## بسم الله الرحمن الرحيم



# Shandi university Faculty of post Graduate Studies & Scientific Research



Awareness and knowledge of mothers regarding home management of diarrheal disease for children under five years in gaffer ibnauf specialized children hospital

Research Submitted for Partial Fulfillment of Master Degree in Pediatric Nursing.

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# الاية

# بسم الله الرحمن الرحيم

هال تعاليه:

# (وَجَعَلْنَا مِنَ الْمَاء كُلَّ شَيْءٍ مَيٌّ أَفَلا يُؤْمِنُونَ )

صدق الله العظيم

سورة الانبياء الاية (30)



### **Dedication**

This work is dedicated to those who have lightened my way,

Urge me to success, and encourage me to reach the highest goals.

To my sweet heart mother and dear father

I dedicate this study to my lovely

Sisters, brothers, to whoever supported me to

achieving this work

## Acknowledgements

Firstly I wish to thank ALLAH for affording me the time and ability to complete this research.

I would like to thank my supervisor Dr. Eiman Ahmed Saad for her valuable guidance, encouraging, offering hours of her time, patience during preparing and completion of research.

I would like to express my love to my family and my friend kheder mohammed For their help and support

Appreciation and gratitude to all who participated in bringing out this study.

#### **Abstract:**

**Background:** Diarrhea is the major cause of morbidity and mortality among children less than 5 years of age. Adequate rehydration therapy is most important aspect of management. Home based Oral Rehydration Therapy (ORT) prevents morbidity and mortality. In this study our objective was to assess the awareness and knowledge of mothers regarding home management of diarrheal disease for children under five years in gaffer ibnauf specialized children hospital.

**Methods:** This study was descriptive cross- sectional in gaffer ibnauf specialized children hospital . A questionnaire was provided to all the mothers admitted by child of under-five in gastroenteritis word.

**Results:** A total of 50 mothers 60% of mothers have awareness understand the term childhood diarrhea. 52% of mothers were aware of signs of diarrhea. 48.0% of mothers aware the sever symptoms noticed in child with diarrhea . 40.0% of mothers identify the mode of diarrhea spread , and more than halve mothers had poor knowledge. 52.0% of mother ware aware the danger of diarrhea . 42.0% of respondents were aware that dehydration is associated with acute loss of water and salt from the body. 52.0% of responder had a good knowledge about the management of diarrhea. 64.0% of the respondents were aware about the composition of oral rehydration therapy. 48.0% of the respondents had a knowledge how to avoid some diet( like fat and fiber) in order to prevent diarrhea.

#### **Conclusions:-**

The study concluded that mothers had good knowledge about definition, signs, symptoms, main danger of diarrhea, composition of ORT, important of fluid and breastfeed continuation, and they had poor knowledge about the diet control types of diarrheal diseases and mode of its transmission.

معرفة ووعي الامهات بشأن المعالجة المنزلية للاسهالات للاطفال دون سن الخامسة بمستشفى جعفر بن عوف التخصصي المرجعي للاطفال

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اعداد الطالب/ محمدعبدالله ابراهيم عبدالله

ملخص الدراسة

خلفية: - يعتبر الاسهال سبب رئيسي في معدل وفيات الاطفال دون سن الخامسة اهم خطوات العلاج تكمن في التروية الكافية عن طريق محلول الارواء الذي يمنع تلك الوفيات.

الهدف من هذه الدراسة: تهدف عن تقيم وعي ومعرفة الامهات بشأن العلاج المنزلي للاسهالات عند الاطفال دون سن الخامسة وذلك في مستشفي جعفر بن عوف التخصصي المرجعي للاطفال.

المنهجية: هذه الدراسة وصفية سريرية في مستشفي جعفر بن عوف التخصصي المرجعي للاطفال تم توزيع استبيان لامهات الاطفال تحت سن الخامسة المنومين بقسم الجهاز الهضمي.

النتائج: عدد الامهات المشاركات (50) مشاركة اظهرت هذه الدراسة ان (60%) من الامهات المشاركات علي وعي بوصف تعريف الاسهالات عند الاطفال. (52%) علي وعي باعراض الاسهالات. (48%) يعرفون الاعراض الخطرة المصاحبة للاسهالات (40%) علي وعي بطريقة انتشار الاسهالات و (52%) علي وعي بخطورة الاسهالات و (52%) علي وعي بخطورة الاسهالات و (42%) علي معرفة تامة بان الجفاف ينتج عن الفقد الحاد للماء والاملاح, (52%) من الامهات علي معرفة بكيفية معالجة الاسهال (64%) علي علم بمحتويات محلول الارواء (48%) على معرفة بنوعية الاطعمة التي يتم تجنبها اثناء الاسهال.

الخلاصة: - خلاصة هذه الدراسة اي ان اغلب الامهات المشاركات في هذه الدراسة تمتلك المعرفة الجيدة بتعريف الاسهال, وخطورة الاعراض المصاحبة له ونجد ان هؤلاء الامهات علي علم بمحتويات محلول الارواء ومدي اهمية السوائل واستمرار الرضاعة اثناء فترة الاسهال علما بان بعض المشاركات يفتقدون المعلومات عن كيفية انتشار الاسهالات والاطعمة التي تاخذ اثناء فترة الاسهال.

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# **List of Abbreviations**

WHO	World Health Organization	
AIDS	Acquired Immune Deficiency Syndrome	
GIT	Gastro Intestinal Tract	
CDC	Central Control For Disease	
ORT	Oral Rehydration Therapy	
UNIEF	United Nations International Children Education Fund	
TPN	Total Parental Nutrition	
I.O	Intra Osseous	
I.V	Intra venous	
SPSS	Statistical Package for Social Science	
ETEC	Entro Toxigenic E Coli	
EPEC	Entro Pathogenic E coli	
S.dysentery	Shigella dysentery	
NICU	Neonatal Intensive Care Unit	
PICU	Pediatric Intensive Care Unit	

#### 1-1 Introduction:

Diarrhea is defined as the passage of unusually loose or watery stool at least 3 times in a 24-hours period. The main problem with acute diarrhea is its ability to cause rapid fluid loss through stools in addition electrolytes (4).

