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Knowledge, Attitude and Practice of Libyan Mothers Towards Dehydration and Oral Rehydration Salt

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ABSTRACT

The present study was aimed to assess the knowledge, attitude and practice of mothers regarding Oral Rehydration Salt (ORS). In this cross-sectional descriptive study, a total of 340 Libyan mothers were enrolled by convenience sampling. The study was conducted in Tripoli city, over a 3-months period, during March-May 2022. Data was gathered by means of semi-structured questionnaire. The questionnaire asked information about the knowledge of mothers regarding ORS, its availability in the market, method of preparation, frequency of administration, source of information about ORS and the role of ORS in handling of diarrhea and dehydration.

Of the total 340 mothers, about 81.2% of respondents were with university education level and 82.05% of mothers belonged to the middle social class. Only 20% of mothers seemed to have sufficient knowledge pertaining ORS preparation and more than 75% of participants have adequate knowledge regarding its significance in deal with diarrhea. About 45 % of participated mothers did not know how to prepare ORS and 53.82 % of mothers did know how to use ORS properly. Information associated with the accessibility of ORS in the market was found to be accurate among 30.88% of mothers. Most of mothers got information about ORS from heath care provider and less than 10% of mothers were from their mothers and relatives.

Conclusion: Knowledge, attitude and practice regarding ORS were found to be not fully satisfactory among Libyan women. A health care education program towards importance of ORS is highly recommended.

Key words- *Oral Rehydration Salt; Diarrhea; Dehydration; Knowledge; Practice.*

INTRODUCTION

Dehydration rising from diarrhea is a major reason of death for children in developing countries. Oral Rehydration Salt (ORS) is a material available in powdered, after used dissolving in water, and liquid form that is consumed by a dehydrated patient. This preparation is valuable to replace electrolyte loss and fluid. Even though ORS is efficient in handling and management of dehydration, its use in home is not extensive because of unwillingness of mothers in treatment of diarrhea by ORS.[1-3]

Indeed, management of children with acute contagious diarrhea by ORS has significantly decreased the percentage of mortality and morbidity.[4] However, it is generally recognized that most of the mothers were unable to mix commercially accessible ORS properly and were not able to comprehend the importance of giving supplementary fluids for the duration of acute diarrhea to their children.[5,6]

A study carried out among Sudanese rural community revealed that though mothers were capable to describe diarrhea, their information about its etiology was low.[7] The majority of mothers attributed the cause of diarrhea to hot food, salty water and teething. A study conducted by Taha, among households of rural Bangladesh, indicated that mothers' handiness of using ORS was appreciably related to mothers' education and a packet of ORS.[8] In a study executed by Jha *et al*., among mothers in a district of Nepal, most of participants were observed to be aware of ORS and its valuableness in treatment of diarrhea.[9] Other study among mothers of Rawalpindi and Islamabad by Ahmed *et al*., showed that ORS was mainly used by mothers with higher income.[10] Moreover, to our knowledge, there are no published data on mothers' knowledge about ORS in Libya. Hence, the present study was aimed to evaluate the knowledge, attitude and practice of Libyan mothers living in Tripoli city towards ORS and dehydration.

MATERIALS AND METHODS

A cross-sectional descriptive study was conducted using 385 questionnaires distributed manually to Libyan mothers living in Tripoli city, the capital of Libya. To

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evaluate the knowledge and attitude of mothers regarding ORS, women were randomly chosen from different places using random sampling technique by selection of the second woman come-cross the researcher during the time of study. The duration of the study was 90 days from March-May 2022. The inclusion criteria were Libyan woman who has at least one child of less than 3 years old and willing to participate in the study. Women were excluded if they were reported non Libyan or whose children were above 3 years old. The questionnaires were disseminated through face-to-face interviews.

In the present study, knowledge and attitude of the mothers relating to ORS was described in terms of their awareness about its availability, preparation of ORS and its use in handling of diarrheal. Data was collected using semi-structured questionnaire adapted from previously published studies[11-13], so that a comparison could be done with the outcomes from other studies. The questionnaire was converted into Arabic language by a qualified person to avoid any lack of confusion. The questionnaire was constructed from questions related to knowledge of participants towards ORS, its availability and its role in dehydration.

