Knowledge and Attitude of Mothers Regarding Oral Rehydration Solution in Sulaimani

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Abstract:

Background: Dehydration resulting from diarrhea is a significant cause of death of young children in developing countries. Oral rehydration solution (ORS) is useful to replace fluid and electrolyte loss.

Objective: The main objective is to assess the knowledge, attitude and practice of mothers towards the use of oral rehydration solution in the treatment of acute diarrhea in children.

Patients and Methods: This observational descriptive study was conducted at the pediatric medical emergency department of the Children's hospital and the institute of child health in Sulaimani city for a period of eight months from July 2012 till March 2013. The criteria of inclusion were mothers of children with diarrhea. A total of 200 mothers fulfilling the inclusion criteria were enrolled over the study period. Mothers were interviewed and information collected. A pre designed questionnaire was filled for each case by the investigator which included a detailed history highlighting their demographic data, presenting complaints , treatment given at home, mothers knowledge about ORS and drugs, maternal education, water sources, and socioeconomic history was taken and recorded carefully. All the data entered in SPSS and results were analyzed in percentages.

Results: A total 200 mothers who visited the Pediatric Teaching Hospital in Sulaimani were interviewed. The median age of children group was 2 years, and minimum was (4 months)and maximum age was 8 years, of these 25(12.5%) were below 1 year, and 160 cases (80%) were between 1 to 5 years, and 15 cases (7.5%) more than 5 years. The most frequent age group was between 1 to 5 years, male were 101 (50.5%) and female were 99 female (49.5%), 58(29%) of mothers education were illiterate, and 105 (52.5%) of mothers education was low, and 37(18.5%) of mothers education was high. Among all the patients 172(86%) were from Sulaimani and 28(14%) from outside Sulaimani. Among all the patients the source of water used was well 103(51.5%), and 63(31.5%) was piped, and 34(17%) was tanks. Out of 200 mothers 199 (99.5%) heard about ORS and 1(0.5%) did not hear about it. Of these mothers 183(91.5%) used ORS. and 17(8.5%) did not use it. Among the mothers that usedORS, 7(3.5%) used it by themselves and 42(21%) were advised by family member and 85(42.5%) were advised by physician and 49(24.5%) were advised by health worker.

The way of giving ORS wasby cup and spoonin 139(69.5%), and 44(22%) gaveORS by bottle. Of them 109(54.5%) amount of ORS given adequate amount and 74(37%) gave inadequately. And of them 107(53.5%) prepared ORS correctly and 76(38%) prepared the solution incorrectly. Among all mothers; 172(86%) used drugs and 28(14%) did not use drugs. Among those who use drugs 21(10.5%) used it by themselves and 151(75.5%) got advise by family physician.

Conclusion: Although most of the mothers knew about ORS and used it at times of need, many had inadequate knowledge on the importance and appropriate use of ORS.

Key words: Oral rehydration solution, Family physician, Diarrhea, Drugs.

Introduction:

Diarrheal disorders in childhood account for a large proportion of childhood deaths, with an estimated 1.8 million deaths per year globally. The World Health Organization reports that there are more than 700 million episodes of diarrhea annually in children below 5 years of age in developing countries. While global mortality may be declining, the overall incidence of diarrhea remains unchanged at about 3.2 episodes per child per year [(1)].

Dehydration resulting from diarrhea is a significant cause of death for young children in developing countries. Oral Rehydration Solution (ORS) is useful to replace fluid and electrolyte loss. Although ORS is effective in preventing and treating dehydration, its use in home treatment is not wide spread due to reluctance among mothers to use ORS in cases of acute diarrhea [(2, 3)]. Timely management of the children with ORS has substantially declined the mortality and morbidity from acute infectious diarrhea [(4)].

An evaluation of global trends in diarrhea management from 1986 to 2003 showed minimal progress in ORS use and a decrease in the proportion of children with diarrhea given continued feeding[(5)]. A 2007 analysis of the two most recent Demographic and Health Surveys conducted in 34 countries found decline in ORS use for children below 3 years of age with diarrhea in (68%) of those countries. Moreover, the proportion of children who had fluids withheld during diarrhea increase in (91%) of the countries included in the analysis [(6)]. It is commonly observed that most of the mothers neither can mix commercially available ORS properly nor are able to realize the significance of giving more fluids during acute diarrhea to their children [(7)].

The aim of this study was to assess the knowledge and attitude of mothers towards the use of oral rehydration solution in the treatment of acute diarrhea in children in Sulaimani.

Patients and Methods:

This cross sectional survey was conducted at the Sulaimani Pediatric Teaching Hospital during the period July 1st 2012 to March 31st 2013. Total of 200 mothers of children with diarrhea were enrolled in the study, they were interviewed and information collected that included a detailed history highlighting their demographic data, presenting complaints, use of ORS, treatment given at home, mothers knowledge about ORS and drugs used for diarrhea, maternal education, water sources, feeding, and socioeconomic status.