Acute diarrhea is defined as an abnormally frequent discharge of semisolid or fluid fecal matter from the bowel, lasting less than 14 days (20).

Diarrhea is one of the commonest causes of morbidity among young children in developing countries as well as low income countries. young children is most vulnerable especially under 5 years of age group. Annually 1.4 to 2.5 million deaths occurs in children under the age of 5 years (15).

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. Globally, acute diarrhea is the second leading cause of death (after pneumonia), and both the incidence and the risk of mortality from diarrheal diseases are greatest among children aged less than 5 years, particularly during infancy.(7) WHO European region 12per 1000 live birth and african region 90 per 1000live birth Sudan has one of highest prevalence rates of diarrhea and global acute malnutrition. in one study by karrar and Omer. (10) The incidence of diarrhea in village near Khartoum was 217 episodes Per100 children per year,28% of children below the age of 5 years in North sudan had diarrhea in the two weeks

prior to the survey, varying From 40% in blue Nile to19% in south kordofan.(4).

Most of the mortalities and morbidities due to diarrhea can be prevented by practicing primary preventive measures such as use of clean water, hand washing, good cooking, exclusive breast feeding, immunization, sanitary disposal of excreta, use of latrines and good sanitary and hygienic (18).

Secondary preventive measures include early recognition of dehydration due to diarrhea and prompt oral rehydration by ORT(oral rehydration therapy), increased & continued feeding of energy dense food in addition to breastfeeding, zinc therapy and the use of appropriate antibiotics for severe cases of diarrhea (12).

With reference to the pivotal role mothers play in management of diarrhea, a joint statement of WHO/UNICEF stressed the need to understand their present attitudes, perceptions and regarding diarrhea (12).

Information on factors playing role in diarrheal disease management, preventive measures and control strategies need to be understood for better planning, organization and implementation of health services within the community In this context, the present study was undertaken to assess the knowledge and awareness of mothers regarding management of diarrhea and to give health education to mothers (21).

#### 1-2 Problem statement:

Diarrheal diseases account for 1 in 9 child deaths worldwide, making diarrhea the second leading cause of death among children younger than the age of five years. The disease is preventable and is characterized by the passage of loose or watery stools three or more times over a 24-hours period. Diarrhea is responsible for 17% of all deaths (approximately 2.5 million deaths each year) among children younger than 5 years old worldwide; this rate is higher than that of AIDS (Acquired Immune Deficiency Syndrome), malaria, and measles combined. The majority (42%) of these deaths are concentrated in the Sub-Saharan African countries, including Ethiopia (88 per 1000 live births). Sudan's rate of child mortality, measured as the number of deaths per 1,000 live births, decreased from 106 in 2000 to 73 in 2012. However, child mortality in Sudan far exceeds the global rate of child mortality, which was 48 in 2012. Contributing to this disparity is diarrheal disease, which is a leading cause of preventable 'death in Sudan.

#### 1-3 Justification:

Diarrhea is common among children and contributes substantially to pediatric morbidity and mortality worldwide. Diarrhea is a major public health problem in developing countries. An estimated 1.8 Billion episodes of diarrhea occurs in each year in worldwide and 3 million children under the age of 5 years die due to diarrhea in worldwide. Sudan has one of highest prevalence rates of diarrhea and global acute malnutrition. in one study by karrar and Omer. (10) The incidence of diarrhea in village near Khartoum was 217 episodes Per100 children per year,28% of children below the age of 5 years in North sudan had diarrhea in the two weeks prior to the survey, varying From 40% in blue Nile to19% in south kordofan.(4).

#### 1-4 Objectives:

#### 1-4 1- General Objective:

To Assess awareness and knowledge of mothers regarding home management of diarrheal disease for children under five years in gaffar Ibnauf Specialized hospital

#### 1-4 2- Specific objectives:

- 1- To assess the knowledge(Definition of diarrhea ,signs ,symptoms and complications) of mothers regarding diarrhea in children under five years.
- 2- To find the association between level of knowledge of mothers about management of diarrheal disease at home in children under five years with level of education.
- 3- To promote the knowledge of mothers about prevent of diarrheal diseases.

#### **Literature Review:**

#### 2-1 Background information:

Child health depends up on prevention. Majority of child health problems are preventable. Modern approach of child health care emphasis on "Preventive care rather than curative care Most of the childhood diseases are prevented by mother's role. (16)

Diarrhea is one of the most common manifestations of illness in infants and children. It is characterized by an increased in fluidity, frequency, volume as well as possible changes in color of faces in comparison with the usual stool pattern of the individual. The usual stool pattern of breast fed infants may be several stools a day, where as formula fed infants may be one stool every other day. Diarrhea is a symptom of variety of conditions, and it constitutes one of the main causes of morbidity and mortality among infants and children throughout the world. Diarrhea is one of the most common ailments in young children. A recent change in the consistency or character of stool is more important than the number of stools. (10)

Breast fed babies are protected against development of diarrhea because breast milk is free from contamination and it contains several protective agents. Bottle fed babies are more prone to suffer from diarrhea. Feeding with a cup and spoon is associated with lower risk of development of diarrhea. Most episodes of diarrhea start when infant is weaned to semisolid diet unless strict personal and environmental sanitation(5).

The acute diarrhea may last up to 14 days. Chronic diarrhea lasts for more than 21 days. The signs of dehydration are increased thirst, restlessness, irritability, decreased skin turgor, dry mouth, and tongue,

absences of tears when child crying, sunken eyes. Oral rehydration is accepted world wide as a primary tool for management of dehydration in acute gastroenteritis. The availability of use of oral rehydration has resulted in significant decrease in morbidity and mortality with acute diarrhea(2)

Diarrhea defined as passage of three or more losse or watery stools in a 24-hours period, aloose stool being one that would take the shape of a container. or increase in the fluidity, volume ,number of stools relative to usual habits of each individual(16).

As defined by WHO diarrhea is the passage of 3 or more loose or liquid stools per day, or more frequently than normal for the individual (WHO, 2013). It is usually a symptom of gastrointestinal infection, which can be caused by a variety of bacterial, viral and parasitic organisms. Infection is spread through contaminated food or drinking water, or from one person to another as a result of poor hygiene. Severe diarrhea leads to fluid loss, and may be life threatening, particularly in young children and people who are malnourished or have impaired immunity (WHO, 2013).

