



بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



Shendi University

Faculty of Graduate Studies and Scientific Research

Assessment of Mothers Knowledge about Diarrhea Disease in Children under 5 Years in Elsyal Village 2016

*A thesis submitted in partial fulfillment for the requirements of
M.Sc. honor degree in pediatric nursing*

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الآية

بسم الله الرحمن الرحيم

قال تعالى :

﴿ قُلْ يَا عِبَادِيَ الَّذِينَ أَسْرَفُوا عَلَىٰ أَنفُسِهِمْ لَا تَقْنَطُوا مِن رَّحْمَةِ اللَّهِ إِنَّ اللَّهَ يَغْفِرُ الذُّنُوبَ جَمِيعًا إِنَّهُ هُوَ الْغَفُورُ الرَّحِيمُ ﴾

صدق الله العظيم

سورة الزمر -

الآية (53)



Dedication

*Just to
Who have taught me a lot through the life
Who trained me how I can change to better*

Dear Father

To

*Who taught me what is the meaning of life dried my tear
and filled my heart with delight*

Dear Mother

To

*The soul of my heart really you are terrific and gentleman and
thank you for supporting through out the process of completing
this degree*

My husband

To

My children's (Aayat, Ahmed)

*The deepest feeling who supported me always learn me to
give even without take*

Dear brothers and sisters

To

*who have supported me on difficult steps of my life taught
me the meaning of hope and who lead me to the way of
success*

My teachers

To

My dear (Asma Rhimtallah)



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*First the greatest thanks to God Almighty
Allah.*

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*Finally I would like to thanks all of
the people who help me in this research in Ehsyal
especially the children's mothers .*

ملخص البحث

أجريت هذه الدراسة الوصفية المقطعية بقريه السيال الكبير ريفي المتمة - ولاية نهر النيل في الفترة من سبتمبر إلى ديسمبر 2016 لتقييم معرفة الأمهات حول أمراض الاسهالات للأطفال دون سن الخامسة. شملت الدراسة (60) من الأمهات بمتوسط عمر (25-35) عاما حيث تم جمع المعلومات بواسطة استبيان يحتوي علي (21) سؤال وتم تحليل النتائج باستخدام برنامج الحزم الإحصائية للعلوم الاجتماعية إصدار (22) وتم عرضها في شكل جداول وأشكال بيانية .

توصلت هذه الدراسة إلى أن معظم الأمهات لديهن مفهوم جيد عن الإسهال وان أطفالهن أصيبوا به من قبل و(52%) تكررت الحالة. أما عن معرفة الأمهات بمضاعفات الإسهال فهي جيدة. معظم الأمهات (72%) لديهن معرفة جيدة عن الرضاعة الطبيعية أثناء فترة الإسهال.

وتوصلت الدراسة إلى عدة توصيات أهمها فيما يخص النصائح التي تعطى يجب أن يتم تقديم التوعية والنصائح اللازمة وتعليم الأمهات عن طريق الوسائل التعليمية المختلفة حول مسببات ومضاعفات الإسهال وكيفية الوقاية والعلاج منه. أيضاً توجيه الأمهات لضرورة تكلمة الجرعات التطعيمية. نصح الأمهات عن زيادة الرضاعة الطبيعية أثناء فترة الإسهال. تعليم الأمهات كيفية المعالجة المنزلية من كيفية استخدام محلول ملح التروية وتحضيره في المنزل.

Abstract

According to the World Health Organization (WHO) and UNICEF, There are about two billion cases of diarrheal disease worldwide every year, and 1.9 million children younger than 5 years of age perish from diarrhea each year, mostly in developing countries.

This descriptive cross sectional study done in Elsyal village-Almatama locality-River Nile state , during period extended from September - December 2016, to assess the knowledge of mothers regarding diarrheal disease in Children under 5years . The study involved 60 mothers with an average age of (25-35) years where the information was collected by questionnaire contains 21 questions were analyzed results using the statistical Package for social Sciences version 22 was offered in the form of tables and graphs.

The study found that most of the mothers to have a good concept for diarrhea and that their children were doing before and (52%) were repeated situation. As for the knowledge of mothers with complications of diarrhea are good. Most mothers (72%) to have good about breastfeeding during diarrhea knowledge.

The study found a number of recommendations with regard to the most important advice that is given must be necessary to provide outreach, counseling and maternal education through various educational tools on the causes and complications of diarrhea and how to prevent and cure it. Also guide the mothers of the need to supplement dose vaccination. Advised mothers increased breastfeeding during diarrhea .Teach mothers how treatment of how to use household ORS and prepared at home.



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Chapter One

Introduction

Justification

Objectives

Introduction

According to the World Health Organization (WHO) and UNICEF, There are about two billion cases of diarrheal disease worldwide every year, and 1.9 million children younger than 5 years of age perish from diarrhea each year, mostly in developing countries. This amounts to 18% of all the deaths of children under the age of five and means that more than 5000 children are dying every day as a result of diarrheal diseases. Of all child deaths from diarrhea, 78% occur in the African and South-East Asian regions, ⁽¹⁾.

