

Assessment of Mothers' Knowledge regarding to Dehydration in Children under 5 Years at Pediatric Hospital in Kirkuk City

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ABSTRACT

Background: Dehydration frequently complicates illnesses often seen in children arriving at the emergency department. It entails the excessive depletion of water and bodily fluids, reduced intake, heightened output, fluid redistribution, and leakage of fluids from capillaries.

Objective: The object of the study is to assess to identify mothers' knowledge toward Management of dehydration in children and to find out the relationship between the level of knowledge of these mothers with selected demographic variables.

Methods: A Descriptive non-experimental study, it was carried out at pediatric hospital in Kirkuk city, samples includes mothers who attended to pediatric hospital. The study samples were chosen by non-probability sampling (purposive sample). An instrument was constructed as a questionnaire for the study purpose, the questionnaire consist of (2) domains (General information, concepts and facts about dehydration in children and Management of dehydration in children).

Result: Shows that (31.7%) mothers were ages between (21-25 years), (60%) were housewives, and (31.7%) of mothers had Intermediate school education. Most of the mothers didn't participate in training courses about dehydration and (51.7%) of them with no previous experiences about caring of a child with dehydration.

Conclusion: The study concluded that, mothers' knowledge about dehydration is fair.

Keywords: Mothers' knowledge, dehydration, and children under 5 years old.

INTRODUCTION

Dehydration is a frequent complication in pediatric patients seen in the emergency department. It results from excessive loss of water and bodily fluids, decreased intake, increased output, fluid shifts, and leakage from capillaries. Dehydration severity ranges from moderate to severe and can be life-threatening in infants and children. Drinking approximately eight glasses of water daily can help prevent dehydration, highlighting the importance of maintaining adequate hydration to avoid this condition. (Elhusein&Fadlalmola, 2020).

Patients experiencing severe dehydration require prompt fluid restoration. The extent of dehydration in children under 5 years, as reported by the WHO, is notably concerning (Mohamed& Mohammed, 2020).

Despite its potential severity, dehydration is considered a treatable condition that can be effectively managed if detected early. However, inadequate knowledge, poor practices, negative attitudes among mothers, and misguided approaches during episodes of diarrhea contribute significantly to severe dehydration and, tragically, to fatalities (Hackett et al., 2015). Thus, the primary aim of this study was to evaluate mothers' awareness of dehydration and its management in children.

Subject and Method

Design of the study

A descriptive design was adapted throughout the present study from October 7th 2023 to 9th July 2024.

Administrative arrangement

Before establishing the present study, administrative was arrangement in conducting the study in the higher health institute.

Setting of the study

The current study is conducted in pediatric hospital in Kirkuk city, one of Iraq's governorates. It is one of the biggest hospital in Kirkuk's city which receives children for treatment who their age between birth to 13 years old.

Sample of study

A purposive (non-probability) sample is selected for the purpose of study which includes (60) mothers from pediatric hospital.

Eligibility criteria

Mothers were recruited to participate in the study by specific inclusion criteria included Age of their children under 5 years and exclusion criteria included mothers who refused to participate in the study.

Data Collection

Data were collected through direct interviews of mothers using a questionnaire form which was designed for the study purpose. The aim of the study was clearly describe to all mothers and their verbal consent was obtained, before filling the questionnaire. Interviewing was held by inducing mothers visited the pediatric hospital to answer the research questionnaire. The mothers' agreement for participation in the present study was obtained, the consent was taken verbally, and the interview was carried out individually and it took 10 to 15 minutes.

Data analysis

Data management, compilation, and analysis were conducted using the Statistical Package for the Social Sciences (SPSS) program, version [22]. Descriptive statistics were employed to present data, including frequencies, percentages, and mean scores. Inferential statistics, such as the Chi-square test, were utilized, with statistical significance set at a level of less than 0.05. Cutoff point (0.66).

The total mean scoring in each domain regarding to the following patterns: The maximum scoring for 20 questions in each domain is (60) while minimum score is (20). The mean score of 20 questions if equal to (20-33) the mothers have poor knowledge, if score equal to (34-47) the mothers have Fair knowledge and if score equal to (48-60) the mothers have good knowledge.