#### 2-2 Pathophsiology:

Diarrhea is the reversal of the normal net absorptive status of water and electrolyte absorption to secretion. Such as derangement can be the result of either an osmotic force that acts in the lumen to drive water in to the gut or the result of an active secretory state induced in the entrocytes.in the farmer case, diarrhea is osmolar in nuture as is observed after the ingestion of non absorbable sugars such as lactulose or lactose in lactose malabsorber.instead, in the typical actives secretory state, In secretory diarrhea the epthelial cells ion transport processes are turned

intastate of active secretion, The most common cause of acute - onest secretory diarrhea is abacterial infection of the gut. (6)

- The bacterial destroy the mucosal cells of the villi in the small intestines, resulting in decresed surface area and loss capacity to absorb fluid and electrolytes.. (13)
  - The bacterial penetrate the mucosa and submucosa of the intestines, causing damage to the cells, necrosis, and ulceration. Eventully, the organism may reach systemic circulation. Diarrhea ensues and is often mixed with red and white blood cell. (13)
  - The bacteria produce entrotoxin that stimulate secration of fluid and electrolytes from the perimary secretory cells in the small intestines. Action of the enterotoxin also interfere with the absorpative function of the surface area of the upper small intestines. Thus, the implance between fluid secretion and absorption lead to the loss of water in the stool. Diarrhea associated with this process is profuse and watery, leading to dehydration and acidosis. (13)

#### Causes Of Diarrhea In Children:

#### 2-3 Common causes:

- 1- Emotional stress (anxiety-fatigue) Emotional stress increase motility of intestinal or gastrointestinal tract.(5)
- 2- Intestinal infection (Bacteria {E coli, salmonella} Viral {human ,rota Virus , entric adenovirus} Fungal overgrowth) infection of mucosa increased mucosa secretion in colon(5).

#### Escherichia coli:

Enteroinvasive E. coli may produce bloody diarrhea with fecal leukocytes. Enterohemorrhagic E. coli type0157:H7 can cause a bloody diarrhea that may produce hemolytic-uremic syndrome, Enterotoxigenic E. coli is a leading cause of traveler's diarrhea(5).

#### Campylobacter jejuni:

Children have a predilection for infection during the first decade of life. Abdominal pain, fever, nausea, and vomiting frequently accompany the diarrhea and occasionally precede it. The illness usually lasts for 4 to 5 days, but abdominal pain may persist for several weeks after the diarrhea subsides. Fecal blood and leukocytes are common(5).

#### Salmonella:

Salmonella typhi infections are associated with typhoid fever (enteric fever). This serious infection, which is less common than the entero colitis forms, arises from contaminated water or food. High, spiking fevers are the rule; if untreated the fever may remain for 2 to 3 weeks. Nausea, vomiting, and splenomegaly are common and Diarrhea may occur(5).

#### Shigella:

Shigella can cause major damage to the distal colon and rectum. The clinical spectrum varies from mild, chronic diarrhea to an abrupt massive toxic process with a high mortality. The most common presentation involves abdominal cramps, fever, and vomiting. Diarrhea follows, often frequent with small volumes but mixed with blood and pus, associated with urgency .(5)

3-Food sensitive (gluten,cow milk) Food sensitivity decreased diagestion of food. Allergy to cow's milk protein is rare and often over diagnosed. The gliadin fraction of gluten appears to induce an inflammatory reaction in the small intestine of genetically predisposed patients. This process results in a flattening of the villi and a deepening of the crypts. After gluten has been introduced into the diet (usually after 6 months).(5)

4- Food intolerance (lactose,introduction of new food,over feeding)

Food intolerance increase motility, increased mucus secretion colon.

the commonest causes of malabsorption in childhood result from pancreatic insufficiency, protein intolerance and lactose intolerance .Secondary lactose intolerance is common in the baby and young child. during an acute episode of gastroenteritis, the superficial mucosal cells containing. (5)

#### 5-medication

Reaction to medicines, some kinds of antibiotics (such as clindamycin, cephalosporins, sulfonamids), laxatives and antiacids.

6-Colon disease (colitis, necrotizing entrocolitis, entrocolitis) Inflamation and ulceration of intestinal walls reduced absorption of fluid increased intestianal mobility(9).

#### 7- Surgical alteration(short bowelsyndrome)

Surgical alteration reduce size of colon decreased absorption surface.(9)

#### 2-4 Types of diarrhea:

#### 1- Acute watery diarrhea:

Which lates several hours or days the main danger is dehydration weight loss also occurs if feeding is not continued. This term refers to diarrhea characterized by abrupt onset of frequent, watery, loose stools without visible blood, lasting less than two weeks. usually, acute watery diarrhea episodes subside within 72 hours of onset. The enteric pathogens causing this diarrhea in developing countries are largely the same that are encountered in developed countries, but their proportions are different. In general, bacterial pathogens are more important in countries with poor hygienic conditions. The most important causes of this diarrhea in developing countries especially among children include Rotavirus, shigella, Entro-Toxigenic E. coli (ETEC), Entero pathogenic (EPEC), Salmonella and Cryptosporidium .The most dangerous complication is dehydration that occurs when there is excessive loss of fluids and minerals (electrolytes) from the body. with vomiting dehydration becomes more severe. dehydration is especially dangerous in infant and young children due to rapid body water turnover, high body water content and relatively larger body surface (http://rehydrate.org/diarrhoea/).

