

EFFECTIVENESS OF EDUCATIONAL INTERVENTION ON KNOWLEDGE AND PRACTICE REGARDING PREVENTION AND MANAGEMENT OF DIARRHOEA AMONG MOTHERS OF 1 TO 5 YEARS AGED CHILDREN

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ABSTRACT

Background: Approximately 4 – 5 million deaths occur as a result of diarrheal diseases every year worldwide. Therefore, present study aims to improve the knowledge and practice level of mothers of 1 to 5 years aged children by providing them planned teaching program regarding prevention and management of diarrhoea. **Material & Method:** Quantitative pre-experimental research design was used to perform the study. A sample of 60 mothers of 1 to 5 years aged children selected for the study through non probability convenient sampling technique. **Results:** The mean pre-test knowledge score was 8.20 ± 2.15 , whereas mean post-test knowledge score was 20 ± 2.12 . The mean pre-test practice score was 3.36 ± 1.48 , whereas mean post-test practice score was 7.56 ± 1.60 . The mean knowledge difference was 11.8. The paired student “t” test value was 7.57 which was significant at $P=0.05$ level. The mean post-test practice score (7.56) was higher than mean pre-test practice score (3.36). The computed ‘t’ value 2.10 ($p<0.05$) showed that there was a significant difference between the pre-test and post-test mean practice score. This confirms that planned health teaching is an effective strategy. The findings revealed that there is a significant association found in the pre-test knowledge score with the type of family, Occupational Status of Mother, Educational status of mother and Source of Water. There is a significant association found in the pre-test knowledge score with the Occupational Status of Mother, Number of Children in family and Food Habit. **Conclusion:** Study concluded that knowledge and practice regarding prevention and management is much needed among mothers of 1 to 5 years aged children.

KEYWORDS: Diarrhoea, Mothers of 1 to 5 years aged children, Knowledge, Practice Planned Teaching program, Prevention, Management.

INTRODUCTION

Diarrhoea is one of the most common manifestations of illness in infants and children. It is considered as an increased in fluidity, occurrence, volume as well as possible changes in color of faeces in contrast with the usual stool pattern of the person. Diarrhoea is a symptom of variety of conditions, and it constitutes one of the main causes of morbidity and mortality among infants and children throughout the world.^[1] Acute Diarrhoea is a bout of loose motion with abrupt onset, which generally continues till 3 to 7 days. Chronic Diarrhoea is a loose motion is occurring for 3 weeks or more. Diarrhoea with water-logged stools and noticeable blood in the stool is termed as dysentery. Persistent diarrhoea refers to the episodes of acute diarrhoea that lasts for 2

weeks or more. Most causes of acute diarrhoea are caused by infectious agents, including viral, bacterial and parasitic pathogens.^[2] Globally approximately 4 – 5 million deaths occur as a result of diarrheal diseases every year. Malnutrition is the most likely cause of death in the first two years of life, accounting for eight out of ten deaths. Approximately 4.6 million children were dying each year due to dehydration caused by the diarrhoea.^[3] In India diarrheal diseases major health problem among children under the age of 5 years. During 2005 about 1.07 million cases of acute diarrheal were reported in India with 2040 deaths. About 1/3 of total hospitalize children are due to diarrhoea diseases and 17% of all deaths in paediatric patients are due to diarrhoea.^[4] The WHO-initiated effort to manage

diarrheal infections has significantly reduced the number of deaths among children under the age of five. Health services are heavily impacted financially by diarrheal illnesses. Over the past ten years, acute diarrhoea and its treatment have received a lot of attention.^[5] An epidemiological survey of diarrhoea conducted among children in the Karnataka region of Kaveri basin revealed that incidence of diarrhoea was remarkably higher among 1- 3 years male children. The overall under five mortality rates in the area was 6.5 per 1000 children and of these one third deaths could be attributed due to dehydration.^[6] There are thought to be four billion episodes of diarrhoea annually, with more than 90% of those episodes occurring in underdeveloped nations. In underdeveloped nations, diarrheal illness affects a significant number of children under the age of five. The number of diarrhoea-related deaths among children 0 to 6 years old in India was estimated to be 158,209, and the proportionate mortality rate for this age group was 9.1%. Average estimated incidence of diarrhoea in children aged 0-6 years was 1.71 and 1.09 episodes/person/year in rural and urban areas.^[7] **Toby AK et al (2021)** found that 72.5% of mothers had average knowledge and 6.25% of mothers had poor knowledge regarding prevention and homecare management of diarrhea.^[8] **Shivaleela P. Upashe, Rahul Shil (2022)**, found in their research that 40 mothers (53.3) had inadequate knowledge, 30 (40.0%) had moderate knowledge and only 5 (6.7%) had adequate knowledge about diarrhea and regarding attitude 12 mothers (16%) expressed a moderate level of attitude, 63 (84%) had inadequate attitude and none of them had a high level of attitude towards prevention of diarrhea.^[9] **Rajathi S et al (2018)** revealed that, majority (73%) of mothers had inadequate knowledge about management and prevention of diarrhea.^[10] Because of the high morbidity and mortality due to diarrhoea among children aged between 1 to 5 years. Adequate knowledge and practice regarding management and prevention of diarrhoea among mothers can bring the desired changes in morbidity and mortality due to diarrhoeal diseases, we chose the following topic for the study.

