

Evaluation of Mothers' Knowledge about Managing and Preventing Dehydration among Pediatric Patients in Kerbala , Iraq: Descriptive Study

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Abstract

Background: Dehydration is one of the most important health problems among children, especially in developing countries. Mothers are considered an extremely important factor in the early recognition, prevention, and management of dehydration. The causes of dehydration in children Dehydration and diarrheal illness are especially dangerous for infants and young children. Higher metabolic rates, an incapacity to express their demands or hydrate themselves, and a rise in insensible losses are some of the causes. This study **aimed** to evaluation mothers' knowledge regarding preventing and managing dehydration in paediatrician and to determine the association between mothers' knowledge regarding preventing and managing dehydration in pediatric patients with socio demographic.

Methodology: A descriptive cross-sectional study was employed, involving 100 mothers of children who attended pediatric units in the province of Kerbala. Data was collected using structured questionnaires involving socio-demographic variables as well as those concerning dehydration knowledge elements. The outcome of this research suggests that mothers have sufficient knowledge regarding dehydration. There were significant correlations found among mothers' levels of knowledge and their age, residence, educational level, and occupation. The report recommends providing an educational program and producing awareness-boosting information to improve mothers' awareness and practices concerning dehydration.

Conclusion: This study revealed that the relative sufficiency is good level on all items regarding frequency and percentage about true answer regarding Dehydration and level of Mother's.

Recommendations: A booklet should be prepared and presented to the mothers about symptoms, diagnosis, treatment, prevention and management of dehydration in children.

Keywords: Mothers' Knowledge; Dehydration; Pediatric .



1. Introduction

Dehydration is among the most prevalent but life-threatening illnesses in children worldwide, particularly in developing nations. It results from diarrhea, vomiting, fever, or lack of fluid intake and remains among the principal reasons for childhood morbidity and mortality rates (Ashour et al., 2022; Elhusein & Fadlalmola, 2020). Types of Dehydration mild cases involved less than 5% of infants and less than 3% of older children suffering from dehydration. They showed signs of either a normal or low pulse rate, low urine output, thirst, or no clinical findings. Meanwhile, moderate cases involved 5%–10% of infants and 3%–6% of older children having dehydration. They had signs of tachycardia, minimal or zero urine output, irritability and lethargy, sunken eyes and fontanel, reduced tear secretion, dry mucous membranes, slightly. The problem of severe dehydration occurs in more than 10 percent of infants and more than 6 percent of older children. Some of the significant signs associated with severe dehydration include rapid and feeble or absent peripheral pulse, hypotension, minimal or no production of urine, sunken eyes and fontanel, lack of tears, dry mucous membranes, decreased skin elasticity, poor capillary refill greater than three seconds, cool and cyanotic extremities, lethargy, and altered consciousness (Abbass et al., 2024; Yimenu et al., 2022).

Dehydration in children still poses a major public health issue worldwide and has been identified as one of the most common causes of poor pediatric health in Iraq, especially among populations where knowledge about health is lacking, and there are irregular healthcare services (Mohamed & Mohammed, 2020). Children less than five years old are susceptible to the dehydration process due to a high percentage of body water, higher metabolism, and smaller physiological reserves when compared to adults. Dehydration can occur because of diarrhea illnesses which contribute immensely to this problem owing to the loss of electrolytes and fluids (Al Abadi & Al Razaq Hujail, 2019). The effects of dehydration can range from mild problems to serious conditions, such as electrolyte imbalance, kidney problems, hospital admission, and death. It is recommended that measures to prevent dehydration by ensuring proper hydration of the children, maintaining proper nutrition during diarrhea periods, and the right use of oral rehydration solution (ORS) can help in improving child health status (Duguma et al., 2024; Saleh et al., 2024).

Mothers are primarily responsible for taking care of their young children; hence, they play a vital role in the prevention, early diagnosis, and management of childhood dehydration at home. According to research conducted, maternal knowledge significantly impacts health-seeking behavior, home-care practices, and child health outcomes (Kumar et al., 2020; Oruikor & Durotoye, 2023). Proper maternal knowledge concerning dehydration, proper use of oral rehydration, and proper fluid management is an effective approach to prevent dehydration among children. In Iraq, prior research showed that despite having adequate knowledge about ORS and dehydration among Iraqi mothers, significant gaps still exist, especially in the following aspects: proper administration of ORS, identification of dehydration symptoms, and proper practice concerning dehydration management among others. Consequently, the above findings suggest that interventions targeting mothers' knowledge on how to prevent and manage diarrhea and dehydration among children should be considered in Iraq (Said et al., 2024; Workie et al., 2018).

2. Materials and Methods

2.1. Design of the Study

A descriptive cross-sectional study was conducted to find out the evaluation of mothers' knowledge about management and preventing dehydration among paediatrics in Kerbala, during the period of the study from 5 September 2025 to 1 December 2025.

