Knowledge, Attitude and Practice of Mothers of under five years Children with Diarrheal Diseases at Edaid Abu Oshar, ELKamleen Locality, Gezira state, Sudan (2013)

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MBBS, University of Bakht ALruda (2008)

A Dissertation

Submitted to the University of Gezira in Partial Fulfillment of the Requirements for the Award of the Degree of Master of Science in Family Medicine

Department of Family and Community Medicine

Faculty of Medicine

February, 2014
Knowledge, Attitude and Practice of Mothers of under five years Children with Diarrheal Diseases at Edaid Abu Oshar, ELKamleen Locality, Gezira state, Sudan (2013)

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Supervision Committee:

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<td>Dr. Salwa Elsanousi Hussein</td>
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<td>prof. Magda Elhadi Ahmed Yousif</td>
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Knowledge, Attitude and Practice of Mothers of under five years Children with Diarrheal Diseases at Edaid Abu Oshar, ELKamleen Locality, Gezira state, Sudan (2013)

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Examination Committee:

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<td>Dr. Salwa Elsanousi Hussein</td>
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Date of Examination: 12/2/2014
Dedication

To my dear family members especially my mother and father, my brothers and sisters, who always encourage and support me.

Riyad
Acknowledgement

My special thanks goes to Gezira state Family Medicine Program and its role in changing the attitude, culture and practice of medical personnel in the state.

My deepest gratitude to Dr. Salwa Elsanousi, Associated professor of Community Medicine, who did not hesitate to devote her knowledge and time for me, and giving her arguments in this study.

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I would like to express my special thanks to the staff and the patients of Edeed Abu Oshar Health Center for the help and assistance that without them this study could not be achieved.

Eventually, my deepest appreciations to my family, who always encourage and support me.
Knowledge, Attitude and Practice of Mothers of under five years Children with Diarrheal Diseases at Edaid Abu Oshar, ELKamleen Locality, Gezira state, Sudan (2013)

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Abstract

Diarrhea defined as the passage of three or more loose liquid stools per day. It's the second leading cause of death in children under five years old worldwide, and is responsible for killing around 760,000 children every year in the world. This study conducted at Edaid Abu Oshar village, ELKamleen locality, Gezira state, included mothers of children under 5 years who seek care for their children who had diarrhea during April 2013, the total sample size was 160, data was based on comprehensive sampling, collected by a structured questionnaire and medical record in the health center during April 2013. The study aimed to assess knowledge, attitude and practice of mothers of under five years old children in Edaid AbuOsher towards diarrheal diseases and to measure the knowledge of mothers regarding causes of diarrhea, home management of diarrhea according to IMCI regarding fluids and breast-feeding, care seeking behavior and to determine the percentage of children who had vaccinated against Rota virus. In the result we find that contaminated food and water were the major causes of diarrheal diseases, they manage their children with decreasing quantity of fluid intake and breast feeding and they use the custard as additional feeding, mothers believes that ORS increase diarrhea to their children so that most of them avoid its uses and most of them can’t prepare it properly, Regarding vaccination against Rota only (45.6%) of the target children were vaccinated. The study recommended Raise the awareness of the mothers toward diarrheal diseases diarrheal diseases and its causes, prevention, home management and IMCI program and uses of ORS at home, also to importance of vaccination against Rota virus. Also recommended the improvement of the care provided to the under five years children who had diarrhea in the health center.
تقييم المعرفة والممارسة والسلوك لدى أمهات الأطفال دون سن الخامسة نحو أمراض الإسهال في منطقة عديد أبو عشر، محلة الكاملين، ولاية الجزيرة، السودان (2013م)

رياض موسى أحمد بابكر

ملخص الدراسة
الإسهال هو خروج الغائط في حالة السيولة ثلاث مرات أو أكثر خلال اليوم. يعتبر الإسهال هو السبب الرئيسي الثاني لوفيات الأطفال دون سن الخامسة ويستقبل في وفاة 76000 طفل حول العالم بناها على تقرير منظمة الصحة العالمية. هذه دراسة مقطعية وصفية مبنية على المجتمع. أجريت في قرية عديد أبو عشر، في محلة الكاملين، ولاية الجزيرة، وشملت أمهات الأطفال دون سن 5 سنوات واللائي أحضرن أطفالهن للمركز الصحي بحالات الإسهال خلال شهر أبريل 2013. كان إجمالي حجم العينة 160 أم، تم اختيارهن على أساس العينة الشاملة، ثم جمع البيانات بواسطة استبان منظم في المركز الصحي للقرية.

