Original Article

Attitude of Mothers Regarding Use of Low Osmolar Oral Rehydration Solution (ORS) in Diarrhea. An Experience in Rural Area of Sindh

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ABSTRACT

Objective: To assess the knowledge and attitude of mothers regarding use of low osmolar Oral Rehydration Solution (ORS) in diarrhea and to find out the causes of under use of ORS and knowledge regarding ORS.

Study Design: cross sectional study.

Place and duration: Pediatric OPD civil hospital Badin with collaboration of Department of Pharmacology and therapeutics Mohammad Medical College Mirpurkhas patient and method.100 children of age 6 months to five years with various degrees of dehydration were enrolled in study. A questionnaire was given to mothers

Patients and Methods: It was a prospective, cross sectional and descriptive study conducted at Peadiatric OPD civil hospital Badin with collaboration of Department of Pharmacology and therapeutics Mohammad Medical College Mirpurkhas.100 children of age 6 months to five years with various degrees of dehydration were enrolled in study. A questionnaire was given to mothers. A proforma was designed for question and answers. Data was analyzed.

Results: 100 children were enrolled, out of which 55(55%, 28.0 ± 16.02) were under 2 years of age, 45(45%, 23.0 ± 13.13) were under 5 years of age, 62(62%, 31.50 ± 18.0) were males, 38(38%, 19.50 ± 11.11) were females. 70(70%, 35.01 ± 18.53) children were brought to OPD by mothers. 30(30%, 15.50 ± 8.80) were brought by parents. 60(60%, 30.50 ± 17.46) attendants were uneducated and 40(58%, 20.50 ± 11.69) educated. 58(58%, 29.50 ± 16.89) children had duration of illness 1-3 days. 42(42%, 21.50 ± 12.27) children has >3 days. 35(35%, 18.0 ± 10.25) children were with loose motion and vomiting. 29(29%, 15.0 ± 8.51) were with loose motion and fever. 30(30%, 15.50 ± 8.80) had only loose motion and 6(6%, 3.50 ± 1.87) with blood in stool. Out of 100 only 22(22%, 11.50 ± 6.49) children were given ORS and 78(78%, 39.50 ± 22.66) were not given ORS. Only 16(16%8.50 ± 4.76), mothers knew the proper way to prepare the ORS. The P-value of all variables were not significant in table no one, but P-value significant in table two statistically.

Conclusion: This study showed that there is insufficient use of ORS in rural areas of Sindh and those who use it do not know the proper way to prepare and serve it, As majority of mothers were uneducated and did not have knowledge regarding ORS use in diarrhea false belief and non availability were other reasons for under use of ORS. This needs to work harder in rural areas of Sindh, to educate mothers regarding use of ORS and recognition of signs of dehydration and initial home care. This task can easily be performed this needs cooperation of NGO and active participation of by lady health workers if they are fully committed and supported.

Key words: Diarrhea, Dehydration, Mothers, Low osmolar Oral Rehydration Solution.

INTRODUCTION

Diarrhea is the passing of increased amounts (more than 300g in 24 hours) of loose stools. It is often caused by a virus or bacteria and can be acute or chronic - lasting more than two weeks. [1]

It causes 4% of all deaths and 5% of health loss to disability. It is most commonly caused by gastrointestinal infections which kill around 2.2 million people globally each year, mostly children in developing countries[2]

Incidence of diarrhea in Pakistan is 3 – 4 episodes per child per year in children under 4 years of age.[3]

Around 1.1 billion people in low income countries lack access to improved water sources and diarrheal diseases are common among them. [4]

The case fatality of diarrhea in children under 5 years has been shown & be 19.7/1000(9%) Diarrheal disorders in childhood account for a large proportion (81%) of childhood deaths, with estimated 1.8 million deaths per year globally. The World Health Organization (WHO) suspects that there are > 700 million episodes of diarrhea annually in children < 5 years of age in developing countries, while global mortality may be declining the overall incidence of diarrhea remain unchanged at about 3.2 episodes per child per year [3]

