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Original Research Article

A study to assess the practices of mothers of under-five children in childhood diarrhoea in a tertiary care hospital of Northeast India

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ABSTRACT

Background: Diarrhoea is one of the major causes of morbidity and mortality in under-five children. The incidence of diarrhoea has remained almost unchanged over the past few decades. A mother is the primary care-giver of a child. Therefore, one of the key factors that determine the survival of a sick-child is her attitude and practices in the event of diarrhoea. The present study was therefore undertaken to understand the different aspects of their care-giving behaviour.
Methods: A hospital-based cross-sectional study was carried out in the Department of Paediatrics, Agartala Government Medical College and G. B. Pant Hospital, Agartala, Tripura, India over a period of two months. 700 mothers of under-five children attending the OPD were interviewed with a pre-designed and structured interview schedule.
Results: The usage of ORS was about one-fourth. And only one-fifth out of all the participating mothers could show how to prepare ORS solution correctly. Correct practices regarding various aspects of administering ORS solution like duration of usage, frequency of administering, duration of the therapy, etc were not observed in majority of the participating mothers. A preference for home-made fluids was also noted in most of the participants. Educational level and past experience of managing a child with diarrhoea significantly affected their practices.
Conclusions: Even though ORS is widely and easily available, easy to use and cost-effective, considerable work needs to be done in the context of adequate practices in its administration to a child affected by diarrhoea and increase its acceptability.

Keywords: Attitudes, Diarrhoea, Mothers, Practices, ORS, under-five children

INTRODUCTION

Diarrhoea is one of the major causes of morbidity among young children worldwide, rivalled only by respiratory infections.[1] Globally, an estimated 1.4 billion cases of childhood diarrhoea are reported every year and it is estimated that 9% of all deaths among the under-fives occur due to diarrhoea.[2,3] Most of these cases occur in the developing countries like India. Our country reported about 10.7 million cases and 1535 deaths attributable to diarrhoea in the year 2013.[4] It remains a critical public health concern as well as a significant cause of visit to hospitals. While with improvement in food and sanitation, global mortality trends may be declining, the overall incidence of diarrhoea however remains unchanged at about 3 episodes per child per year over the decades, underlining the scope and importance of prevention.[1] The World Health Organization (WHO)

suspects that there are >700 million episodes of diarrhoea annually in children <5 years of age in developing countries.[5]

Given the fact that 60-70 per cent of diarrhoea-related deaths occur due to dehydration, prompt rehydration therapies either at the level of household or health-care facility can be key elements in intervention.[6] This is an important aspect of diarrhoea because worldwide, there are about 123 million clinic visits, requiring about 9 million hospitalizations every year clearly suggesting the enormity of the problem.[1] The attitudes and practices of the mother towards health-care seeking in such circumstances is the critical determinant of whether an affected child will survive or not, because in most cases, mother is the primary care-giver of a child. It is known that poor or delayed "health care seeking" contributes to 70% of child deaths.[7,8] Rehydration measures can be initiated with the help of ORS or any locally and culturally acceptable home-made fluid even before transferring the patient to a health-care facility.

WHO and UNICEF recommend the use of low osmolarity ORS (Oral Rehydration Solution) for the correction and prevention of dehydration and 10-20 mg of zinc for 10-14 days as treatment for all episodes of diarrhoea and the same was also adopted by the many countries including India.[9-12] Despite its easy availability, low cost and high effectiveness, NFHS-3 (2005-06) data suggest that in India, only 43% of the children suffering from diarrhoea receive any form of oral rehydration therapy (ORT) and only 20% received Oral Rehydration Salt (ORS).[13] The data from diarrhoea treatment indicators of the children suffering from diarrhoea is not very encouraging. Only 26% of them received ORS packets, 33% received some form of oral rehydration therapy (ORT) and only 20% received a recommended home-made fluid.[14] This data clearly highlights that there is a lot of scope for improvement as far as the attitudes and practices of mothers in the event of childhood diarrhoea are concerned. It is equally vital to understand the impediments to proper, rational and scientific care-giving. The present study was therefore carried out to assess the attitudes and practices of mothers in the event of a diarrhoeal episode of the children and thus understand the different aspects of their care-giving behaviour.

METHODS

A hospital-based, descriptive cross-sectional study was carried out in the Department of Paediatrics, Agartala Government Medical College and G.B. Pant Hospital, Agartala, Tripura, India over a period of two months. Mothers of under-five children visiting the Paediatric out-patient department of the college were included as participants for the study. Those who were not willing to participate and those who had children above five years of age were excluded.