The overall mean scoring for 40 questions the maximum mean score is (120) while minimum score is (40). The mean score of 40 questions if equal to (40-66) the mothers have poor knowledge, if score equal to (67-93) the mothers have fair knowledge and if score equal to (94-120) the mothers have good knowledge.

RESULTS

Table 1. Distribution the Result of Demographic Data of the Mothers

Demographic Sample	<i>f.</i>	%	
Age Groups	20 Years or less	7	11.7
	21-25 Years	19	31.7
	26-30 Years	17	28.3
	31-35 Years	9	15.0
	≤36 Years	8	13.3
	Total	60	100.0
Occupation	Employee	24	40.0
	House wife	36	60.0
	Total	60	100.0
Level of education	Bachelors and High education	12	20.0
	Diploma	16	26.7
	Intermediate school	19	31.7
	Secondary and primary school	10	16.7
	Illiterate	3	5.0
	Total	60	100.0
Participating in a training course related to dehydration in children?	Yes	15	25.0
	No	45	75.0
	Total	60	100
Have you ever taken care of a dehydrated child?	Yes	31	51.7
	No	29	48.3
	Total	60	100

f. : Frequency , %: Percentage

This table reveals that the most of mothers at age between 26-30 years with percentage (28.3 %) from total sample and most of them were house wife with (60 %). The highest percentage of study samples (31.7%) at intermediate school. The results shows that common of them not participated in a training course or workshop related to dehydration in children (75 %), and highest percentage were not cared of a dehydrated child (48.3 %).

Table 2. Distribution the Result of Mothers' information about General Information, Concepts and Facts about Dehydration in Children:

No	Items	I Know		Uncertain		I Don't Know		Mean	Result
		<i>f.</i>	%	<i>f.</i>	%	<i>f.</i>	%		
1	Dehydration occurs when a child uses or loses more fluids than is taken in.	25	41.7	11	18.3	24	40.0	2.02	Fair
2	Getting too little milk when breastfeeding can cause dehydration in infants.	24	40.0	23	38.3	13	21.7	2.18	Fair
3	A child who is dehydrated needs fluids and minerals called electrolytes.	35	58.3	19	31.7	6	10.0	2.48	Good
4	Breast milk and oral rehydration solutions (sold in drug and food stores) contain the correct balance of water and electrolytes.	35	58.3	16	26.7	9	15.0	2.43	Good
5	Soft drinks, juice, and sports drinks don't contain the right balance of water and electrolytes.	24	40.0	19	31.7	17	28.3	2.12	Fair
6	Severe dehydration can make children very sick or sometimes die.	28	46.7	13	21.7	19	31.7	2.15	Fair
7	Signs and symptoms of dehydration also vary according to age.	29	48.3	17	28.3	14	23.3	2.25	Fair
8	Gastroenteritis is the most common cause of dehydration in children.	26	43.3	17	28.3	17	28.3	2.15	Fair
9	Vomiting is one of the causes of dehydration in children.	34	56.7	6	10.0	20	33.3	2.23	Fair
10	Diarrhea is one of the causes of dehydration in children.	25	41.7	14	23.3	21	35.0	2.07	Fair
11	Excessive sweating is one of the causes of dehydration in children.	20	33.3	12	20.0	28	46.7	1.87	Fair
12	Not drinking enough fluids during illness.	17	28.3	9	15.0	34	56.7	1.72	Fair
13	Dehydration can occur if a child has mouth ulcers.	11	18.3	26	43.3	23	38.3	1.80	Fair
14	Dehydration can occur as a result of chronic diseases such as diabetes or a bowel disorder.	19	31.7	23	38.3	18	30.0	2.02	Fair
15	Exposure to hot climates is one of the causes of dehydration in children.	21	35.0	18	30.0	21	35.0	2.00	Fair
16	Milk and food allergy is one of the causes of dehydration in children.	15	25.0	18	30.0	27	45.0	1.80	Fair
17	Severe dehydration causes children to feel drowsy or sleep deeply.	25	41.7	18	30.0	17	28.3	2.13	Fair
18	Severe dehydration leads to crying without tears.	21	35.0	19	31.7	20	33.3	2.02	Fair
19	In case of severe dehydration, the child is thirsty, has difficulty drinking, or is unable to drink	16	26.7	16	26.7	28	46.7	1.80	Fair
20	In case of severe dryness, the skin pinches and returns to its place very slowly.	18	30.0	23	38.3	19	31.7	1.98	Fair
Total Mean =2.05		Assessment Result =Fair							

f. = Frequency, % =Percent , 1-1.66=Poor level, 1.67- 2.33=Fair level, 2.34-3= Good level.