The main symptom of diarrhoea is loose and watery stools. They might also have some or all of the following symptoms: I,e Vomiting, Abdominal pain, A low grade fever, Loss of appetite

Signs of dehydration are

- Being very thirsty
- Being restless or irritable
- Suddenly losing weight
- Having sunken-looking eyes
- Having a sunken fontanel (the soft spot babies have on their heads) [5]

Among the common cause of diarrhea the leading cause of severe diarrheal disease is rotavirus, particularly in the world's poorest countries. The release of these pivotal data comes on the heels of the World Health Organization's (WHO) June 2009 recommendation that vaccines preventing rotavirus—the most common and lethal form of diarrheal disease—be included in every country's national immunization program. [6]

Despite impressive public health gains made in the 1980s and 1990s, severe dehydration caused by diarrheal disease still contributes significantly to childhood morbidity and mortality in the developing world [7]

Diarrhea Easily Prevented by Soap and Clean Water, 88% of deaths due to diarrhea are caused by unsafe drinking water, inadequate sanitation, and poor hygiene. Access to clean water and good hygiene is the simplest solution, and can reduce incidence of diarrheal disease by 40%. WHO says hand washing with soap has been shown to reduce the incidence of diarrhoeal disease by over 40 per cent, making it one of the most cost-effective treatments for reducing child deaths caused by diarrhoea[8]

Dehydration, which can lead to death, is one of the most significant symptoms of diarrhoea, especially in children and oral rehydration therapy is the cornerstone of fluid replacement and is a simple, inexpensive and life-saving remedy that prevents dehydration in children suffering diarrhoea. WHO and UNICEF recommend treating diarrhea with low-osmolarity ORS and zinc tablets, which decrease the severity and duration of the attack. These treatments are simple, inexpensive and life-saving[9]

PATIENTS AND METHODS

It was a prospective, cross sectional and descriptive study conducted at Peadiatric OPD civil hospital Badin with collaboration of Department of Pharmacology and therapeutics Mohammad Medical College Mirpurkhas.100 children of age 6 months to five years with various degrees of dehydration were enrolled in study. A questionnaire was given to mothers.

Objective

To access the knowledge and attitude of mothers regarding use of low osmolar Oral Rehydration Solution (ORS) in diarrhea and to find out the causes of under use of ORS and knowledge regarding ORS.

Inclusion Criteria

Children age between 3 months and 5 years diarrhea and signs of dehydration present and OPD were include in this study.

Exclusion Criteria:

Sepsis
Pneumonia
Sever malnutrition

Patients

Before enrollment, a written informed consent was taken from the parents or legal guardian of each participating infant after explaining the nature of the study.

Proforma

OPD NO----------
Name----------Age----------Wt-----Sex----------
Address----------
Mother Education: Educated-------Uneducated----------
Number of Children: Male----------Female----------
Monthly income of Father:----------
Duration of Diarrhea: □<3days,□ >3days
Classification of Dehydration: □Severe Dehydration □Some Dehdration □No Dehydration

Blood in Stool:	□ yes	□ no
Fever	□yes	□ no
ORS given by Mother:	□yes	□no
How ORS prepare: Accurately:	□yes	□no
Quantity given:	□Sufficient	□Not sufficient

Data analyses

Statistical analyses was performed using SPSS for Window software (SPSS version 16). Ad-mission characteristics, such as, age, duration of diarrhea, etc., were analyzed to make a standard deviation, means, percentages of all variables and T-test apply for two mothers or parents croups whom were aware about ORS preparation and given to sick child in correct methods.