Diarrhea kills 1.8 million children under five in developing countries. However, there is an improvement from 4.5 million deaths in last 20 years. 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. Diarrhea can last several days, and can leave the body without the water and salts that are necessary for survival. Most people who die from diarrhea actually die from severe dehydration and fluid loss. Children who are malnourished or have impaired immunity as well as people living with HIV are most at risk of life-threatening diarrhea, ⁽²⁾.

Its remains a leading cause of mortality and morbidity of children in Sub-Saharan Africa, a region where unique geographic, economic, political, socio cultural, and personal factors interact to create distinctive continuing, ⁽³⁾.

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 hand washing with soap can reduce disease risk. Diarrhea can be treated with a solution of clean water, sugar and salt, and with zinc tablets, ⁽⁴⁾.

Justification

Diarrhea is very serious disease and also have high mortality rate in children less than five years. Mother need to have important knowledge and Attitude to watery diarrhea in prevent and treatment.

The problem of diarrhea is still the biggest issue affecting child development in the developing countries. In order to avert this long-term effect, prevention of diarrhea is paramount to national development.

Objectives

General objective:

Assessment of Mother Knowledge about diarrheal disease in children under five years

Specific object:

1. To assess mothers knowledge regarding definition, causes of diarrheal disease and prevention of diarrhea .
2. To assess mothers knowledge about home care for children with diarrhea.
3. To assess mothers knowledge about nutritional behavior during diarrheal Period.
4. To assess knowledge of mothers about complication of diarrhea and how to deal with this complication.
5. To determine the association between age of mother and the concept regarding diarrhea, education level of study group and the cause of diarrhea, education level and breastfeeding during diarrhea, education level of mothers and vaccination of their children and the children vaccination against diarrhea and its occurrence.

Literature review

2.1 The history of diarrheal disease:

Throughout history, infectious diarrhea has been associated with crowding, poor sanitation, and war. Although descriptions of infectious diarrhea exist in the earliest records of civilization, effective measures for prevention were not widely or consistently used until the modern era of active public health promotion. Advances in the understanding of etiologies and therapies have revolutionized prognosis; however, constant vigilance against lapses in public health is necessary to prevent outbreaks of disease, ⁽⁵⁾.

2.2 Definition:

Diarrhea is the passage of loose or watery stools at least 3 times in a 24-hour period. however, it is the consistency of the stools rather than the number, ⁽⁶⁾.

2.3 The Global Burden of Diarrheal Disease:

Diarrhea kills 2,195 children every day more than AIDS, malaria, and measles combined, Diarrheal diseases account for 1 in 9 child deaths worldwide, making diarrhea the second leading cause of death among children under the age of 5years, ⁽⁴⁾.

In Africa death rates ranged from 3.6 to 24 per 1,000 population .This review was updated a decade later using studies that reported age-specific mortality data, and information from longitudinal and cross-sectional studies as well as vital registries, showed that childhood mortality rates from diarrhea in Africa remained high; the rates were similar to those found in South Asian studies and were consistently higher than in Latin America, ⁽³⁾ .

2.4 Etiology of diarrhea:

2.4. 1 Infectious diarrhea:

A. Enteric infectious

Viruses; Rota virus (15-25%) of cases, Bacteria enterotoxigenic E-coli (10 – 20%), shigella (5-15% of cases) campylobacter jejune (10-15%), Protozoa cryptosporidium (5-15 cases), other less common pathogens, Viruses : Norwalk agent enteric adenoviruses, bacteria: salmonella enter invasive E-coli enter hemorrhagic E-coli Yersinia enterocolitica and vibrio cholera whereas is Protozoa: Giardia and entamoeba histolytic .

B. Parenteral infection:

Like pneumonia and otitis media may be accompanied by diarrhea, the mechanism of which is still unknown but may be due to food intolerance during infection.

2.4.2 Noninfectious causes:

- A. Dietetic factors: overfeeding, food allergy and giving non suitable diet as too concentrated formula or a food which is not suitable for age.
- B. Malabsorption: disaccharides deficiency, celiac disease and cystic fibrosis.
- C. Endocrinal disorders; thyrotoxicosis, Addison's disease, adrenogenital syndrome.
- D. Miscellaneous: protein- losing neuropathy, irritable colon, ulcerative colitis, immunodeficiency, neuroblastoma, malrotation and antibiotic associated diarrhea,⁽⁷⁾.

2.5 Types of diarrhea:

The three types of diarrhea are:

1. Acute diarrhea (80% of cases):

If an episode of diarrhea lasts less than 14 days, it is *acute diarrhea*. Acute watery diarrhea causes dehydration and contributes to malnutrition. The death of a child with acute diarrhea is usually due to dehydration.

2. Persistent diarrhea (10% of cases):

If the diarrhea lasts 14 days or more, it is *persistent diarrhea*. Up to 20% of episodes of diarrhea become persistent. Persistent diarrhea often causes nutritional problems, creating the risk of malnutrition and serious non-intestinal infection. Dehydration also occurs.

