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Research Article

Educational Needs of Mothers about using Oral Rehydration Salt (ORS) at Home During Acute Diarrhea in Children under 5 at Urmia Population Research Center

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Abstract

Preventable factors such as infectious diseases (pneumonia, diarrhea, and malaria), malnutrition and neonatal complications are still the leading cause of child mortality worldwide [1] In 2013, it is estimated that 6.3 million babies born worldwide died before the age of 5, and approximately 9.2% of these deaths were due to diarrheal diseases [2,3] in simple, accessible ways, and effective treatment can reduce diarrhea-related mortality and make hospital admissions unnecessary, and the role of mothers is the most important [4]. Since the presentation of Oral Rehydration Therapy (ORT) in 1979, mortality has reduced. Diarrhea has had a steady downward trend [5]. If mothers who have children under 5 years of age used ORS correctly, they could easily resolve the problem of dehydration in acute diarrhea [6]. Mothers didn't use ORS correctly because of their low literacy and lack of knowledge and wrong attitude about ORT[7]. Some health care workers provide mothers' required equipment, regardless of their educational needs, and mothers may not use ORS. In this study, health workers identified mothers' educational needs and subsequently they trained them about using ORS at home in acute diarrhea in children under 5 years of age.

Keywords:
Mothers; Educational needs; Diarrhea; ORS

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Background

Preventable factors such as infectious diseases (pneumonia, diarrhea, and malaria), malnutrition and neonatal complications are still the leading cause of child mortality worldwide [1] In 2013, it is estimated that 6.3 million babies born worldwide died before the age of 5, and approximately 9.2% of these deaths were due to diarrheal diseases [2,3] in simple, accessible ways, and effective treatment can reduce diarrhea-related mortality and make hospital admissions unnecessary, and the role of mothers is the most important [4]. Since the presentation of Oral Rehydration Therapy (ORT) in 1979, mortality has reduced. Diarrhea has had a steady downward trend [5]. If mothers who have children under 5 years of age used ORS correctly, they could easily resolve the problem of dehydration in acute diarrhea [6]. Mothers didn’t use ORS correctly because of their low literacy and lack of knowledge and wrong attitude about ORT[7]. Some health care workers provide mothers’ required equipment, regardless of their educational needs, and mothers may not use ORS. In this study, health workers identified mothers' educational needs and subsequently they trained them about using ORS at home in acute diarrhea in children under 5 years of age.

Materials and Methods

This is a cross-sectional study conducted to determine the educational needs of mothers about using Oral Rehydration Salt (ORS) at home during acute diarrhea in children under 5 years of age covered by Urmia Population Research Centers. The study was conducted two months after the approval of the Research Council of Urmia University of Medical Sciences. From Urmia city health centers, 3 population research centers were selected as a field of research. A health worker was selected from each of the selected centers in order to complete the questionnaires. The selected health workers were trained about questionnaires and items completed in the presence of the researcher as a test. Health workers with a list of mothers with children under 5 years old were extracted and interviewed and completed a health questionnaire. Clients who didn’t want to cooperate were excluded from the list and other mothers after obtaining written consent, a semi-structured questionnaire " Educational needs for use ORS at home during acute diarrhea in children under 5 years” was determined by interviewing health professionals. In this study the total number of samples was 460. The questionnaire included questions on demographic characteristics such as age, literacy and maternal occupation, place of residence, access to health services at home. Mothers were asked about how to prepare ORS. The variables studied were health centers, maternal age, maternal literacy, residence, age of the father, adult child literacy. The collected data were entered into the computer using SPSS software. Descriptive-analytic statistics were used for data analysis. Demographic data and level of knowledge and attitude about ORS were analyzed using SPSS software. $P < 0.05$ was considered statistically significant.

Results

There was a significant relationship between mothers' educational needs in the cognitive domain of using ORS and three health centers (P <0.001). There was no significant relationship between mothers' educational needs in the cognitive domain regarding the use of ORS and maternal age (P = 0.730). There was no significant relationship between mothers' educational needs in the cognitive domain of using ORS and mothers' literacy (P = 0.198). There was a significant relationship between mothers' educational needs in cognitive domain regarding the use of ORS and place of residence (P <0.001). There was no significant relationship between the educational needs of mothers in the cognitive domain regarding the use of ORS and the literacy of adult children in the family (P = 0.983). There was no significant relationship between mothers' educational needs in cognitive domain regarding the use of ORS and the number of children (P = 0.487). There was a significant relationship between mothers' educational needs in the cognitive domain about using ORS and the age of the father (P = 0.038).

There was a relationship between the educational needs of mothers in the attitude domain regarding the use of ORS and the health center (P <0.01). There was no significant relationship between the educational needs of mothers in the attitude domain regarding the use of ORS and the age of the father (P = 0.117). There was no significant relationship between the educational needs of mothers in the attitude domain regarding the use of ORS and maternal literacy (P = 0.093). There is a significant relationship between the educational needs of mothers in the attitude domain regarding the use of ORS and the place of residence (p=0.02). There was no significant relationship between the educational needs of mothers in the attitude domain regarding the use of ORS and the literacy of adult children (P = 0.388). There was no significant relationship between the educational needs of mothers in the attitude domain regarding the use of ORS and the number of children (P = 0. 213). Table 1, Table 2.

