

Research Article

Knowledge and attitude towards oral rehydration therapy among mothers of under-five children of South Rajasthan, India

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Received: 23 December 2015

Accepted: 04 February 2016

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ABSTRACT

Background: Diarrhoea is the major cause of morbidity and mortality among children less than 5 year of age. Adequate rehydration therapy is most important aspect of management. Home based Oral Rehydration Therapy (ORT) prevents morbidity and mortality. In this study our objective was to assess the awareness, knowledge and practice of mothers of under-five children regarding ORT and home management of diarrhoea.

Methods: A cross-sectional study was carried out at tertiary care centre of south Rajasthan. A questionnaire was provided to all the mothers of under-five children.

Results: A total of 235 mothers were enrolled. 65% mothers have awareness regarding diarrhoea prevention. 80% of mothers were aware of Oral Rehydration Solution (ORS) and 72.7% knew how to prepare and administer ORS. Also, majority of mothers 78% were aware about home available fluids for rehydration. Knowledge of danger sign of severe dehydration was poor. Mothers educated only till class eight were almost twice less likely to know about ORS preparation as compared to better educated mothers (70% vs 30%). No association was found between lack of knowledge regarding home available fluids with younger age.

Conclusions: Majority of mothers were aware regarding ORS and home available fluids. Knowledge of danger signs related to severe dehydration was low. Lack of education predisposed to ignorance regarding ORS preparation. Health education will be required to prevent diarrhoea morbidity and mortality.

Keywords: Diarrhoea, Under-five, Oral rehydration solution, ORS, Homemade fluids, Knowledge

INTRODUCTION

Acute diarrhoea is defined as an abnormally frequent discharge of semi-solid or fluid fecal matter from the bowel, lasting less than 14 days.¹

Diarrhea is one of the commonest causes of morbidity among young children in developing countries as well as low income countries. Young children is most vulnerable especially under 5 years of age group. Annually 1.4 to 2.5 million deaths occurs in children under the age of 5 years.² Diarrhoea can be managed at both primary and secondary prevention levels. The former consist of improvement in sanitation and water quality. The latter consists of early recognition of dehydration due to

diarrhoea and prompt oral rehydration therapy by either using ORS or appropriate homemade fluids. Fluid therapy with Oral Rehydration Solution (ORS) and other standard home solutions, non-stop feeding during diarrhoea, and continued breastfeeding are the typical treatments. 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.^{3,4} Numerous 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 diarrheal children among mothers is inadequate.^{5,6} Oral rehydration solutions enhance and promote the reabsorption of sodium and water and studies indicate

that these solutions greatly reduce vomiting, volume loss from diarrhoea, and the duration of the illness.⁷

Poor socio-economic status and lack of knowledge among caregivers mean that oral rehydration is not always applied when needed.⁸ Often the caregivers are late in recognising diarrhoea as a cause of concern.⁹ Furthermore, diarrhoea treatment practices are not based on evidence as shown by widespread prescription of unnecessary drugs.⁹

The objective of our study was to assess the awareness, knowledge and practice of mothers of under five children regarding home management of diarrhoea, comprising of ORS, home available fluids and recognition of danger signs of diarrhoea.

METHODS

Study setting and design

A cross-sectional study was carried out at tertiary care centre of south Rajasthan. Verbal informed consent was obtained before interviewing each participant. Mothers were interviewed and accordingly brief clinical examination was done. After that mothers was asked pre-decided questions according to specially prepared proforma which contains questionnaire and relevant history regarding the patient. Knowledge of mothers was tested by these questions regarding diarrhoea prevention and oral rehydration therapy. These questions were asked in the local language which the mother was able to understand. After assessing knowledge of mothers, we taught mothers what appropriate methods to be used to prevent their children from morbidity and mortality resulting from diarrhea.

Statistics

Data was entered in Excel sheet and SPSS was used for statistical analysis.

RESULTS

We enrolled a total of 235 mothers in our survey. Table 1 shows that around 85% of the mothers were literate.

Knowledge regarding diarrhoea

Only 35 out of the 235 mothers (15%) were aware of infection as a cause of diarrhoea. 45 % mothers mentioned that cause of diarrhoea was dirty water, spoiled food, flies, lack of hygiene and unclean food. 40% mothers didn't know about the cause.

About 65% mothers knew about preventive method of diarrhoea which consisted of boiling or treating drinking water, proper hygiene and use of fresh food.

Awareness and knowledge regarding oral rehydration

188 out of the 235 mothers (80%) were aware about ORS. 171 of them (72.7%) knew how to prepare and administer ORS correctly. 146 of these 188 mothers (77.65%) who were aware of ORS knew that ORS solution should be used within 24 hours of preparation.

Table 1: Baseline characteristics of the 235 mothers of under five children.

Category	Frequency (%)
Age (years)	
Up to 20	8 (3.4)
21-25	80 (34)
26-30	106 (45.1)
31 and more	41 (17.4)
Education	
Illiterate	15 (6.3)
Primary (1 – 5)	26 (11)
Middle (6 – 8)	34 (14.4)
Secondary (9 – 10)	65(27.6)
Higher secondary (11 – 12)	78 (33.1)
Diploma and graduation	17 (7.2)

Around 78% of the mothers were aware of the home available fluids for rehydration. Table 2 mentioned that rice water with salt was the most common fluid being used (102 out of 235). Out of these, acceptable home fluids containing both salt and carbohydrate components were rice water with salt, coconut water, Lemon shikanji, daal water and salt and sugar water which together constituted 65.4% of the total responses.