This table shows that mothers' information about general information, concepts and facts about dehydration in children at fair level.

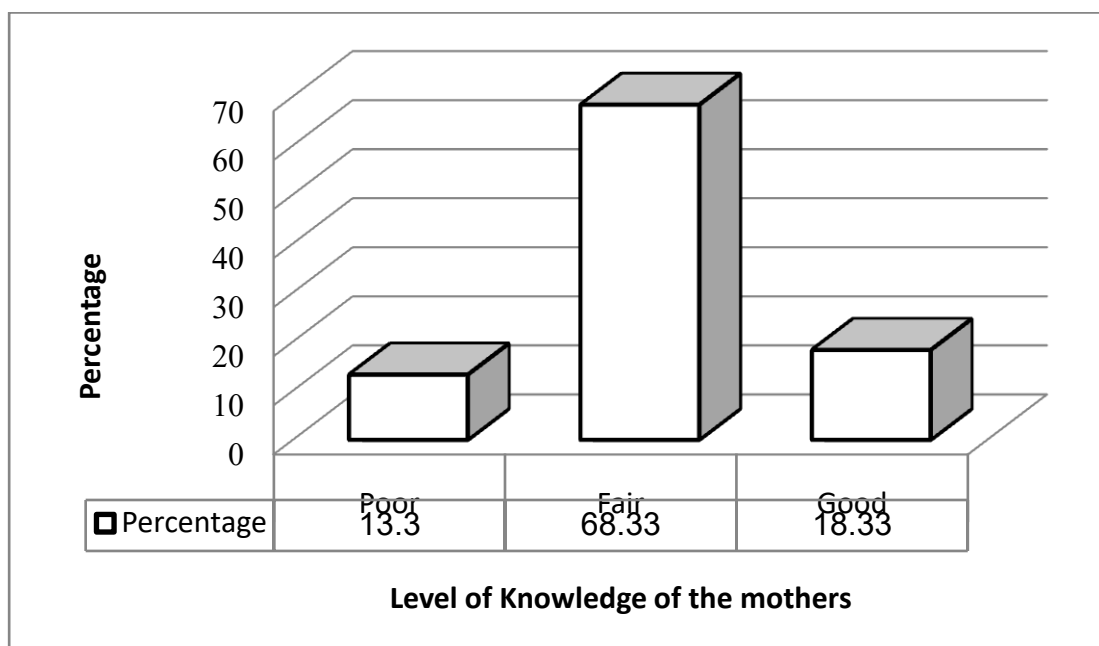


Figure 1. Distribution the Result of Nurses' information about General Information, Concepts and Facts about Dehydration in Children

This figure shows that high percentage of mothers' knowledge about general information, concepts and facts about dehydration in children is fair with percentage (68.33%), (18.33%) of them were at good level and (13.3%) of the mothers were at poor level.

Table 3. Distribution the Result regarding to Mothers' Information about Management of Dehydration:

No	Items	I Know		Uncertain		I Don't Know		Mean	Level
		f.	%	f.	%	f.	%		
1	A child with moderate dehydration is best treated in a hospital with intravenous fluids.	2 5	41 .7	1 7	28. 3	1 8	30.0	2.12	Fair
2	Severe dehydration is an emergency that requires the child to be taken to the hospital immediately.	3 2	53 .3	1 9	31. 7	9	15.0	2.38	Good
3	Give the child water or oral rehydration powder.	2 1	35 .0	2 8	46. 7	1 1	18.3	2.17	Fair
4	Dissolve the contents of the oral rehydration powder sachet in one liter of water.	2 7	45 .0	2 6	43. 3	7	11.7	2.33	Good
5	If the child is less than two years old: Oral irrigation solution is given (50-100 ml up to 500 ml per day).	1 9	31 .7	3 4	56. 7	7	11.7	2.20	Fair
6	If the child is 2-9 years old: ORS is given (100-200 ml up to one liter per day).	1 6	26 .7	2 9	48. 3	1 5	25.0	2.02	Fair
7	If the child is 10 years old or older: The perfusion solution is given in any quantity that he can drink, provided that it does not exceed 2 liters per day.	2 0	33 .3	2 3	38. 3	1 7	28.3	2.05	Fair
8	Oral irrigation solution can be prepared at home by adding one teaspoon of salt and four tablespoons of sugar to a liter of water.	2 1	35 .0	2 7	45. 0	1 2	20.0	2.15	Fair
9	The amount of oral rehydration solution that should be given to the child can also be calculated by (multiplying the weight by 75 grams)	2 3	38 .3	2 7	45. 0	1 0	16.7	2.22	Fair
10	Give the child the solution or juices using a syringe or spoon to encourage him to drink more.	2 6	43 .3	1 9	31. 7	1 5	25.0	2.18	Fair