The questionnaire was pilot-tested to assess its clarity before conduction of real study in a sample of 25 copies who were not part of the study sample. According to few notes gathered from the pilot study the questionnaire was a slightly modified. A short paragraph revealing the purpose of the study was written at the beginning of the questionnaire including a space for the signature of the participant who accept to share in the survey, as a written informed consent. The survey form included two sections of 29 items that addressed sociodemographic data (9 characteristics) and questions to evaluate the knowledge and attitude toward ORS (20 items). The first part included age of women, marital status, education level, financial status, medical insurance, paid employment and number of, and age of the last child. The second section concerned with ORS with the following variables: whether the mother had ever heard about ORS, type available of ORS, preparation, storage, frequency and purpose of use of ORS, source of information, availability of ORS in the market, symptoms of dehydration and its consequence after diarrhea.

Statistical analysis:

The study used a descriptive statistics method to find out frequencies and percentages of chip in mothers related to the total subjects. The sample size was determined based on 95% confidence level and 95% statistical power to the survey, using single population proportion formula (Raosoft; sample size calculator program).[14] This gives a total sample size of 385 participants.

RESULTS

Of the total 385 questionnaires that were distributed, 360 were returned and mothers agreed to contribute given a response rate of 93.45%. A total of 20 questionnaires did not comply with the inclusion criteria were excluded from study. Thus, 340 questionnaires were indorsed and included in the analysis. The participated mothers' age ranged from 20 years to 50 years with a mean of 33.2 and SD of 4.2 years. The median age of subjects was 34 years. Table 1 shows the sociodemographic information for the respondents. The distribution of age of the joined mothers was as follows: 20-25 years, 12.35%; 26-30 years, 16.47%; 31-35 years, 23.52% and 36-40 years, 27.65%; 41-45 years, 13.82% and 46-50 years, 6.18%. A total of 136 respondents (40%) were house wife and 204 respondents (60%) were found to be working ladies. The majority of respondents (82%) belonged to a middle social class. About 98.24% of the women were married, 1.2% were divorced and 0.59% were widows. Three hundred and two participants (88.82%) stated having no any type of health insurance. In addition, out of the researched group, 81.2% (276 women) were educated up to university levels, 12.1% (41 women) were secondary school levels, 5.6% (19 women) were primary levels and 1.2% (4 women) were illiterate.

Our study revealed that maximum number of mothers (319 women, 93.82%) seemed to be aware of the fac that ORS is commercially available in the market. Figure 1 shows that 153 mothers (47.96%) know that ORS is available as a powder dosage form, 68 mothers (21.32%) specified the presence of a liquid dosage form of ORS and 98 women (30.72%) was found to be accurate and agreed that ORS is available as both, powder and liquid dosage forms. Of the total sample, 180 mothers (52.94%) knew that ORS is used to fulfil the deficiency of water in diarrhea, 44 mothers (12.94%) affirmed the use of ORS to balance the loss of salts and 116 respondents (34.12%) testified that ORS is efficient to accomplish the shortage of both salt and water in diarrheal episodes.

The low knowledge of mothers participated in the present study means that mother knows only that ORS is a solution and she doesn't know its composition. Table 2 shows that 54 mothers (15.88%) with low information regarding the composition of ORS. The moderate knowledge indicates that woman knows ORS is a solution of sugar and salt. This was stated by 182 mothers (53.53%). While, the good knowledge signifies that the mother knows that ORS contains sugar plus the electrolytes that might be lost during diarrhea and this was reported by 104 women (30.59%). Table 2 shows that 136 mothers (40%) admitted the significance of ORS in the handling of diarrheal diseases. One hundred and nighty respondents (55.88%) conceded the usefulness of ORS in treating of dehydration and 258 mothers (75.88%) admire the beneficial use of ORS. Only 4 women (4.12%) did not know the use of ORS and 21 women (6.18%) disagree with its beneficial use. Most of participants (292 mothers, 85.88%) were advised by physicians and pharmacists to use ORS in dehydration due to diarrheal diseases. Only 5.29% (18 women) and 3.23% (11 women) of participated women were notified by their mothers and friends, respectively for the benefit of ORS.

Our data (Table 3) shows that practice of participated mothers towards use of ORS is low. One hundred and

fifty-six women (45.88%) reported that they did not know the proper way of ORS preparation; 22.94% (78 women) did know how to administer ORS; 177 mothers (52.06%) did not know how to store ORS accurately and 64.12% of mothers (218 women) did not know how to behave or even stopped administration of ORS when the baby is on vomiting.