A total of 700 mothers fulfilling the selection criteria were interviewed with the aid of a pre-designed and structured interview schedule. Convenience sampling method was used while recording the data. The targeted sample size of 700 was covered over a 2-month (8 weeks) period from May 2013 to June 2013 by interviewing around 90 mothers per week.

Considering the fact that OPD remains closed on sundays, over the remaining six days of the week, first fifteen (15) registered mothers who met the selection criteria were interviewed in a one-by-one, face-to-face manner. This ensured uniformity of sampling.

Approval was obtained from the institutional ethics committee prior to the study. Informed consent was taken from every respondent before starting the interview and information thus obtained was dealt with confidentiality.

The data thus obtained was entered in computer using SPSS version 13 software. Descriptive statistics and suitable statistical tests like Chi-square test were applied. A p-value<0.05 was considered statistically significant.

RESULTS

The attitude of mothers regarding health-care seeking and use of home-based remedies has been shown in Table 1 and it was found to be significantly associated with their educational level.

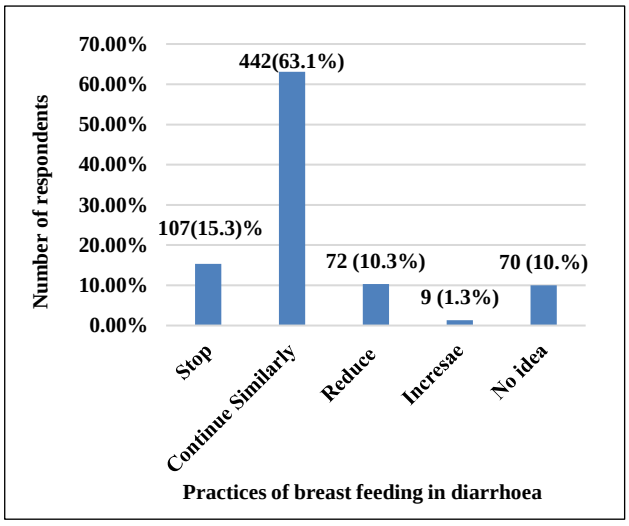

Figure 1: Practices of mothers about breast-feeding in case of diarrhea.

More than half of the respondent mothers (52.14%) were in favour of providing different homemade fluids. And only about one-fourth of them would provide ORS at home. Also, majority of the mothers (44.1%) would consider taking their affected child to a health-care facility only when diarrhoea isn't controlled by homemade fluids and 15.3% of them would visit a hospital immediately in the event of their child having

diarrhoea. The results clearly show a widely prevalent perceived reliability on homemade fluids.

Table 1: Distribution of healthcare seeking attitude and practices of mothers according to their educational level.

Variables	Educational level of mother				Total
	Illiterate	Primary educated	Secondary educated	Graduate and above	
Any practices to provide relief at home (χ^2=121.64, P-value = 0.000)					
Nothing	57	75	26	0	158 (22.57%)
Homemade Fluids	52	174	126	13	365 (52.14%)
ORS Solution	5	69	75	28	177 (25.29%)
Attitude of mothers regarding when to visit a health-care facility in the event of diarrhoea (χ^2=140.78, P-value = 0.000)					
Child having severe diarrhoea	3	17	21	16	57 (8.1%)
When not controlled in spite of giving ORS solution	8	65	61	21	155 (22.1%)
When not controlled in spite of giving Homemade fluids	50	151	104	4	309 (44.1%)
In the event of any illness of the child	14	26	16	0	56 (8.0%)
Will take immediately when found to have diarrhoea	36	47	24	0	107 (15.3%)
Will not take to hospital	3	12	1	0	16 (2.3%)
Total	114	318	227	41	700

Table 2: Practices of mothers regarding various aspects of oral rehydration therapy.

Parameters		Frequency	Percentage
Procedure of preparing the ORS solution	Couldn't prepare	177	25.3
	Wrong method	122	17.4
	Partially correct method	254	36.3
	Fully correct method	147	21.0
Maximum duration within which 1 Litre of ORS Solution has to be used once prepared			
Within 2 hours		61	8.7
Within 4 hours		88	12.6
Within 12 hours		143	20.4
Within 24 hours		102	14.6
For 1-2 days		39	5.6
No idea		267	38.1
Frequency of administering Oral Rehydration Therapy in the event of diarrhoea			
Every 2-3 minutes/ frequent sips		70	10.0
Every time child passes loose stool or vomits		124	17.7
Every half an hour		159	22.7
Every hour or later		58	8.3
No idea		289	41.3
Total duration of continuing Oral Rehydration Therapy			
Till Diarrhoea stops or child doesn't feel thirsty		48	6.9
Till signs of dehydration disappear		27	3.9
No idea		617	88.1
Upto 12 hours		8	1.1
Response in the event of vomiting during Oral Rehydration Therapy			
Pause for about 10 minutes and resume slowly		64	9.1
Take to hospital		129	18.4
No idea		507	72.4
Total		700	100.0

* P-value = 0.000= 0.000 for association with educational level, P-value = 0.000= 0.001 for association with past experience of managing a case of diarrhoea.