Regarding knowledge and attitude about ORS a score was plotted from the following information: awareness about ORS, used ORS or not, equipment used for giving ORS, preparation of ORS, and assessing the adequacy of ORS used. When the response was correct the score of 2 was given and when response was incorrect a score of 0 was given. Total score of 10 would reflect good knowledge and a score of zero reflects very poor knowledge. Using ORS for diarrhea, equipment used for giving ORS, correct preparation of ORS and adequacy of ORS used reflected mothers' attitude regarding ORS.

Statistical analysis SPSS (Statistical Package for the Social Sciences) version 17 was applied. Correlation between knowledge score and variables was done using chi-square

test, P value less than or equal to 0.05 was regarded as significant.

Results:

Table one shows the demographic characteristics of the group included in the study with the median age of children being 2 years, minimum was 0.3 years (4 months) and maximum was 8 years. The highest number of cases was in the age group 1 to 5 year. The male to female ratio was almost 1:1. More than half of mothers (105 mothers constituting 52.5%) had low educational level, and only 37 mothers had high level of education making 18.5% of the total, the rest did not have any educational background. There were different sources of water as in 103(51.5%) cases was from well, and in 63 (31.5%) was piped, and in 34 (17%) was water tankers. Table 2 shows data regarding knowledge and attitude of the mothers. The vast majority 199 mothers (99.5%) were aware about ORS and only 1 (0.5%) were not aware about ORS, 183 (91.5%) of the mothers used ORS and 17 (8.5%) did not use ORS. Among mothers who used ORS 7 (3.5%) used it depending on their own decision, and 42 (21%) advice was given by another family member, while 85 (42.5%) advice given by a physician, and 49 (24.5%) advice made by health worker. Among mothers who used ORS, in 139 (69.5%) it was given by cup and spoon; in 44 (22%) it was given by bottle. The amount of ORS given was adequate by 109 mothers (54.5%) and 74 (37%) was inadequate, while 107 mothers (53.5%) prepared ORS correctly and 76 mothers (38%) preparation of ORS was not correct.

Table 3 shows when correlation done between variables with knowledge score, there was significant correlation with educational level of mother and the source of water supply (p= 0.0001). In making correlation between knowledge score and mothers source of information about ORS, P value was not significant (0.226). But correlation between knowledge score and the person giving advice to the mothers on using ORS, P value was (0.0001) significant with the physician having the greatest influence.

Table (1): Characteristics of the sample.

Variable	No.	%
Age in years		
< 1	25	12.5
1-5	160	80
> 5	15	7.5
Gender		
Male	101	50.5
Female	99	49.5
Residence		
Inside city	172	86
Outside city	28	14
Maternal Education		
Illiterate	58	29
Low	105	52.5
High	37	18.5
Water supply		
Well	103	51.5
Piped	63	31.5
Tanker	34	17
Total	200	100

Table (2): Mothers' knowledge and attitude regarding oral rehydration solution.

Variable	Number	%
Aware of ORS		
Yes	199	99.5
No	1	0.5
Total	200	100
Used ORS		
Yes	183	91.5
No	17	8.5
Total	200	100
Advised to use ORS by		
Self	7	3.5
Family member	42	21
Physician	85	42.5
Health worker	49	24.5
Total	183	91.5
Give ORS via		
Cup and spoon	139	69.5
Bottle	44	22
Total	183	91.5
Used adequate amount of ORS		
Adequate	109	54.5
Inadequate	74	37
Total	183	91.5
Preparation of ORS		
Correct	107	53.5
Incorrect	76	38
Total	183	91.5

Table (3): Correlation of variables with knowledge and attitude scores.