#### 2- Acute bloody diarrhea (also called dysentery)

The main danger are intestinal damage. sepsis and malnutrition. other complications, including dehydration, may also occur. Also called acute bloody diarrhea and may simply be defined as diarrhea containing blood and mucus in feces. The illness also includes abdominal cramps, fever and rectal pain. The most important cause of bloody diarrhea is Shigella. Shigella is a genus of bacteria with four species: S. dysenteriae,

- S. flexneri, S. boydii and S. sonnei. S. sonnei is the main cause in developed countries (WHO, 2013).
- **3- Persistent diarrhea** (which lates 14 days or longer) The main denger is malnurrition and serious non-intestinal infection dehydration may also occur(16)
- **4- Diarrhea with sever malnutrition** (marsmus or kwashkor) The main dengers are severe systemic infection, dehydration, heart failure, vitamins and mineral deficiency .(16)

#### 2-5 Classified diarrhoea according to typology:

Secretary diarrhoea, osmotic diarrhoea, and exudative diarrhoea. Secretary diarrhoea results from active process in the intestinal epithelium stimulated by the presence of toxin, chemical or nutritional product in the intestinal linning. Osmotic diarrhoea is caused by the presence of osmotically active solutes in the intestinal linning that are poorly absorbed by the injection of laxatives such as magnesium sulphate or magnesium hydroxide. Exudative diarrhea is associated with damage to the mucosa lining leading to out pouring of mucus, blood and plasma protein among other substances. However, it is important to note that the classification of diarrhea does not influence the causes. When child has diarrhea the body fluid and salt can be quickly last from the body.the child become dry (dehydration) and this is very dangerous and may kill the child (WHO and Unicef,2010)

#### 2-6The global burden of diarrheal disease in children:

Pneumonia, diarrhea and malaria remain leading causes of death among children under age five, accounting for about 1.3 million about 40 percent of under-five deaths in Sub-Saharan Africa and roughly half a

million about 25 percent in Southern Asia. Diarrhea killed roughly 2 million children in 2013 and accounted for almost a third of global under-five deaths (UNICEF, 2014).

# 2-7Risk factors of diarrheal disease among under five years children:

#### 1- Breast feeding:

Breast milk contains the nutrients, antioxidants, hormones and antibodies needed by a child to survive and develop. Infants who are exclusively breastfed for the first six months of life and continue to be breastfed until two years of age and beyond develop fewer infections and have less severe illnesses than those who are not, even among children whose mothers are HIV-positive (UNICEF/WHO, 2009).

#### 2- Malnutrition:-

Children with poor nutritional status and overall health, as well as those exposed to poor environmental conditions, are more susceptible to severe diarrhea and dehydration than healthy children. Children are also at greater risk than adults of life-threatening dehydration since water constitutes agreater proportion of children,s body—weight (Unicef/WHO.2009).

Diarrhoea and malnutrition are known to have a bi-directional relationship under nourished children are at higher risk of suffering more severe, prolonged and often more frequent episodes of diarrhea repeated bouts of diarrhea also place children at agreater risk of worsening nutritional status due to decreased food intake and reduced nutrient absorption, combined with the child's increased nutritional requirements during repeated episodes (WHO/UNICEFI, 2010).

#### **3-Seasonal distribution:**

Seasonal patterns to childhood diarrhea have been noted in many tropical locations, where there are two definite seasonal peaks: the summer one associated with bacterial infections and the winter one related to viruses In some studies diarrhea prevalence was found to be higher in the rainy season than in the dry season. During the dry seasons when rainwater and borehole water are less available, disinfecting drinking water from available surface sources may substantially reduce illness. In some studies contamination was more prominent during the rainy season(WHO,2010).

#### **4-Lack of Hygiene -Environment (water source)**

While 87% of the world's populations now have access to improved water sources, 39% still lack access to improved sanitation (UNICEF & WHO, 2010). Diarrhea most often results from the ingestion of pathogens from feces that have not been disposed of properly, or from the lack of hygiene (WHO, 2011). Throughout the world, an estimated 2.5 billion people lack basic sanitation (more than 35% of the world's population) and lack access to facilities for the safe disposal of human waste (feces and urine), as well as having the ability to maintain hygienic conditions. Centre for Disease Control [CDC] (2014)

#### 5- Education and socio-economic factors

Low level of income of the household is associated with poor housing, crowding, dirt floors, and lack of access to sufficient clean water or to sanitary disposal of fecal waste. Poverty restricts the ability to provide age-appropriate, nutritionally balanced diets or to modify diets when diarrhea develops so as to mitigate and repair nutrient losses. education

of mother's knowledge of child's health, which is an important predictor of child health outcome (11)

The impact of maternal education on child health has three primary causal pathways(1)

Among the key pathways, maternal education impacts on child health through increased knowledge of health issues. Second, maternal education can increase awareness of disease prevention and control mechanisms (17)

Maternal education can change traditional attitudes towards child health and nutrition .Maternal education can also reduce the likelihood of poverty and social exclusion, thus removing financial constraints, enabling families to achieve better living conditions, increasing their ability to pay for social services and improving their social relations; all of these factors can ultimate improve child developmental outcomes.(8)

#### 2-8 Route transmission of diarrheal disease:

Diarrhea most often results from the ingestion of pathogens from feces that have not been disposed of properly, or from the lack of hygiene (WHO, 2011). Throughout the world, an estimated 2.5 billion people lack basic sanitation (more than 35% of the world's population) and lack access to facilities for the safe disposal of human waste (feces and urine), as well as having the ability to maintain hygienic conditions. Centre for Disease Control [CDC] (2014)

Transmission through faeco- oral route and water borne, food borne or direct transmission which implies an array of other faeco oral route such as via fingers, or fomites, or dirt which may be ingested by young children .also direct transmission among persons in close contact is also possiple such as occur via unclean hand. or through contaminated object such as bed linen, kitchen utensils, tableware.flies and cockroaches play a role as vectors of the infectious agent of fecal origin(14).

#### 2-9 Signs and symptoms:

The common feature the skin becomes extremely dry and skin pinch returns very slow more than tow second, loses its turgor. The fontanelle becomes sunken, and the pulse is weak and rapid. The stools become greenish liquid and may be tinged with blood, thirst, drinking eagerly ,lethergic child,unconscious (dehydration). .diarrhea is sunken eyes child and abdominal pain abdominal cramping delyed capilary refill. mild diarrhea may present as little more than loose stools; the frequency of defecation may be 2 to 12 per day. The child may be irritable and have a loss of body water and electrolytes(14).

# 2-10 Dehydration is common sign and classifiy to three degree:

#### 1- Sever dehydration will have two of these sign

- Sensorium abnormality sleepy or lethergic or unconscious
- Sunken eyes
- Drinking poorly
- Very slow skin turgor.

