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Screening Program for Mothers Knowledge toward Risk Factors Gastroenteritis among Children under 5-years in Pediatric Hospitals in Baghdad City

[1]Zeki Sabah Musihb, [2]Ilham Amin Gaduu,
(Graduate Nursing Specialist, Nursing Department, Ministry of health)
Ph.D.(Professor, pediatric nursing department, college of nursing, university of Baghdad).

Abstract
Objective: *To screen mother's knowledge about nature of acute gastroenteritis in child of under five year and rank of the risk factors.*
Methodology: *A descriptive study in which a Non-probability (purposive) sample of (250) mothers with her child from under 5 years of age were chosen randomly from out-patient and emergency department of pediatric hospitals. A questionnaire is developed as a tool for data collection. A pilot study was carried out to test the reliability of questionnaire for period from 14th October to 19th November 2014. The data of present study are analyzed through the application of statistical procedures and using the package of SAS version (9.1) 2012. The data analysis approach include (frequency, percentage, mean, and std. deviation) and inferential data analysis approach (Chi-square test).*
Results: *The present study according to mother socio-demographic data shows that the mothers age highest percent is (34.4%) for the age group (24- 29) years, and in relation to the mothers occupation majority of mothers are house wife represented (92.4%). Concerning their income also majority indicated that their income insufficient are (66%) for mothers and finally the level of education analysis of data pointed out that highly percentage (31.6%) for mothers were read and write.*
Conclusion: *highest percentage of mothers from age group (24-29) years; majority housewives insufficient economic status at level of education read and write. Deficit knowledge of mothers about nature of AGE and related risk factors among under five years. Concerning the risk factors contributing to AGE among under five years and its rank it comes at following: the first rank improper technique in preparation of bottle feeding formula; poor malpractices of garbage management, unsafe water, contamination food, seasonal diarrheal episode, poor environmental sanitation inside house, keep animal inside house, and lack of hand washing technique, also shows last factor was nutritional deficiency.*
Recommendation: *Increasing mother's knowledge about diarrheal episodes in child and related risk factors and application of proper measures in maintain of hydration status and seeking medical attention at proper time.*
Key words: *Gastroenteritis, risk factors and Screening program*

I. Introduction

Acute gastroenteritis is remains the major cause of death for children especially under five years of age worldwide. In the US, the incidence o varies between 1 and 2.5 diarrheal episodes per child per year, leading to nearly 38 million incident (2-3.7) million physician visits, 220,000 hospitalizations, and (325-425) deaths yearly [(1)]. AGE is an inflammation of the stomach and intestines that may be accompanied by vomiting and diarrhea. It can affect any part of the gastrointestinal tract [(2)]

Globally acute diarrheal disorder account for a large proportion (18%) of childhood deaths, with an approximately 1.8 million deaths per year. WHO suspects that there are more than 700 million diarrheal episodes per yearly in children under 5 years of age in developing countries. In US, there are 1.5 million outpatient visits for acute gastroenteritis, 200,000 hospitalizations, and 300 death yearly [(3).] breastfed infants the Acute gastroenteritis is much less common than in bottle-fed infants, but when they occur, the infant should be maintained on the breast if possible. Human milk is a physiologic solution that normally causes neither dehydration nor hypernatremia. Some time mother's diet may be cause diarrhea or intestinal upset in infant during breast feeding. to treatment this cases the mother most be continue to nurse at the breast [(4)].

Dehydration, electrolyte imbalance, and hypovolemic shock can be occur if AGE not treated. Infants and small children can be life threatening because fluid losses are not adequately replaced. parents must be understand that giving plain water alone dangerous because it does not contain electrolytes. To rehydration, the children especially infant, should be given oral rehydration solutions. ORS contain salt, water, and glucose can be absorption through intestine [(5)].

Many diarrheal episodes in children under five years of age are caused by contaminated food or human or animal fecal waste through the oral fecal route. Because of the seriousness of AGE in children under five years of age and the danger of spreading acute diarrhea, the child with moderate or severe diarrhea is often isolated until the treated [(6)]. In developing countries acute diarrhea is approximately cause 1.5 million child deaths per year, mostly among children under five years of age. It is about 2.7 billion people without access to basic sanitation in 2015. Worldwide, 780 million peoples lack access to improved drinking water and 2.5 billion lack improved sanitation [(7).] Due to high of lactose in breastfed baby passes tow to sex time golden yellow, sticky, semi loose stools. Mother should be explained about the breastfed stools. Diarrhea may caused by intake of large quantities of glucose water or honey by baby. malpractices in preparing bottle feeding, over feeding, and serious under feeding also can cause diarrhea in the neonates [(8)].

