frequently, it can be a sign of another disorder, such as inflammatory bowel disease or irritable bowel syndrome.

Materials and Methods: 40 under five mothers were selected from Sub district hospital Bijbehara, Anantnag Kashmir. Purposive sampling technique was used for selecting the sample. A structured interview questionnaire was used to collect data.

Results: The findings revealed that among demographic variables most of the subjects were in the age of 25-35 years (60%), (22.5%) of them were in the age group of 18-25 years, and (17.5%) were in the age group of above 35, that pretest knowledge score shows that 5 (12.5%) of the participants had inadequate knowledge. 31 (77.5%) had moderately adequate knowledge and 4(10%) had adequate knowledge. Similarly, post test knowledge score shows that (0%) of the participants had inadequate knowledge, 13(32.5%) had moderately adequate knowledge and 27(67.5%) had adequate knowledge this indicates that mean post test knowledge score 15.25 is higher than the mean pretest 10.93 the obtained t value is 13.557 is significant at $p < 0.05$. The pre test practice score shows that 29(72.5%) had of the participants had inadequate knowledge, 28(70%) had moderately adequate knowledge and 10(25%) had adequate knowledge, similarly post test practice shows that none of the participant had inadequate knowledge, 8(20%) had moderately adequate knowledge, and 32(80%) had adequate knowledge. This, indicates that mean post test knowledge score 16.1 is higher than mean pretest practice score 12.23. Of the obtained t value 14.839 is significant at $p < 0.05$.

Conclusion: The findings of the study revealed that educational intervention is helpful for the mothers of under five children to manage diarrhea in early stage and its prevention for further complications.

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1. Introduction

“Healthy Children Today Make A Healthier Nation Tomorrow”

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Diarrhea is defined as a loose stool, which occurs frequently than usual, it is mainly caused by bacteria, viruses, which are present in the contaminated food, water etc. sometimes it can occur due to disease in the lower intestinal tract like inflammatory bowel disease. Under five children are at risk to get diarrhea. Globally, one child dies out of nine due to diarrhea, mild diarrhea is mainly managed by oral rehydration therapy, and severe type of diarrhea requires the hospitalization.

Diarrheal diseases account for 1 in 9 child deaths worldwide, making diarrhea the second leading cause of death among children under the age of 5, the mortality rate for these children is 11 times higher than the rate for children with HIV, globally 1.339 billion and 79 thousand neonates aged 0-27 days were estimated to be dead due to diarrhea.¹

Globally there are nearly 1.7 billion cases of childhood diarrheal diseases every year, each year diarrhea kills around 525000 children under five.²

India, Nigeria, Pakistan, Afghanistan, and Ethiopia accounts for more than half of the deaths caused by diarrhea.³

Total diarrheal deaths in India among children aged 0-6 years were estimated to be 158,209 and proportionate mortality due to diarrhea in this age group was 9.1%. Average incidence of diarrhea was 1.71 and 1.09 episodes/person/year in rural and urban areas.⁴

Diarrhea ailment is one of the major health problems among under five children in which passage of more than 3 liquid stools occurs within 24 hours. (UNICEF).⁵

Diarrhea mainly occurs due to intake of contaminated food and water, which may occur due to inappropriate feeding practice, poor hand washing and poor housing conditions. Poor sanitation, unsafe water and poor personal hygiene are responsible for 90% of diarrhea in children under the age of five years. Diarrheal diseases are among the most common causes of death and morbidity in children under the age of five years, especially in low- and middle-income countries. In 2013, nearly half (3.2 million) of the 6.3 million children who died before reaching their fifth year worldwide died of infectious diseases, with diarrhea killing more than 500,000 children. It is estimated that 4.4 million children under the age of five years will die annually from infectious diseases and 60% of those deaths will occur in sub-Saharan Africa. Diarrhea accounts for an estimated 3.6% of the global burden of disease, as expressed in disability-adjusted life years. Although diarrheal mortality has declined significantly globally over the past 25 years, diarrheal morbidity in sub-Saharan Africa is not as high as risk factors related to inadequate water, sanitation and hygiene, inadequate breastfeeding and malnutrition. The rapid growth of African cities and associated overcrowding have been linked to diarrheal outbreaks, with children under the age of five years most commonly affected.⁶

Various preventive techniques were reported in the literatures including hygiene and sanitation, diet, medications, and supplements which are generally classified as health care, breastfeeding, immunization, supplemental zinc, and probiotics. Treatment and prevention of diarrhea can be done at home by primary caregivers, and their role is vital in health promotion, disease prevention, and patient care. Healthy practices adopted by the mother can raise the healthful living condition thereby lessens the morbidity and mortality of under five-year children.⁷

