

Mothers' Knowledge about Dehydration due to Diarrhea in Children under 5 Years

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الخلاصة:

الهدف: تهدف الدراسة إلى تقويم معارف الأمهات تجاه الجفاف الناتج عن الإسهال في الأطفال دون سن الخامسة من العمر وإيجاد علاقة بين هذه المعلومات والصفات الديموغرافية للأمهات.

المنهجية: دراسة وصفية نفذت في مستشفيات الأطفال التعليمية (مستشفى حماية الأطفال ومستشفى الطفل المركزي) في مدينة بغداد للفترة من الأول من تشرين الثاني 2007 ولغاية الأول من أيار 2008. تم اختيار عينة البحث بالطريقة التصادفية غير الاحتمالية. بلغ عدد الأمهات (50) أما، ممن يرقدن مع أبنائهن، وقد أصيب أبنائهن بالجفاف نتيجة الإسهال. جمعت المعلومات من خلال استخدام استبانته مصممة ومكونة من 52 فقرة صممت وملئت بطريقة المقابلة. تم تحديد الثبات للاستبانة من خلال الدراسة الاستطلاعية وحددت مصداقيتها من الخبراء. تم تحليل البيانات من خلال استخدام الإحصاء الوصفي الذي تضمن التكرارات والنسب المئوية وكذلك استخدام الإحصاء الاستنبائي الذي شمل معامل ارتباط بيرسون ومربع كاي.

النتائج: أشارت نتائج الدراسة بأن (30%) من الأمهات أعمارهن بين (31-35) سنة وان (24%) من الأمهات مستواهن التعليمي هو (الدراسة الابتدائية)، (50%) من الأمهات موظفات، و(40%) من العينة دخلهن لا يكفي. وأشارت النتائج أن هذه النسبة (56%) و(52%) من الأمهات عندهن معرفة مقبولة حول المعلومات العامة للجفاف، ومسؤولية الأم نحو الطفل المصاب بالجفاف على التوالي. أشارت النتائج بصورة عامة بأن أكثر من نصف الأمهات لديهن معرفة مقبولة (52%) تجاه كافة جوانب الجفاف، وأثبتت نتائج الدراسة وجود علاقة ذات دلالة إحصائية بين معارف الأمهات والمعلومات الديموغرافية مثل العمر، المستوى الدراسي، مهنة الأم ودخل الأسرة.

التوصيات: أوصت الدراسة بتحسين معارف الأمهات حول مخاطر الإسهال والجفاف.

Abstract:

Objective: The study aims to assess mothers' knowledge about their children less than 5 years with dehydration due to diarrhea and to find the relationships between the mothers' knowledge and their demographic characteristics.

Methodology: A descriptive study was carried out in 2 pediatric teaching hospitals (Child's Center Pediatric Teaching Hospital and Children Welfare Pediatric Teaching hospital in the city of Baghdad from the 1st November 2007 to the 1st May 2008. A purposive "non probability" sample of (50) mothers. These mothers are admitted to hospitals with their children. The data were collected through using constructed questionnaire which comprises (52) items and filled by using interview technique. The reliability of the questionnaire was determined through a pilot study and the validity through a panel of experts. The data were analyzed through the application of descriptive statistic frequency, percentage, and the application of inferential statistical procedures, which include Pearson correlation coefficient and chi-square.

Results: The results of the study indicated that (30%) of mothers age between the ages of (31-35) years and the highest proportion of sample (24%) their level of education is (primary school), and half of the sample (50%) were government employee, and (40%) of the sample had inadequate income. The results indicated that (56%) and (52%) of the mothers has fair knowledge about general information of dehydration, and the responsibility of the mother towards child with dehydration respectively. In general, the results indicated that more than half of the sample had fair knowledge (52%) to all aspects of dehydration. The finding have approved that there is a significant relationship between mothers' knowledge and demographic characteristics such as age, educational level, occupation of the mother and family income.

Recommendations:

The study recommended that mothers' knowledge should be improved about the dangers of diarrhea and dehydration.

Key words: Assessment, Mothers' Knowledge, Dehydration, Diarrhea.

Introduction:

The concept of dehydration did not enter clinical medicine until the 1830s and was not scientifically defined for some years after that. The word dehydration in general English usage means loss of water⁽¹⁾.