Regarding causes of diarrhea, 109 mothers (32.05%) stated that it is because use of contaminated water, followed by use of contaminated food by 30.88% (Table 4). Fifty-two mothers (15.29%) and 44 mothers (12.94%), respectively, considered evil eyes and teething are the predisposing factor for diarrhea. Whereas, only 30 women (8.82%) did not know the causes of diarrhea. In terms of knowledge regarding signs of dehydration, 10 mothers (2.94%) did not know dehydration's indicators. The majority of mothers (261, 76.76%) responded by providing some signs like thirsty and dry mouth, followed by sunken eyeballs and tearless eye by 20.29%. Most of women (173, 50.88%) and (134, 42.06%) deemed that dehydration is a prompting issue for both loss of body weight and lethargy, respectively (Table 4).

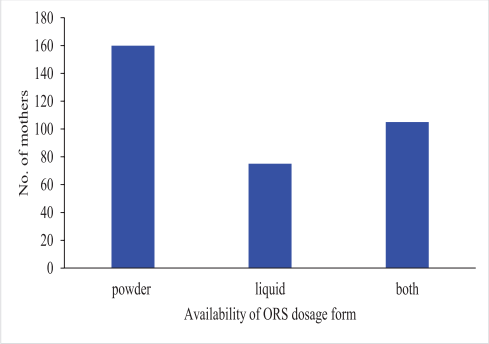

Figure 1: Knowledge of mothers regarding to the availability of ORS in market (n=319)

Table 1: Participants' sociodemographic characteristics (n=340).

Variables	Frequency (%)
Age (years)	
20-25	42 (12.35)
26-30	56 (16.47)
31-35	80 (23.52)
36-40	94 (27.65)
41-45	47 (13.82)
46-50	21 (6.18)
Mean age ± SD	33.2±4.2 years
Median age	34 years
Marital status	
Married	334 (98.24)
Divorced	4 (1.2)
Widow	2 (0.59)
Education level	
Illiterate	4 (1.2)
Elementary school (primary)	19 (5.6)
Secondary school	41 (12.1)
University	276 (81.2)
Paid employment	
House wife	136 (40)
Employed	204 (60)
Income level	
Moderate	279 (82.05)
Good	17 (5)
Very good	34 (10)
Excellent	10 (2.94)
Medical insurance	
Yes	302 (88.82)
No	38 (11.18)

Table-2: Level of knowledge of mothers about ORS (n=340)

Knowledge of mothers	Frequency	%
What is it used for?		
Stopping diarrhea	136	40
Treating dehydration	190	55.88
Do not know	14	4.12
Do you think it is beneficial?		
No	21	6.18
Somewhat	61	17.94
Yes	258	75.88
Knowledge of the composition of ORS:		
Low	54	15.88
Moderate	182	53.53
Good	104	30.59

Table-3: Practice of mothers towards ORS (n=340)

Practice of mothers	frequency	%
Duration allowed for use of ORS after preparation:		
Low	8	2.35
Moderate	149	43.82
Good	183	53.82
Preparation of ORS:		
Low	156	45.88
Moderate	116	34.11
Good	68	20
How to store ORS:		
Low	177	52.06
Moderate	126	37.06
Good	37	10.88
The way of ORS administration:		
Low	60	17.65
Moderate	202	59.41
Good	78	22.94
How to behave if vomiting develops:		
Stop ORS	91	26.76
Give it slowly	218	64.12
Do not know	31	9.12

Table 4: Knowledge regarding diarrhea and dehydration among study participants (n=340)

Variables		
Cause of diarrhea	n	%
Contaminated water	109	32.05
Contaminated food	105	30.88
Teething	44	12.94
Evil eyes	52	15.29
Don't know	30	8.82
Sign of dehydration		
Sunken eyeballs and tearless eye	69	20.29
Thirsty and dry mouth	261	76.76
Don't know	10	2.94
Consequences of dehydration		
Lethargy	143	42.06
Loss of Weight	173	50.88
Unconsciousness	8	2.35
Death	16	4.71

DISCUSSION

Indeed, even though the fact that availability of ORS can considerably decrease the number of morbidity and

mortality as a subsequent of diarrhea and dehydration, poor knowledge relating to management of diarrhea with ORS was posed the developing countries with diarrhea-dehydration associated deaths.

