

Iraqi Mothers feeding practices during diarrheal episodes

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Background

Diarrhea is a major health problem, a major cause of death, and the impact is greatest in developing countries. Children under 5 years of age may experience as many as 10 episodes of diarrhea per year. Children in developing nations suffer from an average of four cases of diarrhea a year. Most of these cases are infectious diarrhea^[1]. The control of diarrheal disease program (CDD) is a programs for the reduction of morbidity and mortality include: (oral rehydration therapy (ORT) highly effective in preventing death from dehydration in acute episodes, promotion of breast feeding, improving weaning practices, improving water supply and sanitation, promoting personal and domestic hygiene,

immunization, specific chemotherapy for invasive bowel infections or presence of Helicobacter pylori, and zinc supplementation)^[7]. The control of diarrhea poses a serious challenge to health workers who have limited resources available for disease prevention and treatment number of control strategies have been identified which pertain to child care practices in the home^[7]. The CDD program was implemented in Iraq 1980 to decrease the morbidity and mortality rate in children less than 5 years of age and to improve mothers and child care. The program reduce morbidity rate in 1990 to 3,8 case /child/ year and decrease the mortality rate 1/1000 diarrheal case^[8].

Studies in Iraq in the 90's showed that diarrhea prevalence was much higher in children aged 6-23 months, who at the same time experienced higher rates of acute malnutrition. In Iraq ,diarrhea was reported to be responsible for about one out four deaths among infants under 1 year old and it is number one killer among children in Iraq in 1990^[9,10]. Diarrhea incidence in under 5 years old children increased from 3,8 episodes per child per year in 1990 to nearly 10 episodes per child per year in 1996 and the case fatality rate

from diarrhea (all causes) in under 5 years olds reported to the MOH was about 1.7% in the mid-90s^[1, 4]. Multiple indicator cluster survey for the year 2000 done in Iraq show that 21.3% of fewer than 5 children had diarrhea in the two weeks prior to the survey. Diarrhea prevalence has no significant difference between male and female children and urban and rural areas. The peak of diarrhea prevalence occur in the weaning period among children aged 6-11 months (36.7%)^[4].

Mothers and other caregivers should prevent dehydration, continue feeding, recognize the signs of dehydration and take the child to a health-care provider for ORS or intravenous electrolyte solution, as well as familiarize themselves with other symptoms requiring medical treatment, and provide children with 20 mg per day of zinc supplementation for 10-14 days^[4].

Subjects and methods

The descriptive cross sectional study is conducted in PHCCs of Tikrit City, and Tikrit Teaching Hospital which serves a large proportion of the community of different socio economic levels. Mothers who attended the PHCCs of Tikrit city and pediatric outpatient clinic in Tikrit Teaching Hospital

with a child under two years complaining of diarrhea before two weeks to avoid recall bias. The subjects were interviewed by the investigator in the vaccination unit during a scheduled days for their children vaccination in the vaccination room immediately to assume randomization and to avoid any bias as mothers visiting PHCC while their children healthy not having diarrhea to avoid any maternal orientation. The mothers interviewed in the pediatric outpatient clinic in separate room. A convenient sample of the under 2 year's children population which represent (1167) child and then only the mothers of the children that had diarrhea before two weeks which were about 491 mother of a child under 2 years were interviewed.

The Selection criteria were: (Mothers of a child from 6-24 months, visiting the health facilities which had diarrhea before two weeks, The child shouldn't have diarrhea at the time of interview to avoid mother and doctor orientation about diarrhea management & ORS, Only one and the last child from the same family was included, and only interviewed for only one time). The data were collected by using a standard questionnaire designed for the purpose of the study. Interviews carried out by the investigator. The questionnaire was

developed from KPC+2000^[11] and modified to our community, to collect the information from all involved mothers