Mother's knowledge plays a very important role in health promotion, prevention and management of diarrhea. The mother plays a key role in the treatment of the child, whenever the child is confronted with some illness. Children are the most vulnerable group in any population due to their large number, high mortality, high morbidity, growth and development, resource, accessibility etc. One of the major causes of mortality, and prevalence during this age group is diarrhea. Treatment and prevention of diarrhea can be done at home by mothers. Their role is vital in health promotion, disease prevention and care. Prevention and practice of mothers is important and can prevent diarrhea related child morbidity and mortality. Increased maternal education, healthy environments, safe disposal of children's feces and improved nutritional status are associated with reductions in childhood diarrhea. Information on diarrheal diseases, its preventive and control strategies need to be reviewed for better planning and organization of health services.⁸

2. Materials and Methods

A mother plays an important and pivotal role in the family especially in nourishing or providing care to newborn or young ones which is quite complicated for mothers, especially new mothers. If the mother in the family is well educated, she has good awareness related to health of family members, especially children and young ones. She would perform good health practices which lead to improve overall health of family especially under five children which need more time or appropriate care, which helps to decrease mortality and morbidity rates among under five children in far-flung areas or in rural community due to lack of basic facilities, poor sanitation, poor hygiene, use of unhygienic or untreated water, lack of knowledge regarding providing balanced diet, all of these factors affect the transmission and severity of diarrhea than towns and cities.⁹ Banerjee (2006) Stated diarrheal diseases is major killer disease in under five children in India and this is an important public health problem. It causes heavy economic burden on health services. One third of pediatric admission is due to diarrhea disease and 17% of deaths due to its complications.¹⁰

Gopi Krishna Ranjan, Rahul Ranjan (2020) Conducted a study to assess the knowledge regarding prevention of diarrhea among mothers of under five children at selected

hospital of Bhubaneswar, a cross sectional study was conducted, self-structured knowledge questionnaire was used. Data was collected by simple random sampling technique. Results showed that among 30 participants 07 had adequate knowledge, 12 had moderately adequate and 11 had inadequate knowledge, the study revealed that knowledge on prevention of diarrhea was not adequate, mothers play an important role in prevention therefore health education programmed is needed to train mothers and ensure good practices to prevent diarrhea.¹¹

By the individual experience or responsibility or being a nursing professional and by observation, we felt that many mothers don't know or having inadequate knowledge regarding Diarrhea Management, hence there is really a need of hour to provide knowledge to under five mothers regarding Diarrhea Management. It affects like growth failure, malnutrition, dehydration etc. Diarrhea also affects the country's economy so with effective treatment and practice, the burden can be reduced. From all above the information, a mother plays a key role in the treatment of the child, she can act as a manager, the nurse, best caretaker and she can do almost everything for the child almost everything. So, it's really important that mothers should have knowledge regarding various remedial measures or have adequate knowledge regarding management of Diarrhea.¹²

From all the above said information we feel there is really a need of the hour to conduct the study, which help mothers to manage the mild and moderate cases of diarrhea at home settings which help to decrease burden on hospitals.

“We have to do whatever we can to ensure that no child dies of Diarrhea”

3. Objectives of the Study

1. To assess the pretest knowledge and practice score regarding management of diarrhea among mothers of under five children in under five clinic of Sub District Hospital Bijbehara.
2. To assess the posttest knowledge and practice score regarding management of diarrhea among mothers of under five children, in under five clinics of Sub District Hospital Bijbehara.
3. To assess effectiveness of educational intervention by comparing pretest and post test scores regarding management of diarrhea among mothers of under five children.
4. To associate the knowledge and practice with selected demographic variables (type of family, education qualification of mother, age, monthly income, gravida status).

