EUROPEAN JOURNAL OF BIOMEDICAL AND PHARMACEUTICAL SCIENCES
http://www.ejbps.com

ISSN 2349-8870
Volume: 6
Issue: 12
98-101
Year: 2019

ASSESSMENT OF DIARRHEA INFECTION AMONG CHILDREN UNDER 5 YEARS

***Anwar Mohammed Jasim**

MBCHB. Pediatrician. Ministry of Health. Baghdad Iraq.

***Corresponding Author: Anwar Mohammed Jasim**
MBCHB. Pediatrician. Ministry of Health. Baghdad Iraq.

Article Received on 13/09/2019 **Article Revised on 03/10/2019** **Article Accepted on 23/10/2019**

ABSTRACT
Background: 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. **Aims:** To find out some socio demographic information about the study sample and associated factors which is related with it. **Method:** A cross sectional study was carried out in one hospital in Baghdad, Al - Alwiya Teaching Hospital for children. 120 of the subjects were patients attending the hospital as a result of their illness (Diarrhoea). Since the children were too young at this age, to be interviewed, their parents were interviewed to identify the risk factors for diarrhoea and the contents of the consent form was spelt out to them. **Result:** 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. 51.7% was female and 48.3% was male. 51% of mothers were using the breastfeeding. 53% of children had a more than 5 times of loose liquid. **Conclusion:** There are highly significant differences had been found between age groups, gender and type of feeding P <0.000. Also, Significant difference had been found between duration of diarrhea & age groups, type of feeding.

KEYWORDS: Diarrhea, children, age, assess, under 5 years.

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.[4] 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.[6] 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.[7] Interventions to prevent diarrhea, including safe drinking-water, use of improved sanitation and hand washing with soap can reduce disease risk.[8] Diarrhea can be treated with a solution of clean water, sugar and salt, and with zinc tablets. During a diarrheal episode, water and electrolytes (sodium, chloride, potassium and bicarbonate) are lost through liquid stools, vomit, sweat, urine and breathing.[9] Dehydration occurs when these losses are not replaced.[10] Death can follow severe dehydration if body fluids and electrolytes are not replenished, either using oral rehydration salts (ORS) solution, or through an intravenous drip.[11] This study aimed to find out some socio demographic information about the study sample and associated factors which is related with it.

PATIENTS AND METHODS
A cross sectional study was carried out in one hospital in Baghdad, Al - Alwiya Teaching Hospital for children, which is located at the center in Baghdad. The study lasted for 6 months. For the purpose of this study 120 of the subjects were patients attending the hospital as a result of their illness (Diarrhoea). Since the children were too young at this age, to be interviewed, their parents were interviewed to identify the risk factors for diarrhoea and the contents of the consent form was spelt out to them. To ensure that cases selected for the study represented a homogeneous entity, a strict definition of diarrhoea was established. A case was defined as a child of the first five years of age having three or more loose liquid or watery stools or at least one bloody loose stool

within 24 hours. Persistent diarrhoea will be defined as diarrhoea that began acutely and lasted for at least 14 days.

Sampling: Convenient random sampling technique was used to select the study participants.

Data collection procedure: Pretested and structured questionnaires were used to collect socioeconomic and demographic characteristics of the family and child, feeding practice and other risk factors by interviewing mother/caregivers of the child. The questionnaire was adapted from previous similar literatures.

Data analysis procedures: - Data were entered in computer by using STATA statistical software (statistic package of social scientific) version 14.0 to obtain frequency tables and cross tabulation with figures to illustrate the results and X(chi-squares) for analytic and with p value .0.05 has indicator for significant.

RESULTS

One hundred and twenty cases were recruited in this study. 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 as shown in table 1. Regard to gender, 51.7% were females and 48.3% wee males. There is a highly significant differences had been found between age groups and type of feeding P <0.000. Also, a significant difference had been found between gender and type of feeding P <0.015. Significant difference had been found between duration of diarrhea & age groups P <0.0.04. Highly significant difference had been found between duration of diarrhea & type of feeding P <0.00. 51% of mothers were using the breastfeeding. 53% of children had a more than 5 times of loose liquid.

Table (1): Distribution of study sample according to age groups.

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

Table (2): Distribution of study sample according to gender.