Mild and moderate diarrhea can be treated at home by their family by using ORT but where dehydration is more severe, need to hospitalizations to treated, IV therapy is often used in appropriately [(9).]

II. Methodology

Descriptive study was conducted from 14 of October 2014 to 10 of November 2015, aims to screening mother's knowledge toward risk factors of gastroenteritis among children under 5-years. The study was conducted in out-patient and emergency department of pediatric hospitals from both AL-Karkh and Al-Russafa sectors of Baghdad city. This hospitals include from Al-Russafa sector: Al-Mansur Pediatric Teaching Hospital, Ibn Al-Bildi Maternity and Pediatric Hospital and Al-Alwia Pediatric Teaching Hospital and AL-Karkh sector: Central Pediatric Teaching Hospital and Al-Kadhemya Pediatric Hospital.

Non-probability (purposive) sample of (250) mothers with her child from under 5 years were chosen randomly from out-patient and emergency department of pediatric hospitals. Descriptive study to screening mother's knowledge about AGE among children U5. Questionnaire format will be constructed by researcher to check mothers' knowledge toward nature of AGE and related risk factors to acute gastroenteritis among children under five years. The data will be collected through-out the questionnaire format to achieve the objectives of the current study. The questionnaire format constructed by the researcher based on: Open question for mothers about nature of gastroenteritis among children under five years and how dealing with child (personal care, preparation of formula, ORS and other fluid, source of water. Review of the related literature and previous studies concerning gastroenteritis among U5.The tool of the study consists of five parts: Part I: It contains demographic characteristic of mother. It consists of (7) items related to the mother include: Age of mother, employment status, address house, house status, income of family and level of education. Part II: It focuses on information related to health status of children U5 suffering from gastroenteritis. This part include question about: location of gastro-enteritis, degree of acute gastroenteritis, mother's note about sign and symptoms appear of child with gastroenteritis, if the gastroenteritis effect on growth and development, number of diarrheal episode duration of diarrhea, causes of diarrhea and dangerous sign and symptoms. Part III: It assessment to the intensity of diarrhea among children U5 include: ask about assessment of diarrhea and severity of dehydration. Part IV: It centered around the risk factors of gastroenteritis among children U5. This part classified to internal environment of house include: Eating habits of children (12) items, Health situation of the house (6) items, Personal hygiene of mother (10) items, Personal hygiene of child (8) items, Artificial feeding (18) items and Mother's information concerning of gastroenteritis episode (9) items. And external environment of house (6) items as general information and other items include: Health status of child (5) items, Mother's performance during gastroenteritis episode (15) items. The data of present study were analyzed through the application of statistical procedures and using the package of SAS version (9.1) 2012. The following statistical procedures are used in present study: Descriptive Statistical. This approach was performed through the determination of Frequency (f) and Percentage (%) and Inferential Statistical include Chi- square test.

III. Results

Table 1: Distribution of mothers according to sociodemographic data.

Variables	No.	Percentage (%)	Chi- square	P- value
Mother age (year)				
Less than 18	11	4.40	10.418	** p<0.01
18- 23	67	26.80		
24- 29	86	34.40		
30- 35	60	24.00		
36- 41	22	8.80		
More than 42	4	1.60		
Total	250	100%		
Mean	27.7	Std. deviation	6.1	
Occupation status				
Work	16	6.40	14.138	**P<0.01
House wife	231	92.40		
retired	3	1.20		
Total	250	100%		
economic status				
Sufficient	26	10.40	12.037	**P<0.01
Insufficient	224	89.60		
Total	250	100%		
Level of education				
Illiterate	35	14.00	9.825	** P<0.01
Read and write	79	31.60		
Primary school	45	18.00		
Inter mediate school	46	18.40		
Secondary school	16	6.40		
Institution	11	4.40		
College and more	18	7.20		
Total	250	100%		

**: highly significant, No: number, std: standard and P: probability

Table (1) shows the distribution of the mothers according to their sociodemographic data for mothers age highest percent was (34.4%) for the age group (24- 29) years and lowest percent (1.6) for age group (42 and more). In relation to the mothers occupation majority of mothers were house wife represented (92.4%). Concerning their income also majority indicated that their income insufficient were (66%) for mothers level of education analysis of data pointed out that highly percentage (31.6%) for months were read and write.

Table (2): Description of mothers' information related to child health status who suffered from acute gastroenteritis.