2.2. Administrative Arrangement

The official permission for conducting this study was obtained from the Ministry of Health, Training and Human Development Centre, and the Karbala Teaching Children's Hospital.

2.3. Ethical Consideration

Maintaining confidentiality and anonymity was a major consideration during this investigation. All the participants were aware of the purpose and objectives of the survey. Before data collection commenced, each participant verbally gave his/her consent. The following statement was also provided on the questionnaire to ensure that confidentiality was maintained: "Dear participant, in case you agree to take part in this study, please fill in the questionnaire."

2.4. Setting of the Study

A convenient sample of mothers of pediatric patients was taken from the pediatric wards and outpatient departments of Karbala Children's Hospital for the study entitled "Evaluation of mothers' knowledge about the management and prevention of dehydration in paediatrics."

2.5. Instrument of the Study

The data collection tool was prepared by the researcher through a comprehensive review of literature on dehydration in children and mother's knowledge in this regard. It was formulated to accomplish the aims of this study and comprised of two parts.

Part I: Socio-demographic Characteristics

This section was designed to collect information on the socio-demographic characteristics of the participating mothers and included four items: age, educational level, place of residence, and employment status.

Part II: Mothers' Knowledge Regarding Childhood Dehydration

This section consisted of 17 structured questions developed to assess mothers' knowledge regarding childhood dehydration in order to determine the degree of knowledge, the obtained total scores were changed into percentages. The cut-off point was 50%, and on the basis of it, participants were divided into two levels: those who had obtained scores below 50% (i.e. <9 out of 17 questions) were classified as "poor knowledge", while those who obtained 50% and above (i.e. ≥ 9 out of 17) were considered as "good knowledge". The questions were organized into three domains:

- Mothers' knowledge about dehydration (4 items).
- Mothers' knowledge about the signs and symptoms of dehydration (6 items).
- Mothers' knowledge about the treatment and prevention of dehydration (7 items).

The questionnaire was checked for its content validity through expert review by professionals in pediatric and community health nursing, considering the relevance, comprehensibility, and

appropriateness of the items included. Accordingly, the required changes were made prior to conducting data collection.

For determining reliability, the Cronbach's Alpha Coefficient test was carried out since this measure is an indicator of the internal consistency of the survey. The Cronbach's Alpha Coefficient score was recorded as 0.826, which is greater than the minimum acceptable value of 0.70.

2.6. Sample of the study

Non-probability and convenient sampling was used whereby 100 samples were taken. The samples included 100 mothers whose children were under the care of Karbala Children's Hospital from 5 September 2025 to 1 December 2025.

2.7. Exclusion criteria

- 1-Mothers of children with a psychiatric illness diagnosis along with their paediatric illness.
- 2-Non-paediatric patients (i.e., not within the paediatric age range).

3. Results

Table 1. The distribution of the study sample according to their socio- demographic characteristics (N=100).

Variable		f	%	Mean	Range	Standard Deviation
Age	18-26	33	33.0	2.210	5	1.217
	26-34	36	36.0			
	34-42	16	16.0			
	42-50	8	8.0			
	50-58	6	6.0			
	58-66	1	1.0			
Residence	Rural	28	28.0			
	Urban	72	72.0			
level of Educational	Unable reading and writing	21	21.0			
	Able reading and writing	37	37.0			
	Secondary degree	7	7.0			
	Bachelor's and High degree	35	35.0			
Occupation	Employee	25	25.0			
	Wife house	70	70.0			

Variable	f	%	Mean	Range	Standard Deviation
Free working	5	5.0			

Table 2. Overall Evaluation of Mothers' Knowledge about Management and Preventing Dehydration among Paediatrics.

Knowledge level	Frequency	Percentage %	Mean \pm SD
Poor	10	10.0	
Good	90	90.0	
Total	100	100.0	1.90 \pm .302

Table 3. The relationship between Evaluation of Mothers' Knowledge about Management and Preventing Dehydration among Paediatrics with their socio- demographic characteristics.

Variable	Knowledge		Total	
	Poor	Good		
Occupation	Employee	F 3	22	25
		% 3.0%	22.0%	25.0%
	Housewife	F 6	64	70
		% 6.0%	64.0%	70.0%
	Free	F 1	4	5
	working	% 1.0%	4.0%	5.0%
Total		F 10	90	100
		% 10.0%	90.0%	100.0%
Chi-square test	$\chi^2= 66.500df=2$		P value < 0. 001	
level education	Unable reading and writing	F 3	18	21
		% 3.0%	18.0%	21.0%
	Able reading and writing	F 1	36	37
		% 1.0%	36.0%	37.0%
		F 1	6	7

