Original Research Article

DOI: http://dx.doi.org/10.18203/2394-6040.ijcmph20204361

Effectiveness of pamphlets on knowledge and practice regarding oral rehydration among mothers of under five children

Rina Kumari¹, Somesh Raju^{2*}, Pragati Sharma¹, Raunak Verma¹, Prashant Pratap¹

¹Institute of Nursing, King George's Medical University, U.P., Lucknow, India

Received: 08 July 2020 Revised: 14 August 2020 Accepted: 17 August 2020

*Correspondence:

Dr. Somesh Raju, E-mail: Somesh_raj@rediffmail.com

Copyright: © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

ABSTRACT

Background: Diarrhoea is a major cause of morbidity and mortality among under-five children. Correct knowledge regarding oral rehydration therapy (ORT) helps prevent morbidity and mortality due to diarrhoea. Our objective was to assess the awareness, knowledge and practice of mothers of under-five children regarding ORT and home management of diarrhoea and effectiveness of pamphlets regarding knowledge and practices of oral rehydration

Methods: A pre-experimental (one group pre-test & post-test) quantitative study conducted at King George's Medical University, Lucknow, U.P. Subjects selected by purposive sampling technique and pre-test and post test conducted after explain nature of study and distribution of pamphlets containing information about diarrhoea and ORS.

Results: Pre-test knowledge score of subjects regarding diarrhoea and oral rehydration showed that 64 percent of mothers having moderately adequate knowledge and 36 percent were having inadequate knowledge. Post-test knowledge score showed Significant improvements, 72.72 percent of subjects having adequate knowledge and 27.27 percent of subjects having moderately adequate knowledge and results were highly significant. Pre-test score of mothers regarding practice of oral rehydration therapy showed that majority (45.45%) of subjects having inadequate knowledge, 41.81% of subjects having moderately adequate knowledge and only 12.72% of mothers having adequate knowledge. Post-test score ct showed significant improvement in their practice regarding diarrhoea and ORS.

Conclusion: Mothers were having moderately adequate knowledge about diarrhoea and dehydration. Although most of them could prepare commercially available packets of the O.R.S, but they could not prepare the O.R.S at home. Teaching of mothers about signs of dehydration and preparing and using O.R.S can help to reduce the mortality and morbidity of under five children.

Keywords: Diarrhoea, Under-five, Oral rehydration, Knowledge, Practice

INTRODUCTION

Diarrhoea is a major cause of morbidity among young children in developing countries and second cause of hospitalizations of children under five years of age in India. Approximately 3,20,000 children are hospitalized each year for the treatment of dehydration caused by diarrhoea. Management of the children with O.R.S has substantially declined the morbidity and mortality from

acute infectious diarrhea. Only less than 40% of children with diarrhoea in developing countries received the recommended treatment and there has been a little progress toward the trend in the last decades.^{2, 3} Oral rehydration therapy is a simple and inexpensive lifesaving and this, has been promoted by both Government and International Bodies. According to World Health Organization, health education is most important for effective case management. It has potential to establish

²Medical Officer, PAC Hospital, Sitapur, Lucknow, India

productive contact between the health services, and the community to increase capability of families to recognize the danger signs of diarrhoea in children and to encourage appropriate and early care.⁴

Number of studies about the maternal awareness of proper diet of children with diarrhoea suggested that knowledge of the etiologic factors, symptoms, treatment, and caring methods in diarrhoeal children among mothers is inadequate.^{5,6} Effective health education can only be provided on the basis of an accurate understanding of prevailing knowledge, attitude and practices (KAP) of the community about the use of ORS therapy.⁷ It is commonly observed that most of the mothers neither can mix commercially available ORS properly nor are able to realize the significance of giving more fluids during acute diarrhoea to their children.8 Awareness about diarrhoea and its management between mothers can improve by community based health worker and demonstration of home based management through oral rehydration therapy.

With this background we planned to assess the awareness and practice of mothers of under five children regarding oral rehydration therapy and to see the effectiveness of providing knowledge about diarrhoeal disease through pamphlets and demonstration of making ORS.

Aims and objectives of the study were to assess the knowledge and practice of mothers of under-five on oral rehydration therapy and to evaluate the effectiveness of pamphlet regarding knowledge and practices of oral rehydration therapy.