Variable	Average Score 0	2	4	6	8	10	P value
Age *Less than 1year*	0(0%)	6(3%)	1(0.5%)	3(1.5%)	6(3%)	9(4.5%)	0.462
1-5 year	1(0.5%)	20(10%)	23(11.5%)	35(17.5%)	14(7%)	67(33.5%)	
More than 5 year	0(0%)	1(0.5%)	2(1%)	0(0%)	3(1.5%)	9(4.5%)	
Total	1(0.5%)	27(13.5%)	26(13%)	38(19%)	23(11.5%)	85(42.5%)	
Gender Male	0(0%)	12(6%)	8(4%)	26(13%)	14(7%)	41(20.5%)	0.42
Female	1(0.5%)	15(7.5%)	18(9%)	12(6%)	9(4.5%)	44(22%)	
Total	1(0.5%)	27(13.5%)	26(13%)	38(19%)	23(11.5%)	85(42.5%)	
Mothers education *Illiterate*	1(0.5%)	14(7%)	12(6%)	16(8%)	7(3.5%)	8(4%)	0.0001
Low	0(0%)	12(6%)	13(6.5%)	22(11%)	14(7%)	44(22%)	
High	0(0%)	1(0.5%)	1(0.5%)	0(0%)	2(1%)	33(16.5%)	
Total	1(0.5%)	27(13.5%)	26(13%)	38(19%)	23(11.5%)	85(42.5%)	
Residence *Inside Sulaimani*	0(0%)	23(11.5%)	19(9.5%)	31(15.5%)	20(10%)	79(39.5%)	0.17
Outside Sulaimani	1(0.5%)	4(2%)	7(3.5%)	7(3.5%)	3(1.5%)	6(3%)	
Total	1(0.5%)	27(13.5%)	26(13%)	38(19%)	23(11.5%)	85(42.5%)	
Source of water *Well*	0(0%)	10(5%)	5(2.5%)	11(5.5%)	11(5.5%)	66(33%)	0.0001
Piped	1(0.5%)	10(5%)	16(8%)	20(10%)	5(2.5%)	11(5.5%)	
Tank	0(0%)	7(3.5%)	5(2.5%)	7(3.5%)	7(3.5%)	8(4%)	
Total	1(0.5%)	27(13.5%)	26(13%)	38(19%)	23(11.5%)	85(42.5%)	
Heard about ORS *Yes*	1(0.5%)	26(13%)	26(13%)	38(19%)	23(11.5%)	85(42.5%)	0.266
No	0(0%)	1(0.5%)	0(0%)	0(0%)	0(0%)	0(0%)	
Total	1(0.5%)	27(13.5%)	26(13%)	38(19%)	23(11.5%)	85(42.5%)	
Who advise on ORS *Self*	0(0%)	1(0.5%)	2(1%)	1(0.5%)	0(0%)	3(1.5%)	0.0001
Family	0(0%)	6(3%)	12(6%)	17(8.5%)	3(1.5%)	4(2%)	
Physician	0(0%)	1(0.5%)	1(0.5%)	5(2.5%)	13(6.5%)	65(32.5%)	
Health worker	0(0%)	3(1.5%)	11(5.5%)	15(7.5%)	7(3.5%)	13(6.5%)	
Total	0(0%)	11(5.5%)	26(13%)	38(19%)	23(11.5%)	85(42.5%)	

Discussion:

Among children, mortality and morbidity in acute infectious diarrhea have dramatically reduced due to oral rehydration therapy and early realimentation [8]. Numerous studies have documented that knowledge about oral rehydration solution has increased [9, 10]. Despite the fact that availability of ORS can substantially reduce the mortality and morbidity resulting from diarrhea, poor knowledge pertaining to diarrhea and its management has posed the third world countries with diarrhea associated deaths and ill health among children[11].

In our study (99.5%) mothers were aware of oral rehydration solution; this finding is similar to that of Jha et al[12], (97.6%) of mothers had information about ORS and also its usefulness in the management of dehydration due to diarrhea.

About half of the mothers in our study 105(52.5%) had low level of education, 58(29%) of them were illiterate and 37(18.5%) had high educational level while in Attaya et al study[13], 52% of mothers had elementary school or lower and 62% were housewives. Oral rehydration solution was given in(91.5%) of patients in present study and in a study by Qureshi et al[10] (71%) had given oral rehydration solution during diarrhea, the difference could be due to more mothers were educated in our community.

In present study 85(42.5%) patients were given oral rehydration solution on advice of family physician, 42(21%) on advice of family member, 49(24.5%) on advice of health worker and 7(3.5%) on their own knowledge. In a similar study by Qureshi et al [10] 182,32% heard of oral rehydration solution from Aga khan university program workers, (21%) from mass media, (28%) from general practitioners and (18%) from other sources (health facilities, chemists and family members) while Seyal et al study [14] reported that (27%) used ORS by their own knowledge, (28%) used on advice of general practitioners, (10%) by pediatricians, (3%) by medical officers and (27%) from other sources could be due to improvement of health services in our region.

As far as preparation of oral rehydration solution is concerned, in our study 107 (53.5%) of mothers correctly recalled the preparation of oral rehydration solution whereas in a study by Taha et al[15] was (64%), while in Muhammedet al study [16] (69.3%) of mothers correctly prepared oral rehydration solution. This decrease in percentage is due to promotional effects in control of diarrhea disease program.

In our study 172(86%) used drugs in diarrhea and 28(14%) did not use drugs, and of them 151(75.5%) were advised by family physician while in Mubashir M et al study [17] (96%) of general physicians were found prescribing drugs during diarrhea.

In conclusion; although most of the mothers had satisfactory knowledge about ORS and used it when needed, their attitude regarding oral rehydration solution was inadequate.

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