Table 2: Home available fluids being used by the 235 mothers (n = 510 responses).

Type of home available fluids used	Number (%)
(Khichri) rice water with salt*	102 (20.0)
Coconut water*	62 (12.1)
Lemon shikanji	55 (13.4)
Daal water*	54 (13.1)
Salt and Sugar water*	28 (6.8)
Glucose water	42 (10.2)
Fruit juice	54 (13.1)
Tea / Coffee	34 (8.2)
Milk	58 (14.1)
Others	21(5.1)
Total	510 (100)

*Fluids are appropriate for oral rehydration

Risk factors for lack of knowledge regarding ORS

We analysed the demographic variables such as young mothers aged up to 25 years and education till class eight as plausible risk factors for the lack of knowledge of ORS preparation.

47 out of 235 mothers were not aware regarding ORS. On analysis those educated only till class eight (33 (70%)) were less likely to know about ORS preparation compared to their counterparts (14 (30%)).

Young age was not found to be significantly associated with lack of knowledge of ORS preparation.

Awareness regarding danger signs

Four danger sign were included - sunken eyes, poor feeding, lethargy or decreased activity and decreased skin turgor.

Twenty out of 235 mothers were aware of at least one danger sign. 99 mothers (42.1%) mentioned persistent diarrhoea as a danger sign/ cause of hospital visit. 64 mothers told that they were not aware of any danger signs (Table 3).

Table 3: Reasons for visit to a health facility if child had diarrhoea (n = 245).

Reasons stated	Mothers (%)
2 out of 4 signs of severe dehydration	5 (2.1)
1 out of 4 signs of severe dehydration	15 (6.3)
Fever, vomiting, increased cry or abdominal pain	52 (22.1)
Persistent diarrhoea	99 (42.1)
Didn't know	64 (27.2)
Total	235 (100)

DISCUSSION

In our study most of the mothers were not aware about microbiological cause of diarrhoea. Most of the mothers were aware regarding mode of spread of diarrhoea as cause of diarrhoea. This is very helpful for mothers to take preventive measure for diarrhoea.

Awareness of the under-five children's mothers regarding ORS and its use during diarrhoea was high compared to another study done in Aligarh, India and comparable to Nigerian study.^{10,11} The awareness of home available fluids for rehydration was higher in our study compared to the Aligarh study.¹⁰ This might be explained by the urban setting of the study with ready availability of ORS at low cost and hence rendering home-made ORS unnecessary.

Knowledge regarding continuation of feeding during diarrhoea was found superior in our study compared to that of other Indian studies done at Aligarh and Delhi.^{10,12} On the other hand, knowledge of specific warning signs related to severe dehydration was low. Mothers are still deficient in knowledge regarding danger sign in diarrhoea and indication of admission. Hence health training of mothers will lead to early admission and better outcome. It was observed that severity of diarrhoea was judged by

mothers based on its duration and not on the basis of dangers signs which indicate severe dehydration.

In our study, all the children had received some form of oral rehydration. This was similar to study done in rural Gujarat where oral rehydration was given for 90.6% of the diarrhoea episodes.¹³ Use of oral rehydration was better in our study compared to the national average of 48% as per the NFHS-3 survey.¹⁴ The practice of oral rehydration at home still needs to be promoted which would help in early reduction in dehydration even before the visit to the doctor.

Our study suggests that higher education levels were associated with higher presence of knowledge of ORS preparation while there was no effect of age of mothers. Health education of mothers has been shown to improve their knowledge and practice regarding diarrhoea and oral rehydration in earlier studies.^{3,15} This confirm the importance of women's education in reducing diarrhoea morbidity and mortality through correct use of ORS. Although the awareness regarding home available rehydration fluids was high, there was a large variety of these fluids being used with at least one-fourths of them not suitable for oral rehydration. Thus ORS should be primarily used for oral rehydration while appropriate home available fluids might be used as supplement or only when ORS is not available.

CONCLUSION

Low education in mothers was found to be an important factor for the appropriate utilisation of ORS in the community. Although awareness regarding spread of diarrhoea and ORS was adequate in our community, knowledge regarding danger signs was deficient. Thus educating mothers of under-five children regarding correct practices of home management of diarrhoea is likely to further reduce diarrhoea morbidity and mortality.

ACKNOWLEDGEMENT

We acknowledge the immense help received from the scholars whose articles are cited and included in references of this manuscript. We are also grateful to authors/editors/publishers of all those articles, journals and books from where the literature for this article has been reviewed and discussed.

Funding: No funding sources

Conflict of interest: None declared

Ethical approval: The study was approved by the Institutional Ethics Committee

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Cite this article as: Jain H, Bamnawat S. Knowledge and attitude towards oral rehydration therapy among mothers of under-five children of South Rajasthan, India. *Int J Contemp Pediatr* 2016;3:394-7.