#### 2- Some dehydration will have two of these signs

- Reslessness or irritability
- Sunken eyes
- Drinking eagerly
- Slow skin turgor

#### 3- No dehydration

Non of these sign (WHO,2012)

#### 2-11 Signs and Symptoms of Dehydration according to

	Isotonic	Hypotonic	Hypertonic
Thirst	Mild	Moderate	Extreme
Skin turgor	Poor	Very poor	Moderate
Skin consistency	Dry	Clammy	Moderate
Skintemperature	Cool	Cool	Warm
Urine output	Decreased	Decreased	Decreased
Serum sodium level	Irritable	Lethargic	Very lethargic
Activity	Normal	Reduced	Increased(21)

#### 2-12 Medical management:

3 Ds

Dehydration correction– replace the loss of fluid and electrolytes

Diet: Start food as soon as possible

#### Drug therapy according to causes:

The treatment based on degree of dehydration. the treatment of acute diarrhea is determined by extent of the illness and the cause, with attention to hydration and dietary needs as appropriate and with prevention as a priority. Initially the priority is to restore and maintain hydration. Oral rehydration is generally attempted before intravenous hydration. The focus is on correcting the fluid and electrolyte imbalances and treating the underlying cause(19).

Solid food is generally started within the first 24 to 48 hours and starts with bland, soft foods. care needs to be taken to avoid foods with a high

fat content and simple sugars. Foods generally well tolerated include vegetables, fruits, yogurt, complex carbohydrates, and lean meat. Pharmacological treatment in general is not ordered for young children.

although anti-diarrheal are generally not recommended. chronic diarrhea involves treating the underlying cause. Enteral (by the way of the intestine) or total parenteral nutrition (TPN) is provided for the child who is unable to maintain adequate oral nutritional intake.(19)

For severe dehydration, rehydration is accomplished by intravenous infusion with a Solution chose'n to correct the specific imbalances. a soon as possible, Introduce clear liquids or breast milk and then progress the child to the regular diet Foods(9).

- If the diarrhea Is caused by bacterial or parasites, antimicrobial therapy may be prescribed.(9)
- Drink lots of fluid with diarrhea, your body loses a large amount of water. rink plenty of clear fluids to replace the loss.
- Avoid all dairy products greasy, fried, fattyfood, spicy food, sugar ,high fiber content foods and soft drinks should be avoided. caffeine (found in coffee, chocolate, tea and pop); apple juice; whole wheat bread.
- Eat more bananas; white rice or cereal; boiled eggs; mashed potatoes; squash; toasted white bread; curd ,fish, crackers; yogurt. Vegitables oil,fruts and vegitables.(16)

#### **2-13 Composition of ORT:**

Component	Content per liter water	
Sodium Chloride	3.5 gm	
Potassium Chloride	1.5 gm	
Sodium Citrate	2.9 gm	
Glucose anhydrous	20.0 gm	

#### 2-14 Nursing Management:

Nursing management to be done based on nursing assessment and appropriate history and physical exam. focuses on fluid replacement and correction of electrolyte disturbances, and is dependent on the degree of dehydration. important to teach mothers how to minimize the spread of gastroenteritis with an emphasis on the need for good hand washing (especially after changing diapers or using the bathroom and before preparing or eating food), cleansing of childrens environment and food preparation. (14)

Introduce clear liquid or breast milk and then progress the child to the regular diet food, generally are not with held or more than 1 to 2 days.

- Proper diet intake proteins and vitamins. (9)
- Assessment of growth and development
- Safety measures eating and drinking
- Nutritional counseling and educate parent about nutrition
- Record intake and out put
- Encourage breast feeding

 Health education about medications and follow up Frequent monitoring for any complication.(10)

#### 2-15 Complication Of Diarrhea:

#### -Dehydration

Dehydration is the main complication of diarrhea in children under five years. It occurs when your child doesn't drink enough liquids to replace the fluids his or her body is losing because of diarrhea. your child may become dehydrated even if he or she doesn't feel thirsty.

- Hypovolemic shock
- Congestive cardiac failure
- Malnutrition
- Growth retardation
- Renal failure
- Electrolyte implance
- Hypoglycemia
- Convulsion
- Paralytic ileus (16)

#### 2-16 Health education:

Teach the mother to detect for the signs and symptoms of dehydration include to

- Child's has not urinated for 6 hours or more.
- Child's has no tears when crying.
- Child's mouth and skin is dry
- Child's eyes are sunken.

- Child's is less active than usual.
- Child's has dark circles under eyes.
- Cold of extremity
- Teach mother to observe for child conscious
- Irritability or lethargic
- Give liquids in small amounts (3 or 4 tbsp) about every half hour. If this goes well, increase the amount a little each half hour. Don't force the child to drink, because he or she may vomit.
- Give solid foods in small amounts. Do not give milk for a day or two, because this can make diarrhea.
- Give only non salty soups or broths.
- Soft foods to give in small amounts apple sauce, fine chopped or scraped apple without peel, bananas, toast and rice cereal.

#### Call the care provider if the ..

- Child develops sudden high fever.
- Stomach pain becomes severe.
- Diarrhea becomes bloody (more than a streak of blood).
- Diarrhea becomes more frequent or severe.
- Child becomes dehydrated (dried out).

Do not use medicines to stop diarrhea for children younger than 6 years of age unless specifically directed by the care provider. These medicines can be dangerous if not used properly.

#### Diaper area skin care:

- Change diaper as soon as it is soiled.
- Wash area with mild soap, rinse, and dry well.

- Use soothing, protective lotion recommended by your care provider.
- Do not use water proof diapers or diaper covers; they increase diaper area irritation.
- Wash hands with soap and water after changing diapers or wiping the child.
- Access to safe drinking water.
- Immunization are significant aspect of child care which prevents malnutrition and diarrheal episodes.
- Use of improved sanitation.
- Hand washing with soap
- Exclusive breastfeeding for the first six months of life .
- Health education to mother about how infections spread
- Hand washing is the most important heath maintenance measure that can be taken to prevent the spread of gastroenteritis .
- Health education of mother about preparation of oral rehydration therapy (ORT) at home ,amount of water addition and this water is cool or poiling water and maximum period use.
- Environmental hygiene and Flies control
- Proper weaning. (14)

#### 2-2 Pervious studies:

1-According to Dr. Sadasiba Padhy study A hospital based observational study was carried out in the Department of Paediatrics, M.K.C.G. Medical College. Data collected from mothers by questionnaire method

The objective of the study was to assess and compare mothers' knowledge, attitude and practice regarding prevention and management of diarrhoea in children.