The socio-demographic figure of the current study showed that the age of all joined mothers in our study ranged from 20 to 50 years with a mean age of 33.2±4.2 years which is higher than the average ages in studies done in Iraq[11] and Iran[15] where it was about 28 years, but lower than in a study done by Attaya *et al.,* in Thailand [16] where the average age was 40 years. More than half of the mothers in our study were employed and the majority of mothers had high level of education which is incomparable to the findings of other studies[11,16] where about half of mothers had elementary school or lower and 62% were housewives.

In the present study, although the majority of the mothers were highly educated, yet only one fifth of mothers were found to have adequate knowledge concerning the method of ORS mixing and preparation. In addition, a like information was detected to be incomplete and partial among more than half of the respondents.

In term of knowledge of mothers about ORS, our study demonstrated that only one third of shared mothers had adequate information about the correct indication for the ORS composition; the clarification is that this is considered as a medically related topic and mothers believed that ORS is a medication prescribed by health care provider, whilst more than half of mothers knew that it is composed of salts and sugars and less than 16% of mothers had incomplete information about the composition of ORS. Our present findings are better than the findings of Iraqi study by Al-Atrushi *et al*.,[11] where 89% of mothers had no information about the composition of ORS.

Regarding attitude of mothers towards use of ORS, two fifth of mothers believe that it stops diarrhea and more than half thought it treats dehydration. Our study's revealed data are comparable to the findings of others studies[11,16] where mothers thought in its usefulness during dehydration and better than the outcome in Thailand study[16] where only less than quarter of mothers who believes it can stop diarrhea. Our findings in the present study are consistent with the study conducted in Iraq[11] where more than 96% of shared mothers agreed that there are no side effects behind the use of ORS. These findings are high compared to another study done in Thailand [16] where 73% of mothers assumed that there are no side effects behind use of ORS.

The present study demonstrated that practice of mothers towards use of ORS are inadequate and poor since almost half the mothers did not know the proper way of ORS preparation, store and frequency of administration. Moreover, in view of the fact that, more than four fifth of mothers did not know how to behave or even stopped administration of ORS if their baby has a symptom of vomiting. This foundation can be considered as a source of concern that needs to be improved through health education. Such low levels of practice towards ORS are found common in third world countries; in an Indian study[17], just 11% of mothers knew how to prepare ORS and 22% of mothers knew how to administer it. Another study in India by Rasania *et al*.,[18] showed that 38.7% of mothers knew how to prepare ORS and 41.6% knew how to administer it. Similar findings were found in a study performed in Iraq[11], where a total of 2.7%, and 17% of mothers, respectively knew how to prepare and administer ORS.

Most of the mothers participated in the present study were belonging to the middle social class. However, it seemed that mothers have adequate understanding regarding the duration time allowed to use ORS after its preparation. In actual fact, our findings demonstrated that the majority of mothers knew the advantage and the beneficial effects of ORS in diarrheal diseases, while only less than 2% of mothers were unaware of the advice of using ORS. Furthermore, in agreement with others[11] the present study demonstrated that most of the mothers came to know about ORS up on a recommendation from physicians and pharmacists. Moreover, despite of being the mothers were with university levels and most of them were aware of ORS use, more than half were partially know how to store ORS.

In fact, there was a considerable rise of knowledge on the causes of diarrhea showed by two third of participated mothers. Initially, use of contaminated water and contaminated food were the most picked options by the respondents. This finding is consistent with the findings in study done by Cabatbat in Philippines.[19] However, teething and evil eye, to some mothers, are still the predisposing factor for diarrhea. This indicates that some misconceptions cannot be changed overnight. Studies in Indonesia[20] and Pakistan[12] showed similar findings. Considering knowledge of warning symptoms and signs related to dehydration, most of the shared mothers were able to specify them, mothers responded by providing multiple signs like sunken eyeballs and tearless eye or thirsty and dry mouth. Our findings are better than the outcome in Pakistan studies.[21,12]

The main limitations faced the present study were financial restriction and the inadequate time. Therefore, the study did not include mothers of other different ethnicities and locations which would have required more time. However, the strength of our present study is that it was a face-face interview-based survey and was not self-administered questionnaire constructed investigation.

CONCLUSION

The present study concluded that the knowledge of mothers regarding this matter was insufficient. Practice of the mothers considering the use of ORS was generally poor. The information relating to ORS was principally informed by the health care providers. Health education of

mothers regarding the beneficial of ORS is recommended.

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