4. Materials and Methods

Purposive sampling technique was used in this study. Structured interview questionnaire is one of the most suitable methods to find out the knowledge of under-five mothers, also structured observational checklist is used to find out practice of mothers. Review of literature was done. The blueprint of the tool was prepared. It was based on structured interview questionnaire and observational checklist related to introduction, causes, management and prevention of diarrhea. Plan for scoring was done. Maximum possible score is 20 for knowledge and 20 for stated practice. Minimum possible score was 0. Validity was established by expert opinion and modification was made as per suggestion; Language validity was established by a qualified person. The demographic data consists of 5 items, testing of the tool was done on 4 mothers (pilot study). Checked any difficulty expressed by the respondents or felt by the investigators. The pre-testing indicated that the study was feasible and item were clear. The time taken for interview was 20-30 minutes. The reliability of the structured interview questionnaire will be established by Pearson's correlation reliability coefficient. Reliability computed was “r” = 0.94 and the tool was found to be reliable. The data was collected by structured interview questionnaire and structured observational checklist and analysis of data was done by frequency and percentage distribution and computation of correlation. Chi square was done for establishing association among selected variables. Formal permission taken from the institutional ethical committee IUST Awantipora. Data was collected from 40 under five mothers who visited under five clinics of SDH Bijbehara. The time for data collection was 1 week (26-11-2021 to 02-12-2021). Institutional ethics committee approved the study and informed consent was obtained from every participant prior to interview and observation. Self-introduction was given and purpose of the study explained to the respondents. Informed consent was taken from mother and assured regarding confidentiality. Role of the respondents in the study was discussed to get free and frank response. The obtained data was organized in statistical way to summarize result was visualized scientifically.^{13,14}

5. Results

The data obtained was entered in a master data sheet for tabulation and statistical processing.¹⁵ The analysis of data is organized and presented under the following sections:

Section A: Description of demographic variables of subjects.

Section B: Pre-test and post-test knowledge score and practice score of subjects regarding diarrhoea management.

B (1): pretest knowledge score of subjects regarding diarrhoea management.

N=40

Association of Pre Test Score with Demographic variables									
Variables	Opts	ADEQUATE	MODERATE	INADEQUATE	Chi Test	P Value	df	Table Value	Result
Age	18-25 Years	0	9	0	5.839	0.212	4	9.488	Not Significant
	25-35 Years	2	18	4					
	Above 35 Years	2	4	1					
Type of Family	Nuclear	1	15	2	0.841	0.657	2	5.991	Not Significant
	Joint	3	16	3					
Monthly Income	Rs. 10000-20000	2	22	3	0.857	0.652	2	5.991	Not Significant
	Greater than Rs. 20000	2	9	2					
Gravida	Primary	1	15	2	0.841	0.657	2	5.991	Not Significant
	Multi	3	16	3					
Educational Qualification	Illiterate	1	1	4	26.665	0.000	6	12.592	Significant
	10th Pass	0	13	1					
	12th Pass	0	9	0					
	Graduate	3	8	0					

Fig. 1: Association between knowledge score and selected demographic variables. The chi-square test was used to determine the association between knowledge score levels and selected demographic variables.

N=40

Association of Pre Test Score with Demographic variables									
Variables	Opts	ADEQUATE	MODERATE	INADEQUATE	Chi Test	P Value	df	Table Value	Result
Age	18-25 Years	1	8	0	10.991	0.027	4	9.488	Significant
	25-35 Years	4	18	2					
	Above 35 Years	5	2	0					
Type of Family	Nuclear	1	16	1	6.638	0.036	2	5.991	Significant
	Joint	9	12	1					
Monthly Income	Rs. 10000-20000	8	17	2	2.263	0.323	2	5.991	Not Significant
	Greater than Rs. 20000	2	11	0					
Gravida	Primary	4	12	2	2.597	0.273	2	5.991	Not Significant
	Multi	6	16	0					
Educational Qualification	Illiterate	1	4	1	3.751	0.710	6	12.592	Not Significant
	10th Pass	3	10	1					
	12th Pass	2	7	0					
	Graduate	4	7	0					

Fig. 2: Association between practice score and selected demographic variables.

Table 1: Frequency and percentage distribution of socio demographic variables.

Variables	Options	Percentage	Frequency
Age	18-25 Years	22.5%	9
	25-35 Years	60.0%	24
	Above 35 Years	17.5%	7
type of Family	Nuclear	45.0%	18
	Joint	55.0%	22
Monthly Income	Rs. 10000-20000	67.5%	27
	Greater than Rs.20000	32.5%	13
Gravida	Primary	45.0%	18
	Multi	55.0%	22
Educational Qualification	Illiterate	15.0%	6
	10th Pass	35.0%	14
	12th Pass	22.5%	9
	Graduate	27.5%	11

Table 2: Comparison of pre-test and post test knowledge of subjects regarding knowledge of diarrhoea management.

Paired T Test	Means ¹	Mean%	Range	Mean Diff.	Paired T Test	P value	Table Value at 0.05
Pre test knowledge	10.93±3.43	54.60	5-23	4.320	13.557 *Sig	<0.001	2.02
Post test knowledge	15.25±2.204	76.30	10-19				

** Significance Level 0.05 Maximum=20 Minimum=0

Table 3:

Paired T Test	Means.	Mean%	Range	Mean Diff.	Paired T Test	P value	Table Value at 0.05
Pre test practice	12.23±2.966	61.10	7-18	3.870	14.839 *Sig	<0.001	2.02
Post test practice	16.1±2.251	80.50	10-19				

** Significance Level 0.05 Maximum=20 Minimum=0

B (2): pre-test practice score of subjects regarding diarrhoea management.