Results

Regarding feeding practices during diarrhea, one hundred eleven (22,6%) of mothers increased breast feeding during diarrhea, 228 (46,4%) of them increased fluid intake during diarrhea, 30 (6,1%) gave increased food intake, and 247 (50,3%) continue increased feeding after recovery. Increased breast feeding during diarrhea more frequently done by mothers who aged 30-39 years 43 (27,4%), were employed 40 (27,1%), had 7-12 years of schooling 29 (31,9%), were from urban 63 (23,2%), had 1-2 children 94 (24,9%). Increased breast feeding during diarrhea least frequently done by mothers who aged < 20 years 10 (20,8%), were unemployed 66 (20,3%), had 1-6 years of schooling 37 (18,4%), were from rural 48 (21,8%), had ≥ 3 children 17 (14,9%), as shown in table 1. The increment in the fluid intake during diarrhea, increased with increasing age, and mostly done by mothers aged ≥ 40 years 10 (66,7%), employed mothers 84 (50,6%), 44 (48,4%) of mothers who had 7-12 years of schooling, 129 (47,6%) of

urban mothers, and 68 (59,6%) of mothers who had ≥ 3 children, as shown in table 2. Increased food intake during diarrhea more frequently done by mothers who aged 30-39 years 13 (8,3%), were employed 14 (8,4%), had 7-12 years of schooling 11 (12%), were from urban 26 (9,6%), had ≥ 3 children under five years 9 (7,9%). Increased food intake during diarrhea least frequently done by mothers who aged mothers aged > 40 years 0 (0%), were unemployed 16 (4,9%), had no years of schooling 4 (3,6%), were from rural 4 (1,8%), 1-2 children under five years 21 (5,6%), as shown in table 3. Increased food intake after recovery of diarrhea more frequently done by mothers who aged 30-39 years 96 (71,1%), were unemployed 167 (51,4%), had no years of schooling 71 (63,9%), were from urban 143 (52,8%), and by 189 (50,1%) who had 1-2 children under 5 years of age. Increased food intake after recovery of diarrhea least frequently done by mothers aged > 40 years 0 (0%), had 7-12 years of schooling 51 (26%), and were from rural 104 (47,3%), as shown in table 4.

Discussion

In this study, the number of mothers who increase breast feeding during diarrhea was similar to what found by Athraa [13] in Tikrit 2000 (22,0%), and Al-Sadoon Emad and Sawsan in Basra 2000 (3,%) [14]. This indicate that a deterioration in the mothers practices regarding breast feeding during diarrhea after the disaster of the war, although the 3,0% is a low level of practices in comparison to what found by Bani, I.A. in Saudi Arabia found that 37,7% increased breast feeding during diarrhea episodes [15]. In this study, the percentage of mothers who give increased home ORT during the last episode of diarrhea, was more than what found by UNICEF and WHO through (MICS) in Iraq in the year 2000, 29% of mothers did that [6], and Al-Juboree Athraa E [13] 2000, found 38,9% did that. This may be explained by lack of dextrolytes packet and demise of ORT corners following the gulf war which affect local production of dextrolytes[16], that result in shifting to home-made fluid. The greatest value was found among mothers ≥ 40 years, because they received the health messages in the mid 80s, and their experience increased by age. There was a positive association between the increased fluid intake

and age of mother, and number of children that is similar to what found by Bani I. in Saudi Arabia in 2002^[10]. This can be explained by the increased experience of mothers with age and increasing number of children. There was a positive association between the increased fluid intake during diarrhea, with the employment and urban, this can be explained by increasing contact with outdoor and health professional, and cultural differences between urban and rural areas. In this study, 6,1% of mothers gave increased amount of food intake during diarrreal attack, and the others either decreased or withhold feeding during diarrhea. This is gone in accordance with Ghada^[11] 1989 who found 11,0% of mothers gave fluid, semi-solid food, and with that of MICS 2000^[12], 70,3 % of mothers were gave flattered eating, and 29% of them diminished eating, which means no one of the mothers gave increased feeding during diarrhea. This defect in mother's knowledge and practice regarding the feeding practices during diarrhea, may be due to mother believes that food is harmful during diarrhea, which mean beliefs that have challenged health care workers in the past^[13] still evident in our study, or to the past medical professionals thought that it is important

"to rest the gut" during diarrhea, the notion has since been discredited [19].