METHODS

This pre- experimental (one group pre-test & post-test) quantitative study conducted at Paediatric Surgery indoor ward, King George's Medical University, Lucknow, U.P., from February 2018 to June 2018. Study subjects were 55 mothers of under five Children who were admitted in ward. Mother's having children of under five years were included for study. The Participants of present study was selected by purposive sampling technique. It is a nonprobability sampling technique in which the mothers of under five children were selected because prevalence of diarrhoea is high among under five children. After explaining nature of study and getting verbal consent Pretest was conducted with help of questionnaire to assess the level of knowledge among mothers of under five children and checklist to assess the level of practice to make homemade and commercial O.R.S. After conducting Pre-test pamphlet was given by using pamphlet and demonstration was also given on steps to make homemade and commercial O.R.S. After seven days Post-test was done by using self-structured questionnaire whereas checklist which was used in Pretest session. Reliability was checked by split half method and Spearman Brown Prophecy Formula and reliability was r=0.76.

Inclusion criteria

Mothers who are willing to participate in the study, mothers who are available during the period of data collection and mothers of under five children.

Exclusion criteria

Mothers who are not willing to participate in the study and mothers of more than 5-year-old children.

Description of tool

It consists of three parts i.e., Tool 1, Tool 2 and Tool 3.

Tool 1: It consists of demographic variables such as age, educational qualification, marital Status, employment status and monthly family income, residence type, number of children, history of diarrhoea in children, rotavirus vaccination in child.

Tool 2: It consist of 36 self-structured multiple-choice questionnaires regarding knowledge on diarrhoea, dehydration, oral rehydration solution and how to make home-made O.R.S The maximum score was 36 and minimum score was zero based on the scoring. The percentage of knowledge was calculated by using formula

Pre-test and post-test were conducted and the Score was interpreted as follows. Below 60 % (<22 correct answers)=Inadequate knowledge, between 60-80% (22-29 correct answers)=moderately adequate knowledge More than 80% (> than 30 correct answers)=adequate knowledge.

Tool 3: It consists of checklist containing 12 steps on preparation of commercially available packet of O.R.S and homemade ORS for 1 L and 1 glass. Pre-test and post-test practices were assessed.

The score was interpreted as follows: Below 50% (<6 correct steps) = inadequate level of practice, between 51-75% (7-9 correct steps) = moderate level of practice, more than 83% and above (> than 10) = adequate level of practice

Delimitations of the study

- 1. The study is limited to 55 samples.
- 2. The sample is limited to the mothers of under five children.
- 3. The study is limited at Department of Pediatrics surgery, King George's Medical University, Lucknow.

Operational delimitations

Knowledge awareness- It refers to knowledge about the prevention of Diarrhoea and dehydration.

Statistical analysis

Available data stored in wide spread excel data sheet and analysis done by using spss software 16.0 versions. Demographic variables of subjects expressed in mean *Pamphlet*- It is an unbound booklet without hard cover or binding contain specific information.

Effect- It refers to the extent to which the pamphlet on oral rehydration is improving the knowledge of mothers.

• Independent Variable: Pamphlet

Dependent Variable: Knowledge and Practice of oral rehydration

Extraneous Variable: Demography

with standard deviation and percentage. Z test was used to assess the effectiveness of pamphlets.

RESULTS

Socio-demographic result of our study showed that majority of mothers were more than 32 years and 27.27% and 23.63% of subjects were between 28 to 32 and 23 to 27 years respectively. Majorities (49.09%) of mothers were educated up to graduate and 21.81% of subject were educated up to secondary level and rest 5.45% of subjects were illiterate. Study subjects were equally belonging to urban and from rural area. Vaccination status of children showed that 60 percent of children get vaccination of Rota virus and 20 percent of children status about vaccination not clear (Table 1).

Table 1: Socio-demographic characteristic of mothers.

S. no	Variables		Frequency	Percentage
		18-22	5	9.09
1	Age in years	23-27	13	23.63
1		28-32	15	27.27
		>32	22	40.00
		Illiterate	3	5.45
	Educational qualification	Primary	4	7.27
2		Secondary	12	21.81
2		Higher Secondary	5	9.01
		Graduate	27	49.09
		Post Graduate	4	7.27
	Marital status	Married	48	87.27
3		Widow	2	3.63
3		Divorced	3	5.54
		Separated	2	3.63
	Employment status	Employed	11	20.00
4		Business	5	9.09
4		House maker	30	54.54
		Unemployed	9	16.36
	Residence type	Rural	28	50.90
5		Urban	23	41.81
		Semi Urban	4	7.27
	Number of children	1	15	27.27
6		2	23	41.81
0		3	10	18.18
		>4	7	12.72
7	History of diarrhea in last 6 months in	Yes	16	29.09
/	any of children	No	39	70.90
		Done	33	60.00
8	Rota virus vaccination to child	Not done	11	20.00
		Don't know	11	20.00

Pre-test knowledge score of subjects regarding diarrhoea and oral rehydration showed that 64 percent of mothers having moderately adequate knowledge and 36 percent were having inadequate knowledge. Post-test knowledge score of mothers regarding diarrhoea and ORS showed significant improvements in knowledge showed that 72.72 percent of subjects having adequate knowledge and 27.27 percent of subjects having moderately adequate knowledge and results were highly significant (Table 2).