B (3): post-test knowledge score of subjects regarding diarrhoea management.

B (4): post-test practice score of subjects regarding diarrhoea management.

Section C: Effectiveness of educational intervention on knowledge and practice of subjects regarding diarrhoea management.

C (1): Comparison of pre-test and post-test knowledge score of subjects regarding diarrhoea management.

C (2): Comparison of pre-test and post-test practice score of subjects regarding diarrhoea management.

Section D: Association between pretest knowledge score and practice score with selected demographic variables.

6. Discussion

Major findings of the research study have been discussed with result obtained by the investigators in their studies. The study reveals that most of the subjects were in the age of 25-35 years (60%), (22.5%) of them were in the age group of 18-25 years, and (17.5%) were in the age group of above 35. Pretest knowledge score shows that 5 (12.5%) of the participants had inadequate knowledge. 31 (77.5%) had moderately adequate knowledge and 4(10%) had adequate knowledge. Similarly, posttest knowledge score shows that (0%) of the participants had inadequate knowledge, 13(32.5%) had moderately adequate knowledge and 27(67.5%) had adequate knowledge this indicates that mean posttest knowledge score 15.25 is higher than the mean pretest 10.93 the obtained t value is 13.557 is significant at $p < 0.05$.

The pretest practice score shows that 2(5%) of the participants had inadequate practice, 28(70%) had

moderately adequate practice and 10(25%) had adequate practice similarly posttest practice shows that none of the participant had inadequate practice, 8(20%) had moderately adequate practice, and 32(80%) had adequate practice. this, indicates that mean posttest practice score 16.1 is higher than mean pretest practice score 12.23. of the obtained t value 14.839 is significant at $p < 0.05$.

The study revealed that over all posttest knowledge mean was 15.25 with SD of 2.204, the mean % age was 76.30, the maximum score was 19 and the minimum score was 10.

After conducting posttest none of the participants had inadequate level practice 0, 8(20) had moderate level of practice and 32(80) had adequate level of practice.

These results are more or less comparable with the study conducted by Munidid. S, Komathi. V (2018). In Maharashtra which showed that 10% of the participants had adequate knowledge, 74% had moderately adequate and 16% had inadequate knowledge.¹⁶

Similar study was conducted to assess the effectiveness of Planned Teaching Programme on management of Diarrhoea on mothers of under five children in Paediatric ward of maternity hospital Anantnag. In which majority 42 were having inadequate knowledge, 14 had moderate and 4 were having adequate knowledge regarding management and prevention of diarrhoea. In Posttest, 33 was having moderate knowledge, 17 was having inadequate knowledge and 10 were having adequate knowledge regarding management of diarrhoea after planned teaching program. The findings of study concluded that the planned teaching programme on management of diarrhoea was effective in improving knowledge of mothers of under five children.¹⁷

The findings revealed that the mean difference between pretest and posttest knowledge and practice score was 4.320, 3.870 respectively which is, invariably significant at $p \leq 0.05$ level. Hence, null hypothesis (H_0) was rejected and research hypothesis (H_1) was accepted, which states that the mean posttest knowledge and practice score of study subjects regarding diarrhea management is significantly higher than the mean pretest knowledge score at 0.05 level of significance. It provided evidence that the educational intervention programmed was effective in improving the knowledge and practice regarding diarrhea management among under five mothers.

The association of demographic variables with pretest knowledge and practice score revealed that there was significant association of pretest knowledge score with demographic variable (educational qualification) and pretest practice score revealed that there was significant association of pretest practice score with demographic variables (age, type of family), hence the research hypothesis H_2 which states that {there will be significant association between mean pretest knowledge score and socio demographic variables of the study subjects} is accepted.

7. Recommendations

Similar study can be replicated on large samples.

A comparative study can be conducted between the illiterate and literate mothers of under five children.

A descriptive study can be conducted on knowledge regarding and practice the management of diarrhea.

8. Conclusion

Over all the mothers of under five children had good knowledge score but average stated practice score regarding management of diarrhea, if health education could be correctly provided to the specific target group (mothers of under five children) regarding all the rules of home management, the situation can be improved.

9. Source of Funding

None.

10. Conflicts of interest

There are no conflicts of interest.

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