Table 1. Relationship between cognitive domain needs on ORS use and the variables of study

Study variables	p-value
Health Center	(P <0.001)
Mothers' Literacy	(P = 0.198)
Place of residence	(P <0.001)
literacy of adult children	(P = 0.983)
Number of children	(P = 0.487)
Father's Age	(P = 0.117)

Table 2. Relationship between the educational needs in the attitude domain regarding the use of ORS and the variables of study

Study variables	p-value
Health Center	(P <0.001)
Mothers' Literacy	(P = 0.093)
Place of residence	(P=0.02)
literacy of adult children	(P = 0.388)
Number of children	(P = 0.213)
Father's Age	(P = 0.117)

In this study, health workers collected information about the knowledge and attitudes of the mothers and this will promote the quality of health services. Several studies have been conducted to evaluate the knowledge about the use of ORS in diarrhea patients, which has shown that maternal literacy has a significant impact on the performance of ORS use in diarrhea [8], [9], [10]. Which is not consistent with our study findings (P = 0.198). Also in a study by Thammanna et al. lastly, there was a significant relationship between maternal literacy and knowledge about the use of ORS (p = 0.0027), which is not consistent with our study findings (p = 0.198) [6]. The results of studies by Salmalian showed that mothers had more knowledge (84%) about moderate diarrhea and poor performance (50%). Mothers' knowledge and practice with a variable occupation, literacy level, place of residence, number of children, birth order, child's age, child care information at the time of diarrhea, the most important source of information was significant (P <0.05). The residence was consistent with this study and was not consistent with literacy, number of children, and age of father [4]. Studies by Shams et al. found that there was a significant difference between mothers' knowledge and their literacy, which was not consistent with the findings of our study [11]. The results of the Omokhodion FO et al. study suggest that environmental health may be the major determinant of diarrhea among children, which is consistent with the findings of the present study(p=0.02) [12]. Mothers with one or two children had a higher level of knowledge than mothers with four children or more (p <0/0001) and this is not consistent with the results of the present study (P = 0.487). Mothers with low age than 35-year-olds were more aware (p <0.04) than mothers of 35-year-olds and above (P = 0.730) [13]. Literate mothers compared to illiterate mothers (38.7% vs. 22.6%) significantly (p=0.002) used ORS and this was not consistent with the study findings (p = 0.198) [14] . In the study by Kalahi et al. It was shown that mothers' knowledge and practice about diarrhea is not appropriate [15]. Health care workers are the best educational channels, so ORS information is generally better transmitted by health care providers [16]. Better results can be achieved by engaging health care providers in determining the mothers' educational needs and by training health workers. The situation of ORS use in patients with diarrhea below 5 is not satisfied, therefore, health education, information dissemination, and community dialogue should create and develop a positive attitude and practice towards better prevention and management of less than 5 diarrheal diseases [17], [18]. The results of the study by Onwukwe et al. show that mothers' knowledge and attitude about ORT are related to the ability to initiate ORT at home (p = 0.000) [19]. Educating mothers on the use of ORS in the treatment of diarrhea may be a powerful tool for identifying acute diarrhea and dehydration in the children and treating them orally at home with ORS by mothers [20]. A structured curriculum aimed at health care providers and mothers focused primarily on the management and prevention of diarrhea can improve clinical outcomes in children under 5 years old [21].

Conclusion

In this study, although most mothers were aware of the presence of ORS, there was a low level of knowledge about the preparation and use of ORS during diarrhea. Based on the results and the poor maternal performance, as well as WHO statistics report that spent more than 1 billion $ annually on harmful diarrhea drugs [4], it is recommended that mothers be provided with ORS training and design and run regular training programs for home serums. Mass media and virtual channels and networks can be used to educate families. In the meantime, the health workers design and implement educational programs based on mothers' educational needs to improve the mothers' knowledge and attitudes about treatment of diarrhea. Behave according to the WHO protocol as well as assure mothers the efficacy of ORS to use and thus prevent infant mortality due to dehydration. It is suggested that serious efforts were made to ensure that mothers rely on ORT programs early in life. Also, there is a need to continuously strengthen maternal knowledge in this field [22].

Strength and Limitation of the Study

One of the limitations of the plan is the lack of educational intervention. On the other hand, only the research centers have been studied, and perhaps the conditions in other health centers were different. Only mothers were examined here; perhaps fathers or other family members could have been involved in ORT. Some of the strengths of the plan include the use of local health workers, who were more familiar with how to communicate with locals and the high volume of census takers than those who were not willing to cooperate at all. The other strength of the project was that the health workers became

aware of the problems and deficiencies in people's knowledge and attitudes and tried to resolve the problems in their jobs.

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Authors' Contributions

All project work is done by the author.

B. R. conducted the study and had full access to all of the data for analysis. Also, he confirmed the eligibility of the health care workers for the study. He was also involved in drafting the article, supervised the whole study and approved the final version of the manuscript.

Ethics Approval and Consent to Participate

The research project was started with the approval of the research deputy of Urmia University of Medical Sciences and by coordination with the deputy of health and health center of Urmia city was obtained permission to work in health centers and coordination with health workers and with the written consent of mothers with children under 5 years. And if they could, at any time, be able to terminate their cooperation without having problems with access to health care, they also completed questionnaires by declaring that all information would be confidential. Of course, if their husband refuses to cooperate with the plan, they can also withdraw. The ethics committee of Urmia University of medical sciences has approved the study.

Competing Interests

The authors declare that he has no competing interests.

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