Knowledge, Attitude and Practices of Mothers Regarding 'Oral Rehydration Therapy' in Jammu Slums

Ramesh Chander, M.D.,¹ Puja Vimesh, M.D.,² Shyam Singh, M.Ch.³

¹Department of Family & Community Medicine, Adesh Institute of Medical Sciences and Research, Bathinda, Punjab, ²Department of Cardiothoracic Anaesthesia, Govt. Medical College, Jammu ³Department of Cardiovascular and Thoracic Surgery, Sher-i-Kashmir Institute of Medical Sciences, Srinagar

ABSTRACT

BACKGROUND: Little information is available among mothers living in Jammu slums regarding oral rehydration therapy (ORT).

OBJECTIVE: To study the knowledge, attitude and practices of mothers regarding oral rehydration therapy during diarrhoeal episode in their children?

STUDY DESIGN & SETTING : A cross-sectional study, conducted in slums of Jammu city.

METHODS: A total of 750 mothers of children below 6 years of age suffering from diarrhoea were recruited for the study. The sample size was selected out of the total 3000 mothers of children suffering from diarrhoea by systematic random sampling technique. Mothers were contacted by house to house visits and in Anganwari centers.

RESULTS: Most of the mothers got first information about oral rehydration solution (ORS) from health personals (68.8%) and 17.9% from mass-media. Majority considered it to be a home-made remedy of diarrhoea (40.5%). They were knowing some forms of home-available fluids. The first line of action of mothers at the onset of diarrhoea was to consult health personnels (58%). While 26.9% used ORS and the rest wanted it in combination with medicines. Only 12.54% and 22.33% mothers could prepare Sugar Salt Solution and ORS correctly, respectively. JMS 2012;15(2):111-14

Key words: Diarrhoea, dehydration, oral rehydration therapy, oral rehydration solution, sugar salt solution.

Oral rehydration therapy is a simple treatment for dehydration associated with diarrhoea. It consists of salts and sugar in water and is taken orally. It is used all over the world and saves millions of lives, especially infants.¹ According to current WHO/UNICEF guidelines,² ORS should begin at home at the first sign of diarrhoea to prevent dehydration. Feeding should be continued at all times during the episode of diarrhoea.³ The home-available fluids (HAF) and sugar salt solution (SSS) should contain proper proportions of sugar

and salts. Salts compensate for hyponatremia and hypokalemia and sugar increases salt absorption through SGLT transporter.⁴

WHO/UNICEF ORS is available in all regions in pre-measured sachets and is ready to be mixed in 1 liter of water.⁵ In 1996 UNICEF distributed 500 million such sachets in 60 developing countries.⁶ HAF's can be used as first remedial measures. SSS can be prepared by adding one level teaspoonful of common salt, 8 teaspoonful of sugar, and 4 ounces of orange juice (optional) in 1 liter of potable water.⁷

In 2003, WHO and UNICEF gave guidelines for Low Osmolarity ORS,⁸ which is available for commercial use and was updated in 2006.⁹ Its total Osmolarity is 245 mmol/L.¹⁰

Correspondence:

Dr. Ramesh Chander
103-A (Private), Gandhinagar, Jammu
E-mail: rameshvimesh@yahoo.com

The benefits of reduced osmolarity ORS are: reducing stool volume by 25%, reducing vomiting by nearly 30% and reducing need for IV fluid therapy by 33%.¹¹

There is additional recommendation for zinc supplementation¹² for the management of diarrhoea. It reduces severity and duration of diarrhea, and is strongly recommended as supplement with ORS in dehydrated children.

Methods

The study was conducted among the mothers of children suffering from acute diarrhoeal attacks in the Jammu urban slums. A total of 750 mothers formed the sample size, which was selected by systematic random sampling technique out of the total 3000 mothers of children suffering from diarrhoea. Mothers were contacted by house to house visits and in anganwari centers. Study period was from May 2009 to September 2010.

A pre-tested, semi-structured, oral questionnaire comprising of 14 MCQs were administered to mothers to ascertain their knowledge, attitude and practices regarding ORT. The first question to 750 mothers was: Have you ever heard of Oral rehydration solution? Only 558 mothers (74.4%) were aware of ORS and they were our target population for finding out the results of our objectives, while the other 192, who had neither heard nor were aware of ORS (25.6%) were not put to any further questioning and deleted from the study. Analysis of data was conducted using SPSS. The questionnaire introduced was, recommended by NICD.

Results

Majority of mothers received first information about ORS from health personnels (68.81%) and 17.92% from mass-media (Table 1). Majority considered it to be a remedy for diarrhea (40.50%). Approximately one fifth mothers (17.20%) knew that these ORS packets which were available

TABLE 1 . Information to mothers regarding ORS

S.No.	Source	Number of mother	%age
1.	Health Personnel	384	68.81
2.	Peer Group, Relatives, Neighbours	74	13.26
3.	TV, Radio, Print Media	100	17.92
	Total	558	100.00

from chemist/health care workers were useful for diarrhea. However, a small number (11.82%) did not have a clear idea about ORS, even though they had heard of it previously. Mothers' knowledge about HAF was limited to rice-ORS 23.29%, Lemon-water 19.7%, pulses water/tea 18.63%, yogurt- water 9.86%. However 8.9% mothers looked amuck.

During diarrhoea attack, majority of mothers (58%) opined to consult a health personnel, one fourth (22.2%) wanted to start ORS and only small fraction (9.1%) believed in 'wait and watch policy' for self recovery (Table 2).

TABLE 2. Mother's first reaction (Response) during child's diarrhoeal episode

S.No.	Practice regarding diarrhoeal episode	Distribution of Mothers	
		Number	%age
1.	Waited for self recovery	51	9.13
2.	Started ORS	124	22.22
3.	Gave plenty of fluids	59	10.57
4.	Consulted health personnel	324	58.06
	Total	558	100.00

Regarding reasons of giving ORS to their children during diarrhoeal episode. 59 percent mothers were using it because it was cheap, easily available and prevented dehydration, while 41% mothers could not give any reason (Table 3). In this study, only 26.88 percent mothers expressed their satisfaction on being prescribed only ORS, while 73.12 had faith in medicines and ORS in combination (Table 4).

TABLE 3. Reasons for giving ORS by mothers

S.No.	Reasons	Number of mothers	%age
1.	Cheap, easy availability prevents dehydration	329	59.00
2.	Not known	229	41.00
	Total	558	100.00

Regarding methods of preparation of SSS and ORS, only 12.54% and 22.93% mothers could prepare them correctly, respectively (Table 5,6). Only 24.1% mothers new that freshly prepared ORS was fit for consumption within 24 hours only (Figure 1). Feeds were withheld by 155 (27.7%) mothers during diarrhoeal episode, while 403 (72.3%) continued feeding (Figure 2).

FIGURE 1. Knowledge of using of ORS after preparation

FIGURE 2. Mothers attitude of feeding of children during diarrhoea

TABLE 4. Mothers attitude over ORS prescription

S.No. Item Prescribed	Number of mothers				
	Satisfied	%age	Not satisfied	%age	Total
1. ORS alone	150	26.88	408	73.12	558(100%)
2. Ors and Medicines	408	73.12	150	26.88	558(100%)

TABLE 5. Mothers knowledge of sugar salt solution preparation

S.No. Mothers knowledge about preparation of SSS	Number of Mothers	%age
1. Had correct knowledge	70	12.54
2. Did not have correct knowledge	124	22.33
3. Not known	364	65.23
Total	558	100.00

TABLE 6. Mother's knowledge of ORS preparation

S.No. ORS preparation knowledge	Number	%age
1. Correct	128	22.93
2. Not correct	174	31.17
3. Not known	256	45.9
Total	558	100.00

Discussion

Awareness of ORS among the study group was 74.4% and 25.6% were ignorant of the same. This lack of awareness among one fourth of the target mothers could be due to their illiteracy or lack of health campaigns. In a study by Bhan MK *et al*¹³ 86.2% of mothers were aware of ORS and 38.7% had already used it during diarrhea. So our results are similar to this study.

In present study first information of ORS was from health personnels (68.81%) and 17.92% from mass media and the rest from relatives, peer group and neighbors (Table 1). In

a study conducted by chaturvedi *et al*¹⁴, the response was 69.5% from health personnels, 15.9% TV/radio, 4.9% peer group and 1.2% print media.

Mothers were knowing some forms of HAFs. The study of Victoria CG *et al*¹⁵, showed that 95% of the mothers had knowledge of at least one of the rehydration solution. Majority of mothers (58%) opined to consult a health personnel, 22.2% wanted to start ORS at the first signal of diarrhea and 9.1% believed in waiting for self recovery (Table 2). In a study conducted by Sood AK *et al*¹⁶ the practice of mothers was to consult health personnel (57.66%); 30.5% wanted to start HAF. So, our study agrees with the author. Banakappa DG *et al*¹⁷ in their study observed that only 25% mothers were in favour of starting ORS.

Three hundred twenty nine (59%) mothers were using ORS, because it was cheap, easily available and prevented dehydration, while 41% mothers could not give any reason

(Table 3). In this study, only 26.88% mothers used exclusive ORS while 73.12% wanted ORS and medicines together (Table 4). UNICEF reports on the "state of world children" gave 25 percent utilization rate of ORS. Kumar V *et al*¹⁸ showed that 57.8% mothers were satisfied regarding ORS and remaining 42.2%, had faith in medicines. Our study results agree with UNICEF, but not with the latter.

We found, only 12.54% and 22.33% mothers could prepare SSS and ORS correctly (Table 5,6). In one study it was observed that only few mothers could prepare ORS correctly.¹⁹ Gopal Das *et al*²⁰ also revealed similar results. Victoria CG *et al*¹⁵ revealed that correct knowledge of preparation of SSS by pinch method was only 16.6% and WHO-ORS only 41%. In the present study only 24.1% mothers knew that freshly prepared ORS was fit for consumption within 24 hours only (Figure 1).

We found that feeds were withheld by 155 (27.8%) mothers during diarrhoeal episode of their children, while 558 (72.2%) continued feeding (Figure 2). Green *et al*²¹ in their study observed restriction of food items by 75% mothers. Our study results do not agree with the author.

We conclude, that after extensive endeavors of the study, covering the entire vista of the problem of relationship of dehydration, diarrhoea and mortality, a consensus has developed to liberal use of ORS rather than undue and unwarranted antibiotics.

References

1. UNICEF (December 2007). 'The State of the Worlds Children 2008: Child Survival. p. 8. ISBN 978-92-806-4191-2. http://www.unicef.org/publications/files/The_State_of_the_Worlds_Children_2008.16.
2. WHO, UNICEF. "Oral Rehydration Salts: Production of the new ORS". http://libdoc.who.int/hq/2006/WHO_FCH_CAH_06.1.pdf.
3. WHO: Programme for the Control of Diarrhoeal Diseases. "WHO/CDD/93.44: The selection of fluids and food for home therapy to prevent dehydration from diarrhoea: Guidelines for developing a national policy". http://whqlibdoc.who.int/hq/1993/WHO_CDD_93.44.pdf.
4. Cesar G Victora, Jennifer Bryce, Olivier Fontaine, and Roeland Monasch. Reducing deaths from diarrhoea through oral rehydration therapy (pdf). *Bulletin of the World Health Organization (WHO)* 2000;78(10): 1246-55. 00-0747. PMID 11100619. PMC 2560623.
5. UNICEF. Improved formula for oral rehydration salts to save children's lives". http://www.unicef.org/media/media_31825.html.
6. "ORS Made at Home-rehydrate. org". <http://rehydrate.org/solutions/homemade.htm>.
7. WHO(2005). The treatment of diarrhoea: A manual for physicians and other senior health workers. WHO/FCH/CAH/05.1. ISBN 9241593180. <http://whqlibdoc.who.int/publications/2005/9241593180>.
8. WHO. "Pharmacopoeia Library: Oral Rehydration Salts". <http://www.who.int/phint/en/p/docf/>.
9. WHO. "The International Pharmacopoeia". http://www.who.int/medicines/publications/pharmacopoeia/QAS07_194rev1Zinc-sulf_FINAL.pdf (accessed 31 Dec. 2012).
10. WHO. "Zinc Sulfate for ORS for adults" (pdf). http://www.who.int/entity/medicines/publications/pharmacopoeia/QAS07_194rev1Zinc-sulf_FINAL.pdf.
11. New formulation of Oral Rehydration Salts (ORS) with reduced os" UNICEF: 1molarity".
12. WHO. "Paediatric zinc sulfate oral solution" (pdf). http://www.who.int/entity/medicines/publications/pharmacopoeia/QAS07_195rev1Zinc-sulf-oral-sol_Final.pdf.
13. Bhan MK, Arora NK, *et al*. Major factors in diarrhoeal related mortality among rural children; *Indian J Medical Research* 2003;77:9-12.
14. Chaturvedi S, Sandhir M Bajpai. Importance of Mothers in home management of diarrhoea.
15. Victoria CG, Hutly SR. International difference in clinical pattern in diarrhoeal deaths, comparison from Brazil, Senegal, Bangladesh and India. *Journal Diarrhoeal Dis Res* 2005;13(2):106-12.
16. Sood AK, Umesh Kapil. Knowledge and practices among rural mothers in Haryana in childhood diarrhoea. *Indian Journal Pediatr* 2004;48:399-403.
17. Bannakappa DG, Nanda S. Brief report of WHO-ORT, Center of Vanivilas children Hospital, Bangalore. *Indian Journal of Pediatr* 1990;57:21-24.
18. Kumar V, Kumar L, Divedi P. Morbidity Related feeding patterns in privilege urban and under privileged rural infants. *Indian Pediatr* 2005;15:743.
19. Martinez H, Sayucedo G. Mothers' Perception of childhood diarrhoea in rural Mexico. *J Diarrhoeal Diseases Research* 1991;9:235-43
20. Gopal Das T, Gujral S *et al*. Child diarrhoea, ORT and rural mother. *Nutrition* 1991;7:335-39.
21. Green E. Diarrhoea and Social Marketing of ORS in Bangladesh SOC. *SCI Medicine* 2006;3: 357-66.