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Dehydration is major causes of hospital admission and death due to diarrhea in children, diarrhea has been recognized as a leading cause of mortality and morbidity, and about 2-3 percent of children with diarrhea develop life threatening dehydration which contributed to mortality⁽²⁾. Table (1) shows the different between the causes of death in low income country and high income country⁽²⁾.

Dehydration caused by diarrhea is one of the biggest single killer of children in the modern world and diarrhea it is one of the major causes of nutritional loss and poor growth⁽³⁾.

WHO reported that diarrhoeal diseases and dehydration is the third causes of death in low income country and the table (1) revealed the different between the causes of death in low income country and high income country⁽⁴⁾.

American Academy of Pediatrics (AAP) 1996 guidelines, divide patients into subgroups for mild (3%--5% fluid deficit), moderate (6%--9% fluid deficit), or severe ($\geq 10\%$ fluid deficit, shock, or near shock) dehydration. Other classification schemes, including WHO 1995 and European 2001 Society of Pediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN) guidelines, divided patients into those indicating no signs of dehydration (<3%--5%), some signs of dehydration (5%--10%), and severe dehydration (>10%)⁽⁵⁾.

All mothers face the problem of caring for child with diarrhea and dehydration, mothers may be unsure about the causes, treatment and prevention and need education about management⁽⁶⁾.

A general lack of knowledge about dehydration from diarrhea is a central problem contributing to the challenge to treat dehydration at home⁽⁷⁾.

Numerous studies shown that Oral Rehydration Therapy (ORT) cures dehydration and prevents death⁽⁸⁾. Oral Rehydration Solution (ORS) is the keystone of management of acute diarrhea for the prevention and treatment of dehydration. All mothers should have knowledge about ORT⁽⁹⁾.

ORT is now the standards of care to prevent and treat dehydration in children by replacing fluid and successful preventive measure to avoid sever dehydration⁽¹⁰⁾.

Methodology:

A Descriptive study was conducted on mothers who have children with dehydration due to diarrhea. Assessment approach was used to collect data starting from November 1st 2007 to May 1st 2008. The study conducted at two pediatric teaching hospitals: Child's Center Pediatric Teaching Hospital and Children Welfare Pediatric Teaching hospital (Figure 1).

A purposive "non probability" sample of (50) mothers was selected; these mothers were admitted to hospitals with their children who have dehydration due to diarrhea.

A questionnaire format was constructed through extensive review of available literature and related studies. The questionnaire format was consisted of two parts, which include:

Part I: Demographic Characteristics

The demographic characteristics for mothers include mother's age, level of education, mother's occupation, family income and training courses about dehydration.

Part II: Mothers' Knowledge

Mothers' knowledge assessment tool included two parts:

- 1- Mothers' knowledge regarding general information about dehydration as a consequence of diarrhea.
- 2- Mothers' knowledge their responsibility related to dehydration due to diarrhea.

The investigator held a direct interview to obtain data from mothers and used constructed questionnaire format that answered by interview.

The validity was determined through a panel of 12 experts. Internal consistency of reliability was determined through computation of spilt half. The rate of coefficient for

mothers' knowledge about dehydration related diarrhea was ($r = 0.86$).

Data were analyzed through the application of descriptive statistical approach (frequency and percentage) and inferential statistical approach (Chi-square).

Table 1. The 10 leading causes of death by broad income group 2004⁽⁴⁾

Low-income countries	Deaths in millions	% of deaths	High-income countries	Deaths in millions	% of deaths
Lower respiratory infections	2.94	11.2	Coronary heart disease	1.33	16.3
Coronary heart disease	2.47	9.4	Stroke and other cerebrovascular diseases	0.76	9.3
Diarrhoeal diseases	1.81	6.9	Trachea, bronchus, lung cancers	0.48	5.9
HIV/AIDS	1.51	5.7	Lower respiratory infections	0.31	3.8
Stroke and other cerebrovascular diseases	1.48	5.6	Chronic obstructive pulmonary disease	0.29	3.5
Chronic obstructive pulmonary disease	0.94	3.6	Alzheimer and other dementias	0.28	3.4
Tuberculosis	0.91	3.5	Colon and rectum cancers	0.27	3.3
Lower respiratory infections	0.90	3.4	Diabetes mellitus	0.22	2.8
Neonatal infections	0.86	3.3	Breast cancer	0.16	2.0
Malaria	0.84	3.2	Stomach cancer	0.14	1.8
Prematurity and low birth weight	2.94	11.2	Coronary heart disease	1.33	3.4