Statement of Problem: “A study to assess the effectiveness of planned health teaching on knowledge and practice regarding prevention and management of diarrhoea among mothers of 1 to 5 year aged children in selected rural area at Udaipur District.”

Objective

1. To assess the pre test knowledge and practice score of mothers of 1 to 5 year aged children regarding prevention and management of diarrhoea.

2. To assess the post test knowledge and practice score of mothers of 1 to 5 year aged children regarding prevention and management of diarrhoea.
3. To evaluate the effectiveness of planned health teaching on knowledge and practice regarding prevention and management of diarrhoea among mothers of 1 to 5 year aged children.
4. To find out the correlation between the knowledge and practice of prevention and management of diarrhoea among mothers of 1 to 5 year aged children.
5. To find out the association between pre test knowledge and practice score with selected demographic variables at 0.05 level of significance.

MATERIAL AND METHODS

Research approach: - Quantitative approach

Research Design: - Pre experimental one group pretest post-test research design.

Research Setting: Study was conducted in rural areas of Udaipur, Rajasthan.

Population: - Study population consisted of all mothers of 1 to 5 year aged children residing in rural areas of Udaipur, Rajasthan.

Sampling technique and sample: 60 mothers of 1 to 5-year aged children selected through non probability convenient sampling technique.

Research Tool: The tools selected for the present study divided in **three** sections.

Section I: - Socio-demographic variables included 8 items such as Age of the mother, type of family, Occupational Status of Mother, Educational status of mother, Family Income Rs. / Month, Source of Water, Number of Children in family and Food Habit.

Section II: - Structured knowledge questionnaire consists of 25 questions to assess the level of knowledge regarding prevention and management of diarrhoea. Each question has 4 responses with 1 correct answer to score. Score 1 was given for each correct response in a single question and score '0' was given for wrong Answer.

Section III: - Observational checklist for practice level assessment consisted of 10 items, which includes the type of practices regarding prevention and management of diarrhoea. Score 1 was given for yes, and 0 was given for no. The total score is 10

Prior to tool administration all subjects were given an information sheet, explaining the purpose and outcome of study. Informed consent was taken from participants and self-explanatory tools were administered to participants. Permission for study was taken from concerned authorities.

RESULTS

Table: 1. Distribution of samples according to socio demographic variables (N=60).

S.N.	Category	Frequency	Percentage
1	Age of mother		
	21-25 year	17	28.33%
	26-30 year	23	38.33%
	31-35 year	13	21.67%

	36 year and above	7	11.67%
2	Type of Family		
	Nuclear	22	36.67%
	Joint	38	63.33%
3	Occupational Status of Mother-		
	House wife	43	71.67%
	Business	6	10.00%
	Government employee	3	5.00%
	Private employee	8	13.33%
4	Educational status of mother-		
	Illiterate	0	0.00%
	Primary & Middle education	33	55.00%
	Secondary & Higher secondary Education	20	33.33%
	Graduation & Above	7	11.67%
5	Family Income Rs. / Month -		
	Below Rs. 5000	9	15.00%
	Rs. 5001- Rs. 10000	28	46.67%
	Rs. 10001 – Rs. 15000	12	20.00%
	Above Rs. 15000	11	18.33%
6	Source of Water-		
	Well Water	0	0%
	Tap Water	51	85.00%
	Hand Pump	9	15.00%
7	Number of Children in family-		
	One	13	21.67%
	Two	17	28.33%
	Three	22	36.67%
	> Three	8	13.33%
8	Food Habit-		
	Vegetarian	37	61.67%
	Non-vegetarian	23	38.33%