3. Dysentery (10% of cases):

Diarrhea with blood in the stool – with or without mucus – is called *dysentery*. Dysentery is very dangerous because of its ability to lead to anorexia, rapid weight loss, and damage to the intestinal mucosa. Another danger is sepsis, ⁽⁷⁾.

2.6 Transmission of diarrheal pathogens:

Viruses and bacteria can spread through contact with stool, vomit and contaminated objects, water or food.

Factors promoting the transmission of enteric pathogens:

- 1- Failure to provide breast-feed exclusively for the first 4 – 6 months.
- 2- Using infant feeding bottles (easily contaminated).
- 3- Inappropriate storing of cooked food.
- 4- Using drinking water contaminated with fecal bacteria.
- 5- Failing to dispose of feces hygienically.
- 6- Failing to wash hands after defecation.
- 7- Host factors: young age (highest incidence in the age group 6 – 12 months).

8- Season:

- Bacterial diarrheas are more frequent in summer.
- Rotavirus is more frequent in winter but occur throughout the year also, ⁽⁸⁾.

2.7 Pathogenesis of diarrhea:-

Normally, the water and electrolytes are secreted into the intestinal lumen in the crypt and absorbed in the villi.

More than 90% of fluids and electrolytes in the crypts are reabsorped by the villi; Diarrhea is essentially caused by a break down in this balance i.e. Increasing secretion / or decreased absorption of water and electrolytes), ⁽⁷⁾.

2.7.1 Pathogenesis of viral diarrhea:

Viruses like rotavirus invade the absorptive electrolytes of the villi in the upper small intestine while the crypt cells are spared . The virus replicates causing patchy epithelial cell destruction and villous shortening; Destroyed absorptive cells are rapidly replaced by cells that migrate up from the crypt; so that a few hours after infection the effected villi become temporarily covered by immature secretary crypt like cells that cause the intestine to secrete water and electrolytes; Villous damage may also be associated with loss of disaccharides, especially lactose .

Recovery occurs when the villi regenerate and the villous epithelium matures (usually within 3-5days), ⁽⁷⁾.

2.7.2 Pathogenesis of bacterial diarrhea:

1. Mucosal adhesion: bacteria that multiply within the small intestine must first adhere to the mucosa to avoid being swept away.

This property appears to be an important determinant in their pathogenicity.

2. Secretion of enterotoxigenes: E-coli produce toxins that stimulate the production of C AMP in the mucosal cells leading to inhibition of absorption from villi and increased secretion of water and electrolytes in crypts.

3. Mucosal invasion: other organisms like shigella, campylobacter jejuni, enteroinvasive E-coli and salmonella can cause bloody diarrhea by invading and destroying mucosal epithelial cells.

2.7.3 Pathogenesis of protozoal diarrhea:

1. Mucosal adhesion: G.lambliia and Cryptosporidium adhere to the small bowel epithelium and cause shortening of villi and diarrhea.
2. Mucosal invasion: virulent E.histolytica causes diarrhea by invading epithelial cells of the colon (or ileum) and causing micro abscess and ulcers,⁽⁷⁾.

2.8 Signs and symptoms associated with diarrhea may include:

- Loose, watery stools.
- Abdominal cramps.
- Abdominal pain.
- Blood in the stool.
- Bloating.
- Nausea.
- Not having a wet diaper in three or more hours.
- Dry mouth and tongue.
- Fever above 102 F (39 C).
- Crying without tears.
- Drowsiness, unresponsiveness or irritability.
- Sunken appearance to the abdomen, eyes or cheeks,⁽⁹⁾.

2.9 Diagnosis:

A. History

start by "taking a history" - asking questions about the problem including ;

- Medicines received, past medical history and underlying conditions.
- When the problem started.

- Stool frequency, type (for example, watery, mucus-filled, pussy) and volume.
- Whether blood is present in the stool.
- Whether there has been vomiting.
- And concerned about whether there is dehydration, and severity of dehydration)⁽¹⁰⁾.

B. Tests

Because most cases of diarrhea are self-limiting and resolve themselves, and because the diagnosis can be made clinically, tests are not usually required. But in more severe cases that may require a stool sample to be tested (with microscopy, culture, fecal leukocyte testing, and if recent antibiotics, Clostridium difficult testing)⁽¹⁰⁾.

2.10. Complications of diarrheal disease:

Diarrhea can cause dehydration, which can be life-threatening if untreated. Dehydration is particularly dangerous in children, older adults and those with weakened immune systems, ⁽⁹⁾.

2.10.1 Dehydration

The most severe threat posed by diarrhea is dehydration. During a diarrheal episode, water and electrolytes (sodium, chloride, potassium and bicarbonate) are lost through liquid stools, vomit, sweat, urine and breathing. Dehydration occurs when these losses are not replaced.

The degree of dehydration is rated on a scale of three:

- Early dehydration – no signs or symptoms
- Moderate dehydration:
 - o thirst
 - o restless or irritable behavior
 - o decreased skin elasticity
 - o sunken eyes

-Severe dehydration:

- symptoms become more severe
- shock, with diminished consciousness, lack of urine output, cool, moist extremities, a rapid and feeble pulse, low or undetectable blood pressure, and pale skin,⁽⁴⁾.