RESULTS

100 children were enrolled, out of which 55(55%, 28.0 ± 16.02) were under 2 years of age, 45(45%, 23.0 ± 13.13) were under 5 years of age, 62(62%, 31.50 ± 18.0) were males, 38(38%, 19.50 ± 11.11) were females. 70(70%, 35.01 ± 18.53) children were brought to OPD by mothers. 30(30%, 15.50 ± 8.80) were brought by parents. 60(60%, 30.50 ± 17.46) attendants were uneducated and 40(58%, 20.50 ± 11.69) educated. 58(58%, 29.50 ± 16.89) children had duration of illness

1-3 days. 42(42%, 21.50 ± 12.27) children has >3 days. 35(35%, 18.0 ± 10.25) children were with loose motion and vomiting. 29(29%, 15.0 ± 8.51) were with loose motion and fever. 30(30%, 15.50 ± 8.80) had only loose motion and 6(6%, 3.50 ± 1.87) with blood in stool. Out of 100 only 22(22%, 11.50 ± 6.49) children were given ORS and 78(78%, 39.50 ± 22.66) were not given ORS. Only 16(16%8.50 ± 4.76), mothers knew the proper way to prepare the ORS. The P-value of all variables were not significant in table no one, but P-value significant in table two statistically.

Table No. 1: The base line score with Percentages, Mean, Standard Deviation, and P-value of study participants.

Categories	%age	Mean ± SD	P-Value
Total Patients	100%	50.5 ±29.01	1.00 NS
Under 2 Years	55%	28.0 ± 16.02	1.00 NS
Undre 5 Years	45%	23.0 ± 13.13	1.00 NS
Male	62%	31.50 ± 18.0	1.00 NS
Female	38%	19.50 ± 11.11	1.00 NS
Brought by Mothers	70%	23.50 ± 20.35	1.00 NS
Brought by Parents	30%	15.50 ± 8.80	1.00 NS
Uneducated M/P	60%	30.50 ± 17.46	1.00 NS
Educated M/P	40%	20.50 ± 11.69	1.00 NS
Illness 2-3 Days	58%	29.50 ± 16.89	1.00 NS
IllnessMorethan3Days	42%	21.50 ± 12.27	1.00 NS
Loose Motion	35%	18.0 ± 10.25	1.00 NS
Loose Motion ĕ Fever	29%	15.0 ± 8.51	1.00 NS
Loose Motion	30%	15.50 ± 8.80	1.00 NS
Blood in Stool	6%	3.50 ± 1.87	1.00 NS
Awared Mother For ORS	16%	8.50 ± 4.76	1.00 NS

Percentages, Mean, Standard Deviation are calculated by descriptive-frequency and P-value by cross tab

DISCUSSION

Diarrhea is common problem in third world countries and associated with significant mortality. 100 children were enrolled, out of which 55(55%, 28.0 ± 16.02) were under 2 years of age, 45(45%, 23.0 ± 13.13) were under 5 years of age, 62(62%, 31.50 ± 18.0) were males, 38(38%, 19.50 ± 11.11) were females. 70(70%, 35.01 ± 18.53) children were brought to OPD by mothers. 30(30%, 15.50 ± 8.80) were brought by parents. 60(60%, 30.50 ± 17.46) attendants were uneducated and 40(58%, 20.50 ± 11.69) educated.

Table No.2: Total Number of Patients, and ORS use n=100

Total No. of Patients n=100	ORS given by Mothers =22 Mean ± SD	ORS not given by Mothers =78 Mean ± SD	P-Value
(100%)	(22%)	(78%)	
50 ± 29.01	11.50 ± 6.49	39.50 ± 22.66	.00**

* By One Sample T-Test

** P-Value significant

58(58%, 29.50 ± 16.89) children had duration of illness 1-3 days. 42(42%, 21.50 ± 12.27) children has >3 days. 35(35%, 18.0 ± 10.25) children were with loose motion and vomiting. 29(29%, 15.0 ± 8.51) were with loose motion and fever. 30(30%, 15.50 ± 8.80) had only loose motion and 6(6%, 3.50 ± 1.87) with blood in stool. Out of 100 only 22(22%, 11.50 ± 6.49) children were given ORS and 78(78%, 39.50 ± 22.66) were not given ORS. Only 16(16%8.50 ± 4.76), mothers knew the proper way to prepare the ORS. The P-value of all variables were not significant in table no one, but P-value significant in table two statistically.