Variable	Knowledge		Total		
	Poor	Good			
Secondary degree	%	1.0%	6.0%	7.0%	
Bachelor's and High degree	F	5	30	35	
	%	5.0%	30.0%	35.0%	
Total	F	10	90	100	
	%	10.0%	90.0%	100.0%	
Chi-square test	$\chi^2= 23.360$ df=3 P value < 0.001			P < 0.05	
Age	18-26	F	3	30	33
		%	3.0%	30.0%	33.0%
	26-34	F	5	31	36
		%	5.0%	31.0%	36.0%
	34-42	F	0	16	16
		%	0.0%	16.0%	16.0%
	42-50	F	1	7	8
		%	1.0%	7.0%	8.0%
	50-58	F	1	5	6
		%	1.0%	5.0%	6.0%
	58-66	F	0	1	1
		%	0.0%	1.0%	1.0%
Total		F	10	90	100
		%	10.0%	90.0%	100.0%
Chi-square test	$\chi^2= 64.520$ df=5 P value < 0.001			P < 0.05	

4. Discussion

After analyzing the socio-demographic variables of the mothers participating in the current study, the results of the current study revealed that, regarding mothers' children related by age, most of them were aged around 24-36 years, according to residence, most of them were Urban In relation to their educational level, half of them could read and write. In general, more than two thirds of mothers were wife house this agree with study (Alsayed, 2024; Mohamed & Mohammed, 2020).

The results obtained from the current research in part two on the overall evaluation of mothers' Knowledge concerning the prevention and management of dehydration in pediatrics indicate that a majority of mothers have good levels of knowledge. This is in agreement with (Oruikor & Durotoye, 2023), who noted that the Results of the Performance of Mothers in Preventing Dehydration among Children under Five is the topic of this current research. The condition of diarrhea is believed to cause 17.5–21% of all childhood deaths in underdeveloped countries. About 78% of childhood deaths in the entire world occur in Africa and South-East Asia, with dehydration causing all the deaths. This is a cross-sectional, descriptive study.

Moreover, the current study established that there was a statistically significant association between maternal knowledge and prevention and management of dehydration among children. This means that the more maternal knowledge was high, the more it was associated with proper methods of recognizing dehydration and home management of dehydration, which could result in less severe diarrheal complications. This is supported by findings by (Ismail et al., 2025), in whose study, the majority of parents lacked enough knowledge about ORS. At the same time, there was evidence that a huge number of children were managed at homes using home remedies. As a result, their findings showed that delays in seeking medical advice, as well as lack of knowledge about ORS, contributed to an increase in complications and emergency department visits among children diagnosed with diarrhea

Furthermore, another piece of evidence supporting this point can be found in the findings of (AL Maliki & AL-Mosawi, 2021). The authors reported that low levels of hygiene observed among the caregivers, especially regarding insufficient hand washing prior to preparing food, led to an increase in the incidence rate of diarrhea accompanied by complications such as abdominal distension and dehydration. According to the findings, the children of less knowledgeable mothers experienced negative consequences associated with dehydration more often than other children did.

In the current study, it was shown that there is a significant relationship between occupation and knowledge levels of the participants ($\chi^2=66.500$, $df=2$, $p<0.001$). The percentage of good knowledge was the highest among housewives (64%), while it was lowest for free-working women (4%), and intermediate for employed women (22%). This observation can be supported by the fact that housewives are likely to have more time for interacting with the health-related information about pregnancy and motherhood in healthcare centers and social surroundings. In line with these results, similar outcomes were observed in recent studies, suggesting that maternal knowledge and health literacy are affected by social and demographic factors (Al Abadi & Al Razaq Hujail, 2019; Sabetghadam et al., 2023). However, the existing results of the relationship between occupation and health knowledge differ from those of some previous studies indicating that employed women tend to show greater knowledge levels due to higher levels of education, social contact, and healthcare resource utilization. For example, according to one study on pregnant women, the ability to obtain various types of information was related to higher health knowledge levels. The reasons for the contrast between the present and previous findings might be accounted for by differences in samples, cultural context, and research settings (Sajjadian et al., 2024; Tavananezhad et al., 2022). In terms of age, there was a statistically significant correlation between age and knowledge level ($\chi^2=64.520$, $df=5$, $p<0.001$).

The individuals with age between 26 and 34 years old had the largest share of good knowledge level than any other age group. This could be due to the fact that women with this age category tend to acquire more health information and use the healthcare services more often. Indeed, recent research

indicates a link between maternal age and health literacy as well as health behavior. However, some studies did not find any connection between age and knowledge level (Ali & Obaid, 2025; Kara, 2025).

5. Conclusion

The research found that mothers had an adequate level of knowledge concerning dehydration management and prevention among children. It was further revealed that there were significant correlations between mothers' knowledge of dehydration management and socio-demographic variables such as age, place of residence, level of education, and occupation. This implies that there is a need for health education for mothers on this subject matter.

6. Recommendations

Produce and distribute educational booklets to mothers regarding the symptoms, diagnosis, treatment, and prevention of dehydration. And Conduct further studies to assess the relationship between mothers' knowledge and the severity of dehydration in children.

7. Acknowledgments

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9. Conflict of Interest

I declare that I have no conflicts of interest to report.

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