تهدف الدراسة لقياس المعرفة والممارسة والسلوك لدى أمهات الأطفال دون سن الخامسة نحو أمراض الإسهال وطريقة تعويض السوائل والرضاعة الطبيعية، وتطبيق طريقة تعويض، وقياس الممارسة نحو رعاية الطفلة، والاستخدام والمعتقدات المتعلقة باستخدامها ومراعاة نسبة التطعيم ضد فيروس روتا. خلصت هذه الدراسة إلى أن تلوث الطعام ومياه الشرب أكثر المسببات للإسهال و وأن الأمهات يلجأن إلي تقليل كمية السوائل والرضاعة الطبيعية خلال فترة الإسهال. ويعتقد أن الكاساهر هو الوقبة الأصلية للأطفال في تلك الفترة. كما يعتقد أن استخدام أملاح التروية يشمل في زيادة الإسهال لذا لا يلجأ لاستخدامها كعلاج. وغالبية الأمهات لا يعرفن كيف تحضرها بطريقة سليمة ووجد أن التطعيم ضد فيروس روتا أقل من نصف عدد الأطفال المستهدفين. أوصت هذه الدراسة برفع مستوى وعي الأمهات في كيفية التعامل مع أمراض الإسهال ومعابها وكيفية الوقاية منه والتشجيع على استخدام أملاح التروية والتخدير الإضافية في المنزل وزيادة الرعاية الطبية لعلاج حالات الإسهال في المنزل والتطعيم ضد فيروس روتا. كما أوصت على المساهمة في تطوير خدمات رعاية الأطفال دون سن الخامسة المصابة بالإسهال المركز الصحي للقرية.
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**Abbreviation**

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<th>Definition</th>
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<tbody>
<tr>
<td>DD</td>
<td>Diarrheal Disease</td>
</tr>
<tr>
<td>WHO</td>
<td>World Health Organization</td>
</tr>
<tr>
<td>ORS</td>
<td>Oral rehydration salt</td>
</tr>
<tr>
<td>VPD</td>
<td>Vaccine Preventable disease</td>
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<tr>
<td>SPSS</td>
<td>Statistical Package for social Sciences.</td>
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Chapter One

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 worldwide. Most people who die from Diarrhea actually die from severe dehydration and fluid loss.\(^1\)

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). Frequent passing of formed stools is not Diarrhea, nor is the passing of loose, "pasty" stools by breastfed babies.\(^2\)

Scope of Diarrheal disease

Diarrheal disease is a leading cause of child mortality and morbidity in the world, and mostly results from contaminated food and water sources. Worldwide, 780 million individuals lack access to improved drinking water and 2.5 billion lack-improved sanitation. Diarrhea due to infection is widespread throughout developing countries.\(^1\)

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. As a result, Diarrhea is a major cause of malnutrition.\(^1\)

Causes:

Diarrhoea 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.

Other causes: Diarrhoeal disease can also spread from person-to-person, aggravated by poor personal hygiene. Contaminated food is another major cause of diarrhoea, when it is prepared or stored in unhygienic conditions. Water can contaminate food during irrigation.

Source: Water contaminated with human feces, for example, from sewage, septic tanks and latrines, is of particular concern. Animal feces also contain microorganisms that can cause diarrhoea.\(^1\)
Clinical Presentation:

There are three clinical types of diarrhoea:

- Acute watery diarrhoea – lasts several hours or days, and includes cholera.
- Acute bloody diarrhoea – also called dysentery.
- Persistent diarrhoea – lasts 14 days or longer.

Generally, watery diarrhea is caused by a virus infestation that infiltrate the digestive tract and affect the stool formation. Apart from viral infection, some bacteria like Campylobacter, Salmonella or Shigella that enter the body and hamper its immune system can also result in acute diarrhea. Cholera, an infectious disease resulting due to an exposure to contaminated water, if not treated in time can lead to watery diarrhea. It is a bacterial infection wherein the bacteria attaches itself to the intestine and intervenes with the sodium and potassium exchange, which is essential to regulate fluid and electrolyte concentrations in the body.$^1$

- Bloody diarrhea is a potentially critical condition in which there is blood mixed with loose, watery stools. The blood can arise from anywhere along the digestive tract, from the mouth to the anus. Bloody diarrhea is often a sign of gastrointestinal bleeding due to injury or disease. Diarrhea that contains bright red or maroon-colored blood may be referred to as hematochezia, while melena is used to describe black, tarry, and smelly diarrhea. Bloody diarrhea may also be referred to as dysentery, which is usually caused by a bacterial infection.

-Persistent diarrhoea is becoming recognised as an important child health problem in developing countries, although its control and prevention have received less attention than acute diarrhoea.

Persistent diarrhoea is an important cause of illness and death in children in developing countries.

Complications of diarrhea include:$^3$

Dehydration, Shock, Acidosis, Electrolyte loss, Ileus, Hypoglycaemia, Septicaemia and Malnutrition.
Severe dehydration is the commonest cause of death in infants with diarrhoea and by far the most important complication.

Weight loss is the best measure of the degree of dehydration. Unfortunately the child’s weight at the onset of the diarrhoea is often not known. Therefore, this method of assessing the degree of dehydration is only of limited use. With ‘some’ dehydration, less than 10% of body weight is lost.