Gender	Frequency	Percent
Male	58	48.3
Female	62	51.7
Total	120	100

Table (3): Distribution of study sample by type of feeding and age groups.

Age groups	Type of feeding						Total		
	Breast feeding		Artificial feeding		Mixed feeding				
	F.	%	F.	%	F.	%	F.	%	
< 1 years	31	60.8	17	50	2	5.7	50	41.7	X^2= 35.7 P< 0.000
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 (4): Distribution of study sample by type of feeding and gender.

Gender	Type of feeding						Total		
	Breast feeding		Artificial feeding		Mixed feeding				
	F.	%	F.	%	F.	%	F.	%	
Male	27	52.9	21	61.8	10	28.6	58	48.3	X^2=8.36 P<0 .015
Female	24	47.1	13	38.2	25	71.4	62	51.7	
Total	51	100	34	100	35	100	120	100	

Table (5): Distribution of study sample by duration of diarrhea and age groups.

Age groups Years	Duration of diarrhea (days)										Total		
	1		2		3		4		≥5				
	F.	%	F.	%	F.	%	F	%	F	%	F.	%	
<1	2	22.2	4	30.8	6	30	7	28	31	58.5	50	41.7	X^2=14.9 P< 0.04
1-2	3	33.3	4	30.8	6	30	9	36	12	22.6	34	28.3	
3-4	3	33.3	5	38.4	7	35	8	32	11	20.8	33	27.5	
5	1	11.2	-	-	1	5	1	4	-	-	3	2.5	
Total	9	100	13	100	20	100	25	100	53	100	120	100	

Table (6): Distribution of study sample by duration of diarrhea and type of feeding.

Type of feeding	Duration of diarrhea (days)										Total		
	1		2		3		4		≥5				
	F.	%	F.	%	F.	%	F	%	F	%	F.	%	
Breast feeding	2	22.2	3	23	5	25	6	24	35	66	51	42.5	X^2=21.9 P< 0.00
Artificial	3	33.3	5	38.5	8	40	9	36	9	17	34	28.3	
Mixed	4	44.5	5	38.5	7	35	10	40	9	17	35	29.2	
Total	9	100	13	100	20	100	25	100	53	100	120	100	

DISCUSSION

According to the World Health Organization (WHO) and UNICEF, there are about two billion cases of diarrheal disease worldwide very year, and 1.9 million children younger than 5 years of age perish from diarrhea each year, mostly in developing countries.[12] The effect of exclusive breastfeeding (EBF) is encouraged since it has been found to be protective against infantile diarrhea.[13] In our study presented that 42.5% of cases was type of food breastfeeding, these results are agreement with the results of this study.[14] Despite 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 and any money. The duration of diarrhea, in this study found 44.2% of cases continues the diarrhea more than 5 days, these results are not agreement with the results of this study[3], this may be differ of tradition and the lack of requirements for life and health conditions. The numbers of stool, found in this study 45% of cases continue to 3-4 times, these results are agreement with the results of this study.[15] 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] In the present study found 95% of cases were watery diarrhea; these results are agreement with the results of this study.[2] This may be explained to similar habits between the countries. In the study 32.5% of cases were suffered from fever; these results are not agreement with the results of this study.[16] This explains to differ of traditions and habits between the countries. In our study 39.2% of cases suffer from pain; these results are not agreement with the results of this study.[17] This difference is due to the use of analgesic drugs. 50.8% of cases were conduct of urine examination; these results are not agreement with the results of this study.[18] This may be differing in diagnostic methods between the countries. 80.8 percent of cases were conduct of stool examination, these results are not agreement with the results of this study.[19] In our study presented that 22.5% of cases were family history, these results are not agreement with the results of this study.[2] This may be due to lake of awareness about diarrheal disease. 85.8% of cases were receiving treatment; these results are not agreement with the results of this study.[19] This explains to different therapeutic methods between the countries. In our study found highly significant differences had been found between age groups and type of feeding P. <0.015, at present, I cannot find other study shows the correlation between age and type of feeding. In the study found significant difference had been found between duration of diarrhea & age groups P <0.0.04. I cannot find other results show the difference between the age and duration of diarrhea.