%=percentage

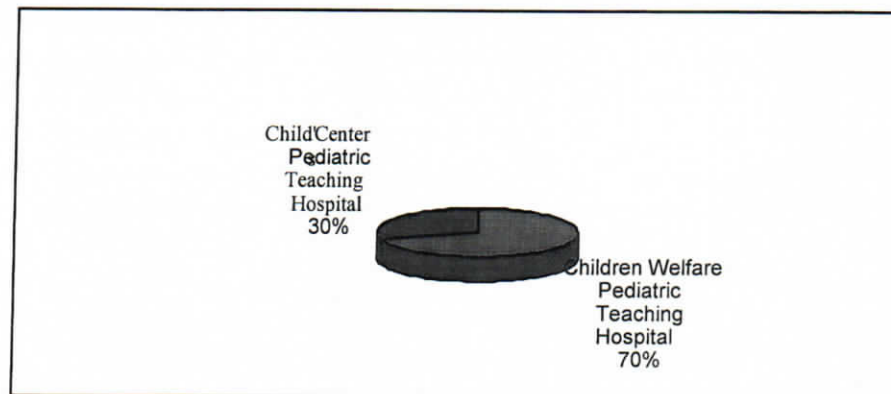


Figure I. Distribution of the sample according to the two hospitals (study setting)

Results:

Table 2. Distribution of the mother's demographic characteristics

Mothers characteristics		F	%
Age	Under 20 years	9	18.0
	21-25	5	10.0
	26-30	8	16.0
	31-35	15	30.0
	36 y. and Over	13	26.0
	Total	50	100
Level of education	Unable to read & write	6	12.0
	Primary school	12	24.0
	Intermediate school	6	12.0
	Secondary school	11	22.0
	Institute	8	16.0
	College & high study	7	14.0
	Total	50	100
Mother's occupation	House wife	22	44.0
	Government Employee	25	50
	Other	3	6.0
	Total	50	100
Family income	Sufficient	13	26.0
	Somehow Sufficient	17	34.0
	Insufficient	20	40.0
	Total	50	100
Training courses about dehydration	Yes	0	0.0
	No	50	100.0
	Total	50	100.0

F=frequency, %=percentage

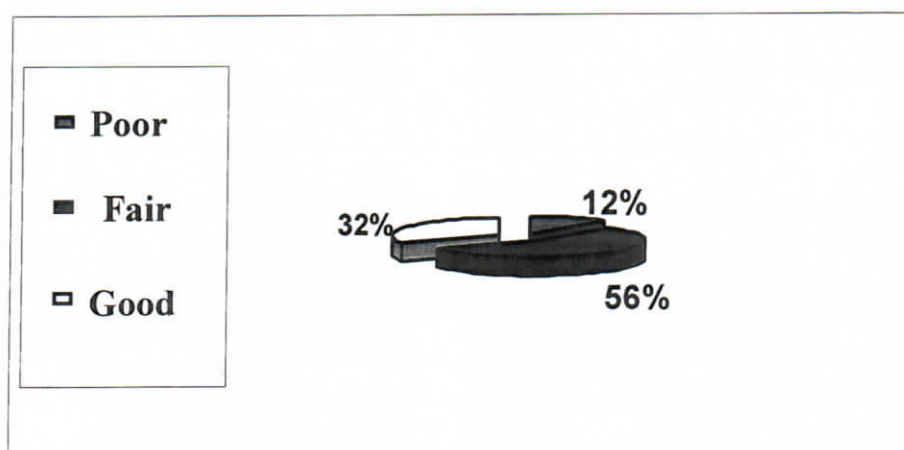


Figure II. Mother's knowledge about general information about dehydration due to diarrhea