All children with diarrhoea must be examined for signs of dehydration. The degree of dehydration can be roughly assessed clinically into ‘no visible’ dehydration, ‘some’ dehydration or ‘severe’ dehydration. This is important as it is essential to identify children with severe dehydration.

**Signs of dehydration:**

- Irritability or drowsiness.
- Passing urine infrequently.
- Pale or mottled skin.
- Cold hands and feet.
- Becoming increasingly unwell.

Some infants with diarrhoea appear very ill and have bacteria circulating in their blood. This is called septicaemia. Septicaemia should be suspected if the child has a high temperature (pyrexia) or appears a lot sicker that expected for the degree of dehydration or does not improve after the dehydration is corrected.

Hypoglycaemia in children is defined as a blood glucose concentration of less than 3 mmol/l. Severe diarrhoea, especially in malnourished children who refuse feeds or have severe vomiting, may cause hypoglycaemia. This can result in loss of consciousness or convulsions.

Ileus is distension of the abdomen due to a decrease or absence of the bowel movements (peristalsis). No bowel sounds can be heard. This lack of peristalsis is due
to infection and loss of potassium. Ileus usually does not cause abdominal pain or bile stained vomiting.

Children with diarrhoea lose both fluid and electrolytes in the stool. Important electrolytes which are lost include sodium, potassium, calcium, magnesium, chloride, phosphate, and bicarbonate. Electrolytes are also lost with excessive vomiting. Children with diarrhoea lose excessive amounts of fluid and electrolytes in the stool.4

**Treatment of diarrhoea in under five years children:**5

Diarrhoea will usually clear up without treatment after a few days because the immune system fights off the infection.

In children, the symptoms of diarrhoea will usually pass within 5-7 days. In most cases, diarrhoea does not last more than two weeks; diarrhoea usually improves within 2-4 days. However, it can last longer depending on the particular type of infection involved. For example:

- Rotavirus - 3-8 days
- Norovirus - about two days
- Campylobacter and salmonella infections - 2-7 days
- Giardiasis - several weeks

**Drink fluids**

It is important to drink plenty of fluids to avoid dehydration, by taking small, frequent sips of water, fruit juice or fizzy drinks should be avoided because they can make diarrhoea worse in children.

**Breastfeeding**

If the child is breastfeeding or bottle-feeding and have diarrhoea, should be continued to feed as normal.

Oral rehydration solution (ORS) should be given to child if they become dehydrated.
Rehydration drinks usually come in sachets that are available without a prescription from pharmacist. They are dissolved in water and replace salt, glucose and other important minerals that are lost through dehydration.

Rehydration drinks do not cure diarrhoea but they can help treat or prevent dehydration.

Opinion is divided over when and what should be eaten in case of diarrhoea. However, most experts agree that eating solid food as soon as being able to.

**Antibiotics**

Treatment with antibiotics is not recommended for diarrhoea if the cause is unknown. This is because antibiotics:

- Will not work if the diarrhoea is caused by a virus.
- Can cause unpleasant side effects.
- Can become less effective at treating more serious conditions if they are repeatedly used to treat mild conditions.

Antibiotics may be recommended in case of very severe diarrhoea, and a specific type of bacteria has been identified as the cause.

They may also be recommended if there is a pre-existing risk factor that increase vulnerability to infection, such as a weakened immune system.\(^6\)

**Hospital treatment**

Occasionally, hospital treatment may be needed if the child is seriously dehydrated due to diarrhoea. Treatment will involve administering fluids and nutrients directly into a vein (intravenously).
Question of the study:

What is the level of awareness of the mothers toward diarrheal diseases in children under five years old.

Rationale:

Diarrhea is usually an easily managed disease of childhood, but still the second cause of death in children under five years old, in the Gezira state specially areas that located in the agricultural scheme most of the children under five years old presented with diarrheal diseases.
Chapter Two

Literature Review

A survey of knowledge, attitudes and practices of mothers in the rural communities of two villages in Sudan regarding diarrhoeal diseases in children was conducted using a focus group research technique. Seven groups of literate mothers (87 mothers) and 13 groups of illiterate mothers (152 mothers) interviewed comprised 85% of mothers with children under 5 years of age in that community. The study showed that mothers can define and describe diarrhoea, however awareness about the aetiology was low. The majority of mothers attributed diarrhoea to teething, milk of pregnant women, hot food and salty water. Less than 40% of mothers identify symptoms and signs of "dehydration" and the need for consultation. Only 10% could relate danger signs to severe dehydration. The ORS use rate was very low (2.1-4.3%). Although awareness about ORS was high (100%), only 25% prepared and used it correctly. However, home made fluids including rice water, custard, pap and tabaladi juice were used by 45% of the mothers. 45% of illiterate mothers stop breast feeding and food during diarrhoea compared to 30% of literate mothers. Harmful practices used in caring for children with diarrhoea included: fumigation (50%), cauterization and removal of teeth buds (45% illiterate mothers, 10% literate), withholding of breast feeding and indiscriminate use of drugs and herbs in 30%.

