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Prevalence of Diarrhea and Associated Factors Among Children under 5 Years in Baghdad

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Abstract

A cross-sectional study has been conducted at a primary health center in Baghdad for 6 months to assess the diarrhea disease occurring among children under 5 years. The sample size was 120. Data collection was carried out by direct interview with the mother of the children and filling a questionnaire including age, sex, residence, level of mother education, occupation of mother, etc.…). The results show that 41.7% of children were in the age group <1 year, 51.7% were female and 48.3% were male. (47.5%) of mothers had primary education, 80% of mothers had moderate socioeconomic status. Tap 77.5% was the main source of water. Highly significant differences had been found between the age and type of feeding P <0.000. we need to advise the mothers to increase the fluids and continue feeding during future episodes.

Keyword: *Diarrhea, Children, Assess, 5 years, Baghdad, Malnutrition.*

Introduction

Diarrheal disease is the second leading cause of death in children under five years old and is responsible for killing around 760 000 children every year**[**1**]**. Diarrhea can last several days and can leave the body without the water and salts that are necessary for survival **[**2**]**. In developing countries, children under three years old experience on average three episodes of diarrhea every year. Each episode deprives the child of the nutrition necessary for growth **[**3**]**. As a result, diarrhea is a major cause of malnutrition, and malnourished children are more likely to fall ill from diarrhea **[**4**]**. Children who are malnourished or have impaired immunity as well as people living with HIV are most at risk of life-threatening diarrhea. Diarrhea is defined as the passage of three or more loose or liquid stools per day (or more frequent passage than is normal for the individual) **[**5**]**. Most people who die from diarrhea die from severe dehydration and fluid loss. Frequent passing of formed stools is not diarrhea, nor is the passing of loose, "pasty" stools by breastfed babies **[**1**]**. Diarrhea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms. Infection is spread through contaminated food or drinking-water, or from person to person as a result of poor hygiene. Interventions to prevent diarrhea, including safe drinking water, use of improved sanitation and handwashing with soap can reduce disease risk **[**6**]**. Diarrhea can be treated with a solution of clean water, sugar and salt, and with zinc tablets. This study aimed to assess the diarrhea disease among children under 5 years old and to find out some socio-demographic information about the study sample.

Patients & Methods

A cross-sectional study was conducted at a primary health center in Baghdad for 6 months starting from the 1st of March 2021 to the end of August 2021. The sample size was 120 children with diarrhea who attended the center for treatment. Data collection was carried out by direct interview with the mother of the children and filling a questionnaire including age, sex, residence, level of mother education, occupation of mother, economic status, source of drinking water, source of washing water, type of feeding, duration of diarrhea, times during the day, is it now more, constancy, color, is their blood with it, does the child have a fever, does the child have vomiting, is there any pain with it, is the area is normal, general urine examination, general stool examination, is there any change in the appetite, can the child reach to things are easy to swallow, is the child play in the street, are your family usually have diarrhea problem, did you travel to any place during last week, did your take any medicine. The data analysis by SPSS version 16, using chi-square test and finding frequency and percentage table with graphic analysis.

Results

Table (1):- Shows that the higher percent 41.7% falls in the age group <1 year, followed by 28.3% in the age group (1-2) years, and the least frequency 2.5% in the age group (>5) years old. In this table presented 51.7% were female and 48.3% were male.

Table (1):- Distribution of studied sample according to demographic characteristics of the Childs

Variable	Frequency	Percent
Age groups		
< 1 years	50	41.7
1-2	34	28.3
3-4	33	27.5
≥5	3	2.5
Total	120	100
Gender		
Male	58	48.3
Female	62	51.7
Total	120	100

Table (2):- this table shows the highest frequency of studied sample were primary education (47.5%), (20%) were intermediate education, and only (4.2%) were university and higher education. Regarding the occupation the majority of them (90%) were not employed and (10%) were employed. 57.5% of studied sample living in urban area and 80% of them at moderate economic status.

Table (2):- Distribution of studied sample according to demographic characteristics of mothers

Variable	Frequency	Percent
Education status		
Illiterate	21	17.5
Primary	57	47.5
Intermediate	24	20
Secondary	13	10.8

University and higher	5	4.2
Total	120	100
Occupation		
Housewives	108	90
Employer	12	10
Total	120	100
Residence		
Urban	69	57.5
Rural	51	42.5
Total	120	100
Economic status		
Weak	13	10.8
Moderate	96	80
Good	11	9.2
Total	120	100

Table (3):- this table shows that 77.5% of cases use of tap water source and there are not use anyone river water.

Table (3):- Distribution of studied sample according to water source

Water source	**Frequency**	**Percent**
Wells	9	7.5
Tap	93	77.5
Sterile water	18	15
River	-	-
Total	120	100

Table (4):- this table shows that the higher percentage of breast feeding 42.5%, followed by normal food 29.2% and the last frequency was artificial feeding 28.3%.

Table (4):- Distribution of studied sample according to type of feeding

Type of feeding	Frequency	Percent
Breast feeding	51	42.5
Artificial feeding	34	28.3
Normal food	35	29.2
Total	120	100

Table (5):- this table shows that the higher percentage of duration of diarrhea was 38.4% of cases continues the diarrhea to 3-4 days, followed by 33.3% to ≥5 days and the last frequency was 28.3% of cases to 1-2 days.