Results: Diarrhoea is more common in less than 2 years of age with males are affected more than females and more cases are seen from rural areas. Diarrhoeal diseases are more common in the lower educated group and low socioeconomic status families with prevalence of overcrowding. 47% mothers had knowledge about diarrhoea, 52% about the aetiology and 58% about risk factors of diarrhoea. Regarding role of breastfeeding in diarrhoea 48% mothers had good knowledge and regarding adverse effects of bottle feeding 56% mothers were aware. In this study only 34% of mothers were aware of assessment of danger signs and dehydration and 27% about treatment of dehydration. 33% mothers had good knowledge on sanitary latrine and safe drinking water uses in prevention and treatment of diarrhoea. Regarding preparation of ORS only 19% mothers had good knowledge, 65% mothers had average knowledge.

2- According to Dr. Kiran Kumar Rokkappanavar study A cross-sectional study was carried out from June to August 2015. House to house survey was conducted; a pre-structured and pre-tested questionnaire was administered to all the mothers of under-five children in the study area. an objective of assessing knowledge and practice of mothers of under-five children regarding management of diarrhoea.

Results: A total of 204 mothers were covered. Nearly two thirds (62.74%) mothers were literate and majority of them were in the age group of 21-25 years. More than half of participants lacked adequate knowledge regarding danger signs, spread and prevention. Poor dietary practices were prevalent among 50.49% mothers. Only 50.49% mothers practiced exclusive breast feeding. Nearly one fifth of the mothers practiced bottle feeding, among them only 26.82% practiced hygienic measures. Majority of mothers (55.88%) dispose child's faeces in open air. Only 43.62% mothers demonstrated proper technique of hand washing. 86.27% participants knew about ORS, among them more than half had adequate knowledge regarding preparation and administration. Only 26.96% mothers dewormed their child regularly.

3-According to Mr.Terefe Dodicho Dosha study Community based cross sectional study was employed from March 1-30, 2015. Multi stage stratified sampling technique was used to select subjects to be included in the study from 11 Kebeles. Data were collected using self-designed and pretested structured interviewer administered questionnaire. Demographic information of the mother & child and information on knowledge & practice on pediatric diarrhea management at home were investigated. Overall responses of participants were scored as good and poor for assessment of knowledge and practice. Objective: The present study is aimed to investigate the knowledge and practice of mothers/caregivers on home management of diarrhea in under-five children in Mareka district, Dawuro zone, SNNPR, Ethiopia Results: Total of 654 mothers/caregivers were participated in the study. Most (70.3%) of the mothers/ caregivers were in favor of sustained feeding (breast milk, solid and liquid food) during episodes of diarrhea in their children while 194 (29.7%) supported diet withdrawal. The level of knowledge among respondents on home management of diarrhea was found to be good in 438 (67%) respondents and poor in 216 (33%) respondents respectively. But the level of practice on home management of diarrhea among respondents was good in 309 (47.2%) respondents and poor in 345 (52.8%) respondents respectively. Only 50 (37.6%) respondents were aware about the correct amount of ingredients of homemade ORS (salt-sugar solution). A significant relationship was found between mothers educational level secondary and above, mothers of male index child & mothers residence in urban areas and mothers' knowledge. Mothers age and residence in urban areas were significantly associated with mothers' practice. Conclusion: There is a wide gap in the knowledge and practice of mothers regarding home based management of diarrhea. Therefore, strategies to increase awareness and practice of mothers on home management of diarrhea are need.

4-According to Adanech Eshete study ,Community based quantitative cross-sectional study were conducted from March to April, 2015. A convenient sampling technique was used to select 390 households that had under five children with acute watery diarrhea two weeks prior to study. Data were collected using pretested structured questionnaire by trained data collectors. The data were entered and analyzed using SPSS version 20. Descriptive statistics (frequencies and proportion) were used to describe the study population in relation to relevant variables. Objective: to assess the knowledge, practice of mothers (caregivers) towards ORS utilization for under-five children with acute diarrheal disease in Assela town Result The study finding revealed that out of 390 caregivers 182 (46.7%) had good knowledge about ORS utilization for acute watery diarrheal disease case management while, 208 (53.3%) of care givers had poor knowledge. In other hand 41 (10.5%) of care givers

had good practice on case management while, 349 (89.5%) of care givers had poor practice to manage the disease.

5-According to Gabriel Ofikwu Ogbeyi study A descriptive cross sectional study was employed on 295 nursing mothers in Opialu Benue State, Nigeria via a systematic random sampling technique. They were interviewed using pre-tested semi-structured interviewer administered questionnaires. Data were analysed using EpiInfo, version 3.3.1. This study assessed the care givers knowledge of diarrhoea and practice of home management of diarrhoea diseases in under- two children in Opialu, a rural community in Benue State, Nigeria Results The mean age of the respondents was 26.7 (SD  $\pm$  7.5) years. One hundred and twenty six respondents (42.7%) could define diarrhoea correctly, 201 (68.1%) identified teething as the cause of diarrhoea, while 32 (10.9%) opined germs to be the cause of diarrhoea among under two children. More than halve (61.1%) of the respondents had correct knowledge of hand washing after using the toilet, 215 (72.9%) practised several methods of home management of diarrhoea diseases and 70 (23.7%) of respondents had adequate immunization for the child's age.

#### 3-Material and Methods:

#### 3-1 Study design:

This study was descriptive cross- sectional hospital bases study

#### **3-2 Study Setting:**

This study was conducted in gaffar ibnauf specialized children' hospital which is located in Khartoum state. The hospital is the one of the well-established in references hospital health in Sudan with large catchments where many patients. The hospital has about 500 beds for different units including out patients, general word (GIT) word, pharmacy, blood bank and laboratory, ultra-sound, (NICU) ,(PICU) unit ,Nursery, pediatric heamodialysis and department of dietitian .

#### **3-3 Study Population:**

The focused groups of the study were all mothers admitted with child in ward of gastrointestinal disease in gaffar ibnauf specialized children' hospital.

