

## Mother's Home Care Management to Preventing Diarrhea in Children under 5 Years at Primary Health Care Centers in AL-Diwaniyah City

### الخلاصة:

**خلفية البحث:** مرض الإسهال هو السبب الرئيسي الثاني لوفيات الأطفال دون سن الخامسة، حيث يتم تسجيل حوالي مليار حالة من مرض الإسهال سنويًا في جميع أنحاء العالم، ويموت 1.9 مليون طفل دون سن الخامسة كل عام بسبب الإسهال، وخاصة في البلدان النامية. تلعب الكفاءة الذاتية لدى الأمهات دورًا لمنع حدوث الإسهال عند الأطفال.

**الهدف:** لتقييم معرفة أمهات الأطفال دون سن الخامسة حول الوقاية من الإسهال وإدارة الرعاية المنزلية وتحديد علاقة المعرفة بالمتغيرات الديموغرافية.

**المنهجية:** أجريت هذه الدراسة الوصفية لتقييم معرفة أمهات الأطفال دون سن الخامسة حول الوقاية من الإسهال وإدارة الرعاية المنزلية وتحديد علاقة المعرفة بالمتغيرات الديموغرافية في مراكز الرعاية الصحية الأولية في مدينة الديوانية. أجريت الدراسة للفترة من 19 / أيلول / 2020 إلى 15 / آذار / 2021. اختيرت عينة الدراسة من 200 أم لأطفال دون سن الخامسة. ولقد صممت الاستبانة وتكونت من جزأين: الجزء الأول يشتمل على ثلاثة أقسام تتناول الخصائص الديموغرافية للأطفال، والخصائص الديموغرافية لأمهاتهم، والعوامل المتعلقة بإدارة المنزل لوقف الإسهال. تم تحديد ثبات الاستبانة من خلال إجراء الدراسة المصغرة (الاستدلالية) وحددت مصداقيتها من خلال مجموعة خبراء بالاختصاص (14) خبير. وجمعت البيانات من خلال الاستبانة، وتم تحليل البيانات باستخدام نظام التحليل الإحصائي SPSS، حيث تم التعبير عن نتائج الدراسة باستخدام نظام تحليل البيانات الإحصائية الوصفية والاستنتاجية.

**النتائج:** أظهرت النتائج أن الغالبية من الأمهات تقع في الفئة العمرية (25-30)، وأيضاً عدم وجود علاقة بين رعاية الأم المنزلية للوقاية من الإسهال والعوامل المتعلقة بإدارة المنزل للوقاية من الإسهال باستثناء (وجود الذباب في المنزل، والتخلص من القمامة المنزلية، والرضاعة الطبيعية الحصرية حتى 6 أشهر) حيث توجد علاقة.

**الاستنتاجات:** خلصت الدراسة إلى عدم وجود فرق معنوي بين استجابة الأمهات فيما يتعلق بالمجالات المدروسة و الصفات الديموغرافية للطفل باستثناء (طريقة الرضاعة الطبيعية في الأشهر الستة الأولى، في أي عمر بدأت الأم بإعطاء طفلها طعامًا إضافيًا وكان الطفل يعاني من الإسهال).

**التوصيات:** أوصت الدراسة بضرورة زيادة وعي الأمهات بأهمية منع الإسهال من خلال تنفيذ البرامج التعليمية وتفعيل دور وسائل الاعلام التقليدية والاجتماعية.

**الكلمات المفتاحية:** الأمهات، إدارة الرعاية المنزلية، الإسهال، الأطفال دون سن الخامسة.

Enas Ahmed Adel Karim <sup>1</sup>

Khatam M. AL-Mosawi <sup>2</sup>

\* MSC, Department of Pediatric Nursing, College of Nursing, University of Baghdad, Iraq.

\*\* Assist. Professor, Pediatric Nursing Department, College of Nursing, University of Baghdad, Iraq.

**Corresponding author:** Enas Ahmed Adel Karim, MSC, Department of Pediatric Nursing, College of Nursing, University of Baghdad, Iraq.  
E-mail: [jwdes1994@gmail.com](mailto:jwdes1994@gmail.com).