We interview 100 attendants who brought children with diarrhea, regarding ORS use. Significant number of mother that is 78% did not use ORS in diarrhea due to many reasons which is corner stone of treatment on children

The prevalent beliefs and therapeutic preferences for diarrhea among mothers from an urban area in Eastern Saudi Arabia were investigated. Knowledge regarding dehydration and malnutrition as a complication of diarrhea was far from optimum in the studied groups.[10]

Our study match with study of Seyal T (2009)[3] they observed ORS use in 9.67% of mothers, 42.85% could prepare properly, Diarrheal disease continues to be a significant burden in terms of childhood morbidity and mortality despite tremendous progress in many fields. Regarding ORS use out of 100 patients 22 (22%) given ORS to children and only 16 (16%) mothers knew how to prepare it properly and sufficient quantity was given by 14 mothers.

As viral causes are common in our part of world so, advocacy and communication efforts to raise awareness about rotavirus sufficient for prioritization and accelerated vaccine introduction might benefit from a knowledge translation approach that delivers information and evidence about rotavirus through the

broader context of diarrheal disease control, an existing priority, and including information about other new interventions, specifically low-osmolarity oral rehydration solution and zinc treatment [7]

In the study of vikram (2001)[11] 1/3 mothers did not prepare ORS in correct way for their diarrheal children. Nearly half of mothers were not practicing adequate hand washing, 32% were using feeding bottles and 2/3rd of them were not boiling the feeding bottles. This is consistent with our study as majority of our woman did not care hygiene and ORS use.

Our study matched with the study of the Jha N Singh (2009)[12] in which mother's were interviewed for the use of ORS ,97% mothers had information about ORS and also preparation and use of ORS to their children ideally.22% given ORS and ideally know usage of ORS in diarrhea in our study. Intervention such as increasing woman's literacy, improving basic sanitation and health care services, and raising the general nutritional status for the population can only be exploited to decrease the diarrheal disease morbidity and mortality in long term.

Diarrhea is a leading cause of childhood morbidity and mortality in Nepal, a developing country where larger proportion of the population live in rural areas. Poverty, literacy, lack of health care facilities at local level, demographic distribution and traditional beliefs are the major obstacle for getting proper and timely health care, there is necessity to consider the cultural believes of different ethnic communities before designing and educational protocol or guide line. Educational protocol or guide line which respect the local cultural believes and stimulates the utilization of their locally available faculties can be easily accepted and would be more suitable to achieve the object[13]

Diarrheal disease is a major cause of morbidity and mortality among under-fives especially in developing countries. Important fact about diarrhea is the cause about children for easier course. Very often child-care is not adequate because of low knowledge and attitude and wrong practices. Experts now believe that children should continue their regular diet when they have diarrhea. In fact, the American academy of pediatrics states that most children should continue to eat normal diet including formula or milk while they have mild diarrhea[14]

The study was limited by use of poor population, questionnaire given to answer yes or no, but our study proved that rural women must be educated, provide health educated and employment, than we achieve the expected results for health. Use of ORS must be promoted on electronic media especially along with hand washing with soap. Unnecessary inhibited usage must be discouraged by general practitioner and child specialists during acute watery diarrhea episodes. Diarrhea control programs and other NGO should be involved along different media and promote ORS use.

Intervention such as increasing women's literacy, improving basic sanitation and health care services and raising the general's nutritional status for the population can only be expected to decrease the diarrheal diseases morbidity and mortality in long term.

There is an immediate need for campaign in order to try to change the maternal practices on management of acute diarrhea.

The maternal knowledge towards diarrhea and ORS was inadequate in the population studied and there was a big gap between actual and diarrhea practices Education of mother play important role in care practice for sick child. Mother with higher education has better opportunity for information of child care.

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