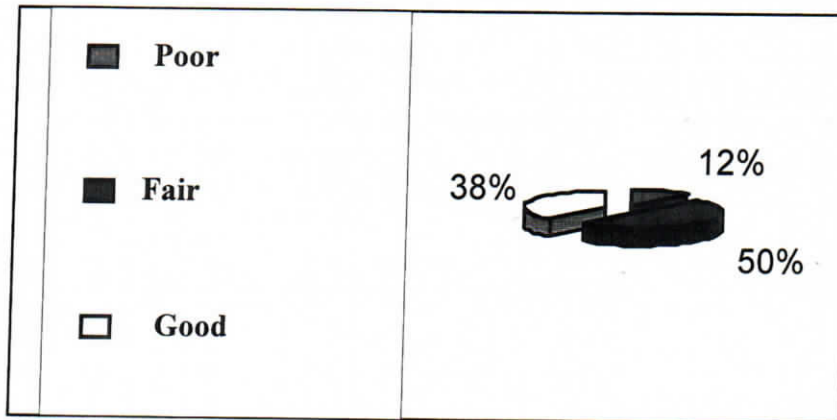


Figure III. Mothers' knowledge toward their responsibility about dehydration due to diarrhea.

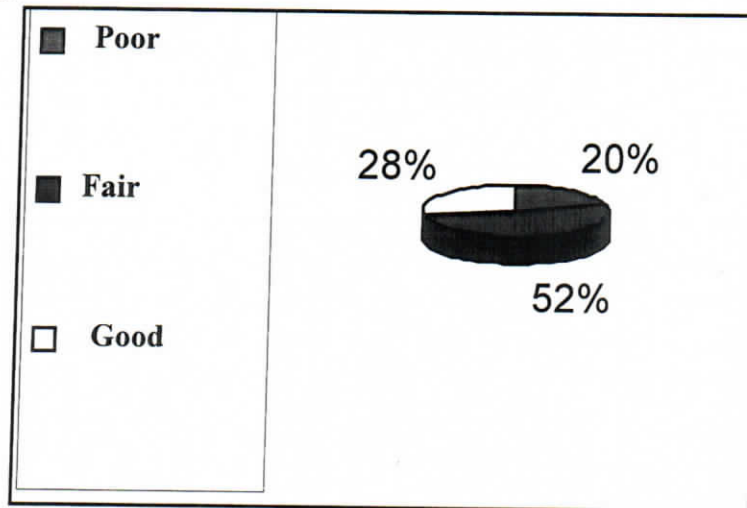


Figure VI. Total mothers' Knowledge about the all aspects of dehydration related diarrhea

Table 3. Association between mothers' knowledge and their demographic characteristics

General information Age(years)	level of knowledge			Total	
	Poor	Fair	Good		
Under 20 y.	1	8		9	χ^2 obs =28.43 χ^2 Crit =15.507 df=8 at P- Value \leq 0.05
21-25	1	2	2	5	
26-30		7	1	8	
31-35	1	7	7	15	
36 y. and Over		7	6	13	
Total	3	31	16	50	

Crit. χ^2 = critical chi-square, df=degree of freedom, p. value=level of probability, χ^2 obs =chi-square observed

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Table 3. (continued)

Mothers' responsibility	Poor	Fair	Good	Total	χ^2 obs =11.52 χ^2 Crit =15.507 df=8 at P- Value \leq 0.05
Age(years)					
Under 20 y.	2	7		9	
21-25		2	3	5	
26-30		4	4	8	
31-35	1	7	7	15	
36 y. and Over		8	5	13	
Total	3	28	19	50	
General information	Poor	Fair	Good	Total	χ^2 obs =28.43 χ^2 Crit =18.307 df=10 at P- Value \leq 0.05
Level of education					
Unable to read and write	1	5		6	
Primary	2	10		12	
Intermediate		6		6	
Secondary		6	5	11	
Institute		3	5	8	
College and high study		1	6	7	
Total	3	31	16	50	
Mothers' responsibility	Poor	Fair	Good	Total	χ^2 obs =28.72 χ^2 Crit =18.307 df=10 at P- Value \leq 0.05
Level of education					
Unable to read and write	2	4		6	
Primary		11	1	12	
Intermediate		5	1	6	
Secondary	1	4	6	11	
Institute		3	5	8	
College and high study		1	6	7	
Total	3	28	19	50	
General information	Poor	Fair	Good	Total	χ^2 obs =15.71 χ^2 Crit =9.488 df=4 at P- Value \leq 0.05
Mother's occupation					
House wife	3	17	2	22	
Government Employee		11	14	25	
Other		3		3	
Total	3	31	16	50	