The mothers studied in this research had inadequate knowledge about diagnosis and treatment of diarrhea. The educational programs must be an essential part of the health centers. Another study conducted in Ethiopia revealed that, diarrheal diseases are major causes of childhood morbidity and mortality in developing countries. Knowledge and practices of mothers or other care-takers of children are important determinants of the occurrence or outcome of diarrheal diseases. Base-line information on these variables is also needed for developing health education programs and for formulating national policy on home fluid therapy. This study was conducted with the objectives of assessing the knowledge and practice of mothers and other caretakers of children towards diarrheal diseases and the socio-demographic correlates of adequate knowledge and practice. A study was conducted in the rural North, South, East and West Shewa Administrative Regions in April, 1990. A two-stage cluster sampling proportionate to size was used to select a total of 750 mothers.
or other caretakers. These were interviewed by trained and supervised health workers who used a pretested questionnaire. The three major ethnic groups were Oromo, Guragie and Hadya. Of the total respondents, 79.3% were illiterate, 78.5% got their water from unprotected sources, 88.9% had no latrines, 80.4% had no access to mass media and 7.1% spent more than 2 hours to reach to the nearest health facilities. Only 2.6% and 5.7% of mothers had adequate knowledge and practice on diarrhea or its treatment, respectively. Age and educational level of mothers or other caretakers were found to be positively associated with adequate knowledge and practice towards diarrhea and its treatment. The study clearly indicated that health education messages have not been effectively disseminated to the rural population. It is, therefore, strongly recommended that the Diarrheal Diseases Control Program strengthens its communication activities through increasing persuasion of health workers who could serve as effective means of reaching the population who have access to health services.

A KAP (Knowledge, Attitude, and Practice) study on hygiene was carried out in three districts of Faryab province during November/December of 2005 by male and female interviewers who were trained to conduct standardized interviews and systematic observations of households. The aim of this survey was to measure the level of hygiene knowledge and practice before implementing WatSan projects.

The main findings of this survey were as follows:

A total of 403 households were visited and 468 people in 22 different villages interviewed, whereby more than 90% of them were illiterate.

The main water sources for more than 80% of all interviewees were rivers, streams and ponds and the average time to get drinking water was 262 minutes, ranging from 0 up to 720 minutes. Almost half of all households had a latrine (48%), many of them were unclean and most of them difficult to empty.

34% of the participants reported diarrhea cases in their families in the two weeks prior to the survey the majority of which were children.

The majority of people (66.5%) did know that unsafe water could cause diarrhea, but only 1.9% of the participants had done something to make their drinking water safer.
Most children appeared to be unclean (90%) and also a big part of the adults wore dirty clothes (55%). Interviewers also noted that most areas around the main water sources (80%), most of the yards (81%) and most kitchens (85%) were unclean. Animals, garbage or faces were spread around those places.

In a WHO study about Prevention and treatment solutions exist that are highly effective at reducing diarrheal disease. Water treatment options such as chlorine and water filters can greatly reduce the presence of harmful pathogens in drinking water. Sanitation methods such as latrines prevent these harmful pathogens from entering water sources. Oral rehydration solution (ORS) and zinc are low-cost, easily-administered, and highly effective treatment methods for preventing deadly dehydration from diarrheal disease. While all of these prevention and treatment options to reduce diarrheal disease exist, barriers such as affordability, accessibility, and awareness often prevent use by those who need them most.

In a study conducted in Nepal found that Knowledge about signs of dehydration and the management approaches of diarrhea at home was poor. Thus, there is a need for public health educational interventions.

**IMCI management of diarrhea**

**home therapy to prevent dehydration and malnutrition**

Mothers should be taught how to prevent dehydration at home by giving the child more fluid than usual, how to prevent malnutrition by continuing to feed the child, and why these actions are important. They should also know what signs indicate that the child should be taken to a health worker.

The following table shows diagnoses and treatment of dehydration.
<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Looks at:</strong></td>
<td>Well, alert</td>
<td>Restless, irritable</td>
<td>Lethargic or unconscious</td>
</tr>
<tr>
<td><strong>Condition</strong></td>
<td>Normal</td>
<td>Sunken</td>
<td>Drinks poorly, or not able to drink</td>
</tr>
<tr>
<td><strong>Eyes</strong></td>
<td>Drinks normally, not thirsty</td>
<td>Thirsty, drinks eagerly</td>
<td></td>
</tr>
<tr>
<td><strong>THIRST</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Feel:</strong></td>
<td>Go back quickly</td>
<td>Go back slowly</td>
<td>Go back very slowly</td>
</tr>
<tr>
<td><strong>Skin</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pinch</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Decide</strong></td>
<td>The patient has No signs OF Dehydration</td>
<td>If the patient has two or more signs in B, there is Some Dehydration</td>
<td>If the patient has two or more signs in C, there is Severe Dehydration</td>
</tr>
<tr>
<td><strong>TREAT</strong></td>
<td>Use Treatment Pan A at home</td>
<td>Treatment Plan B</td>
<td>Treatment Plan C</td>
</tr>
</tbody>
</table>

_Treatment Plan A:_ These steps are summarized in the _four rules_:

**Rule 1: Give the child more fluids than usual, to prevent dehydration**

**Suitable fluids**

Most fluids that a child normally takes can be used. It is helpful to divide suitable fluids into two groups:

- **Fluids that normally contain salt**, such as:
  - ORS solution
  - salted drinks (e.g., salted rice water or a salted yoghurt drink)
  - vegetable or chicken soup with salt.