Table 2: Comparison between pre-test and post-test knowledge score.

	Description	Level of Knowledge						
S. no		Mean (SD)		Inadequate knowledge		Moderately adequate knowledge		Adequate knowledge
			N	%	N	%	N	%
1	Pre-test	27.75 (5.02)	20	36	35	64	0.00	0.00
2	Post-test	30.71 (3.42)	0	0	15	27.27	40.00	72.72

Table 3: Comparison between pre-test and post- test practice.

	Description	Level of practice						
S. no		Mean (SD)	Inadequate level of practice		Moderate level of practice		Adequate level of practice	
			N	%	N	%	N	%
1	Pre-test	30.71 (3.42)	25	45.45	23	41.81	7.00	12.72
2	Post-test	6.99 (2.40)	0	0	11	20.00	44.00	80.00

Pre-test score of mothers regarding practice of oral rehydration therapy showed that majority (45.45%) of subjects having inadequate knowledge, 41.81% of subjects having moderately adequate knowledge and only 12.72% of mothers having adequate knowledge. Post test score of study subject showed significant improvement in their practice regarding diarrhoea and ORS. 80% of mothers having adequate knowledge and 20% of mothers having moderately adequately knowledge (table 3).

Table 4: Significance of association between dependent variables.

Variable	Mean	SD	Z Test
Level of knowledge	7.96	3.83	15.38
Level of practice	3.90	2.44	11.86

DISCUSSION

In Our study mean pre-test knowledge score regarding knowledge about diarrhoea under five years children and their management was 27.75 (5.02) and post test score was 30.71 (3.42). 64% of subjects were having moderately adequate knowledge and 36% of subjects having inadequate knowledge about diarrhoea and its management. Our study result is consistent with finding of Merali S et al (2018),9 who also concluded in her study that majority of them (85.1%) was classified as having good knowledge and scored >80% on the assessment of knowledge. Study of Muthulakshmi M et al (2017), 15 also favors our finding who stated in her study that mothers having adequate knowledge but need a little more improvement. Most of study conducted in India and abroad regarding assessment of knowledge and practice but only few studies conducted to assess their improvement of knowledge after providing them information regarding cause and management of diarrhoea management. Study of Mukhtar et al is contrast with our findings who found poor knowledge about signs of dehydration in their study subjects. 10 Post test score of

our study subjects about knowledge showed that 72.72% of subjects having adequate knowledge and 27.27% of subjects having moderately adequate knowledge about diarrhoea. This may be because of the fact that majority (49.09%) of study subjects were educated up to gradation only 5.45% of subjects were illiterate. and Rokkappanavat et al conducted a study on knowledge and practice among mothers regarding management of diarrhoea in urban field practice area of Kalaburagi, Karnataka, found that majority of them were in the age group of 21-25 years. More than half of participants lacked adequate knowledge regarding danger signs, spread and prevention.¹¹ In our study majority of mothers were above 32 years subject equally residing in rural and urban area. It might be the fact that in urban setting readymade ORS are easily available and more dependency over health providers.

If we analyses result of practice regarding diarrhoea disease and its management we found that in pre-test 45.54% of subjects having inadequate knowledge and 41.81% of subjects having moderately adequate knowledge and only 12.72% of subjects having adequate knowledge whereas in post-test 80% of subjects having adequate knowledge and 20% of subjects were having moderately adequate knowledge and result was statistically significant. The simple input of education and community outreach seems to be beneficial in improving knowledge and hints the ushering in positive attitudes. There seems to be a possibility of a positive change in practices in terms of the increased reported usage of ORS and sugar-salt solution.² Pushpendra et al conducted a study to assess the effectiveness of a structured teaching programme on knowledge regarding the oral rehydration therapy in management of diarrhoea among mothers, found that difference between pre-test mean knowledge score of control and experimental group was statistically non-significant at p<0.05 level whereas the difference between post-test mean knowledge score of both groups was statistically highly significant at p<0.001 level.¹² Gupta et al conducted a study to assess of knowledge of

mothers regarding use and preparation of O.R.S. in acute diarrhoea, found that 48 out of 140 mothers knew the correct method of O.R.S preparation and its use. ¹³ The knowledge regarding method of use and preparation of O.R.S for management of diarrhoea was found to be inadequate. Hemant et al also concluded in his study that 72% of mother knows how to prepare and administer ORS and 78% of mothers were aware about home available fluid for rehydration. ¹⁶ Muthulakshmi et al also stated in her study that subjects having adequate knowledge and practice about the use of O.R.S. ¹⁵ However, knowledge, attitude and practice of mothers towards use of O.R.S for the treatment of diarrhoea need a little more improvement.