Table 3. (continued)

Mother responsibility \ Mother's occupation	Poor	Fair	Good	Total	χ^2 obs =16.74 χ^2 Crit =9.488 df=4 at P- Value≤0.05
House wife	3	17	2	22	
Government Employee		9	16	25	
Other		2	1	3	
Total	3	28	19	50	
General information \ Family income	Poor	Fair	Good		χ^2 obs =10.26 χ^2 Crit =9.488 df=4 at P- Value≤0.05
Sufficient	1	5	7	13	
Somehow Sufficient		10	7	17	
Insufficient	2	16	2	20	
Total	3	31	16	50	
Mother responsibility \ Family income	Poor	Fair	Good		χ^2 obs =10.94 χ^2 Crit =9.488 df=4 at P- Value≤0.05
Sufficient		6	7	13	
Somehow Sufficient		9	8	17	
Insufficient	3	13	4	20	
Total	3	28	19	50	

Crit. χ^2 = critical chi-square, df=degree of freedom, p. value=level of probability, χ^2 obs =chi-square observed

Discussion:

Mothers' demographic characteristics and their knowledge

The study sample include (50) mothers who visited the pediatric teaching hospitals and had children with dehydration due to diarrhea.

The study regarding that 30% of mothers in age group 31-35 years, (24%) graduated from primary school and around (50%) are governmental employer and (40%) had inadequate family's income. All mothers in this study had no opportunity to be in training courses (Table 1).

The results of the study revealed that there is no significant association between age and mothers' knowledge toward general information and mothers' responsibility about care of dehydration related to diarrhea.

Table (2) revealed that there is a significant association between the level of education and mothers' knowledge regarding general information and mothers' responsibility care of dehydration due to diarrhea. Therefore the mothers knowledge increases when she has high level of education. A study agrees with these results, they indicated an association relationship between maternal educations and severity of disease due to diarrhea in children (11).

The study also showed a significant association between mothers' job and family income with mothers' knowledge regarding general information about dehydration due to diarrhea

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and mothers' responsibility about care. These results supported by Vanderlei and Silva reported that there is significant association between mother's knowledge and poor socio-economic conditions ($p= 0.01$) and also association between admission of children under two years of age with acute diarrhea and poor socio-economic conditions⁽¹²⁾.

The findings of this study were supported by a study that reported that many children in low- and middle-income countries do not receive proper treatment for diarrhea points to the urgency in addressing this unfinished agenda in child survival. The effectiveness of diarrhea control needs to be improved after critical review of established approaches and activities to reach caregivers of children at risk of dying from diarrhoeal diseases. Significant efforts must be made to scale up activities to improve case management and reduce childhood deaths from diarrhea⁽¹³⁾.

Study also showed that more than half of sample (52%) had fair knowledge about all aspect of dehydration due to diarrhea (general information and mothers' responsibility) (Table 3).

These results agreed with the findings of another study which reported that mothers have lack of knowledge on how to avoid dehydration and effectiveness of oral rehydration solutions. The mother's knowledge towards diarrhea and ORS was inadequate in the population studied and there was a big gap between actual and desired practices⁽¹⁴⁾.

These results also were supported by a study which indicated that 32.9% of mothers had limited knowledge about diarrhea. A significant association between knowledge of diarrhea and use oral rehydration therapy remained after considering the effect of education, economic status, and other socioeconomic factors⁽¹⁵⁾.

Further, more this study is supported by a study reported that mothers have low knowledge scores about the prevention and treatment of diarrhea and dehydration⁽¹⁶⁾.

Recommendations:

1. Mothers who deal with dehydration due to diarrhea should be offered with more opportunities in continuing education to update their knowledge through involvement in health education program.
2. Further studies conducted on a large sample size with respect to this issue are quite useful.
3. Mothers' knowledge should be reinforced by mass media like T.V.

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