Teaching mothers to add salt (about 3g/l) to an unsalted drink or soup during diarrhoea is also possible, but requires a sustained educational effort.

A home-made solution containing 3g/l of table salt (one level teaspoonful) and 18g/l of common sugar (sucrose) is effective but is not generally recommended because the recipe is often forgotten, the ingredients may not be available or too little may be given.

- **Fluids that do not contain salt**, such as:
  - plain water
Water in which a cereal has been cooked (e.g. unsalted rice water)
- unsalted soup
- yoghurt drinks without salt
- green coconut water
- weak tea (unsweetened)
- unsweetened fresh fruit juice.

**Unsuitable fluids**
A few fluids are potentially dangerous and should be avoided during diarrhoea. Especially important are drinks sweetened with sugar, which can cause osmotic diarrhoea and hypernatraemia. Some examples are:
- commercial carbonated beverages
- commercial fruit juices
- sweetened tea.

Other fluids to avoid are those with stimulant, diuretic or purgative effects, for example:
- coffee
- some medicinal teas or infusions.

**Rule 2: Give supplemental zinc (10 - 20 mg)**
Zinc can be given as a syrup or as dispersible tablets.

**Rule 3: Continue to feed the child, to prevent malnutrition**
To resume normal feeding children should be encouraged as soon as possible.
And Breastfeeding should always be continued.

**What foods to give**
This depends on the child's age, food preferences and pre-illness feeding pattern;
cultural practices are also important.
Specific recommendations are given below.

**Milk**
- *Infants of any age who are breastfed* should be allowed to breastfeed as often and
  as long as they want
- *Infants who are not breastfed* should be given their usual milk feed (or formula) at
  least every three hours, if

**Rule 4: Take the child to a health worker if there are signs of dehydration or other problems**
The mother should take her child to a health worker if the child:
- starts to pass many watery stools;
- has repeated vomiting;
- becomes very thirsty;
- is eating or drinking poorly;
- develops a fever;
- has blood in the stool; or
- the child does not get better in three days.
Objectives:

General objectives:

1. To assess knowledge, attitude and practice of mothers of under five years towards diarrheal diseases in Edeed abu oshar.

Specific objectives:

1- To measure the knowledge of mothers regarding causes of diarrhea, actions and interference at home regarding fluids and breast-feeding, when to seek medical care and assess mothers knowledge about Rota virus.
2- To assess the practice towards ORS, the use of fluids and believes regarding diarrhea and vaccination against Rota virus.
3- To assess the relationship between age and level of education of mothers and their knowledge and practices.
Chapter Three
Methodology

Study design:

Cross-sectional descriptive community based study.

Study area:

Edeed Abu Oshar village, in Kamleen locality, Gezira state in the middle of Sudan, about 120 km southern to Khartoum, number of population is about 3670 inhabitant, most of them are farmers, about 10% of them are children under five years. It is located within the large area of Gezira Scheme agricultural project results in many health problems specially water borne diseases. Although, drinking is from wells, there is one health center, near rural hospital Abu Oshar hospital, about 7 km.

Study population:

Mothers of children under 5 years in the study area who has regular attendance to health center.

Inclusion:

All the mothers of under five years children in the study area who their children had D. D and attending to the health center during April 2013.

Exclusion:

All mothers of children above five years.

Study sample and technique:

The total sample size was 160, based on period or cota sampling.

Data collection:
The data was collected by a structured questionnaire and electronic medical records.

**Data analysis:**

The data was analyzed using the Statistical Package for Social Sciences (SPSS), association and significance test.

**Ethical consideration:**

All data after being collected was stored on a personal computer, no mother or child identification or individual details was published, verbal consent of the mothers was taken to use the data.
Chapter Four

Results

Table 1: Age Group of Mothers of under five years children – n=160

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>≤ 25</td>
<td>88</td>
<td>55.0</td>
</tr>
<tr>
<td>26-30</td>
<td>28</td>
<td>17.5</td>
</tr>
<tr>
<td>31-35</td>
<td>36</td>
<td>22.5</td>
</tr>
<tr>
<td>36-40</td>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>&gt; 40</td>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most of mothers in the study are middle age groups