### ABSTRACT

**Background:** Diarrheal disease is the second leading cause of under-five mortality, about two billion cases of diarrheal disease are registered annually worldwide, and 1.9 million children under the age of five die each year from diarrhea, mainly in developing countries. That adequate of self-efficacy in mothers

plays a role in the management of the diarrhea process.

**Objective:** To evaluate mother's knowledge of the under five children about preventing diarrhea & its home care management and to identify the relation of the knowledge with demographic variables.

**Methodology:** A descriptive study was conducted to evaluate the knowledge of the mothers of fewer than five children about preventing diarrhea & its home care management and to identify the relation of the knowledge with demographic variables at primary health care centers in AL-Diwaniyah city. The study conducted from the period of 19th September 2020 to the 15th of March 2021 on a Convenience sample of 200 mothers of children under five years was selected. The questionnaire was designed and composed of two parts: The first part includes three sections that deal with the children demographic data, and their mother's demographic characteristics and factors related to his home management to preventing diarrhea. The reliability of the questionnaire was determined through a pilot study and the validity through a panel of (14) experts. The data were collected by questionnaire. The data were described statistically and analyzed through the use of descriptive and inferential statistical analysis procedures.

**Results:** Findings reveal that the majority highest percentage of the age mothers is located in age group of (25-30), no significant association was found between mothers home care management with factors related to home management to preventing diarrhea concerning only significant associations with (presence of flies at home, household garbage disposal, exclusive breastfeeding until 6 month).

**Conclusion:** The study concludes that there is non-significant differentiation among mother's responding regarding studied domains and child (SDCv.) except between method of breastfeeding in the first six months, at any age the mother began to give her child extra food has the child previously suffered diarrhea since significant relationships.

**Recommendation:** The study recommended it is necessary to raise mother's awareness of the importance of preventing diarrhea by implementing educational programs, activating the role of traditional and social media.

**Keyword:** Mother's, Home care management, Diarrhea, Children under 5 years.

---

## INTRODUCTION

Diarrhea is described as the passage of three or more loose or liquid stool per day or more repeated passage than is common for the children (1). Diarrhea is a global health concern for children under 5 years of age. This causes nearly 1.9 million deaths annually every year (2).

Mother's preventive activities in children regarding acute diarrhea apply to maternal acts in the treatment of their child in order to avoid diarrhea from being contracted by their child. It consists of hygiene practices, infant feeding practices, clean water practices and defecation practices (3). Diarrheal disease prevention and control interventions not only include improved water quality, but also measures to improve sanitation, improve quality and access to water supply, and promote hand washing and other

hygiene practices in domestic and community environments (4). Water, sanitation and hygiene are key determinants of the overall health of a person, with access to safe water and sanitation facilities and the adoption of effective hygiene practices playing an important role globally in preventing morbidity and mortality, especially among children under five years (5).

Prevention of diarrhea is the key to reducing morbidity and mortality due to diarrhea. Prevention of diarrhea carried out by mothers includes washing fruits and vegetables before cooking and eating, washing hands using soap and water, giving breast milk, immunizing children, and consuming healthy drinking water (6). Improper treatment of childhood diarrhea has been shown to be due to misperceptions

and lack of knowledge in both caregivers and health workers. Addressing these gaps in knowledge and behavior is critical to ensure that diarrhea is prevented and children are treated appropriately (3). The adequacy to the care can depend on the abilities of the child's caretaker, who is often the mother, and on the inter subjectivity on which the child is inserted. The mother / caretaker needs of educational strategies that helps to empower herself of manners that will permit her to develop healthy habits. When empowered, the mother/caretaker can execute a quality care to the child (7, 8).

### AIMS OF THE STUDY

To evaluate mother's knowledge of the under five children about preventing diarrhea & its home care management and to identify the relation of the knowledge with demographic variables.