Ezat W. found higher percentage of mother 86.3% [20] gave increased amount of food intake during diarrreal attack, and MICS [21] also found higher pcentage "one third of mothers provided continued or increased feeding". From the above facts, there is an increased percentage of mothers who gave increased feeding during diarrhea in mid 90s and there is a decreased in 2000 [22] till now. That may be due to that from 1993 onwards, the indication of choice was increased fluid plus continued feeding [23] and this known as post 1993 definition of ORT [24] and to the reactivation of the program which done by MOH, WHO, and UNICEF in 1993, and 1994 [25, 26]. As appropriate feeding is now recognized as crucial element of ORT [27, 28] especially in a populations at risk for malnutrition, and because Iraqi children suffer from average of 6 episodes of diarrhea per year [29], and if the child had flattered or withhold feeding during each episode we will have a high percentage of malnutrition. About half of mothers gave increased feeding after recovery of diarrhea and this might be due to increased appetite of the child after recovery rather than

the mother's knowledge, and this is differ from Ezat W. who found that ٢٠,٩% gave extra meal^[١٠]. This study reveal a deficient feeding practices of mothers during and after diarrhea and this deficiency among lower age group, unemployed, lower educational levels, rural mothers, and who had ١-٢ children under ٥ years.

Conclusions and recommendations

Maternal feeding practices during the last episode, where to somewhat acceptable regarding increased fluids ٤٦,٤% and continued feeding after recovery ٥٠,٣%, while it is very low regarding continued feeding during diarrhea ٦,١%, and increased breast feeding ٢٢,٦%. Implementation of educational programs, such as community-based maternal training by trained female health workers to teach the mothers the diarrhea management at home, preparing and administering ORS and diarrhea prevention practices. Taking the male community into confidence as the male are the decision makers in Iraqi family especially in rural areas. Male education will be transmitted to the females which we are unable to reach. More reliance should be put on mass media as that found in India, the key messages promoting the use of ORS with appropriate fluids,

breast feeding and continued feeding very effectively covered in both the print and electronic media, in addition to TV spots, several satellite channels successfully integrated these messages.

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Table 1. Mothers practice regarding breastfeeding during diarrhea.

Personal characteristic	BF No.(%)		P value
	increased	decrease	
<20	10(20,8)	38(79,2)	0,334 (NS)
20-29	54(19,9)	217(80,1)	
30-39	43(27,4)	114(72,6)	
≥40	4(26,7)	11(73,3)	
Mother employment			
employed	40(27,1)	121(72,9)	0,08(NS)
unemployed	66(20,3)	259(79,7)	
Years of schooling			
0	26(23,4)	85(76,6)	0,07(NS)
1-6	37(18,4)	164(81,6)	
7-12	29(31,9)	62(68,1)	
≥13	18(20,0)	70(79,0)	
Residence area			
Urban	63(23,2)	208(76,8)	0,07(NS)
Rural	48(21,8)	172(78,2)	
No. of children under 5 years			
1-2	94(24,9)	283(75,1)	0,03
>3	17(14,9)	97(85,1)	
Total	111(22,6)	380(77,4)	

Table 2. Mothers practice regarding fluid intake during diarrhea.

Personal characteristic	Fluid no.(%)		P value
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	increased	decrease	
<20	20(02)	23(48)	0,2(NS)
20-29	117(43,2)	104(06,8)	
30-39	76(48,4)	81(01,6)	
≥40	10(66,7)	0(33,3)	
Mother employment			
employed	84(00,6)	82(49,4)	<0,01
unemployed	144(44,3)	181(00,7)	
Years of schooling			
0	0(40)	61(00)	0,9(NS)
1-6	94(46,8)	107(03,7)	
7-12	44(48,4)	47(01,6)	
≥13	40(40,0)	48(04,0)	
Residence area			
Urban	129(47,6)	142(02,4)	0,0(NS)
Rural	99(40)	121(00)	
No. of children under 0 years			
1-2	160(42,4)	217(07,6)	0,001
>3	68(09,6)	46(40,4)	
Total	228(40,4)	263(04,6)	

Table 3. Mothers practice regarding food intake number during diarrhea.