The various practices of oral rehydration therapy from preparation to administering have been depicted in Table 2. It included assessment of various steps starting from opening an ORS packet, mixing it with water, frequency of administering the prepared solution, the duration within which solution once prepared has to be used, response in the event of vomiting by the child, etc. Only one-fifth of the respondent mothers knew how to prepare ORS correctly and one-fourth (25.3%) of them couldn't prepare at all. Only 14.6% knew that a solution once prepared had to be used within 24 hours. Most of them had no clear idea regarding the frequency of administering ORS solution, what to do when the child vomited and how long the rehydration therapy should be continued. Educational level and prior experience of managing a case of diarrhoea were found to be significantly associated with all these factors.

Figure 1 shows the attitudes and practices of mothers regarding breast-feeding in the event of their child suffering from diarrhoea. Most of the mothers were of the opinion of continuing breast-feeding similarly as before.

DISCUSSION

The findings of our study resonate well with some of the diarrhoeal treatment indicators of India.[1] The usage of ORS by mothers in the event of diarrhoea in both the instances was found to be about one-fourth. And only one-fifth out of all the participating mothers could show how to prepare ORS solution correctly. Correct practices regarding various aspects of administering ORS solution like duration of usage, frequency of administering, duration of the therapy, etc were not observed in majority of the participating mothers.

Present study also highlights the importance attributed to home-made fluids in this part of the population with more than half of the mothers (52.1%) resorting to them in the event of diarrhoea. This contrasts with some available reports in India which suggest that home-made fluids were used by 20% mothers only.[1] Kaur A et al, reported that 68.8% mothers gave home remedies and 18.8% used ORS.[15] A study conducted by UNICEF observed that about 13% of the mothers decided to take some action at home to provide relief. Among them, salt-sugar solution (48%), ORS (23%), rice water (19%), and "dal" water (15%) were reported as the main types of home treatment.[16]

A similar study in Mexico revealed that 52.3% of the mothers provided home-made fluids mainly in the form of herbal tea preparations to stop diarrhoea.[17] Saunders N in their study in various districts of Cambodia observed that three quarters (75%) of children surveyed were treated with some type of oral rehydration therapy including solution prepared from ORS packet, home available fluids, or rice water which is also similar to present study.[18] Similar figures were also reported by Adimora GN et al, Dippenaar H et al, and Jain H et al.[19-21] Even higher values were observed by Sutariya S et al, Ashoka BA and Khatri PC.[22,23] ORS usage practices better than our study were however observed by, Rasania S et al, Kaur A et al, Sultana A et al, Saurabh S et al, Seyal T and Hanif A.[6,15,24-26] Studies in and Cambodia and Nepal reported even lower values.[18,27]

Majority of the mothers said that they would continue breast-feeding even if the child had diarrhoea. However, studies from Mexico show that 36.3% of the mothers reported some changes in feeding of the affected child which consisted of suppressing milk and dairy products and interrupting breast feeding.[17] Values similar to the present study were reported by Sultana A et al.[19] With regard to the need of visit to a health-care facility in the event of childhood diarrhoea, majority of the participating mothers in present study would visit a hospital or health-care facility for medical assistance when diarrhoea is not controlled either with homemade fluids (44.1%) or administering ORS at home (22.1%). Data from National Family Health Survey (NFHS-3) and UNICEF show that 60% and 74% of the children with diarrhoea were taken to a health-facility by their mothers respectively.[13] Kaur A et al in their study had found that 83.7% consult local medical practitioners and 16.3% seek treatment from Government health functionaries when the illness is perceived as serious or when illness is not controlled with the interventions taken at home, either ORS or other Homemade fluids.[15]

CONCLUSION

Even though ORS is widely and easily available, easy to use and cost-effective, adequate practices in its administration to a child affected by diarrhoea still need efforts of scaling up. Present study also underlines the fact that merely knowing about ORS doesn't necessitate the correct methods of its preparation and administration.

Educational level and past experience of managing a case of diarrhoea were significantly associated with better practices. It also brings to the fore the dependence of the mothers on reliability of home-made fluids rather than ORS. These are key issues.

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