Death may follow severe dehydration if treatment with rehydration therapy is not instituted urgently),⁽¹⁰⁾.

2.11 Treatment:

There is loss of fluids and electrolytes when you have diarrhea, so it is important to replace them. For acute, non-severe diarrhea you usually just need something like tea with sugar and some salted crackers. Foods that are gentle on the stomach is recommended too, such as rice, bananas or rusk bread. Some people also avoid coffee, fruit juices, sodas, alcohol and fatty foods to keep from irritating their bowel even more.

Acute diarrhea does not require special treatment in adults and teenagers. But it is a good idea for young children and older people, as well as people with more severe diarrhea, to replace fluids and electrolytes by using oral rehydration salts (electrolyte/glucose solutions) from the pharmacy. These are powders containing salts, minerals and glucose that can be dissolved in water. If these solutions are not available (for instance, while traveling) the following ingredients can be stirred into one liter of bottled or boiled water:

- Five tablespoons of sugar
- One and a half level tablespoons of salt
- One glass of packaged orange juice

In addition to drinking fluids and using other treatments, foods or dietary supplements that have probiotic microorganisms (probiotics) in them can help to make the diarrhea go away faster.

Treatments of diarrhea include the following:

- Rehydration with oral rehydration salts (ORS) solution. ORS is a mixture of clean water, salt and sugar. It costs a few cents per treatment. ORS is absorbed in the small intestine and replaces the water and electrolytes lost in the faces.
- Rehydration: with intravenous fluids in case of severe dehydration or shock.
- Nutrient-rich foods: the vicious circle of malnutrition and diarrhea can be broken by continuing to give nutrient-rich foods – including breast milk – during an episode, and by giving a nutritious diet – including exclusive breastfeeding for the first six months of life – to children when they are well.
- Zinc supplements: zinc supplements reduce the duration of a diarrhea episode by 25% and are associated with a 30% reduction in stool volume,⁽¹¹⁾.

2.12 Prevention:

Prevention of diarrhea include:

- Access to safe drinking-water.
- Use of improved sanitation.
- Hand washing with soap.
- Exclusive breastfeeding for the first six months of life.
- Good personal and food hygiene.
- Health education about how infections spread.
- Rotavirus vaccination,⁽¹¹⁾.

2.13 Rotavirus Vaccination:

Rotavirus is the leading pathogenic cause of diarrhea in children under 5 years, there is no specific drug that can be used to treat rotavirus infections, but a rotavirus vaccine has been developed and it prevents diarrheal disease when the child is vaccinated,⁽¹²⁾.

2.13.1 Rotavirus vaccine action:

Is a vaccine used to protect against rotavirus infections. These viruses are the leading cause of severe diarrhea among young children . The vaccines appear to decrease the risk of death among young children due to diarrhea. Immunizing babies appears to decrease rates of disease among older people and those who have not been immunized.

The World Health Organization (WHO) recommends that rotavirus vaccine be included in national routine vaccinations programs, especially in areas where the disease is common. This should be done along with promoting breastfeeding, hand washing, clean water and good sanitation. It is given by mouth and requires two or three doses. It should be given starting around six weeks of age. The vaccines are made from weakened rotavirus, ⁽¹³⁾.

'2.13.2 The benefits of the rotavirus vaccine:

The vaccine prevents about 3 out of 4 cases of rotavirus disease, and almost all severe cases, including hospitalizations. When you get your child immunized you help protect others as well, ⁽¹⁴⁾.

2.14 Breast feeding and diet during diarrhea:

Continue to breastfeed for baby while you are sick with diarrhea. Start treating diarrhea with home care, such as drinking plenty of water or electrolyte solutions to prevent dehydration. Dehydration reduces your milk supply, potentially causing dehydration in your baby if she does not get enough milk. Drink at least 1 cup of water for each episode of diarrhea. Slowly add bland foods to your diet, such as bananas, toast, oatmeal and rice in small amounts every couple of hours until your symptoms resolve, then return to your usual diet, ⁽¹⁵⁾.

Foods that contain a lot of starch are more easily digested than other foods during diarrhea, ⁽¹⁶⁾.

2.15 Nursing care management:

Assessment:

- Obtain complete health history to identify character and pattern of diarrhea.
- Perform complete physical assessment.
- Assess degree of dehydration.
- Note color and consistency of stool and vomit

Nursing Diagnosis:

Deficiency fluid volume related to excessive fluid loss and decreased fluid intake

Goal:-

Maintain fluid and electrolyte imbalance.

Intervention:

- Observe for indication of dehydration e.g. poor skin turgor.
- Monitor fluid status include intake and output.
- Monitor vital sign because changes can indicate hypervolemia.
- Monitor weight to monitor fluid loss.
- Encourage oral fluid intake, ⁽¹⁷⁾.

Methodology

Study design:

Descriptive cross sectional community based study.

Study duration:

From September to December 2016.