Variables	No.	Percentage (%)	Chi-square	P- value
Site of gastroenteritis				
Stomach	31	12.4	13.966	**P< 0.01
Intestine	200	80		
Both stomach and intestine	19	7.60		
Total	250	100%		
Nature of disease				
Danger	140	56.00	4.824	*P<0.05
Normal events	110	44.00		
Total	250	100%		

Con table 2

Gastroenteritis affects in growth and development of child				
Yes	184	73.60	11.648	**P<0.01
No	66	26.40		
Total	250	100%		
Duration of diarrhea				
14 day	250	100.00	15.00	**P<0.01
More 14 day	0	0.00		
Total	250	100%		
Type of diarrhea				
Acute	211	84.40	12.943	**P<0.01
Chronic	39	15.60		
Total	250	100%		
Causes of disease				
child to child	25	10.00	11.599	**P<0.01

Eating contaminated food	59	23.60		
Drink unsafe water	29	1.60		
Exposure to cold	139	55.60		
Total	250	100%		

**: highly significant, No: number, and P: probability

Table (2) shows (231) mothers knowledge concerning AGE starting with the sit of illness, majority of the sample have vague idea about the disease which is centered around pain in abdomen and diarrhea cannot discriminate that AGE means inflammation of stomach and intestine and the application of chi-square was highly significant (13.9%) at ($p<0.01$). concerning nature of disease (56%) have an idea about AGE that it is a danger disease among children particularly small babies and also shows significance at ($p<0.05$) and (100%) of mothers' responses toward duration of diarrhea in child of U5 persist for (14) days. Whereas their discrimination between acute and chronic type diarrhea was unrelated to duration of diarrheal episode (84.4%) for yes (acute 14 days) and (15.6%) for no (chronic more than 14 days). Also more two third of the sample showed correct response in relation to AGE affect child's growth and development (73.6%). In addition to the causative agent behind diarrhea in child of U5 due to AGE according to mothers responses as follows (55.6%) for exposure of child to cold; (23.6%) for eating contaminated food; (11.6%) for drinking unsafe water and (10%) for contact child to child. And it was highly significant at ($p<0.01$).

Table (3): Shows the rank of risk factors related to AGE according to rank throughout item weight.

No	Risk factors	Item weight
1	Bottle feeding formula	185
2	Garbage management	163.6
3	lack of clean water	163.3
4	Contaminated food	157
5	Season	148
6	Poor sanitation condition of the house	144.3
7	keep animals inside house	134.3
8	Lack of hand washing technique	130
9	Personal hygiene of mother during care of child	108.3
10	Response to other advices	108
11	Seeking medical attention	103
12	malpractice taken by mother during diarrheal episode	99.4
13	Crowding	96
14	Unhealthy measures toward hydration status of child	89.8
15	Poor dietary habits	88.1
16	Poor hygiene of child	72
17	Respiratory tract infection	67
18	Treatment with antibiotic	56
19	Usage of ORS and continue breast feeding during AGE	55
20	Child to child contamination (close contact)	45
21	Continuous usage pacifier	36
22	Urinary tract infection	35
23	Use of folk remedies	31
24	Lack of immunization coverage	22.13
25	Nutritional deficiency	10

This table shows the rank of risk factors related to AGE among children under 5 years throughout the conclusion of total item weight in the first rank bottle feeding formula was recorded (185), Garbage management (163.6), lack of clean water (163.3), Contaminated food (157), Seasonal episode (148), Poor sanitation condition of house (144.3), contact with animal inside house (134.3), and lack of hand washing (130), also shows last risk factor was nutritional deficiency.

IV. Discussion

Part I: Description of sociodemographic mother's child who has child suffered from AGE.

Data analysis of present study description of mother sociodemographic data, the table (1) show that the mothers age high percentage are (34.4%) for age group (24-29) years, mean of age is (27.7) and SD. (6.1). Majority of study sample, occupation of mothers are house wife represented (92.4%). Also majority of study sample insufficient as economic status is (89.6%) and highly percentage (31.6%) for mothers are read and write. This result is supported by [15] in their study (The Burden of Diarrheal Diseases among Children under Five Years of Age in Arba Minch District, Southern Ethiopia, and Associated Risk Factors) mention that the mean age of mothers is (29.5) years (std. deviation 6.7), the range being from (15-45) years. More than two thirds (66.9%) of house wives have a family size greater than 5 people. The majority of mothers (62%) did not attend formal education, also shows there is a significantly associated between AGE with age of mother and maternal education, also this result is supported by [14] in his study about burden of diarrheal disease reported that the socioeconomic status and level of education are significantly associated with AGE. [16] in his study (care giver's knowledge about childhood diarrhea management in a rural community in south-south Nigeria) that include (289) mothers reported that the knowledge was significantly associated with age, educational level and socioeconomic status of mother (p=0.00, 0.01 and 0.00 respectively).