1	If your child is vomiting, it is best to offer small amounts of fluids, but frequently	3	53	1	23.	1	23.3	2.30	Fair
1		2	.3	4	3	4			

f. = Frequency, % =Percent , 1-1.66=Poor level, 1.67- 2.33=Fair level, 2.34-3= Good level.

Table 3. (continues)

No	Items	I Know		Uncertain		I Don't Know		Mean	Level
		f.	%	f.	%	f.	%		
12	If the child is dehydrated due to diarrhea, give more fluid a smaller number of times.	2	41	1	30.	1	28.3	2.13	Fair
		5	.7	8	0	7			
13	If the child is breastfed, we continue breastfeeding while giving him ORS between feedings.	2	45	1	26.	1	28.3	2.17	Fair
		7	.0	6	7	7			
14	If the child is artificially breastfed, give him the rehydration solution for the first 24 hours, then we begin artificial feeding, but in small quantities first, then gradually increase the quantity.	2	36	2	35.	1	28.3	2.08	Fair
		2	.7	1	0	7			
15	The water using in preparation of ORS should be boiled.	2	38	1	28.	2	33.3	2.05	Fair
		3	.3	7	3	0			
16	The advantage of using ORS to replaced electrolytes and water lost from the body.	1	25	2	48.	1	26.7	1.98	Fair
		5	.0	9	3	6			
17	Oral rehydration salt packets are available at pharmacies.	1	18	3	51.	1	30.0	1.88	Fair
		1	.3	1	7	8			
18	Prepare fresh oral rehydration solution each time.	9	15	3	56.	1	28.3	1.87	Fair
			.0	4	7	7			
19	Encouraging the child to drink unsweetened liquids, as carbonated water and juices.	1	21	2	43.	2	35.0	1.87	Fair
		3	.7	6	3	1			
20	If the child is severely dehydrated or too unwell to drink enough fluids, he or she will be given intravenous fluids at hospital.	2	33	1	31.	2	35.0	1.98	Fair
		0	.3	9	7	1			
Total Mean = 2.20		Assessment Result = Fair							

f. = Frequency, % =Percent , 1-1.66=Poor level, 1.67- 2.33=Fair level, 2.34-3= Good level.

This table indicated that most of mothers were at fair level of knowledge about management of dehydration in children.