Study area:

Elsayal village is in the west of Shendi in Almatama locality, far from Shendi about 5km, The woman constitute about 450 of population. Agriculture form the main job, There are 2 health centers for delivering health services, In relation to education there are, 2 primary schools and 1 secondary school, Also there are 5 mosques and khalowa.

Study population:

Mother in Elsayal village, (60) mothers was involved.

Inclusion criteria:

Mothers who have children less than 5 years.

Exclusion criteria:

Mothers who have no children less than 5 years.

Sampling:

Purposive sampling technique.

Sample size:

(60) mothers.

Data collection tools:

The data collection was by standard closed ended questionnaire designed by researcher composed of (21) questions.

The first part about demographic data from (1-6), question about knowledge about diarrhea from (7-12), question about ORS and nutrition from (13-18), question about Diarrhea prevention and complication from (19-21).

Data collection techniques:

The data was collected within five days. Each questionnaire was filled by mothers every questionnaire takes 5 minutes-the reverser visited the mothers at their homes .Each question was explained to the mothers, then they filed the questionnaire while the researcher is available.

Data analysis techniques:

The data has been analyzed by computer using (SPSS) and the results were presented in form of tables and figures.

Scoring system:

Scoring system was established by researcher, the data was distributed in three categories to assess the level of mother knowledge about diarrhea if the mother respond from (3-4) choice \geq (75%) it considered good knowledge, (2) choice (50%) considered fair knowledge (1) choice (25%) considered poor knowledge.

Ethical considerations:

The study was approved by faculty committee researcher to conduct the research purpose of study was explain verbally to each participate and there where accept to participate, The permission was token from the community leader.

Results

Table (1): Study group sociodemographic characteristic (age, level of education , occupation mother):

Age of the mother	Frequency	Percent
18-25 years	6	10%
26-35 years	25	42%
36-45 years	23	38%
Over 45 years	6	10%
Total	60	100%
level education of mother	Frequency	Percent
Illiterate	1	2%
Primary School	19	32%
Secondary School	11	18%
University	27	48%
Post graduate	2	3%
Total	60	100%
Occupation of mother	Frequency	Percent
House wife's	43	72%
Worker	1	2%
Employer	16	26%
Total	60	100%

Table (1) showed that (42%) of study group their age between (25-35) years, also (48%) had university level of education, While(72%)of Study group were house wives.

Table (2) : Study group sociodemographic characteristic (number of family, number of child under 5 years, economic status)

Number of family	Frequency	Percent
3 – 5 person	24	70%
5 – 7 person	15	25%
More than 7person	3	5%
Total	60	100%
Number of children Less than 5 years	Frequency	Percent
One child	36	60%
Two children	20	33%
Three children	4	7%
Total	60	100%
Economic status	Frequency	Percent
Good	19	32%
Moderate	41	68%
Low	0	0%
Total	60	100%

Table (2) showed that the majority (70%) of study group number of family member (3-5), while third (60%) had one child, and (68%)of them of moderate socioeconomic status.

Table (3): Knowledge about concept of diarrhea and its causes.

concept of diarrhea	Frequency	Percent
Good	49	82%
Fair	1	1%
Poor	10	17%
Total	60	100%
causes of diarrhea	Frequency	Percent
Good	41	68%
Fair	5	9%
Poor	14	23%
Total	60	100%

Table (3) illustrated that (82%) of study group had good knowledge about concept of diarrhea, and (1%) of them had fair knowledge, and (68%) had good knowledge about causes of diarrhea while (9%) of them had fair knowledge.

Table (4): Cross tabulation between age of study group and the concept of diarrhea

Age		What do know diarrhea?			Total	Asymp. Sig. (2-sided)
		Good	Fair	Poor		
15-20 years	Count	5	0	1	6	.681
	% of Total	8.3%	0.0%	1.7%	10.0%	
21-30 years	Count	19	1	5	25	
	% of Total	31.7%	1.7%	8.3%	41.7%	
31-40 years	Count	21	0	2	23	
	% of Total	35.0%	0.0%	3.3%	38.3%	
than more 40	Count	4	0	2	6	
	% of Total	6.7%	0.0%	3.3%	10.0%	
Total	Count	49	1	10	60	
	% of Total	81.7%	1.7%	16.7%	100.0%	

P value=0.681

Age of mother was not significantly related with knowledge about concept of diarrhea p (0.681) as presented in table (4).

Table (5): Cross tabulation between education level of study group and the cause of diarrhea

What is the cause of diarrhea in your opinion?		Education level					Total	Asymp. Sig. (2-sided)
		Illiterate	Primary	Secondary	University	Post graduate		
Good	Count	1	12	5	21	2	41	.461
	% of Total	1.7%	20.0%	8.3%	35.0%	3.3%	68.3%	
Fair	Count	0	1	1	3	0	5	
	% of Total	0.0%	1.7%	1.7%	5.0%	0.0%	8.3%	
Poor	Count	0	6	5	3	0	14	
	% of Total	0.0%	10.0%	8.3%	5.0%	0.0%	23.3%	
Total	Count	1	19	11	27	2	60	
	% of Total	1.7%	31.7%	18.3%	45.0%	3.3%	100.0%	

P value = 0.461

Educational level of mothers was not significantly associated with knowledge about causes of diarrhea (p 0.461) as presented in table (5).