Table 2: Educational level of mothers of under five years children – n=160

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Illiterate</td>
<td>17</td>
<td>10.6</td>
</tr>
<tr>
<td>Primary</td>
<td>30</td>
<td>18.8</td>
</tr>
<tr>
<td>Intermediate</td>
<td>34</td>
<td>21.2</td>
</tr>
<tr>
<td>Secondary</td>
<td>61</td>
<td>38.2</td>
</tr>
<tr>
<td>High education</td>
<td>18</td>
<td>11.2</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most of the mothers are educated =90% , most of them are secondary level
Table 3: Occupation of mothers of under five years children – n=160

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Housewife</td>
<td>138</td>
<td>86.3</td>
</tr>
<tr>
<td>Students</td>
<td>5</td>
<td>3.1</td>
</tr>
<tr>
<td>Employers</td>
<td>17</td>
<td>10.6</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Housewife represent more than 86% , that give best care for their children.

Table 4: Age group of children under five years in the study – n=160

<table>
<thead>
<tr>
<th>Age in month</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt; 6</td>
<td>41</td>
<td>25.6</td>
</tr>
<tr>
<td>7-12</td>
<td>37</td>
<td>23.1</td>
</tr>
<tr>
<td>13-24</td>
<td>32</td>
<td>20.0</td>
</tr>
<tr>
<td>25-36</td>
<td>23</td>
<td>14.4</td>
</tr>
<tr>
<td>37-48</td>
<td>10</td>
<td>6.3</td>
</tr>
<tr>
<td>49-60</td>
<td>17</td>
<td>10.6</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

The age group of children less than 6 months are more frequent in presentation.
Table 5: Gender of children under five years in the study – n=160

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>68</td>
<td>42.5</td>
</tr>
<tr>
<td>Female</td>
<td>92</td>
<td>57.5</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most children presented in the period of the study were females.

Table 6: Recurrence of D. D. during last month – n=160

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Once</td>
<td>42</td>
<td>26.3</td>
</tr>
<tr>
<td>2-3</td>
<td>96</td>
<td>60.0</td>
</tr>
<tr>
<td>&gt; 3</td>
<td>22</td>
<td>13.7</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Diarrhea in previous table is more frequent 2-3 times in the study period.
Table 7: Mothers opinion about causes of diarrhea among the study population – 160

<table>
<thead>
<tr>
<th>Causes</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Contaminated food and water</td>
<td>65</td>
<td>40.6</td>
</tr>
<tr>
<td>Teething</td>
<td>47</td>
<td>29.4</td>
</tr>
<tr>
<td>Personal hygiene</td>
<td>21</td>
<td>13.1</td>
</tr>
<tr>
<td>Bottle feeding</td>
<td>11</td>
<td>6.9</td>
</tr>
<tr>
<td>Others</td>
<td>16</td>
<td>10.0</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most of mothers think that contaminated food is a major cause of diarrheal diseases.

Table 8: Feeding during diarrhea among the study population – n=160

<table>
<thead>
<tr>
<th>Feeding</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increase fluids or breast feeding quantity</td>
<td>62</td>
<td>38.8</td>
</tr>
<tr>
<td>Decrease fluids or breastfeeding quantity</td>
<td>98</td>
<td>61.2</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most the mothers prefers to decrease quantity of fluid intake and breast feeding to their children during duration of diarrhea.
Table 9: Types of Breast feeding during D. Ds – n=160

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Exclusive</td>
<td>154</td>
<td>96.3</td>
</tr>
<tr>
<td>Not exclusive</td>
<td>6</td>
<td>3.7</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most of the mothers concern to breast feeding during duration of diarrhea

Table 10: Opinion of mothers about danger signs – n=160

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th></th>
<th>No</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>All types of diarrhea</td>
<td>112</td>
<td>70.0</td>
<td>48</td>
<td>30.0</td>
</tr>
<tr>
<td>Bloody diarrhea</td>
<td>156</td>
<td>97.5</td>
<td>4</td>
<td>2.5</td>
</tr>
<tr>
<td>Mucous Diarrhea</td>
<td>121</td>
<td>75.6</td>
<td>39</td>
<td>24.4</td>
</tr>
<tr>
<td>Looks lethargic</td>
<td>92</td>
<td>57.5</td>
<td>68</td>
<td>42.5</td>
</tr>
<tr>
<td>Unable to drink</td>
<td>74</td>
<td>46.2</td>
<td>86</td>
<td>53.8</td>
</tr>
<tr>
<td>Sunken eyes</td>
<td>145</td>
<td>90.6</td>
<td>15</td>
<td>9.4</td>
</tr>
<tr>
<td>Sunken anterior fontanel</td>
<td>146</td>
<td>91.3</td>
<td>14</td>
<td>8.7</td>
</tr>
</tbody>
</table>
Table 11: Opinion of mothers about appropriate place of treatments – n=160

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Home</td>
<td>62</td>
<td>38.8</td>
</tr>
<tr>
<td>Health center</td>
<td>98</td>
<td>61.2</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Most mothers prefer to bring their children to health center before starts home management
Table 12: Mothers opinion towards ORS – n=160

<table>
<thead>
<tr>
<th>Opinion</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Increases diarrhea</td>
<td>63</td>
<td>39.4</td>
</tr>
<tr>
<td>Decreases diarrhea</td>
<td>57</td>
<td>35.6</td>
</tr>
<tr>
<td>Makes no change</td>
<td>26</td>
<td>16.2</td>
</tr>
<tr>
<td>I never used it</td>
<td>14</td>
<td>8.8</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>160</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Most of the mothers believe that ORS increase diarrhea.