According to table 1, majority of the respondents 23 (38.33%) belongs to the age group 26-30 years, 17 (28.33%) respondents belong to the age group 21-25 years. With regard to type of family 38 (63.33%) were living with Joint family and 22 (36.67%) were living with nuclear family. In view of occupational status of mothers, most of respondents were 43 (72.67%) were housewives, 6 (10.00%) were doing Business, 8 (13.33%) were Private employee and 3 (5.00%) were Government employees. Regarding educational status of mother 33 (55.00%) were having Primary & Middle level education, 20 (33.33%) were having Secondary & Higher secondary level Education, 7 (11.67%) were having Graduation & Above education and none were

illiterate. As per family income per month, 28 (46.67%) were earning 5001/- to 10000/- Rs. per month, 12 (20.00%) were earning 10001/- to 15000/- Rs. per month, 11 (18.33%) were earning more than 15001/- Rs. per month and 9 (15.00%) were earning below 5000 Rs. per month. Regarding source of water supply, 85.00% were using tap water and 15.00 % were using hand pump water. According to number of children 22 (36.67%) participants were having three children, 17 (28.33%) were having two children, 13 (21.67%) were having one child and 8 (13.33%) were having more than 3 children. According to food habit 37 (61.67%) were vegetarian and 23 (38.33%) were non vegetarian.

Table: 2- Pre test and post test level of knowledge scores regarding prevention and management of diarrhoea.

S. No.	Level of Knowledge	Score (%)	Pre-Test		Post-Test	
			Freq.	Percentage	Freq.	Percentage
1	Inadequate knowledge	0-35%	38	63.33%	03	5.00%
2	Moderate knowledge	35-65%	21	35%	05	8.33%
3	Adequate knowledge	65-100%	01	1.67%	52	86.67%
	TOTAL		60	100%	60	100%

Table 2, reveals that among 60 mothers of 1 to 5 years aged children, most of them 38 (63.33%) had inadequate knowledge level, 21 (35%) had moderate knowledge level and 01 (1.67%) had adequate knowledge level in

pre-test regarding prevention and management of diarrhoea. While in post test 52 (86.67%) mothers of 1 to 5 years aged children had adequate knowledge level, 05 (8.33%) had moderate knowledge level and 03 (5.00%)

had inadequate knowledge level regarding prevention and management of diarrhoea. From the above findings, it was inferred that, most of the mothers of 1 to 5 years aged children had inadequate and moderate knowledge

level in pre-test and most of the mothers had adequate knowledge level in post-test regarding prevention and management of diarrhoea.

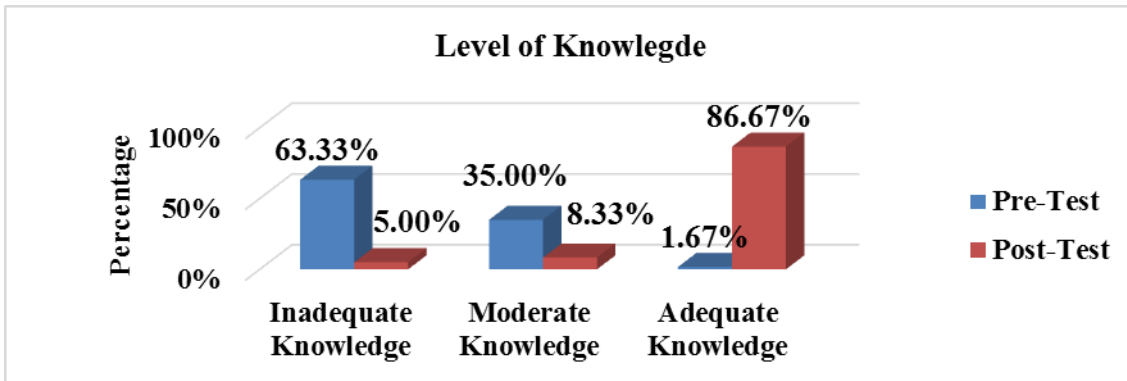


Figure1. Percentage Distribution of Pre-test and Post-Test Level of Knowledge among mothers of 1 to 5 years aged children.

Table: 3- Pre test and post test level of practice scores regarding prevention and management of diarrhoea.

S. No.	Level of Practice	Practice Score (10)	Pre-Test		Post-Test	
			Freq.	Percentage	Freq.	Percentage
1	Very Poor practice	0-3	42	70%	03	5.00%
2	Poor practice	4-6	15	25%	08	13.33%
3	Good practice	7-10	03	5%	49	81.67%
	TOTAL		60	100%	60	100%

Table 3, reveals that among 60 mothers of 1 to 5 years aged children, most of them 42(70%) had very poor practice level, 15 (25%) had poor practice level and 03 (5%) had good practice level in pre-test regarding prevention and management of diarrhoea. While in post-test 49 (81.67%) mothers of 1 to 5 years aged children had good practice level, 08 (13.33%) had poor practice

level and 03 (5.00%) had very poor practice level regarding prevention and management of diarrhoea. From the above findings, it was inferred that, most of the mothers of 1 to 5 years aged children had poor and very poor practice level in pre-test and most of the mothers had good practice level in post-test regarding prevention and management of diarrhoea.

