



A CROSS-SECTIONAL STUDY TO ASSESS THE KNOWLEDGE, ATTITUDE AND PRACTICES ON ORAL REHYDRATION THERAPY AMONG MOTHERS OF UNDER - 5 CHILDREN IN A TRIBAL DISTRICT OF MAHARASHTRA

Community Medicine

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ABSTRACT

Diarrhoea is the second-leading cause of under-5 mortalities worldwide, including in India. The role of oral rehydration therapy (ORT) in the management of diarrhoea is undeniable. Published studies about awareness and practice of ORT among mothers are limited to non-tribal areas; hence, a study was conducted to assess the same in a tribal district of Maharashtra. **Methods:** A cross-sectional study was conducted among 145 mothers coming to a rural hospital in a tribal district of Maharashtra for a period of May 2023 to July 2023. The data was collected through a face-to-face interview with the help of a pretested, predesigned questionnaire after getting written informed consent. All the necessary permissions were sought, and confidentiality was maintained throughout the entire data collection process. **Results:** Though the majority 133 (91.7%) have heard of ORT, only 65 (48.9%) knew the correct procedure for preparing it. In 52 (39%) respondents, the source of knowledge about the preparation of ORT was health care providers. Only 47 (32.4%) have good knowledge of ORT. Even though 130 (97.7%) have a positive attitude towards ORT, only 99 (74.4%) have practiced giving ORT during diarrhoea episodes to the children. Socio-demographic factors were compared with knowledge about ORT, and it was found to be statistically significant for age, participant education, working status, and socioeconomic scale. **Conclusion:** Mothers knowledge about ORT was average in the present study. Though there is a positive attitude towards ORT, the practice of ORT needs to be improved among the mothers. Addressing the gap between knowledge and practice of ORT among mothers of under-5 children is the need of the hour.

KEYWORDS

Oral Rehydration Therapy, Mothers of under- 5 children, Knowledge-Attitude- Practice, Tribal district.

INTRODUCTION

Diarrhoea is characterised by the passing of three or more watery stools within a 24-hour period. (1) Diarrhoea can occur from infectious or non-infectious causes. Rotavirus causes about 40% of hospitalisations for diarrhoea in children under-5 years globally. About 88% of diarrhoea-associated deaths are attributable to unsafe water, inadequate sanitation and insufficient hygiene. (2)

Globally, diarrheal disease stands as the second leading cause of under-5 mortality. Approximately 525,000 children under the age of five succumb to diarrhoea every year, more often in developing countries where malnutrition is common. (3,4) Although India witnessed a decline in diarrhoea, it remains the second-leading cause of death among children under-5, attributing huge indirect losses. (5-8)

Primary prevention of diarrhoea involves enhancing sanitation, water quality, and vaccination, while secondary prevention focuses on promptly recognising dehydration and initiating Oral Rehydration Therapy (ORT). (9,10)

ORT, which is Home Available Fluids (HAF) and Oral Rehydration Solution (ORS), can be given at the household level under the guidance of health care workers. (11) Though India was a pioneer of ORS, diarrhoea is still an important public health problem among under-5 children. (12)

Deaths due to diarrhoea can be due to the community's limited understanding of diarrhoea and ORT. (13,14) Mothers do play a key role in the overall development of a child as well as disease management, of which diarrhoea is no exception. So, awareness among mothers about the utilisation of ORT is at its most essential. (15) In Maharashtra, the second-most populous state in India, there is a big gap between awareness of ORS and its practice among mothers of under-5 children. (16)

Many published studies are available on mothers' knowledge, attitudes, and practices regarding ORT, but they are mainly conducted in urban slums and rural areas in India as well as other developing countries. (6,9,13-15,17-28)

The tribal population contributes considerably to under-5 deaths in India, where diarrhoea is one of the leading causes. (5) However, there is a lack of similar published literature in the Indian tribal areas. Hence,

this study was conducted to assess the knowledge, attitude, and practices of mothers of under-5 children on ORT in a tribal district of Maharashtra.

