Knowledge of the Mothers toward Sanitation and Hygiene in relation to Childhood Gastroenteritis in Babylon Province

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Background

The negative impact of gastroenteritis in those aged 5 or less in Babylon Province in Central Iraq cannot be underestimated as it is a serious impediment to the wellbeing and cognitive development of children and a cause of unnecessary death in this resource-strained region of the Middle Eastern country. In this region diarrhea is an important clinical presentation at primary health care institutions and other health affiliated centres, stands out as a leading cause of admission to many of the emergency hospital wards in Babylon, and a serious and ironically, often reversible cause of loss of precious lives. Regional attitudes in the Middle Euphrates Region about causes that lead to childhood gastroenteritis vary from rural and urban localities and even from townships, a cultural issue that is true for most provinces of Iraq.

Aim of the study: 1-To study the social and demographic aspects related to sanitation and personal hygiene regarding childhood diarrhea in Babylon Province.

2- To determine the local knowledge, of women and care givers about childhood diarrhea.

Patients and methods: This cross sectional work was carried in Babylon Province, Iraq. A total 408 respondents attending primary health care institutions and pediatric clinics for treatment of diarrhea , during the period from first of January 2019 to the first of May 2019.

Results and Conclusions: In Babylon Province outbreaks of diarrhea tend to be noticed early in life prior to first year of life despite the fact that around three quarters of infants who contracted gastroenteritis were in compliance with Rota Vaccine timetable schedule. Seven out of ten women were fully knowledgeable of the importance immunization against Rota virus and its vital role in reduction of the risk of gastroenteritis.

When their children contract diarrhea, a percentage shy of 66% said that they would seek paediatric medical attention .

Respondents whose infants were affected tend to be mostly urban, in their teenage years and lacked proper education. There is a remarkable lack of adequate knowledge about ways of contracting childhood gastroenteritis.

Key words: *Knowledge of the Mothers, Sanitation and Hygiene, Childhood Gastroenteritis, Babylon Province.*

Introduction

Diarrheal disease stands out as the second major cause of mortality among the under five years old internationally [1]. About twenty percent of deaths of children is due to this ailment[2,3]. Passage of three or more loose or watery motions within a period of 24 hours is considered as abnormal or stools that are passed

more frequently than normal for a child is considered as diarrhea according to the World Health Organisation guidelines[4,5].

Diarrhea is one of the commonest diseases that has the greatest negative impact on the growth and wellbeing of children[6]. The younger the age of the child the most vulnerable with incidence peaks in the first 24 months of life but subsides as the child grows older[7]. Worldwide, there are two and a half billion humans who live without adequate hygiene and sanitation, just over six hundred and sixty million people do not have access to clean water sources[8]. Poor standards of water purification, sanitation and hygiene and related interventions can affect growth, cognition and development of children in a number of ways[9]. Contaminated foodstuff, inadequate feeding standards, lack of proper water purification, lack of hand washing, poor sanitary disposal of human waste, poor housing and living conditions, and lack of access to adequate and available primary health care centres are aggravating risk factors of those aged 5years or younger for contracting diarrheal disease[6,10,11,12].

Gastroenteritis does not kill by itself but poses a lethal threat through the poor knowledge, poor practice and wrong attitudes of caregivers and their improper approach towards its management and prevention leads to high risk of severe dehydration and eventually death[13,14]. Even with improvements in the standards of housing and sanitation, water purification and food safety knowledge, diarrhoeal disease still remains the cause of major reversal of economic and societal gains[15]. Although over the last five decades there has been a drop in the total global mortalities due to diarrhoeal disease, the morbidity from diarrhoea may not show a similar trend[16]. These improvements in mortality have been attributed to increased use of oral rehydration therapy (ORT), improved nutrition, increased natural feeding, a variety of proper supplemental feeding, maternal education, better MMR immunisation coverage and improvements in hygiene and sanitation[17]. Morbidity and mortality in young children is particularly a problem because early childhood is a vital time as far as physiological development is concerned[18]. Human growth during this period is faster than during any other period and many vital cognitive pathways are forged before the age of 2 years. Any problem in these processes by diarrhoeal disease can lead not only to lethal consequences but also to impaired cognitive development and more school absenteeism and less economic productivity in the adult years of life[19].

Aim of the Study

1. To analyse the socio-demographic factors related to sanitation and hygiene regarding childhood gastroenteritis in Babylon Province.

2. To outline the main local knowledge of mothers and care givers about childhood gastroenteritis.

Patients and Methods

This is a cross-sectional study conducted in Primary Health Care Centres and Pediatric clinics during the period from the first of January 2019 to the first of May 2019, and included information taken from the mothers of 408 patients with diarrhea of different ages below 5 years old.

Results

Table of socio-demographic factors of mothers, shows that 55.4% were aged younger than 18 years, living in extended families 65% with a crowding index of over 4.1 in 49.8%

Table 1: Distribution of causes of gastroenteritis cited by mothers and variables related to water.