### METHODOLOGY

A descriptive study design was used. This study was conducted in Al-Diwaniyah health care centers for the period from (19th / September / 2020 to 15th / march / 2021) on a non-probability (convenience sample) consisting of (200) mothers of

children under five years were selected from the primary health care centers when they companied their children at the time of attending the health centers. A questionnaire was built as a data collection tool and consisted of three parts:

**First part:** This part contains demographic characteristics of the mother's participated in the study and which include age, residency, and house ownership, level of education and occupation, number of kids.

**Second part:** It includes demographic characteristics concerning the children like age, sex, order of child.

**Third part:** This part contains factors related to managing the home to preventing diarrhea which include water treatment, toilet latrine, exclusive breastfeeding until 6 month, presence of flies at home, soap near the tap. The validity of the questionnaire were verified by presenting it to (16) experts. Descriptive and inferential statistics were used to analyze the results of the study using the Statistical Package of Social Sciences (SPSS) version 25 and Microsoft Excel (2010).

### RESULTS

Table (1): Distribution of the studied group according to SDCV

SDCV. of Mothers	Groups	No.	%
Age groups of the mothers Yrs.	15 – 19	7	3.5
	20 – 24	47	23.5
	25 – 29	55	27.5
	30 – 34	51	25.5
	35 – 39	24	12
	40 – 45	16	8
	Mean ± SD	28.88 ± 6.17	
Educational Levels	Do not read or write	27	13.5
	Read and Write	31	15.5
	Primary	34	17
	Intermediate	23	11.5

	Secondary	17	8.5
	Institute	33	16.5
	College	34	17
	Advanced degree	1	0.5
<b>Occupations</b>	Working	51	25.5
	Don't work	149	74.5
<b>Marital Status</b>	Married	194	97
	Separated	6	3
<b>Types of Family</b>	Nuclear	91	45.5
	Extended	109	54.5
<b>Residence</b>	Rural	46	23
	Urban	154	77

Table 1 shows regarding "age groups of the mothers", most of studied sample were assigned at second, third, and fourth groups, [i.e. (20 - 35) years old], and accounted 153 (76.5%) with mean and standard deviation (28.88), and 6.17 yrs. respectively. Less than fifty percent of studied sample concerning educational level of mothers had a moderate education levels (i.e. Secondary graduate and more), which accounted 86 (43%), then followed with "occupation", which illustrated that most of studied mothers don't work, and they are accounted 149 (74.5%), and most of studied mothers who assigned married status, and accounted 194 (97%) , then followed with type of family, which recorded a similar distribution statistically, since no different was found between who had "nuclear", or "extended" family types. Finally urban residency formed the most of studied mothers, and they are accounted 154 (77%).

**Table (2): Distribution of the studied sample according to (SES)**

<b>Groups</b>	<b>No.</b>	<b>%</b>
< 37.5 (Low)	66	33
37.5 - 59.5 (Moderate)	122	61
> 59.5 (High)	12	6
<b>Total</b>	<b>200</b>	<b>100</b>

Table 2 shows that vast majority of the studied sample had at moderate, and then followed by low responding, and they are accounted 188 (94.0%).

**Table (3): Factors related to Home Management to Preventing Diarrhea**

<b>Factors related to Home Management To Stop Diarrhea</b>	<b>Groups</b>	<b>No.</b>	<b>%</b>
<b>Soap near the tap</b>	No	11	5.5
	Yes	189	94.5
<b>Water treatment (filtration, boiling, chlorine)</b>	No	4	2
	Yes	196	98
<b>Presence of flies at home</b>	No	80	40
	Yes	120	60
<b>Household garbage disposal</b>	Driven to public collection	144	72
	Drop in river or open area	56	28
<b>Water reservoir</b>	Covered	197	98.5
	Uncovered	3	1.5

<b>Toilet latrine</b>	With flushing	192	96
	Without flushing	8	4
<b>Exclusive breastfeeding until 6</b>	No	88	44
<b>Month</b>	Yes	112	56

Table 3 shows regarding item of "soap near the tap", most of the studied sample were assigned a positive answered, and are accounted 189(94.5%), as well as asking about water treatment (filtration, boiling, chlorine), most of studied sample were assigned a positive answered, and are accounted 196 (98.0%).