#### 3-4 Inclusion criteria:

All mothers with their different qualifications (illiteracy ,primary school ,secondary school and university) during the period of the study and were accepted to participate in the study.

#### 3-5 Exclusion criteria:

- All mothers who were not accept to participate in the study.

#### 3-6- Sample size and Technique:

Total coverage was taken and there number was (50).

#### 3-7 Data collection tool:

Structured self-administrative questionnaire was be designed by utilization of two purposes as follows:

First: to find out the general characteristics of the study sample, it contains basic data related to their general characteristics such as age, qualification, number of children.

Second: to examine mothers awareness and knowledge regarding variables which includes questions about knowledge related to management of diarrheal disease at home.

#### 3-8 Ethical consideration:

Ethical consideration was approval by Faculty of postgraduate studies and scientific research, Shandi University, then Permission was taken from ministry of health and gaffar ibnauf specialized children' hospital. Verbal consent was taken from participants after explanation the purposes of study.

#### 3-9 Data management and analysis:

The data was coded then analyzed manually by simple statistic technique (master sheet) then used soft ware program (SPSS) version 20 different statistical measure was used (frequency, percentage ,and rate ) then presented form tables.

#### 4-1 Results:

#### **Socio-Demographic Data:**

Table (4-1): Distribution of the study sample according to their age of mothers NO=50

Variable	Frequency	Percent
20-25	21	42.0
26-31	7	14.0
32-37	4	8.0
more than 37	18	36.0
Total	50	100%

Table(4-1) showed that the majority of respondents in age (20-25) 42% then age (more than 37) 36% and the age (26-31) 14% lastly the age (32-37) 8%

Table (4-2) Distribution of the study sample according to their Qualification of mothers NO=50

Variable	Frequency	Percent
Illiterate	14	28.0
primary school	18	36.0
secondary school	7	14.0
University	11	22.0
Total	50	100%

Table (4-2) showed that the majority of respondents in qualification illiterate 14 (28%) primary school about 18 (36%) secondary school about 7 (14%) and lastly university about 11 (22%)

Table(4-3) Distribution of the study sample according to number of sons and daughter NO=50

Variable	Frequency	Percent
1-3	17	34.0
3-5	22	44.0
>7	10	20.0
Not identify	1	2.0
Total	50	100.0

Table(4-3) showed that the majority of respondents in number of sons and daughter1-3(34%) 3-5(44%)>7(20.0%)

Table (4-4) Distribution of the study sample according to understand term childhood diarrhea NO=50

Variable	Frequency	Percent
Disturbance of gastro-intestinal tract	22	44.0
Passing of hard stool	19	38.0
Black stool	1	2.0
White stool	8	16.0
Total	50	100%

Table (4-4)Illustrated understand by term childhood diarrhea is the disturbance of gastro-intestinal tract (44.0%) passing of hard stool(38.0%) black stool (2.0%) white stool (16.0)

Table (4-5) Distribution of the study sample according to Childhood diarrhea is also regarded as NO=50

Variable	Frequency	Percent
Dysentery	2	4.0
Loose watery stool	10	20.0
Abdominal pain	24	48.0
Constipation	14	28.0
Total	50	100%

Table (4-5) Showed that childhood diarrhea is also regarded as (4.0%)dysentery (20.0%) loose watery stool(48.0%) abdominal pain and(28%) constipation

Table (4-6) Distribution of the study sample according to continues beyond 24 hours of diarrhea NO=50

Variable	Frequency	Percent
Continues ORT	3	6.0
Visit health facility	23	46.0
Introduce weaning	4	8.0
Discontinues ORT	20	40.0
Total	50	100%

Table (4-6) The respondents if diarrhea continues beyond 24 hours (6.0%) continues ORT(46.0%) visit health facility (8.0%) Introduce weaning(40.0%) Discontinues ORT

Table (4-7) Distribution of the study sample according to signs of diarrhea NO=50

Variable	Frequency	Percent
Passing of watery stool	16	32.0
Feeling to pass stool but cannot	23	46.0
Blood in stool	2	4.0
Pain while passing stool	9	18.0
Total	50	100%

Table (4-7) Showed the sign of diarrhea (32.0%) passing of watery stool feeling to pass stool but can not (46.0%) blood in stool(4.0%) pain while passing stool (18.0%)

Table (4-8) Distribution of the study sample according to symptoms of diarrhea NO=50

Variable	Frequency	Percent
Constipation	7	14.0
Weight loss	30	60.0
Bronchial cough	1	2.0
Rickets	12	24.0
Total	50	100%

Table (4-8)Showed the symptoms of diarrhea is(14.0%) constipation (60.0%) weight loss(2.0%) bronchial cough (24.0%) Rickets

Table (4-9) Distribution of the study sample according to symptoms noticed in child with diarrhea NO=50

Variable	Frequency	Percent
weight loss with weak pulse	15	30.0
Dry hand	3	6.0
Passing of loss faces	27	54.0
Sunken eyes	5	10.0
Total	50	100%

Table (4-9) The respondents in sever symptoms noticed in child with diarrhea is (30.0%)weight loss within weak pulse(6.0%) dry hand (54.0%) passing of loss faces (10.0%) sunken eyes

Table (4-10) Distribution of the study sample according to diarrhea spread NO=50

Variable	Frequency	Percent
By contact	3	6.0
By air droplet	8	16.0
Oro-fecal	17	34.0
By blood	22	44.0
Total	50	100%

Table (4-10)The respondents clarified how dose diarrhea (6.0%) spread by contact(16.0) by air droplet (34.0%) by oro-fecal (44.0%) by blood

Table (4-11) Distribution of the study sample according to route of transmission NO=50

Variable	Frequency	Percent
Diarrheal disease	18	36.0
Abdominal pain	4	8.0
Adequate feeding	9	18.0
Weakness and hanger	19	38.0
Total	50	100%

Table (4-11) Showed the drinking contaminated water eating food prepared unwashed hands in dirty environment (36.0%) diarrheal disease (8.0%) abdominal pain (18.0%) Adequate feeding (38.0%) Weakness and hanger

Table (4-12) Distribution of the study sample according to danger of diarrhea NO=50