Causes	Number	Percentage
Particular food	21	5.1%
Particular feeding habit	40	9.9%
Spoiled milk	82	20.2%
Breast feeding	41	10.0%
Bacterial infection	143	35.0%

Cont... **Table 1: Distribution of causes of gastroenteritis cited by mothers and variables related to water.**

Parasitic infection	20	4.9%
Drugs	20	4.9%
Hot climate	41	10.0%
Total	408	100.0%

Table 1 shows the distribution of causes of gastroenteritis cited by mothers. 35%believed it was due to bacterial infection,20.2% due to spoilt milk and both breast feeding and hot climate cited by 10% respectively. Table 2 also show distribution of variables related to water shows that just under 30% use water only as a method of handwashing after contact with fecal waste and 79.7%cited using unsafe tap water that is not potable.

Table 2: Association between socio demographic characteristics and causes of gastroenteritis cited by mothers.

Variables	Causes								X2 test	P-value
	Particular feeding	Particular feeding habit	Spoiled milk	Breast feeding	Bacterial infection	Parasitic infection	Drugs	Hot climate		
Age Less than 18 18-35 More than 35 Total	1(4.8%) 0(0.0%) 20(95.2%) 21(100.0%)	20(50.0%) 0(0.0%) 20(50.0%) 40(100.0%)	61(74.4%) 20(24.4%) 1(1.2%) 82(100.0%)	1(2.4%) 40(97.6%) 0(0.0%) 41(100.0%)	102(71.3%) 1(0.7%) 40(28.0%) 143(100.0%)	20(100.0%) 0(0.0%) 0(0.0%) 20(100.0%)	20(100.0%) 0(0.0%) 0(0.0%) 20(100.0%)	1(2.4%) 40(97.6%) 0(0.0%) 41(100.0%)		<0.001*F
Educational level Illiterate Primary Secondary Higher education Total	20(95.2%) 1(4.8%) 0(0.0%) 0(0.0%) 21(100.0%)	20(50.0%) 20(50.0%) 0(0.0%) 0(0.0%) 40(100.0%)	21(25.6%) 61(74.4%) 0(0.0%) 0(0.0%) 82(100.0%)	0(0.0%) 1(2.4%) 0(0.0%) 40(97.6%) 41(100.0%)	41(28.7%) 82(57.3%) 0(0.0%) 20(14.0%) 143(100.0%)	0(0.0%) 20(100.0%) 0(0.0%) 0(0.0%) 20(100.0%)	0(0.0%) 0(0.0%) 20(100.0%) 0(0.0%) 20(100.0%)	1(2.4%) 0(0.0%) 40(97.6%) 0(0.0%) 41(100.0%)	730.878	<0.001*
Residence Urban Rural Total	1(4.8%) 20(95.2%) 21(100.0%)	0(0.0%) 40(100.0%) 40(100.0%)	60(73.2%) 22(26.8%) 82(100.0%)	40(97.6%) 1(2.4%) 41(100.0%)	81(56.6%) 62(43.4%) 143(100.0%)	20(100.0%) 0(0.0%) 20(100.0%)	20(100.0%) 0(0.0%) 20(100.0%)	21(51.2%) 20(48.8%) 41(100.0%)	144.828	<0.001*
Occupation Employed Housewife Total	0(0.0%) 21(100.0%) 21(100.0%)	0(0.0%) 40(100.0%) 40(100.0%)	21(25.6%) 61(74.4%) 82(100.0%)	20(48.8%) 21(51.2%) 41(100.0%)	20(14.0%) 123(86.0%) 143(100.0%)	0(0.0%) 20(100.0%) 20(100.0%)	20(100.0%) 20(100.0%) 20(100.0%)	20(48.8%) 21(51.2%) 41(100.0%)	72.944	<0.001*

*P value≤ 0.05 was significant. F: Fisher-exact test.

Table of Distribution of variables related to knowledge of mothers shows that one in five do not use refrigerators to store child food 21.6%,and not all seek a doctor when gastroenteritis happens 65.4%,depending on sunken eyes and dry lips 35.3% and 29.7% respectively to assess the extent of dehydration of their children.44.9% lacked proper knowledge of ORS.