Part II: Description of the mother's knowledge about gastroenteritis.

Table (2) shows that the more the concerning AGE starting with the site of illness (7.6%), nature of disease (56%), AGE affects in growth and development of child (73.6%), duration of diarrhea(100%), type of diarrhea (84.4%)and causes of disease: child to child (10%), eating contaminated food (23.6%), drink unsafe water (11.6%) and exposure to cold (155.6%). This result is supported by (Olakunle et al., 2012) report that (93%) respondents said that they are aware of diarrhea while the remaining (7%) said they are not aware. Out of the (186) respondents that are aware of diarrhea, (64.5%) of them said increase fluid and food intake in a child with diarrhea is important, (30.6%) said it is not and (4.8%) said they do not know. Also (32.8%) agreed that diarrhea is a normal process when a child is growing up while, (67.2%) of them did not agree, this result agrees with present study. Also reported that the majority had good understanding of what diarrhea is and also shows that mothers will be able to identify episodes of diarrhea when their children have one. on the causes of diarrhea, most mothers; 111 of the 186 respondents who were aware of diarrhea believed diarrhea is caused by contaminated food and drink. Mothers who could identify the causes of diarrhea may be able to avoid such causative factors that may reduce incidence of diarrhea among their children. water, food and microbes were identified as Teething condition has been identified by 3% of the respondents. This is in contrast to a study carried out in Enugu where results among market women showed that 71% of the mothers perceived that diarrhea was caused by teething. This study disagrees with (Sutariya et al., 2011) stated that most of mothers did not consider diarrhea dangerous event and try to use home remedies, and this finding agrees with present study.

Part III: Description the rank of risk factors related to AGE among children under five according to item weight.

Related to data analysis of present study that include table (3) shows the rank of risk factors related to AGE. First risk factors is a bottle feeding formula, second causes is garbage management, lack of clean water, contamination of food season and last risk factors is nutritional deficiency. This result support by [17] in his study (Environmental factors associated with acute diarrhea among children under five years of age in derashe district, Southern Ethiopia) reports that there is a high chance of contamination, and greater risk of diarrhea associated with bottle feeding. also reported that the Statistically significant association was found between sources of water (P=0.000),diarrheal infection spreads through drinking water. contaminated food and from person to person as a result of poor hygiene and lack of sanitation. and low hygienic practices pose a serious threat to people's health, especially children's health also [11] mention to the same find when report that the prevalence of AGE among children who always wash their hands before eating is (8.6%) and (20.6%) among children who sometimes wash their hands before eating, while the prevalence of AGE among children who always wash vegetables before eating is (8.7%) and (33.3%) among children who sometimes wash vegetables before eating. The statistical results showed that AGE infection was strongly associated with family size with (P value= 0.007). Children who live in family consists of (3) members their prevalence is (4.7%), also the prevalence of AGE among children who live in family consists of (4-5) members is (10.7%), the prevalence is (21.7%) among children who live in family consists of (6-8) members and 6,5% among children who live in family consists of more than (8) members. Significant association was found between acute gastroenteritis prevalence and the contact with animals and drinking un-boiled or unpasteurized milk. The water source was although associated with the infection, the use of municipal water or boiling water showed a significant reduction prevalence of infection this result agree with present study. This finding support by [12] mention that only (59.7%) wash hands

with soap from all his sample. diarrhea episodes shows in poor health situation. use of pond water without any treatment, low literacy status, scattered houses, distance from health facility; so less utilization of health facility, low socioeconomic status, malnutrition among children and women. This find disagree by [13] mention that the animals living in the house is (40%), (35%) of the respondents has poultry in their homes, 26% has dogs, 12% has cats, 10% has goats and 8% has other animals in their homes. [15] mention that the women kept utensils clean, washed their hands before preparing meals and advised their children to keep themselves clean. Children also kept their teeth clean and washed their hands after using toilet. Children under (5) years were given boiled water and semi solid foods so that they could easily digest their foods. The view about clean water is "water which is free from any visible impurity like mud". Water was purified by boiling in (46.6%) or filtration in (13.3%) of cases. Rest of the (40%) family use tap water for children under 5 years this result agree with present study.

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