MATERIAL AND METHODS

An institution-based cross-sectional study was conducted in the Immunisation Outpatient Department in the Rural Hospital of a selected block in the Tribal District of Maharashtra. The sample size was calculated using the prevalence of mothers who have heard of ORS according to NFHS 5. (16) The study was conducted among 145 mothers of under-5 children coming to the facility who gave written informed consent. All necessary permissions were sought from the concerned authorities.

Inclusion Criteria

- Mothers of under-5 children attending the immunisation clinic of a rural hospital.
- Mothers whose children had suffered from an episode of diarrhoea in the past.

Exclusion Criteria

- Mothers who are not willing to give consent.
- Children less than 6 months of age.

The study was conducted using a pretested, predesigned questionnaire for a period of May 2023 to July 2023. Apart from various sociodemographic factors, questions focused on participants knowledge, attitude, and practices regarding ORT. A score of 1 was given for every right answer. A total score of 10 was given for knowledge assessment and 10 for assessing practices regarding ORT. Attitude was assessed using three questions.

The responses were collected, entered, and analysed in Excel version 2201. The results were calculated in the form of frequency and percentages. Strict confidentiality of the participants was maintained during the data collection and analysis.

RESULTS

Table 1: Sociodemographic Profile Of Mothers Of Under-5 Childre (N=145)

Sr.No	Characteristics	N = 145 (%)
I	Mothers age	
	18-25 years	60 (41.4%)

	26-35 years	71 (48.9%)
	More than 35 years	14 (9.7%)
II	Working status of mothers	
	Working	45 (31%)
	Not working	100 (69%)
III	Education of mothers	
	Illiterate	15 (10.3%)
	Primary	18 (12.4%)
	Middle school	14 (9.7%)
	High school	31 (21.4%)
	Secondary	27 (18.6%)
	Graduate	40 (27.6%)
IV	Socioeconomic Status	
	Class I	0
	Class II	32 (22%)
	Class III	42 (29%)
	Class IV	56 (38.7%)
	Class V	15 (10.3%)
V	Type of family	
	Nuclear	50 (34.5%)
	Joint	95 (65.5%)

The majority of the mothers belonged to the class IV socioeconomic class according to the BG Prasad Scale* of socioeconomic status.

Table 2: Knowledge, Attitude And Practices On Ort Among Mothers Of Under-5 Children (N=145)

Sl.no	Parameter	Frequency & Percentage
Knowledge		
1	Heard of ORT	133 (91.7%)
2	Aware that ORT is used to treat dehydration in diarrhoea	71 (53.4%)
3	Aware that ORT is a mixture of sugar and salt	10 (7.5%)
4	Aware of the correct procedure of preparation of ORS	65 (48.9%)
Attitude		
5	ORT is a good way to treat dehydration caused by diarrhoea	130 (97.8%)
Practices		
6	Familiar with ORS but not putting it into practice	34 (25.6%)
7	Fluid intake was increased during diarrhoeal episode	94 (94.9%)
8	Stored the prepared ORS solution at room temperature	97 (97.98%)
9	Stopped giving ORS when the child vomited after feeding ORS	30 (30.3%)
10	Continued breast feeding during diarrhoeal episode	96 (96.97%)

Among mothers who have heard of ORT, 43 (32.3%) believed it was a kind of energy drink for weakness, 3 (2.3%) believed it was used to treat malnutrition, and 16 (12%) of the mothers did not know the use of ORT.

When asked about the ingredient of ORS, 36 (27.1%) answered it as sugar, 18 (13.5%) gave the answer as salt and 69 (51.9%) of the mothers did not know the answer.