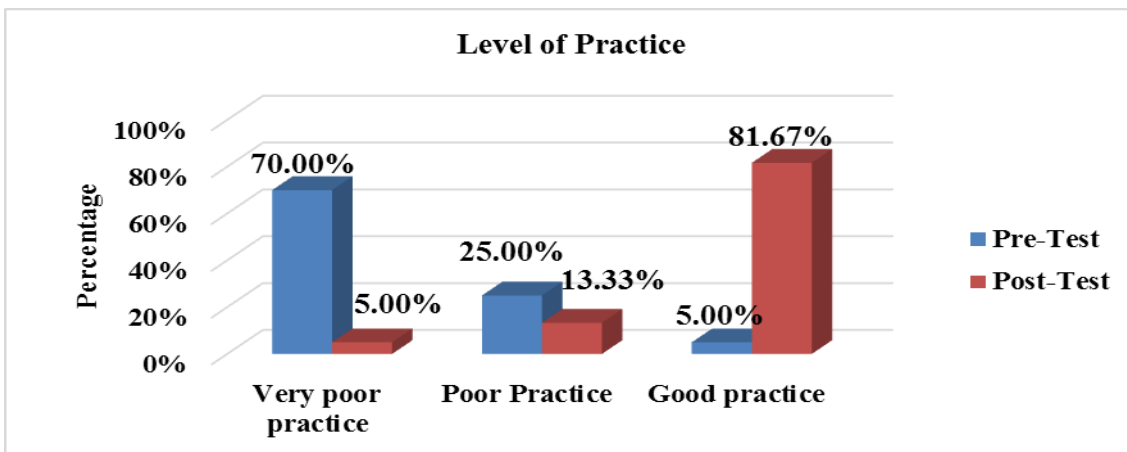


Figure 2. Percentage Distribution of Pre-test and Post-Test Level of Practice among mothers of 1 to 5 years aged children.

Table: 4 Comparison of pre test and post test level of knowledge among mothers of 1 to 5 years aged children regarding prevention and management of diarrhoea.

S. No	Level of Knowledge	Mean	Standard Deviation	Mean Difference	't' Value
1	Pre-Test	8.20	2.15	11.8	7.57*
2	Post-Test	20	2.12		

Table 4, revealed that among mothers of 1 to 5 years aged children, the mean pre-test score was 8.20 with the standard deviation 2.15 and post-test score was 20 with

the standard deviation 2.12. The mean difference was 11.8. The obtained 't' value 7.57 was statistically significant at $p < 0.05$ level.

Table: 5 Comparison of pre test and post test level of practice among mothers of 1 to 5 years aged children regarding prevention and management of diarrhoea.

S. No	Level of Knowledge	Mean	Standard Deviation	Mean Difference	't' Value
1	Pre-Test	3.36	1.48	4.2	2.10*
2	Post-Test	7.56	1.60		

Table 5, revealed that among mothers of 1 to 5 years aged children, the mean pre-test score was 3.36 with the standard deviation 1.48 and post-test score was 7.56 with the standard deviation 1.60. The mean difference was 4.2. The obtained 't' value 2.10 was statistically significant at $p < 0.05$ level.

had moderately adequate knowledge, 36.7% participants had inadequate and in only 23.3% subjects had adequate knowledge about prevention of diarrhoea. Studies conducted by **Kaur Aet al (2018)**^[13], **Sadasiba Padhy et al (2017)**^[14] also revealed similar findings regarding knowledge assessment about prevention and management of diarrhoea.

Hence the stated hypothesis (H1) was accepted. It was inferred that the mean post-test level of knowledge and practice score was more than the pre-test level of knowledge and practice score. There is a significant difference between the mean pre and post-test level of Knowledge and practice among mothers of 1 to 5 year aged children regarding prevention and management of diarrhoea. Thus, planned teaching program regarding prevention and management of diarrhoea was proven to be effective on the level of knowledge and practice among mothers of 1 to 5 year aged children.