Table (6): Diarrhea occurrence and frequency.

Occurrence	Frequency	Percent
Yes	53	88%
No	7	12%
Total	60	100%
Frequency	Frequency	Percent
One	9	15%
2-3	26	33%
more Than 3 time	31	52%
Total	60	100%

Table (6) showed that (88%) of mother their children had diarrhea and (52%) of them frequent more than 3 times.

Table (7): Where you think the best place of therapy and knowledge about treatment at home

Place of therapy	Frequency	Percent
Home	3	5%
Hospital	57	95%
Total	60	100%
Treatment at home	Frequency	Percent
Good	21	35
Fair	5	8
Poor	34	57
Total	60	100%

Table (7) Regarding place of treatment showed that near all (95 %) of study group said the best treatment of diarrhea at hospital, while (57 %) of them poor knowledge about treatment and (8%) of them fair knowledge.

Table (8): Knowledge of study group about ORS (water used in preparation of, amount of water used and the time of its use).

Boiled of water used to preparation of ORS	Frequency	Percent
Boiled	44	73%
Not boiled	12	20%
I don't no	4	7%
Total	60	100%
Volume of water used to preparation of ORS	Frequency	Percent
5 cup	40	67%
3 cup	8	13%
2 cup	5	8%
I don't know	7	12%
Total	60	100%
Time for replacement ORS	Frequency	Percent
When feeling thirsty	24	40%
After diarrhea	34	57%
After each meal	2	3%
Total	60	100%

Table (8) illustrated that (73%) used boiled water for preparation, knowledge of Study group about amount of water used for preparation of ORS was good in (67%), also (57%) of study group good knowledge about the time to give ORS.

Table (9): Breastfeeding during diarrhea.

Breastfeeding during diarrhea	Frequency	Percent
Decreased	17	28%
Increased	43	72%
Stopped	0	0
Total	60	100%

Majority (72 %) of study group good knowledge about breastfeeding during diarrhea and (28%) of them poor knowledge as shown in table (9).

Table (10): Cross tabulation between education level and breastfeeding during diarrhea

Education level		Breastfeeding during diarrhea		Total	Asymp. Sig. (2-sided)
		Curtail	Augment		
Illiterate	Count	1	0	1	.033
	% of Total	1.7%	0.0%	1.7%	
Primary	Count	6	13	19	
	% of Total	10.0%	21.7%	31.7%	
Secondary	Count	4	7	11	
	% of Total	6.7%	11.7%	18.3%	
University	Count	4	23	27	
	% of Total	6.7%	38.3%	45.0%	
Post graduate	Count	2	0	2	
	% of Total	3.3%	0.0%	3.3%	
Total	Count	17	43	60	
	% of Total	28.3%	71.7%	100.0%	

P value=0.033

Table (10) illustrated that educational level significantly related with knowledge about breast feeding during diarrhea (0.033).

Table (11): Foods stopping from the child during the period of diarrhea and their types

food stopped during diarrhea	Frequency	Percent
Yes	53	88%
No	7	12%
Total	60	100%
Knowledge about type of the food	Frequency	Percent
Fibers	11	20%
Carbohydrate	16	28%
Milk	7	12%
All Above foods	26	40%
Total	60	100%

Majority (88%) of mothers stopped certain foods from the child during the period of diarrhea and(40%)of them stopped (fibers ,carbohydrate ,milk)as shown in table (11).

Table (12): Knowledge about diarrhea prevention:

Prevention	Frequency	Percent
Good	51	85%
Fair	2	3%
Poor	7	12%
Total	60	100%

Table (12) illustrated that (85 %) of the study group had good knowledge about saving their children from diarrhea.

Table (13): Rota virus vaccination for children

Vaccination	Frequency	Percent
Vaccinated	54	90%
Not vaccinated	6	10%
Total	60	100%

Table (13) clarified that near all (90 %) of study group had vaccinated their children against diarrhea (rota virus).

Table (14): Cross tabulation between the education level of mothers and vaccination of their children:

Does your child have been vaccinated against diarrhea	Education level					Total	Asymp. Sig. (2-sided)
	Illiterate	Primary	Secondary	University	Post graduate		
Yes	0	30.0%	15.0%	41.7%	3.3%	90.0%	.030
No	1.7%	1.7%	3.3%	3.3%	0	10.0%	
Total	1.7%	31.7%	18.3%	45.0%	3.3%	100.0%	

P value=0.030

Table (14) showed that there was significant p (0.030) between the children have been vaccinated against diarrhea and the education level mothers.

Table (15): Cross tabulation between the children vaccination against diarrhea and its occurrence.

Child vaccination		Occurrence of diarrhea		Total	Asymp. Sig. (2-sided)
		Yes	No		
Yes	Count	49	5	54	.081
	% of Total	81.7%	8.3%	90.0%	
No	Count	4	2	6	
	% of Total	6.7%	3.3%	10.0%	
Total	Count	53	7	60	
	% of Total	88.3%	11.7%	100.0%	

P value=0.081

Table (15): showed that there was no significant p (0.081) between the children vaccination against diarrhea and the child cases of diarrhea.