The primary source of information about ORS for most mothers, accounting for 69 (51.9%), was medical officers, followed by relatives or neighbours in 22 (16.54%) of the mothers. ASHA and Anganwadi workers became the source of information for 18 (13.5%) and 8 (6%), respectively. And 9 (6.8%) of mothers came to know about ORT through medical shops, and 7 (5.26%) through mass media.

The majority, 127 (95.5%) of the mothers, were aware that ORS is available free of cost. About 102 (78.2%) of the mothers replied that ORS will be available free of cost at government hospitals, and 23 (17.3%) answered anganwadi for the same. Half of the respondents, 72 (54.1%), were aware of how to assess dehydration in a child; 62 (46.6%) replied dry mouth, 8 (6%) replied child becomes thirsty, and 2

(1.5%) replied sunken eyes. The majority, 92 (70%), were not aware of the danger signs of diarrhoea.

Among 133 mothers who have heard of ORT, 73 (54.88%) strongly agreed and 57 (42.85%) agreed that ORT was a good way to treat dehydration caused by diarrhoea. Whereas 3 (2.25%) had a neutral attitude towards it. All mothers were ready to give ORT to their child if they had diarrhoea in the future.

About 23 (17.3%) mothers have given HAF during diarrheal episodes. Among HAF, lime water was given by the majority at 16 (69.6%), followed by dal water at 7 (30.4%). Once prepared, ORS was kept for 24 hours by 12 (12.12%), 12 hours by 38 (38.38%), and 3 (3.03%) kept it until it was over.

Spoon/paladai was used for feeding prepared ORS in the majority 97 (98%). About 78 (79%) of the mothers feed their child ORS after passing every loose stool, and 69 (70%) of mothers have slowly resumed ORS when the child has vomited. Heating of the prepared ORS solution was practiced by 1 (1%).

Table 3: Distribution Of Mothers Of Under 5 Children According To Knowledge And Practice Scores

Variable	Good	Average	Poor
Knowledge	47(32.4%)	60(41.4%)	38(26.2%)
Practice	53(53.5%)	46(46.5%)	0(0%)

Table 4: Association Between Sociodemographic Factors And Level Of Knowledge About Ort Among Mothers Of Under 5 Children

	Poor	Average	Good	Total (N=145)	P
Age	0.02*				
19-25 years	19 (13.1%)	30 (20.7%)	11 (7.6%)	60 (41.4%)	
26-35 years	14 (9.6%)	27 (18.6%)	30 (20.7%)	71 (48.9%)	
>35 years	5 (3.4%)	3 (2.1%)	6 (4.1%)	14 (9.7%)	
Education	0.007*				
Illiterate	7 (4.9%)	4 (2.7%)	4 (2.7%)	15 (10.3%)	
Primary	9 (6.3%)	5 (3.4%)	4 (2.7%)	18 (12.4%)	
Middle	3 (2.1%)	5 (3.4%)	6 (4.1%)	14 (9.7%)	
High school	11 (7.6%)	13 (9%)	7 (4.8%)	31 (21.4%)	
Secondary	4 (2.7%)	17 (11.7%)	6 (4.1%)	27 (18.6%)	
Graduate	4 (2.7%)	16 (11%)	20 (13.8%)	40 (27.6%)	
Occupation					
Working	3 (2.1%)	16 (11%)	26 (17.9%)	45 (31%)	0.001*
Not working	35 (24.1%)	44 (30.3%)	21 (14.5%)	100 (69%)	
Type of family					
Nuclear	14 (9.7%)	19 (13.1%)	17 (11.7%)	50 (34.5%)	0.834
Joint	24 (16.5%)	41 (28.3%)	30 (20.7%)	95 (65.5%)	
Socioeconomic status					
Class V	5 (3.4%)	6 (4.1%)	4 (2.7%)	15 (10.3%)	0.001*
Class IV	19 (13.1%)	28 (19.3%)	9 (6.3%)	56 (38.7%)	
Class III	13 (9%)	14 (9.7%)	15 (10.3%)	42 (29%)	
Class II	1 (0.7%)	12 (8.3%)	19 (13%)	32 (22%)	

Knowledge about ORT was found to be statistically significant for age, participant education, working status, and socioeconomic status among the study participants.