With respect to "presence of flies at home" item, 120 (60%) of studied sample were supported positively. Not a few of the respondents responded by throwing waste into the river, and accounted 56 (28%), and most of them are answered for covered of water reservoir, and they are 197 (98.5%), as well as most of them were used flushing for toilet latrine treatment, and they are 192 (96.0%). Finally exclusive breastfeeding until 6 month are formed 112 (56.0%).

**Table (4): Relationships among mother's responding regarding studied domains and factors related to home management to preventing diarrhea**

<b>Factors related to home management to stop diarrhea</b>	<b>Family Hygiene</b>			<b>Feeding and General Practices</b>			<b>(( Overall )) Mothers home management for Preventing Diarrhea</b>		
	C.C.	Sig.	C.S.	C.C.	Sig.	C.S.	C.C.	Sig.	C.S.
<b>Soap near the tap</b>	0.061	0.388	NS	0.028	0.697	NS	0.061	0.388	NS
<b>Water treatment (filtration, boiling, chlorine)</b>	0.074	0.293	NS	0.095	0.117	NS	0.074	0.293	NS
<b>Presence of flies at home</b>	0.271	0.000	HS	0.248	0.000	HS	0.271	0.000	HS
<b>Household garbage disposal</b>	0.164	0.019	S	0.231	0.001	HS	0.287	0.000	HS
<b>Water reservoir</b>	0.039	0.584	NS	0.022	0.756	NS	0.039	0.584	NS
<b>Toilet latrine</b>	0.047	0.507	NS	0.070	0.320	NS	0.047	0.507	NS
<b>Exclusive breastfeeding until 6 month</b>	0.083	0.240	NS	0.344	0.000	HS	0.237	0.001	HS

HS: Highly Sig. at  $P < 0.01$ ; NS: Non Sig. at  $P > 0.05$ ; S: Sig. at  $P < 0.05$ ; Testing based on a Contingency Coefficient test.

Table (4) shows no association between mother's home care management for preventing diarrhea due to studied domains, and an overall score with factors related to home management to preventing diarrhea concerning only significant associations with (presence of flies at home, household garbage disposal, exclusive breastfeeding until 6 month).

## DISCUSSION

### Part I: Discussion of Socio-Demographic Characteristics for Mothers (in the table 1, 2)

Findings reveal that the majority highest percentage of the age mothers is located in age

group of (25-30). This finding is similar to a study <sup>(6)</sup>. In their title (self-efficacy relationship towards improvement of mother's knowledge in childhood management with diarrhea), the mention that majority of the study sample (73.3%) were within age group (20-29) years. From researcher view point mothers age played a significant role in the occurrence of childhood diarrhea. Teenage mothers had the highest risk of experiencing childhood diarrheal diseases. The occurrence of childhood diarrhea decreased with mother's age.

In addition, the present results agree with a study in Sub-Saharan Africa <sup>(9)</sup>. In titled (prevalence of diarrhea and associated risk factors among children under-five years of age in Efoulan health District-Cameroon, Sub-Saharan Africa), they reported that the majority of mothers age 63.0% were within age group (26-38).

The current study is concerned with the educational level of the study sample that the found that higher proportion of participants were at educational level (represented less than quarter of participants were primary and college 68 (34%). These findings agree with study <sup>(6)</sup> who mentions that high school as many as 24 respondents with a percentage of 40%.

Furthermore, the current study found Occupation, which illustrated that most of the studied mothers don't work, and they accounted 149 (74.5%). These finding agree with study in Bangalore entitled (A study to assess the effectiveness of self-instructional module on home management of diarrhea among mothers of under five children in selected hospital, Bangalore), who mention that the maximum number of mothers 55% were noticed as house wives <sup>(5)</sup>.

Also, the results were consistent with the findings of the current study in titled (diarrheal morbidity and predisposing factors among children less than 5 years of age in rural East Ethiopia). They

mentioned that the majority of mothers were housewives and accounted for (73.6) <sup>(1)</sup>.

Based on the marital status of respondents, the study found out that the majority of the respondents, 194 representing (97%). These findings agree with study in titled (caretakers' home management and health seeking behavior for diarrheal diseases among children under five years in Eldoret Municipality, Kenya) were married 155 (43.1) <sup>(10)</sup>.

Furthermore, the current study found that the number of the mothers living in nuclear 91 (45.5) and mothers living in extended family accounted 109 (54.5). These results agree with the study in (Bangalore) who found that the majority numbers of the mothers (70%) belong to joint family and 30% belong to nuclear family <sup>(1)</sup>.

In additional, urban residency formed the most of the studied mothers, and they are accounted 154 (77%); from researcher view point, the vast majority of people in Iraq live in urban areas, perhaps because there more service for citizen than in rural areas. Therefore, there is an increasing population density towards the city center.

In relation to the family socioeconomic status (SES), the present study findings revealed that most of the sample came from the moderate level of the SES. The results of this study is opposite to the study which is entitled (self-effectiveness in preventing diarrhea and child care: A transversal study) who mentioned most of the sample living under the poverty line, that is having a per capita income under a quarter of the minimum wage (n=188; 43.8%) <sup>(11)</sup>. Also the result of the present study agrees with the study done in (Turkish) entitled (Reliability and validity of a Turkish version of the maternal self-efficacy scale for preventing early childhood diarrhea) who stated that most of his study sample accounted 58.8% of the families had their incomes equal to their expenditures <sup>(12)</sup>.

## **Part II: Discussion of the Factors Related to Home Management to Preventing Diarrhea (as shown in Table 3)**

Regarding the item of "soap near the tap", most of studied sample were assigned a positive answered, and are accounted 189 (94.5%), as well as asking about water treatment (filtration, boiling, chlorine), most of studied sample were assigned a positive answered, and are accounted 196 (98.0%).

With respect to "presence of flies at home" item, 120 (60%) of studied sample were supported positively. Not a few of the respondents responded by throwing waste into the river, and accounted 56 (28%), and most of them are answered for covered of water reservoir, and they are 197 (98.5%), as well as most of them were used flushing for toilet latrine treatment, and they are 192 (96.0%). Finally exclusive breastfeeding until 6 month are formed 112 (56.0%).

The results of the present study supported with those study that they mention that The socio-demographic characteristics of study children with previous diarrhea show significantly precarious water management 86 (67.2), and toilet latrine with flushing 19 (55.6) <sup>(11)</sup>, soap near the tap 230 (58.5), covered of water reservoir 182 (61.9) and not a few of the respondents responded by throwing waste into the river, and accounted 14 (73.7) and agree with study conducted in their study entitled (Influence of socio-economic conditions and maternal knowledge in self-effectiveness for prevention of childhood diarrhea) who reported that the most of them used flushing for toilet accounted 87 (56.1) and exclusive breastfeeding formed 119 (50.4) <sup>(13)</sup>.

## **Part III: Discussion Relationships among mother's responding regarding studied domains and factors related to home management to stop diarrhea as Shown in Table (4)**

Table (4) shows weak relationships with non-significant I levels such as (soap near the tap, water treatment (filtration, boiling, chlorine), water reservoir, toilet latrine) except between asking about "presence

of flies at home" as well as for asking about "household garbage disposal" and finally between asking about "exclusive breastfeeding until 6 month", since significant relationships. From view point due to the fact that children under five are not using any toilet facility and that a household that have a latrine does not automatically imply that a child uses it but the adults in the household.

The results of current study contrasted with study in their study entitled (Diarrhea among under-five children and household water treatment and safe storage factors in Mkuranga district, Tanzania). He mentioned that the treating water by boiling, storing water in covered containers (bucket with lid) and guardians/parents washing hands with soap following household activities and whether a child ever breast fed or currently on breast feeding were found significantly associated with under five diarrhea <sup>(14)</sup>.

The current study is supported by study that the reveled the level of maternal self-effectiveness has a significant statistical relationship with exclusive breastfeeding up to six month old ( $p=0.001$ ) <sup>(9)</sup>.

The results of the present study agree with study he reported the mothers who were confident accounted for 10.5 % and all had a possibility of always disposing the garbage away from the compound by to prevent environmental risks in diarrhea prevention, as compared to mother who were who were not very confident, accounting for 53.2% and only 11 % were likely to uphold disposing the garbage away from the compound, as MSE decreased likelihood of disposing the garbage away from the compound decreased <sup>(13)</sup>.