Personal characteristic	Food intake No. no.(%)		P value
	Increase/continue	decrease	
<20	1(2,1)	47(97,9)	
20-29	16(0,9)	200(99,1)	
30-39	13(8,3)	144(91,7)	

≥ 40	0(0)	10(100)	
Mother employment			
employed	14(8,4)	102(91,6)	0,1(NS)
unemployed	16(4,9)	309(95,1)	
Years of schooling			
0	4(3,6)	107(96,4)	0,06(NS)
1-6	11(5,5)	190(94,5)	
7-12	11(12)	80(88)	
≥ 13	4(4,4)	84(95,6)	
Residence area			
Urban	26(9,6)	240(90,4)	<0,001
Rural	4(1,8)	216(98,2)	
No. of children under 5 years			
1-2	21(5,6)	306(94,4)	0,3(NS)
≥ 3	9(7,9)	100(92,1)	
Total	39(6,1)	452(93,9)	

Table 4. Mothers practice regarding Continue feeding during diarrhea.

Personal characteristic	Continue feeding no.(%)		P value
	Increased	decrease	
<20	20(41,7)	28(58,3)	
20-29	131(48,3)	140(51,7)	
30-39	96(61,1)	61(38,9)	
≥ 40	0(0)	10(100)	

Mother employment			
employed	10(48,2)	17(51,1)	0,0(NS)
unemployed	167(51,4)	151(48,7)	
Years of schooling			
0	71(63,9)	40(36,1)	<0,001
1-6	84(41,8)	117(58,2)	
7-12	51(26)	40(24)	
≥13	39(44,3)	49(55,7)	
Residence area			
Urban	143(52,8)	121(47,2)	0,2(NS)
Rural	104(47,3)	117(52,7)	
No. of children under 6 years			
1-2	189(50,1)	181(49,9)	0,7(NS)
≥3	55(48,2)	59(51,8)	
Total	244(50,3)	240(49,7)	

ممارسات الأمهات العراقيات التغذوية عند إصابة

أطفالهن بأمراض الإسهال

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ملخص البحث

إن ممارسات الأمهات تلعب دورا أساسيا في الحفاظ على أرواح الأطفال عند الإصابة بأمراض الإسهال التي تعتبر من الأسباب الرئيسية لوفيات الأطفال في البلدان النامية، وتسبب تقريبا ١ بليون من حوادث الأمراض و٣-٥ مليون وفاة سنويا. وهدف هذه الدراسة هو من أجل تقييم ممارسات أمهات الأطفال المصابين بالإسهال بعمر اقل من ٢ سنة من الناحية التغذوية، من خلال دراسة وصفية مقطعية بطريقة أخذ جميع الأمهات المراجعات للمراكز الصحية الرئيسية في صلاح الدين بسبب إصابة أطفالهن بمرض الإسهال قبل أسبوعين والبالغ عددهن ٤٩١. أظهرت النتائج إن ١١١ ام (٢٢,٦%) زادت الرضاعة الطبيعية أثناء مرض الإسهال، ٢٢٨ (٤٦,٤%) منهم زادت كمية السوائل المعطاة، و٣٠ (٦,١%) أعطت كمية غذاء متزايدة للحفاظ على صحة طفلها، و٢٤٧ (٥٠,٣%) استمرت بإعطاء الطفل كميات متزايدة من الطعام بعد التحسن. ممارسات الإطعام الأموية أثناء الحادثة الأخيرة من الإسهال كانت الى حد ما مقبولة بخصوص السوائل المتزايدة والإطعام المستمر بعد التحسن، بينما هو منخفض جدا بخصوص الإطعام المستمر أثناء الإسهال، والرضاعة الطبيعية، وهذا يدل على ضعف التوعية الصحية لدى الأمهات عن أسلوب معالجة الإسهال في البيت والممارسات الصحية التي يجب إتباعها من قبل الأمهات للحفاظ على صحة أولادهن.