Table (16): Mothers knowledge about complications of diarrhea

Complication	Frequency	Percent
Death	5	8%
Fluid loss	43	72%
Malnutrition	12	20%
Total	60	100%

Regarding complications of diarrheal disease majority (72 %) of study group knew loss of fluids occurrence, and only (8 %) were aware of death for children as shown in table (16).

Discussion

Diarrheal disease is the second leading cause of death in children under five years old, and it is responsible for killing around 760 000 children every year, ⁽²⁾.

This study was done to assess knowledge of mothers about management of diarrhea disease in children less than five years during period from September to December 2016.

The present study showed that more than third of mothers (42%) their age between (25-35) years This is approximately the same age(16-30) in study done by Ansari M in 2012, ⁽¹⁸⁾.

It was reflected that near to half of them (48%) had university level of education, Mohamed O Y in 2016 reported that educational level of households having children under five years in shendi town(32%) had university level, ⁽¹⁹⁾.

The study showed that more than two thirds (72%) of them were house wives, and More than half of mothers (60%) have one child under 5 years this may justify the most frequent diarrheal disease can occur in children under five years. Two third of families (68%) had moderate economic status .

This study reflected that majority of mother (82%) had good knowledge about concept of diarrhea similar results were attained by Mumtaz Zafar Mumtaz in 2014 who found that (72%) of the mothers knew the correct definition of diarrhea), ⁽²⁰⁾.

There was association between age of study group and the concept of diarrhea with p (0.681)agree with association between knowledge about diarrhea and age of mothers with p (0.0681) Diouf 2014, ⁽²¹⁾.

In this study presented that only two third of mothers (68 %) had good knowledge about causes of diarrhea. Kagani K L in Nairobi city 2011 reported that mothers/caregivers whose children had suffered from diarrhea (38%) had the opinion that the cause had been contaminated food and milk, ⁽²²⁾.

Educational level of mothers did not affect their knowledge about causes of diarrhea p (0.461).

Majority of mothers (88 %) their children had diarrhea and which was frequent in (52%).

In addition near all (95 %)of study group said the best treatment of diarrhea at hospital, and more than half (57 %)of them poor knowledge about treatment.

With regard to ORS, which is a home treatment (73%) of mothers used boiled water for preparation while only (67%) have good knowledge about amount of water used for preparation of ORS, also more than half (57%)of study group had good knowledge about the time to give ORS .This disagree with a study many of the caregivers (66%) had used ORT. The caregivers ORT knowledge was significantly associated with attitude (P= 0.0000). A small proportion of the caregivers (29%) had problems preparing ORT at home, ⁽²³⁾.

In addition more than two thirds (72 %) of study group good knowledge about breastfeeding during diarrhea. This level according to the importance of breastfeeding is relatively low.

Educational level did not affect their practice of breast feeding during diarrhea p (0.033).

Most (88%) of mothers stopped certain foods from the child during the period of diarrhea and (40%) of them stopped (fibers, carbohydrate ,milk)with the believe that it increase diarrhea .this disagree with Kamaldeen AS who reported that on restriction of food during diarrhea,(54.3%) of mothers used to continue usual feeding and increased fluid while (45.7%) believed some food should be restricted, ⁽²⁴⁾ .

The majority of mothers (85 %) had good knowledge about saving baby from diarrhea this was supported by previous study in Nigeria in 2014 in which mothers had high (60%) level of knowledge regarding the preventive measures of childhood diarrhea, ⁽²⁵⁾.

Regarding vaccination against rota virus near all of the children (90%) have been vaccinated against diarrhea this may be related to increase knowledge of the mother about vaccine importance, there was significant p (0.030) between the children have been vaccinated against diarrhea and the Education level of mothers.

There was no significant p (0.081) between the children have been vaccinated against diarrhea and the child have been cases of diarrhea.

Also majority (72%) of mothers regarding complication of diarrheal disease was good knowledge about fluids loss occurrence which the most important complication.

Conclusion

Based on the study finding it concluded the following:

- Mothers knowledge about concept and causes of diarrhea was good.
- Majority of mothers their children had diarrhea and in (52%) it was frequent.
- Majority of mothers (72%) had good knowledge about breastfeeding during diarrhea.
- Educational level of mothers did not affect their knowledge about breastfeeding during diarrhea .
- Only (67%) of mothers know the amount of water to be used for preparation ORS and only (57%) have good knowledge about time of ORS use.
- The mothers her good knowledge about diarrhea prevention.
- Mothers knowledge about complications of diarrhea was good.

Recommendations

Based on study finding and conclusion the following recommendation should be implemented:

- Health education to the mother about cause, complication, prevention and treatment of diarrhea through effective diarrheal disease control programs.
- Health education to the mother to complete the vaccination of the child.
- Health education to the mother about breastfeeding during diarrhea
- Health education to the mother to use of oral rehydration therapy, home-based treatment by the nurse and other health sectors .