Table 13: Preparation of ORS among the study population – n=160

<table>
<thead>
<tr>
<th>Preparation</th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Properly</td>
<td>75</td>
<td>46.8</td>
</tr>
<tr>
<td>Not properly</td>
<td>85</td>
<td>53.2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>160</strong></td>
<td><strong>100.0</strong></td>
</tr>
</tbody>
</table>

Most of the mothers didn’t know how to prepare ORS solution.
Table 14: Types of additional fluids during diarrhea among the study population – n=160

<table>
<thead>
<tr>
<th></th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>No.</td>
<td>%</td>
</tr>
<tr>
<td>ORS</td>
<td>41</td>
<td>25.6</td>
</tr>
<tr>
<td>Fruit juice</td>
<td>92</td>
<td>57.5</td>
</tr>
<tr>
<td>Custard</td>
<td>75</td>
<td>46.9</td>
</tr>
<tr>
<td>Soft drinks</td>
<td>69</td>
<td>43.1</td>
</tr>
<tr>
<td>Rice water</td>
<td>87</td>
<td>54.4</td>
</tr>
<tr>
<td>Water + sugar + salt</td>
<td>59</td>
<td>36.9</td>
</tr>
<tr>
<td>Tabaldy</td>
<td>36</td>
<td>22.5</td>
</tr>
<tr>
<td>I don’t use</td>
<td>61</td>
<td>38.2</td>
</tr>
</tbody>
</table>

Most of the mothers believe that fruit juice intake is a suitable fluid in diarrheal management.
Table 15: Rota virus vaccination among the study group n=160

<table>
<thead>
<tr>
<th></th>
<th>Frequency</th>
<th>Percent</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes</td>
<td>73</td>
<td>45.6</td>
</tr>
<tr>
<td>No</td>
<td>87</td>
<td>54.4</td>
</tr>
<tr>
<td>Total</td>
<td>160</td>
<td>100.0</td>
</tr>
</tbody>
</table>

There is good attitude toward vaccination against Rota virus.
Table 16: Relationship between the educational level of mothers and type of home management of the children

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Appropriate home management (ORS)</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
<td>No</td>
<td></td>
</tr>
<tr>
<td>Illiterate</td>
<td>0</td>
<td>17</td>
<td></td>
</tr>
<tr>
<td>Primary</td>
<td>3</td>
<td>27</td>
<td></td>
</tr>
<tr>
<td>Intermediate</td>
<td>6</td>
<td>28</td>
<td></td>
</tr>
<tr>
<td>Secondary</td>
<td>16</td>
<td>45</td>
<td></td>
</tr>
<tr>
<td>High education</td>
<td>16</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
<td>119</td>
<td></td>
</tr>
</tbody>
</table>

Table (16) demonstrated the relationship between the educational level of mothers and type of home management of the children. The relationship between educational level of mothers and type of home management was not statistically significant (P = 0.631).
Table 17 Relationship between the educational level of mothers and place of management of the children

<table>
<thead>
<tr>
<th>Educational level</th>
<th>Place of management</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Home</td>
</tr>
<tr>
<td>Illiterate</td>
<td>9</td>
</tr>
<tr>
<td>Primary</td>
<td>12</td>
</tr>
<tr>
<td>Intermediate</td>
<td>14</td>
</tr>
<tr>
<td>Secondary</td>
<td>19</td>
</tr>
<tr>
<td>High education</td>
<td>8</td>
</tr>
<tr>
<td>Total</td>
<td>62</td>
</tr>
</tbody>
</table>

It has been noticed that the higher the education was the more use of health center. the relationship between educational level of mothers and place of managing the child was statistically significant (P = 0.042).
Table 16: Relationship between the knowledge about D. D. and type of home management of the children

<table>
<thead>
<tr>
<th>Knowledge about D. D.</th>
<th>Appropriate home management (ORS)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yes</td>
</tr>
<tr>
<td>Good knowledge</td>
<td>29</td>
</tr>
<tr>
<td>Bad knowledge</td>
<td>12</td>
</tr>
<tr>
<td>Total</td>
<td>41</td>
</tr>
</tbody>
</table>

The relationship between knowledge about D. D. of mothers and type of home management was statistically significant (P = 0.011).