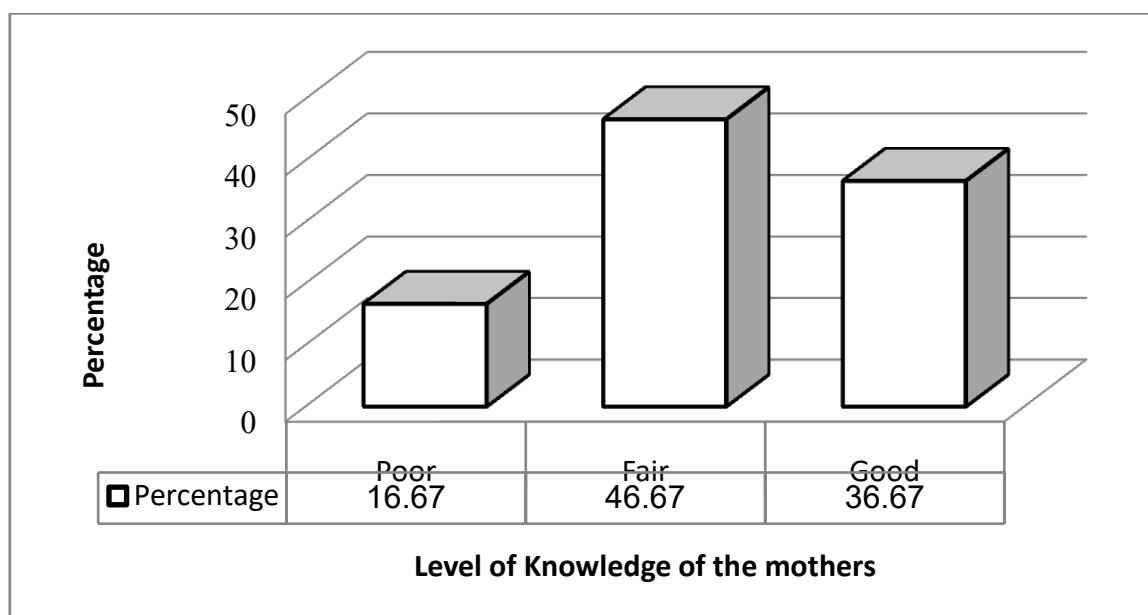


Figure 2. Distribution the Result regarding to Mothers' information about Management of Dehydration

This figure shows that high percentage of mothers' information about management of dehydration in children is fair with percentage (46.67%), (36.67%) of them were at good level and (16.67%) of the mothers were at poor level.

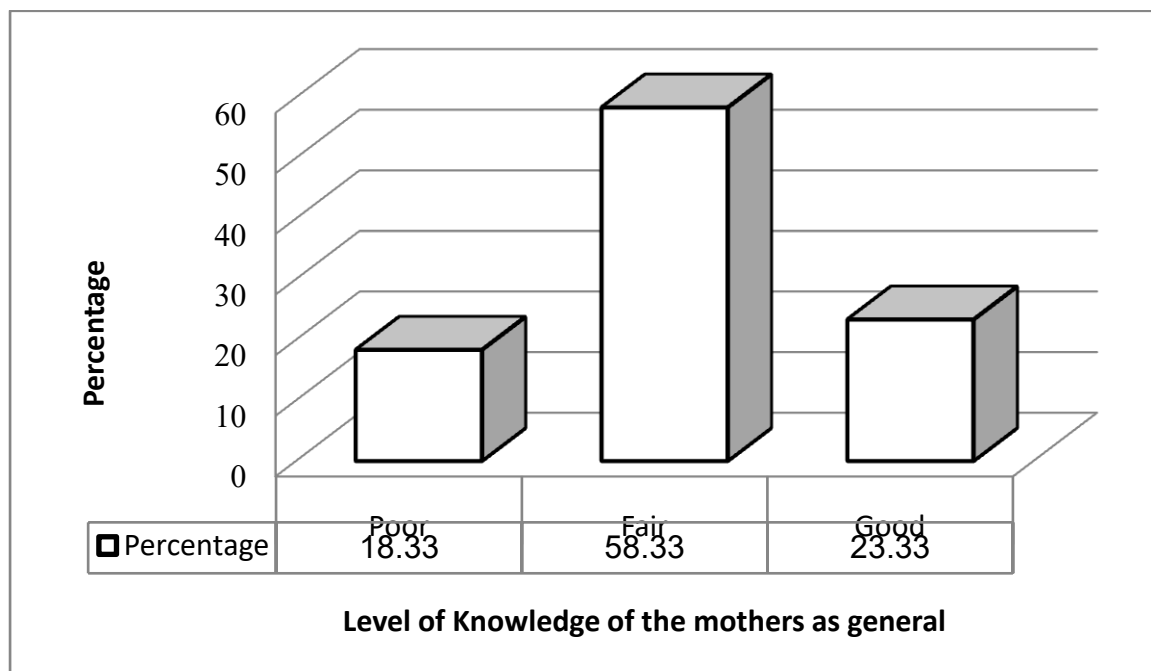


Figure 3. Distribution of Knowledge Levels Total Scores of the Study Sample as General

This figure shows that the overall assessment of mothers' knowledge about dehydration is fair with percentage (58.33 %).