DISCUSSION

In our study, 133 (91.7%) mothers have heard of ORT, which is almost

similar among the 188 (94.7%) participants from a study conducted in India. (27) Other studies conducted elsewhere in India have reported lesser awareness, ranging from 60 to 90%. (1,7,22)

In our study, the source of information was Medical Officers 69 (51.9%), which is similar to the majority of the studies (40% to 90%), whereas in rural Bhopal it was Anganwadi workers (52%). (6,7,22,27,28)

Knowledge of the correct composition of ORS was 10 (7.5%) in our study, even though 71 (53.4%) were aware that ORS is used to treat dehydration. Similarly, in a study conducted in India, more awareness about the use of ORS was observed in 108 (54%) mothers, and 22 (44%) knew the correct composition of ORS. (28)

In our study, the correct procedure for preparing ORS was known to 65 (48.9%) participants, while it varied from 24.5% to 60% in studies conducted elsewhere. (20,27,28) Majority of the mothers, 127 (95.5%), were aware of the place of availability of ORS free of cost, the results of which could not be compared.

The most common response to signs of dehydration was dry mouth in 62 (46.6%) respondents in our study, while 102 (48.4%)

mothers from urban India identified increased thirst as the same. (26) In our study, the majority 28 (20%) answered reduced urine output as a danger sign of diarrhoea, while in a study conducted in another part of India, 155 (73.6%) participants answered fever as a danger sign. (26)

The majority of participants, 130 (97.8%), believed that ORS is useful, which was more or less similar to 378 (94.5%) in a study conducted in Bhopal. (20) All the mothers (100%) in our study, when asked, were willing to give ORS to their children in the future if needed. However, the same could not be assessed from the published literature. Among the mothers aware of ORT 99 (74.4%), have practiced giving ORS to their children during episodes of diarrhoea. It was higher as compared to studies conducted in other parts of India, which ranged from 25% to 50%. (19,22,28)

Only 23 (17.3%) of the mothers gave HAF to their children during episodes of diarrhoea, the results of which were only 8% in a study conducted elsewhere. (14) About 12 (12%) of the mothers used to keep the mixed ORS for 24 hours, compared to 255 (86.4%) in a study done in Ethiopia. (13) A majority of mothers used spoons and cups for feeding ORS, which is 97 (98%), compared to 105 (55.3%) in a study conducted elsewhere in India. (27) In our study, 78 (79%) of

the mothers used to give ORS after every passage of loose stool, whereas in a study conducted in Ethiopia, it was 103 (34.9%). (13)

Rather than waiting and giving ORS, 30 (30.3%) of the mothers stopped feeding ORS to their children when they vomited, in our study. In a study conducted in rural India, 82 (41%) people stopped giving ORS when vomited. (28) During episodes of diarrhoea, 94 (95%) of mothers increased oral fluids, whereas in a study conducted in urban Telangana, only 106 (35.26%) of the mothers were practicing the same. (1) In our study, 97% of the mothers continued breastfeeding during episodes of diarrhoea, compared to 423 (94%) in other rural part of India. (6,7) Heating of the prepared ORS solution was practiced by 1 (1%), the results of which could not be compared.

CONCLUSIONS

While the majority of mothers in this study have heard of ORT and ORS, their knowledge regarding the same was average. Despite their positive attitudes towards ORT, the practical use of ORS by mothers during episodes of diarrhoea was limited.

Recommendations

To ensure universal adoption of ORS, innovative strategies for promoting its utilisation should be focused not only on mothers but also on family members and other stakeholders who have a crucial role to play. It is also crucial to establish an inbuilt mechanism for promoting the use of ORS. Hence, more studies should be conducted to collect baseline data on the same.

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