Our study findings suggest that higher education levels were associated with higher presence of knowledge regarding diarrhoea disease and its prevention. Post test score finding suggest that focused health education to mothers has been shown to improve their knowledge and practice regarding diarrhoea and its home-based management of oral rehydration.^{2,16}

CONCLUSION

Mothers were having moderately adequate knowledge about diarrhoea and dehydration. Although most of them could prepare commercially available packets of the O.R.S, but they could not prepare the O.R.S at home. Teaching of mothers about signs of dehydration and preparing and using O.R.S that can help to reduce the mortality and morbidity of under five children.

Funding: No funding sources Conflict of interest: None declared

Ethical approval: The study was approved by the

Institutional Ethics Committee

REFERENCES

- 1. Ghai OP. Essential Pediatrics. 8th ed. New Delhi: CBS; 2013;293.
- 2. Pahwa S, Kumar GT, Toteja GS. Performance of a community-based health and nutrition-education intervention in the management of diarrhoea in a slum of Delhi, India. J Health Popul Nutr. 2010;28(6):553-9.
- 3. Alkizim F, Matheka D, Muriithi A. Childhood diarrhoea: failing conventional measures, what next? Pan Afr Med J. 2011;8:47.
- Hockenberry MJ, Wilson D, Wong's Essential of pediatric nursing. Elsevier Publication. 8th edition: 820-822.
- 5. Ketsela T, Asfaw M, Belachew C. Knowledge and practice of mothers/care-takers towards diarrhoea

- and its treatment in rural communities in Ethiopia. Ethiop Med J. 1991;29(4):213-24.
- 6. Chongbanyatcharoen P. Acute diarrhea's recommendations on oral rehydration therapy and feeding. J Med Assoc Thai. 2005;88(1):30-4.
- 7. World Health Report, shaping the future, Rotavirus and Severe Childhood Diarrhea, world health organization. 2006;12(2):304-6.
- 8. Seyal T, Hanif A. Knowledge, attitude and practices of the mothers and doctors regarding feeding, oral rehydration solution (ORS) and use of drugs in children during acute diarrhoea. Annals King Edward Med Coll. 2009;15(1):38-41.
- 9. Merali HS, Morgan MS. Diarrhoeal knowledge and preventative behaviors among the caregivers of children under 5 years of age on the Tonle Sap Lake, Cambodia. RRTM. 2018;9:35-45.
- Ansari M, Ibrahim MIM, Shankar PR. A survey of mothers' knowledge about childhood diarrhoea and its management among a marginalised community of Morang, Nepal. AMJ. 2011:4(9):474-9.
- 11. Rokkappanavar K, Nigudgi SR, Shreeshail G. A study on knowledge and practice of mothers of under-five children regarding management of diarrhoea. International J Community Medicine Public Health. 2016;3(3):705-10.
- 12. Kumar P, Vikas Chaudhary , Titi Xavier Mangalthil. A study to assess the effectiveness of a structured teaching programme on knowledge regarding the oral rehydration therapy in management of diarrhoea among mothers of under five children IOSR-JNHS. 2014;3(2):15-7.
- 13. Rajendra GK, Gautam NL, Devendra JK. Study of Knowledge of Mothers Regarding use and Preparation ORS in Acute Diarrhoea. J Evolution Medical Dental Sciences. 2015;4(20);3457-61.
- 14. Hemant J, Subhash B. Knowledge & Attitude towards oral rehydration therapy among mothers of under-five children of South Rajasthan, India", Int J contemporary Pediatris'. 2016;3(2):394-7.
- 15. Muthulakshmi M, Gopalakrishnan S. Use of oral rehydration solution by mothers of under-five children in a rural area of Kancheepuram district, Tamil Nadu: a KAP study. Int J Community Med Public Health 2017;4:4326-32.
- 16. Rishi RK, Bodakhe SH, Tailang M. Patterns of use of oral rehydration therapy in Srinagar (Garhwal), Uttaranchal, India. Trop Doct. 2003;33:143-5.

Cite this article as: Kumari R, Raju S, Sharma P, Verma R, Pratap P. Effectiveness of pamphlets on knowledge and practice regarding oral rehydration among mothers of under five children. Int J Community Med Public Health 2020;7:3963-7.