Table 4. Distribution of the Knowledge Levels of the Study Sample Regarding to Demographic Data

Demographic Data		Knowledge Levels						p. Value	Sig. Level
		Poor		Fair		Good			
		f.	%	f.	%	f.	%		
Age Groups in years	20 or less	4	57.1	3	42.9	0	0	0.001	S
	21-25	7	36.8	10	52.6	2	10.5		
	26-30	0	0	14	82.4	3	17.6		
	31-35	0	0	4	44.4	5	55.6		
	≤ 36	0	0	4	50	4	50		
Occupation	Employee	2	8.3	13	54.2	9	37.5	0.057	N.S
	Housewife	9	25.0	22	61.1	5	13.9		
Level of education	Bachelors & High education	0	0	4	33.3	8	66.7	0.000	S
	Diploma	1	6.2	13	81.2	2	12.5		
	Intermediate school	3	15.8	13	68.4	3	15.8		
	Secondary and primary school	5	50.0	4	40.0	1	10.0		
	Illiterate	2	66.7	1	33.3	0	0		

f. : Frequency, %: Percentage , N.S=Non significant, S= significant.

Table 4. (continues)

Demographic Data		Knowledge Levels						p. Value	Sig. Level
		Poor		Fair		Good			
		<i>f.</i>	%	<i>f.</i>	%	<i>f.</i>	%		
Participating in a training course related to dehydration in children?	Yes	0	0	7	46.7	8	53.3	0.003	S
	No	11	24.4	28	62.2	6	13.3		
Have you ever taken care of a dehydrated child?	Yes	1	3.2	19	61.3	11	35.5	0.002	S
	No	10	34.5	16	55.2	3	10.3		

f. : Frequency, %: Percentage , N.S=Non significant, S= significant.

This table indicate that there is a significant relationship between mothers' knowledge about dehydration and demographic data include (age, education level, entering training courses about dehydration and there past experience related to caring of dehydrated child) at p-value (0.05), while there is a non-significant relationship between occupation of mothers and their level of knowledge.

DISCUSSION

The findings of the current study were compared to recent literature reviews and related studies to determine the extent to which they supported or contradicted the research question. The current study showed that the most of mothers at age between 26-30 years with percentage (28.3%) from total sample and most of them were house wife with (60%). The highest percentage of study samples (31.7%) at intermediate school. The results shows that common of them not participated in a training course or workshop related to dehydration in children (75 %), and highest percentage were not cared of a dehydrated child (48.3 %).

In a study done by (Elhusein&Fadlalmola, 2020) indicated In terms of education level, a higher percentage of mothers with university education demonstrated better knowledge and practices in managing and preventing dehydration in their children. Another study done by (Mohamed& Mohammed, 2020) showed that The majority of mothers were in the age group of 26–30 years and had received primary school education. Additionally, 17.7% of the study sample had participated in educational workshops or received counseling.

Also the current study indicated that shows that mothers' information about general information, concepts and facts and about dehydration in children and its management at fair level, also the result showed that there is a significant relationship between mothers' knowledge about dehydration and demographic data include (age, education level, entering training courses about dehydration and there past experience related to caring of dehydrated child) at p-value (0.05), while there is a non-significant relationship between occupation of mothers and their level of knowledge.

In a study done by (Jagtap, 2019) The findings revealed that the highest percentage of mothers exhibited poor knowledge regarding the assessment and management of dehydration in children. Also (Owiti et al., 2021) in their study revealed that Only a small number of caregivers were aware of the signs of dehydration. Recognizing these signs and understanding the severity of diarrhea are crucial predictors for effective home management of diarrhea. Therefore, educating caregivers about dehydration signs and the seriousness of diarrhea is essential to improve their ability to manage these conditions appropriately at home. While, (Saurabh et al., 2014) indicated in their study that mothers demonstrated adequate awareness regarding Oral Rehydration Solution (ORS) and the availability of fluids at home..

Current study also supported by a study done by (Khamees et al., 2009) the results indicated that More than half of the sample demonstrated fair knowledge across all aspects of dehydration. The study findings have established a notable association between mothers' knowledge and various demographic characteristics, including age, educational level and occupation,

While, in a study done by (Kumar et al., 2020) showed that The majority of mothers lacked knowledge on how to assess and identify signs of dehydration. The study observed a significant correlation between maternal education level, socio-economic status, and Oral Rehydration Therapy (ORT) usage. However, no associations were found between the age of the mother, gender of the child, or religious affiliation and the use of ORT.

CONCLUSION

This study clearly states that mothers knowledge regarding to dehydration to their children under five years were fair

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Disclosure

There are no financial disclosures or conflicts of interest associated with this research study.

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