## **CONCLUSION**

The study concludes that there is non-significant differentiation among mother's responding regarding studied domains and child (SDCV.) except between method of breastfeeding in the first six months, at any age the mother began to give her child extra food has the child previously suffered diarrhea since significant relationships.

## RECOMMENDATIONS

The study recommended it is necessary to raise mothers awareness of the importance of preventing diarrhea by implementing educational programs, activating the role of traditional and social media as well as health professionals must encourage and help the mothers in order to feel more capable in implementing care methods, which prevent diarrhea

## REFERENCES:

1. Solomon, E. T., Gari, S. R., Kloos, H., & Mengistie, B. Diarrheal morbidity and predisposing factors among children under 5 years of age in rural East Ethiopia. *TMH*, (2020). 48(1), 1-10.
2. Astuti, R. A., & Syahreni, E. (2013). Self-efficacy Ibu dalam upaya pencegahan diare pada anak usia kurang dari 5 tahun. *Journal Keperawatan Indonesia*, 16(3), 183-189.
3. Kundu, T. R. (2010). Relationship between maternal perceptions and preventive behaviors regarding acute diarrhea of children in Bangladesh, (Doctoral dissertation).
4. Kimani, H. M. (2013). Assessment of diarrheal disease attributable to water, sanitation and hygiene among fewer than five in Kasarani, Nairobi County. Department of Community Health, School of Public Health, Kenyatta University.
5. Gogoi, N. (2007). A study to assess the effectiveness of self-instructional module on home management of diarrhea among mothers of under five children in selected hospital, Bangalore (Doctoral dissertation, RGUHS).
6. Artifasari, A., & Irawati, I. (2020). Self-Efficacy Relationship towards Improvement of Mother's Knowledge in Childhood Management with Diarrhea, *Journal La Medihealthico*, 1(3), 20-25.
7. Joventino, E. S., Freitas, L. V., Lima, T. M., Vieira, N. F. C., de Castro Damasceno, A. K., & Ximenes, L. B. (2011). Health education in the prevention of enters parasites: descriptive study. *Online Brazilian Journal of Nursing*, 10(2).
8. Thammanna, P. S., Sandeep, M., & Sridhar, P. V. (2015). Awareness among mothers regarding oral rehydration salt solution in management of diarrhea: A cross-sectional study. *Indian Journal of Child Health*, 215-218.
9. Ayuk, T. B., Carine, N. E., & Ashu, N. J. (2018). Prevalence of diarrhea and associated risk factors among children under-five years of age in Efoulan health district-Cameroon, sub-Saharan Africa. *MOJ Public Health*, 7(6), 259-264.
10. Faith, K. Caretakers' Home Management And Health Seeking Behavior For Diarrheal Diseases Among Children Under Five Years In Eldoret Municipality, Kenya. (2016). 157(1), 33-38.
11. Joventino, E. S., Coutinho, R. G., de Castro Bezerra, K., de Almeida, P. C., Oriá, M. O. B., & Ximenes, L. B.. Self-effectiveness in preventing diarrhea and child care: a transversal study *OBJN* (2013). 12(2), 295-306.
12. Bekar, P., & Arian, D. Reliability and Validity of a Turkish version of the Maternal Self-Efficacy Scale for Preventing Early Childhood Diarrhea, *IJCS*. (2020). 13(1), 583.
13. Oliveira, R. K. L. D., Oliveira, B. S. B. D., Bezerra, J. C., Silva, M. J. N. D., Melo, F. M. D. S., & Joventino, E. S. Influence of socio-economic conditions and maternal knowledge in self-effectiveness for prevention of childhood diarrhea. *Escola Anna Nery*, (2017). 21(4).



14. Kakulu, R. K. (2012). *Diarrhea among under-five children and household water treatment and safe storage factors in Mkuranga district, Tanzania*

(Doctoral dissertation, Muhimbili University of Health and Allied Sciences).