Our study revealed in post-test, 52 (86.67%) mothers of 1 to 5 years aged children had adequate knowledge level, 05 (8.33%) had moderate knowledge level regarding prevention and management of diarrhoea. In post-test 49 (81.67%) mothers of 1 to 5 years aged children had good practice level, there was enhancement in knowledge and practice level in post-test due to planned teaching program. The mean pre-test score was 8.20 with the standard deviation 2.15 and post-test score was 20 with the standard deviation 2.12. The mean difference was 11.8. The obtained 't' value 7.57 was statistically significant at $p < 0.05$ level. The mean pre-test score was 3.36 with the standard deviation 1.48 and post-test score was 7.56 with the standard deviation 1.60. The mean difference was 4.2. The obtained 't' value 2.10 was statistically significant at $p < 0.05$ level. It was inferred that the mean post-test level of knowledge and practice score was more than the pre-test level of knowledge and practice score. Our findings supported by **Kaushal Patidar (2017)**^[15] with similar findings in his study to improve the knowledge level of mothers of under five-year children regarding prevention of diarrhoea through planned teaching program. They revealed that there was a significant difference in level of knowledge from pre-test to post test. **Shaijo K J, Robin Abraham (2018)**^[16] also revealed similar findings in their pre-experimental study to assess the effect of planned teaching program on improving knowledge regarding prevention and management of diarrhoea among mothers of under five children in a selected area of Bharuch. **Dipak N. Khadke, Satishchandra Buyite (2016)**^[17] and **Joseph, Tina & Naregal, Prakash. (2014)**^[18] also revealed similar finding while effectiveness of educational intervention regarding prevention & management of diarrhoea among underfive children. **Tak HK, Chaturvedi D (2022)**^[19] also revealed similar findings while assessing effectiveness of learning package on weaning practices among primipara mothers.

On the basis of chi square test there was significant association found between the pre-test knowledge score regarding prevention and management of diarrhoea among mothers of 1-to-5-year aged children with demographic variables like type of family ($\chi^2=25.12$), occupational status of mother ($\chi^2=15.03$), educational status of mother ($\chi^2=15.34$), source of water ($\chi^2=7.53$). There was significant association found between the pre-test practice score regarding prevention and management of diarrhoea among mothers of 1 to 5 year aged children with demographic variables like occupational status of mother ($\chi^2=8.8$), number of children in family ($\chi^2=9.46$), food habit ($\chi^2=46.9$).

DISCUSSION

Our study findings revealed that among 60 mothers of 1 to 5 years aged children, most of them 38 (63.33%) had inadequate knowledge level, 31 (35%) had moderate knowledge level in pre-test regarding prevention and management of diarrhoea. Most of mothers of 1 to 5 years aged children, 42(70%) had very poor practice level, 15 (25%) had poor practice level in pre-test regarding prevention and management of diarrhoea. Our result supported by **Rokkappanavar, K. K et al (2017)**^[11], their cross-sectional study also revealed that more than half of participants lacked adequate knowledge regarding danger signs, spread and prevention of diarrhoea. Our result also supported by, **Gopi Krishna Ranjan & Rahul Ranjan (2020)**^[12] with similar finding which showed that (40%) of the subjects

Our study revealed that there is a significant association between the pre test knowledge score with demographic

variables like type of family, occupational status of mother, educational status of mother, source of water and there was significant association found between the pre test practice score with demographic variables like occupational status of mother, number of children in family and food habit. **Joseph, Tina & Naregal, Prakash. (2014)^[18]** revealed that educational status of mother was associated with the knowledge score regarding prevention and home management of diarrhoea among mothers of under five children. **Mir Uzma Ashraf, Tariq Ahmad Dev (2020)^[20]** also revealed that significant association was found between Monthly family income, Mothers Education and Mothers occupation of study subjects with their pre-test knowledge scores. **Shadia Abd Elmoniem Syan et al (2020)^[21]** showed that there was a highly statistically significant relation between the studied mothers' total practice scores and their age, education, occupation, and residence.

CONCLUSION

Findings of our study strongly recommend the need for conducting education program to increase the knowledge regarding prevention and management of diarrhoea among mothers of under 1 to 5 years aged children. By educating mothers, complications related diarrhoea and dehydration can be minimized. It helps to reduce both morbidity and mortality of under 1 to 5 years aged children due to diarrhoea.

LIMITATIONS: The small size (60) of the sample made it difficult to draw generalization. A structured questionnaire was used for data collection which restricts the amount of information that can be obtained from the respondents, only knowledge and practice was assessed; no attempt was made to assess their attitudes due to time shortage and less resources.

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Conflict of Interest: There was no conflict of interest involved while conducting the present study.

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