In this table those who had good knowledge about D.D they know the appropriate management of diarrhea according to IMCI home management.
Chapter five
Discussion

The knowledge about causes of diarrhea was variable among the mothers but most of
them think that contaminated food and water is a main causative agent (40.6%) . this
result is atypical to the study which done in Ethiopia ,while it differs from the study of
dr. Ahmed IS et al in Sudan.\textsuperscript{7} which shows the majority of mothers attributed to
teething and milk of pregnant women .

Regarding knowledge about IMCI signs that lead to seeking for health centers
medical care is good , mothers know looks lethargic(57%) sunken eyes( 90.6%) and
unable to drink(46%) .comparing with study of Dr Ahmed Is which shows less than
40% of mothers identify danger signs of dehydration.

Mothers opinion towards ORS some of them never use it(8.8%).

And some mothers thinks it increase diarrhea to their children(39)%

also regarding practice of preparation according to IMCI standard ,only (25%) of the
mothers prepared ORS properly. This result comparing with the study of Dr Ahmed Is
there is high percentage of uses ORS but agree in low percentage of preparation .

regarding breastfeeding and feeding required by IMCI during diarrheal period to
avoid dehydration and malnutrition, mothers gives additional feeding like custard and
rice water
to decrease diarrhea

but they restrict quantity of fluids and breastfeeding

Regarding vaccination against Rota, only (45.6%) of the children were vaccinated,
and this is may be due to their ages, nearly one third were elder than 2 years. in
contrast in the study which done in Ethiopia and the study which done by dr. Ahmed
IS et al in Sudan they shows the percentage of covering is high.
Chapter six

Conclusion

Most of the mothers under study think that contaminated food and water is a major cause of diarrheal diseases to their children under five years old.

They manage D.D with decreasing quantity of fluid intake and breast feeding. They use Fruit juice and custard as additional feeding.

Mothers believes that ORS increase diarrhea to their children so that most the mothers avoid its uses and most of them can’t prepare it properly.

They seek medical advice if one of the danger signs appear to their children as a complication of D.D, such as sunken eyes and bloody diarrhea, in such conditions the health center is appropriate place of treatment.
Chapter seven
Recommendations

From the results of this study we can recommend the following:

1- More health education is needed to increase the awareness of mothers towards the diarrheal diseases and its causes, prevention, and to raise awareness toward home care for diarrhea by using of ORS and fluids.

2- Raise the awareness of the mothers towards Rota vaccine administration to their infants.

3- Supplementation with free ORS to the mothers.

4- Encourage additional feeding to the children during D.D period.

5- Establishing of more health center in Edeed abu Osher.
References

http://childhealthcare.co.za/category/diarrhoea/
http://www.nhs.uk/Conditions/Diarrhoea/Pages/Treatment.aspx
http://www.cumbriapartnership.nhs.uk/api/condition/diarrhoea
Appendix (1): Questionnaire

بسم الله الرحمن الرحيم

استبيان عن مستوى المعرفة والسلوك والممارسات لأمهات الأطفال أقل من خمس سنوات عن الإسهالات في منطقة عديد أبو عشر

1/ بيانات الأم :
1. العمر : ........................................
2. المستوى التعليمي ........................................
3. عمل الأم : ..............................................................

2/ بيانات الطفل :
1. اسم الطفل : ........................................
2. العمر : ........................................
3. النوع : ........................................

3/ بيانات المرض :
1. كم عدد مرات الإصابة بالإسهال خلال الشهر الماضي ؟
   أ. مرة واحدة
   ب. من 2 إلى 3 مرات
   ت. أكثر من 3 مرات
2. في رأيك ما هو سبب الإسهال ؟
   أ. المياه والطعام الملوث
   ب. التسنين
   ت. عادات النظافة
   ث. الرضاعة بالبزازة
   ج. أخرى
3. التغذية خلال الإصابة بالإسهال ؟
   أ. تزيد
   ب. تنقص
4. نوع الرضاعة ؟
   أ. طبيعية فقط
   ب. مختلطة
5. متى تأخذي الطفل للمركز الصحي ؟
أ. أي أصابة بالإسهال
ب. إسهال دموي فقط
t. إسهال مخاطي فقط
ث. عندما يبدو شاحباً
ج. عندما لا يستطيع الشرب
ح. عندما تكون عيونه جاحظة
خ. عندما تكون جبهته بارزة
6. أين يتم علاج الطفل؟
أ. البيت
ب. المركز
7. رأي الأم في محلول التروية؟
أ. يزيد الإسهال
ب. ينقص الإسهال
t. لا يحدث فرق
ث. لم تجربه
8. طريقة تحضير المحلول؟
أ. سليمة
ب. غير سليمة
9. أنواع التغذية الإضافية في حالة الإصابة بالإسهال؟
أ. محلول التروية
ب. عصير الفواكه
ت. الكاسترد
ث. المياه الغازية
ج. ماء الأرز
ح. ماء + ملح + سكر
خ. تبلدي
د. لا استعمل
d. لا استعمل
10. التطعيم ضد فيروس الروتا؟
أ. مطعم
ب. غير مطعم