Table (5):- Distribution of studied sample according to duration of diarrhea

Duration of diarrhea	Frequency	Percent
1-2 days	34	28.3
3-4 days	46	38.4
≥5	40	33.3
Total	120	100

Table (6):- this table shows that highly significant differences had been found between the age groups and type of feeding P <0.000.

Table (6):- Distribution of study sample between the type of feeding and age groups

Age groups	Type of feeding						Total		
	Breast feeding		Artificial feeding		Mixed feeding				
	F.	%	F.	%	F.	%	F.	%	X^2= 35.7 P< 0.000 (H.S)
< 1 years	31	60.8	17	50	2	5.7	50	41.7	
1-2	10	19.6	4	11.8	20	57.2	34	28.3	
3-4	10	19.6	12	35.3	11	31.4	33	27.5	
≥5	-	-	1	2.9	2	5.7	3	2.5	
Total	51	100	34	100	35	100	120	100	

Table (7):- this table shows that there was no significant association between duration of diarrhea & type of feeding P <0.679.

Table (7):- Distribution of studied sample according to type of feeding and duration of diarrhea

Duration of diarrhea	Type of feeding						Total		
	Breast feeding		Artificial feeding		Mixed				
	F.	%	F.	%	F.	%	F.	%	
1-2 day	13	25.5	9	26.5	12	34.3	34	28.3	X^2
3-4	21	41.2	11	32.3	14	40	46	38.4	2.31
≥5	17	33.3	14	41.2	9	25.7	40	33.3	P<
Total	51	100	34	100	35	100	120	100	0.679 N.S

Discussion

According to the World Health Organization (WHO) and UNICEF, there are about two billion cases of diarrheal disease worldwide a very year, and 1.9 million children younger than 5 years of age perish from diarrhea each year, mostly in developing countries **[**7**]**. The effect of exclusive breastfeeding (EBF) is encouraged since it has been found to be protective against infantile diarrhea **[**8**]**. In this study, we found 41.7% in the age less than 1 year compare this result with another result done it in Ethiopia, they found the majority of cases were in the age group 2- 3 years old**[**9-11**]**. Florence et al reported the majority of cases were in the age less than 1-year-old **[**12**]**. Female cases 51.7% were more than 48.3% male cases. Compare with a study done by El Gilany in Egypt, the authors reported the frequency of diarrhea was significantly higher among children in rural areas, those aged 6-24 months and of higher birth order, when mothers were younger, had lower education, or were not working, and when fathers had lower education or were farmers or manual laborers. Overcrowding, improper refuse disposal and non-flush toilets were also significantly correlated with diarrhea incidence **[**2**]**. A recent systematic review found that among studies with sex data available, boys were overrepresented compared with girls with acute diarrheal disease; data were similar for acute pulmonary infections **[**13**]**. The majority of the studies that found sex and gender differences were conducted in LMICs like Bangladesh **[**14-18**]**. A recent study from Ethiopia even found boys to have 2.52 times **[**95% confidence interval (CI) 1.28–4.93**]** the adjusted odds of having acute diarrhea as compared with girls **[**18**]**. Other studies, including a recent systematic review, however, found gender-stratified global prevalence rates for pediatric diarrhea to be similar **[**19-21**]**.

In this study we found 57.5% were living in an urban area, 80% of them had moderate SES, 47.5% of mothers had primary education. In a community-based study conducted among 1857 households heads, the authors found that living in rural areas (OR = 2.1; 95% CI: 1.4–3.2), low education level of household's head (OR = 2.7; 95% CI: 1.6–4.4), low monthly income (OR = 2.4; 95% CI: 1.7–3.5)were predictors for developing diarrheal illness **[**22**]**. Tap water is often culturally assumed to be potable water, especially in developed countries. More often than not, it is, although water quality problems are not unusual. The present study shows that 77.5% of cases use tap water, another study can be found in Kashmir 2009 by Fayaz**[**1**]**66.9%, this explanation may be too similar tradition between the country. Our study presented that 42.5% of them were fed their child by breastfeeding, these results are in agreement with the results of this study **[**8**]**. In spite of wars and leave from deprivation and poverty, the mother resorted to feeding the baby from her breast because it's cheaper and does not cost any money. This study found 38.4% of cases had a duration of diarrhea for 3 days, these results are not in agreement with the results of this study **[**3**]**, this may differ of tradition and the lack of requirements for life and health conditions. Acute watery diarrhea can be caused by many different infections and may also occur following ingestion of chemicals or food contaminated with pre-formed bacterial toxins **[**2**]**. The present study found 95% of cases were watery diarrhea; these results are in agreement with the results of this study **[**2**]**. This may be explained by similar habits between the countries. Diarrhea and vomiting caused by gastroenteritis are common in children younger than 5 years. Severe diarrhea and vomiting can lead to dehydration, which is serious, but gastroenteritis can usually be managed at home with advice from healthcare professionals **[**2**]**. In the study found significant differences had been found between the duration of diarrhea & age groups P <0.0.04.

Conclusions

We concluded that the number of female cases more than male cases. More than three-quarters of them had moderate socioeconomic status. Breastfeeding is a common type of child feeding. There were highly significant differences that had been found between the age and type of feeding.

Recommendations

We need to advise the mothers to increase fluids and continue feeding during future episodes. Household water treatment methods that are effective in reducing diarrhea and storage of water in containers that do not allow manual contact is recommended for people and their households.

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