CONCLUSION

The number of female cases more than male cases. More than three quarters of mothers were moderate economic status. There was highly significant difference had been found between age groups and type of feeding (P <0.015), the duration of diarrhea & type of feeding (P <0.000). Advise mothers to increase fluids and continue feeding during future episodes. Promotion of hand-washing with soap after defecation, handling of human or animal faeces and before food preparation and eating, with the provision of soap, are recommended for people.

Conflicts of Interests

No potential conflicts of interest with respect to the research, authorship.

REFERENCES

1. Fayaz, S. A., Farheen, A., Imtiyaz, A., Thakur, M., Muzaffar, A., & Samina, M. (2009). Management of Diarrhea in Under-fives at Home and Health Facilities in Kashmir. International Journal of Health Sciences, 3(2): 171-175.
2. Gilany, A. E., & Hammeds. (2005). Epidemiology of diarrhoeal diseases among children under 5 years of age in Dakahlia, Egypt. Eastern Mediterranean Health Journal, 11(4).

3. Kung'u, W. N., Musau, P. M., Ochieng, A., Wachira, E. G., Omol, R. T. A., & Rakwar, J. (2002). Diarrhea prevalence & risk factors in slums. Journal of national institute of public health, 51(1): 73-76.
4. Ndugwa, R., & Zulu, E. (2008). Child morbidity and care-seeking in Nairobi slum settlements: the role of environmental and socio-economic factors. Journal of child health care, 12(4): 314.
5. UNICEF, & WHO (2009). Diarrhea: Why children are still dying and what can be done. The Lancet.
6. United National International Children's Education Fund. (2008). the state of the world's Children New York: United Nations Children's Fund (UNICEF).
7. Parashar U D, Gibson C J, Bresee J S, and Glass R I. Rotavirus and severe childhood diarrhea. Emerging Infectious Diseases, 2006; 12: 304-306.
8. Victora, C. G., Bryce, J., Fontaine, O., & Monasch, R. (2000). Reducing deaths from diarrhoea through oral rehydration therapy. Bull World Health Organ, 78: 1246-1255.
9. Bhatnagar S, Bahl R, Sharma PK, Kumar GT, Saxena SK, Bhan MK. Zinc with oral rehydration therapy reduces stool output and duration of diarrhea in hospitalized children: a randomized controlled trial. J Pediatr Gastroenterol Nutr., 2004; 38(1): 34-40.
10. Sharieff W, Bhutta Z, Schauer C, Tomlinson G, Zlotkin S. Micronutrients (including zinc) reduce diarrhoea in children: the Pakistan Sprinkles Diarrhoea Study. Arch Dis Child, 2006; 91(7): 573-9. Epub 2006 Mar 23.
11. World Health Organization. (2005). The treatment of diarrhea: a manual for physicians and other senior health workers. Geneva: World Health Organization.
12. Alam NH[1], Ashraf H. Treatment of infectious diarrhea in children. Paediatr Drugs, 2003; 5(3): 151-65.
13. Dalby-Payne J, Elliott E. Gastroenteritis in children. Clin Evid, 2003; 9: 367-376.
14. Haque R. Epidemiologic and clinical characteristics of acute diarrhea with emphasis on Entamoeba histolytica infections in preschool children in an urban slum of Dhaka, Bangladesh. Am J Trop Med Hyg., 2003 Oct; 69(4): 398-405.
15. Samani EF, Willett WC, Ware JH. Association of malnutrition and diarrhea in children aged under five years. A prospective follow-up study in a rural Sudanese community. Am J Epidemiol, 2002 Jul; 128(1): 93-105.
16. Binder, H.J. (2006). Causes of chronic diarrhea. The New England Journal Medicine, 3(355): 236-239.
17. Ahlquist, David A., and Michael Camilleri. "Diarrhea and Constipation." In Harrison's Principles of Internal Medicine, 15th ed. Edited by Eugene Braunwald et al. New York: McGraw-Hill, 2001; 241–9.
18. Hofmann, AF (2009). "Chronic diarrhea caused by idiopathic bile acid malabsorption: an explanation at last". Expert review of gastroenterology & hepatology, 3(5): 461–4.
19. Fischer Walker CL, Friberg IK, Binkin N, Young M, et al. (2011) Scaling up diarrhea prevention and treatment interventions: a Lives Saved Tool analysis. PLoS Med, 8: e1000428.