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بسم الله الرحمن الرحيم

جامعة شندي

كلية الدراسات العليا والبحث العلمي

تخصص تمريض أطفال

استبيان حول معرفة الأمهات تجاه الإسهالات في الأطفال أقل من خمسة سنوات
بقريّة السيال الكبير

1. عمر الأم:
أ) 18-25 سنة () ب) 26-35 سنة () ج) 36-45 سنة () د) 45 فأكثر ()
2. المستوى التعليمي للأم:
أ) أمية () ب) أساس () ج) ثانوية () د) جامعة () هـ) ما فوق الجامعة ()
3. عمل الأم:
أ) ربة منزل () ب) عاملة () ج) موظفة حكومية ()
4. عدد أفراد الأسرة:
أ) 3-5 () ب) 5-7 () ج) أكثر من 7 فرد ()
5. عدد الأطفال أقل من 5 خمسة سنوات:
أ) طفل واحد () ب) طفلان () ج) ثلاثة أطفال ()
6. الحالة الاقتصادية:
أ) جيدة () ب) وسط () ج) ضعيفة ()
7. ما هو الإسهال في نظرك:
أ) زيادة عدد مرات التبرز () ب) نوع من تغيير البراز ()
ج) التغيرات في لون البراز الطبيعي () د) كل ما ذكر صحيح ()
8. ما هو سبب الإسهال في رأيك:
أ) التسنين () ب) عوامل بيئية () ج) جراثيم () د) كل ما ذكر صحيح ()
هـ) لا أعرف ()
9. هل تعرض طفلك لحالات إسهال من قبل:
أ) نعم () ب) لا ()
10. عدد المرات التي يعاني فيها الطفل من الإسهال في السابق:
أ) مرة واحدة () ب) 2-3 مرة () ج) أكثر من 3 مرات ()
11. أين تفضلي العلاج:
أ) في المنزل () ب) في المستشفى ()
12. إذا كان العلاج في المنزل ما هو العلاج:

- أ) زيادة ماء الشرب () ب) إعطاء ملح التروية () ج) إعطاء عصائر الفاكهة ()
 د) زيادة عدد الرضعات () هـ) كل ما ذكر صحيح ()
13. الماء المستعمل في تحضير ملح التروية:
 أ) مغلي () ب) غير مغلي ()
14. ما كمية الماء المستخدمة:
 أ) 5 كباي ماء () ب) ثلاثة كباي () ج) 2 كوب ماء () د) لا أعرف ()
15. زمن إعطاء ملح التروية يكون:
 أ) عند الإحساس بالعطش () ب) بعد كل إسهال () ج) بعد كل وجبة ()
16. الرضاعة الطبيعية أثناء فترة الإسهال:
 أ) تقل () ب) تزيد () ج) تتوقف ()
17. هل هناك أطعمة معينة تجنبيها الطفل أثناء فترة الإسهال:
 أ) نعم () ب) لا ()
18. إذا كانت الإجابة بنعم ما نوع الطعام:
 أ) ألياف () ب) السكريات () ج) الألبان () د) كل الأطعمة المذكورة أعلاه ()
19. كيف تقي طفلك من الإسهال:
 أ) الرضاعة الطبيعية () ب) الاهتمام بالنظافة الشخصية ()
 ج) إعطاء كل جرعات التطعيم () د) كل ما ذكر صحيح ()
20. هل تم تطعيم طفلك ضد الإسهال (الروتا):
 أ) نعم () ب) لا ()
21. ما هي مضاعفات الإسهال:
 أ) الوفيات للأطفال () ب) حدوث فقدان السوائل () ج) حدوث سوء التغذية ()

Shendi university

Faculty of High nursing

Questionnaire

1. Age of mother:

- a. 18 – 25 years { } b. 26 – 35 { } c. 36 – 45 { } d. above 45 years { }

2. Educational level of mother:

- a. illiterate { } b. primary { } c. secondary { } d. university { }

e. post graduate { }

3. Occupation:

a. housewife { } b. worker { } employer { }

4. Number of family members:

a. 3 – 5 { } b. 5 – 7 { } c. above 7 { }

5. Number of children less than five year:

a. one child { } b. tow child { } c. three child { }

6. Economic status :

a. good { } b. moderate { } c. poor { }

7. What is diarrhea:

a. increase the number of the time defection { }

b. change kind of the stool { }

c. change in the natural color the stool { }

d. all above true { }

8. Causes of diarrhea in your opinion?

a. teething { } b. environmental factors { } c. fly { }

d. all above true { } e. unknown { }

9. Does your baby already exposed to diarrhea?

a. Yes { } b. No { }

10.The frequency of diarrhea previously:

a. once { } b. 2 – 3 { } c. above 3 { }

11.What is the best place for treatment of diarrhea among children?

a. home { } b. hospital { }

12. If the treatment at home what is the treatment?

a. increase drinking water { } b. give ORS{ } c. give fruit juices { }
d. increase the number of feeding { } e. all above true { }

13. The water used in preparation of ORS:

