

Original Research Article

A study to assess mother's health seeking behaviour regarding oral rehydration solutions in diarrhoea in children 2 months to 5 years of age

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ABSTRACT

Background: Diarrhoeal infections are the second leading cause of death worldwide in under-five children covering 9% of the total deaths. The objective of the study was to assess and compare mothers' knowledge, attitude and practice of oral rehydration solutions (ORS) in diarrhoea in children.

Methods: A cross-sectional hospital-based observational study was conducted in a tertiary centre amongst all 400 children between age group 2 months to 60 months admitted with acute watery diarrhoea. A pre-tested questionnaire and face-to-face interviews with the mothers was used as a data collection tool.

Results: Most of the mothers 336 (84%) were 21-30-year-old, 150(37.5%) were illiterate, 74 (18.5%) were unemployed. 49% people came from rural background. The 250 (65%) mothers were aware about the role of ORS in diarrhea, 130 (32.5%) knew about the preparation of ORS and only 70 (17.5%) were aware about the ORS storage.

Conclusions: Mother's knowledge regarding management and prevention of diarrhea needs to be upgraded to allow better utilisation of health resources by the families.

Keywords: Diarrhoea, Illiteracy, Mother, ORS

INTRODUCTION

Childhood diarrhoea is a major public health problem in low-and middle-income countries, leading to high mortality is the second leading cause of death in children under five.¹ Nearly 1.7 billion cases of childhood diarrhoeal diseases (CDD) have been reported each year, killing around 525,000 under-five children, accounting for 8% of all deaths worldwide.¹

Most diarrhoea deaths occur in children below 2 years of age. While the decrease in the episodes of childhood diarrhoea is evident globally over the past two decades, the disease's prevalence remains alarming in many resource-poor settings where infants and children are still at risk of death and other complications such as malnutrition.^{1,2} Oral rehydration therapy (ORT) was

introduced in 1979 and rapidly became the cornerstone of the CDD programme.¹⁰ Therefore, this study was done to assess and compare mothers' knowledge, attitude and practice of ORS in diarrhoea as a prerequisite for devising effective preventive approaches.

METHODS

The present study was conducted as a cross sectional study at department of paediatrics, L. N. medical college and research centre, Bhopal during the study period of 1.5 year after approval of ethical committee. The study was conducted on children under 5 years of age.

Study design was a cross sectional study conducted at department of paediatrics, L. N. medical college and

research centre, Bhopal, from February 2021 to August 2022.

Inclusion criteria

Children under 5 years of age presenting with acute watery diarrhoea and consent given by the guardian were included.

Exclusion criteria

Children not fulfilling inclusion criteria, children with persistent/chronic diarrhoea and children whose guardian didn't gave consent were excluded from the study.

Sample size

Total 384 (using statistical formula: $n = Z^2 pq/l2$), ~400 (taken approximately).

Data collection technique

Face-to-face interviews using a pre-tested questionnaire were conducted after informed consent with mothers of children who were recruited into the study on the day of admission. If mothers were unavailable, father or the closest care-taker was interviewed. Questions were asked regarding, technique of ORS preparation.

Data handling and data analysis

The data obtained was subjected to statistical analysis with the consult of a statistician. Data so obtained was compiled systematically. Master table was prepared and the total data was subdivided and distributed meaningfully and presented as individual tables along with graphs. Statistical analysis was done using statistical package of social science (SPSS version 20; Chicago Inc., USA). Data comparison was done by applying specific statistical tests to find out statistical significance of the comparisons. Quantitative variables were compared using mean values and qualitative variables using proportions. Significance level fixed at $p < 0.05$.

Demography of caregivers

Most of the mothers 336 (84%) were 21-30-year-old, 150(37.5%) were illiterate, 74 (18.5%) were unemployed. 49% people came from rural background.

RESULTS

Table 1 shows maternal awareness on ORS which was observed in 65% of mothers. 32.5% of females were aware about proper preparation of ORS. 17.5% of females had awareness on storage of ORS. $P < 0.001$ indicates that association was found to be statistically significant. Out of 260 participants who have awareness of ORS only 50% have awareness about the proper dilution of ORS.

Table 2 depicts comparison of mother's education with awareness of ORS and its dilution. Only 7.5% of illiterate mothers had awareness about ORS. 57.5% of literates were also aware about ORS. Association between maternal education and her awareness on ORS was found to be highly significant ($p < 0.001$).

Tables 2 reveal the knowledge of mothers regarding awareness of ORS about 65% mothers have heard about ORS and 67% of females had awareness on ORS preparation.

Table 1: Mother's awareness on oral rehydration solution.

Variables	Yes, n (%)	No, n (%)	Total, n (%)	Chi sq, p value
Awareness of ORS	260 (65)	140 (35)	400 (100)	228.300, <0.001
Awareness of preparation of ORS	130 (32.5)	270 (67.5)	400 (100)	
Awareness of storage of ORS	70 (17.5)	330 (82.5)	400 (100)	

Table 2: Comparison of mother's education and awareness of ORS and its dilution.

Mother's education	Awareness about ORS, n (%)		Chi sq. p value
	Yes	No	
Illiterate	30 (7.5)	120 (30)	213.626, <0.001
Literate	230 (57.5)	20 (5)	
Total	260 (65)	140 (35)	

DISCUSSION

This part of study summarises the major findings and gives conclusion with recommendations based on findings of my study and suggest areas of further research. The summary was done in line with the objectives of the study based on the output of the descriptive and inferential statistical analyses. The study sought to assess and compare mothers' knowledge, attitude and practice of ORS in diarrhoea.

Diarrhoeal diseases have a detrimental impact on child growth and cognitive development.¹¹

In our study, most of the mother's i.e., 84% belonged to age group 21-30 years. Similar results were seen in studies done by Divya et al (85%), Ansar et al (59.7%), Jain et al (79.1%), Basu et al (64.5%).³⁻⁶ In our study, 37.5% mothers were illiterate and 27.5% had primary schooling. Only 9.5% had formal education till college. Similar result was seen in study done by Stanly et al (43.5%, 75.6%) and against Jain et al (6.3%, 11%) and Basu et al (11%, 21%).^{5,7} Most of the mothers in my study were employed 81.5% and 18.5% were

unemployed. This was against the finding seen in Poorva et al (42.7%, 57.3%) and Basu et al (27.4%, 72.6%).^{6,8}

A total of 400 mothers were enrolled. 65% of mothers were aware of ORS and 32.5% knew how to prepare and administer ORS and only 17.5% were aware about its storage. Illiterate mothers were less likely to know about ORS and its preparation as compared to better educated mothers. This was compared to other similar studies done by Jain et al [80% and 30%], Ansar et al [60.4%, 82.4% and 95.4% respectively], Basu et al [91.9%, 22.6% and 32.3% respectively], Arora et al [91.8%, 54.5% and 17.3% respectively].^{4,5,9} This finding clearly indicates that a gap still exists between knowledge and actual practice. Out of 35% mothers who were not aware of ORS were using home-based alternatives out of which khichdi were most commonly used by them (19.8%) and least was tea/coffee (8.5%). This was found similar to study done by Jain et al.⁵

Limitation

This is hospital-based study, community-based study is better-Types of dehydration were not included in study, sample size was small.

CONCLUSION

On the basis of our study, we conclude that awareness about use of ORS is very low in the community. Other factors namely socioeconomic status, maternal age and literacy are significantly associated with the risk of diarrhoea among children less than five years of age. Therefore, use of ORS should be promoted and further addressed to improve the knowledge, attitude and practices prevalent amongst mothers in the community regarding prevention and management of diarrhoea

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REFERENCES

1. World Health Organization. Water, sanitation, hygiene and health: a primer for health professionals. World Health Organization. 2019.
2. UNICEF. UNICEF data: monitoring the situation of children and women. New York: Unicef. 2016.
3. Divya S, Saju CR, Navya CJ, Joshy VM, Jini MP, Radhamani MV. A study on selected behavioral factors of mothers influencing acute diarrhoea in under-five children in a rural part of Kerala, India. Int J Community Med Publ Heal. 2016;3(8):2211.
4. Ansar A, Khan MA, Bashir S, Basharat S, Shafiq W. Awareness of consumption of oral rehydration solution (ORS) among mothers during acute diarrheal attacks in their children under five years of age. Asian J Allied Health Sci. 2021;26.
5. 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(2):394-7.
6. Basu P, Chakrabartty A, Bhattacharya S, Bhattacharya K, Dasgupta U, Bhattacharya S, Ali KM. Assessment on the awareness level about diarrhoea and its management among mothers attending outpatient department in a rural hospital of West Bengal, India. Bangladesh J Med Sci. 2019;18(2):267-73.
7. Stanly AM, Sathiyasekaran BW, Palani G. A population based study of acute diarrhoea among children under 5 years in a rural community in South India. Sri Ramachandra J Med. 2009;1(1):1-7.
8. Gohiya P, Shrivastava V, Mandavi S, Dwivedi R. A study to identify knowledge, attitude and practices prevalent amongst the caregivers of children below five years presenting with acute diarrhoea in a tertiary care centre. 2020;7(6):1361.
9. Arora KK, Taran SJ, Gupta N. A cross sectional study: knowledge and practices about diarrheal diseases and ORS in the mothers of under five years' children. Age. 2019;30(142):64-5.
10. Centers for Disease Control (CDC). Diarrheal diseases control program: global activities, 1983. MMWR. Morbidity and mortality weekly report. 1984;33(36):513-5.
11. The broader impact of early childhood diarrhoea. Available at: <https://preventrotavirus.org/wp-content/uploads/2019/05/ROTA-Brief6-LastingImpact-SP-1-3.pdf>. Accessed on 01 January, 2023.
12. Haobijam S, Singh KA. Socioeconomic determinants of domestic violence in northeast India: Evidence from the National Family Health Survey (NFHS-4). J Interpersonal Violence. 2022;37(15-16):NP13162-81.

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