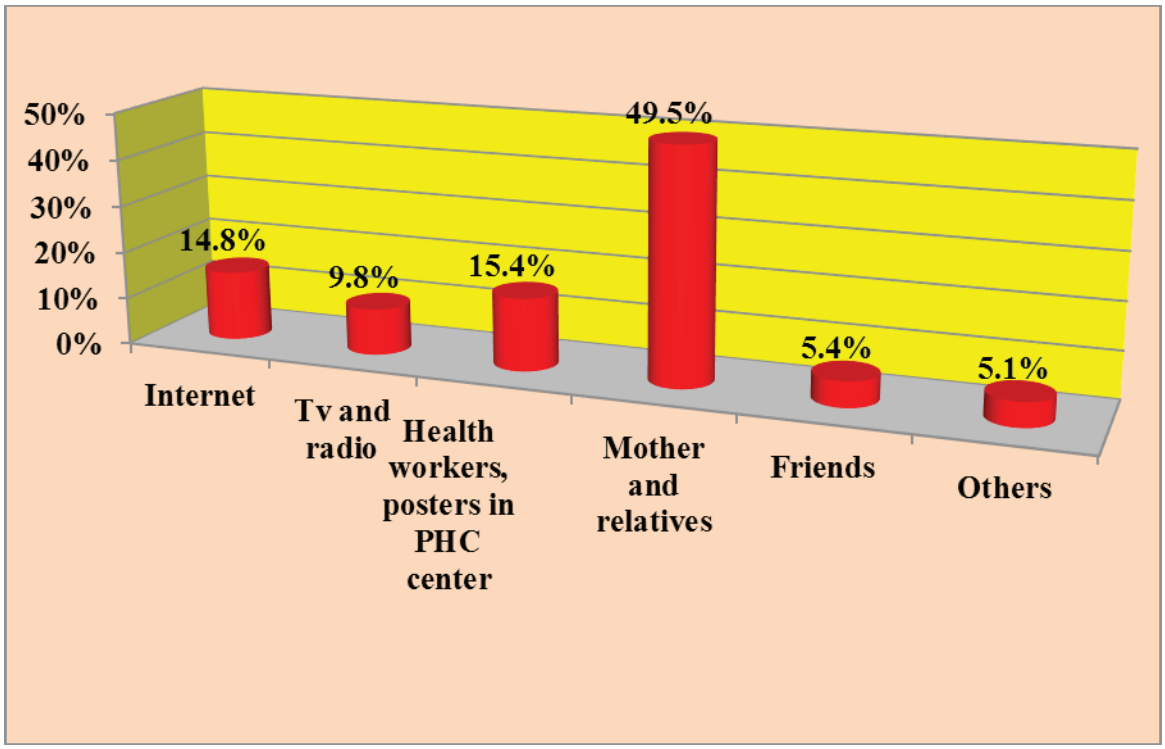

Figure 1 Distribution of source of information of mothers regarding diarrhea.

Table 2 shows that chi square/Fisher exact test was conducted to show an association between maternal sociodemographic variables which include (age, residence educational level and occupation) and causes of gastroenteritis cited by mothers . There were significant association in all circumstances p value < 0.001.

Data Analysis

SPSS version 24 computer software (statistical package for social sciences) was used to enter data and analyze information. Categorical variables were presented as frequencies and percentages, continuous variables were presented as (mean_+standard deviation). Inaddition Chi square/Fischer exact test was utilised to show the association between two categorical vaiables . A P value of < 0.05 is statistically significant.

Discussion

According to the results of our study in Babylon Province and regarding the socio-demographic distribution of the mothers, we found that 59.6% of mothers were from urban area, where as in a study in Egypt they found that 63.2% of mothers were from rural area[20]. In our study we found that 80.1% of mothers were housewives, where as in Egyptian study 52.4% of mothers were housewives and 30% were professionals[20].

Regarding educational level of the mothers in our study 45.4% were attending primary school, where as 64.44% were illiterate in Ethiopian study[21], in contrast with another study in Malawi 79% were attending primary school and above[22]. Only 25% of mothers in the Ethiopian study were attending primary school[21] and about 47%were attending primary or secondary school in Combodia[23].

In our study, 20.2% considered teething as a cause of diarrhea, where as a study in Jamaica shows that 82% of mothers thought that teething causes diarrhea[24] and 71.9% of mothers in a study in Enugu in Nigeria thought that teething causes diarrhea.

In this study, we found that 70% of mothers or caregivers use water and soap for hand washing, where as in a study in Egypt 92.7% of them use water and soap and only 7.3% of mothers use only water for hand washing [20].

We found that 35.5% of mothers can assess dehydration depending on sunken eyes and 65% go to doctor when their children get diarrhea, where as in Ethiopian study 0nly 13.8% can assess dehydration depending on sunken eyes and 62.4% of them go to doctor when their children get diarrhea [21].

In this study, 80.1% of mothers believe that artificial feeding causes diarrhea, where as 54.7% of Ethiopian mothers disagree with this belief [21].

In the mothers of the 408 children under 5 years old who were presented with diarrhea, there were significant association (P value < 0.001) between socio-demographic characteristics (age of the mother, educational level, residence, and occupation) and causes of diarrhea that were considered in our study (particular feeding, teething, breast feeding, bacterial infection, parasitic infestation, drugs, and hot climates).

Ethical Clearance: The Research Ethical Committee at scientific research by ethical approval of both environmental and health and higher education and scientific research ministries in Iraq

Conflict of Interest: The authors declare that they have no conflict of interest.

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