Variable	Frequency	Percent
Kwashiorkor	3	6.0
Dehydration	23	46.0
chest infection	1	2.0
Rickets	23	46.0
Total	50	100%

Table (4-12) The respondents main danger of diarrhea is (6.0%) kwashiorkor (46.0%) dehydration (2.0%) chest infection and (46.0%) Rickets

Table (4-13) Distribution of the study sample according to Dehydration is associated with many feature NO=50

Variable	Frequency	Percent
Acute loss of water and salt from the body	21	42.0
Backache and thirst	1	2.0
Acute loss of blood	2	4.0
Bleeding and lower abdominal pain	26	52.0
Total	50	100%

Table (4-13)The respondent about dehydration is associated with (42.0%) acute loss of water and salt from the body (2.0%) backache and thirst (4.0%) acute loss of blood and (52.0%) Bleeding and lower abdominal pain

Table (4-14) Distribution of the study sample according to method have you used to prevent diarrhea in your family NO=50

Variable	Frequency	Percent
Covered prepared food	4	8.0
Improving hygiene and sanitation	1	2.0
All above	44	88.0
Hand washing more frequently	1	2.0
Total	50	100%

Table (4-14) Showed above table of method have you used to prevent diarrhea in your family is(8.0%) covered prepared food (2.0%) improving hygiene and sanitation (88.0%) all above and (2.0%) Hand washing more frequently

Table (4-15) Distribution of the study sample according to Management of diarrhea NO=50

Variable	Frequency	Percent
Correction of dehydration	7	14.0
Drug therapy	12	24.0
Herbal therapy	7	14.0
Blood transfusion	24	48.0
Total	50	100%

Table (4-15) Showed the management of diarrhea (14.0%) correction of dehydration (24.0%) drug therapy (14.0%) herbal therapy and (48.0%) of blood transfusion

Table (4-16) Distribution of the study sample according to composition of Oral rehydration therapy NO=50

Variable	Frequency	Percent
Sodium chloride and sugar	31	62.0
Bicarbonate sodium and sugar	7	14.0
Calcium and sugar	11	22.0
Potassium and sugar	1	2.0
Total	50	100%

Table (4-16) The respondents to composition of oral rehydration therapy (62.0%)sodium chloride and sugar (14.0%) Bicarbonate sodium and sugar (22.0%) Calcium and sugar and (2.0%) Potassium and sugar

Table (4-17) Distribution of the study sample according to given child oral rehydration therapy NO=50

Variable	Frequency	Percent
Spoon and cup	29	58.0
By bottle feeding	3	6.0
By force	8	16.0
By neso- gastric tube	10	20.0
Total	50	100%

Table (4-17)The respondents about oral rehydration therapy is given to child with (58.0%) spoon and cup (6.0%) by bottle feeding (16.0%) by force and (20.0%) By neso-gastric tube

Table (4-18)Distribution of the study sample according to be avoid to some diet during diarrhea NO=50

Variable	Frequency	Percent
Breast feeding	24	48.0
Fatty food	12	24.0
Banana	2	4.0
Fibers diet	12	24.0
Total	50	100%

Table (4-18) majority of respondents during diarrhea (48.0%) can be avoid breast feed (24.0%) fatty food (4.0%) banana and (24.0%) fiber diet

#### **4-2 Discussion:**

Diarrhea is one of the most common manifestations of illness in infants and children. It is characterized by an increased in fluidity, frequency, volume as well as possible changes in color of faces in comparison with the usual stool pattern of the individual (10).

The treatment based on degree of dehydration. the treatment of acute diarrhea is determined by extent of the illness and the cause, with attention to hydration and dietary needs as appropriate and with prevention as a priority. Initially the priority is to restore and maintain hydration. Oral rehydration is generally attempted before intravenous hydration. The focus is on correcting the fluid and electrolyte imbalances and treating the underlying cause(19).

The current study conducted 50.0 mothers in gaffer ibnauf specialized children hospital and aimed to assess the home management of diarrheal disease for children under five years.

Baseline data of mothers awareness and knowledge regarding home management of diarrheal diseases for children under five years in this current study indicated that,(42%) of participants are with age between (20-25 years), (36%) of them are more than 37 years, (14%) aged between (26-31years) and only (8%) are between (32-37 years). According to the qualification, (28%) of mothers were illiterate, (36%) have a primary school degree, about (14%) are secondary school graduate and only (22%) of them graduated from university.

The study revealed that more than halve of participants (60.0%) had a good knowledge regarding understanding the term of diarrhea. Compared with previous study, Gabriel Ofikwu Ogbeyi from Opialu

Benue state in Nigeria, only one hundred and twenty six respondents (42.7%) could define diarrhea correctly.

more than halve (52.0%) of mothers in this study had a good knowledge in management of acute diarrhea, compared with the previous study, Adanech Eshete, Assela town The study findings revealed that ,out of 390 caregivers, 182 (46.7%) had good knowledge about ORS utilization for acute watery diarrheal disease while 208 (53.3%) of care givers had poor knowledge. Other study Mr.Terefe Dodicho Dosha in Mareka district, Dawuro zone, SNNPR, Ethiopia level of practice on home management of diarrhea, among respondents knowledge was good in 309 (47.2%) of respondents and poor in 345 of them.

The study revealed that mothers identification of diarrhea spread is poorly known in about (40.0%) of participants. Compared to previous study Dr. Kiran Kumar Rokkappanavar from House to house survey More than halve of participants lacked adequate knowledge regarding spread of diarrhea.

The study also Showed that the attribution of drinking contaminated water, eating food prepared by unwashed hands in a dirty environment in diarrheal diseases, only knowed about (44.0%) of mothers, compared with the previous study, Dr.Sadasiba Padhy, from M.K.C.G. Medical College (33%) of mothers had good knowledge on sanitary latrine and safe drinking water uses in prevention of diarrheal disease. Other previous study Gabriel Ofikwu Ogbeyi in Opialu, a rural community in Benue State, Nigeria, More than halve (61.1%) of the respondents had correct knowledge of hand washing after using the toilet.

According to respondents awareness of mean danger of diarrhea, (52.0%) of mothers had good knowledge ,comparied to previous study Dr.Sadasiba Padhy in M.K.C.G. Medical College study (34%) of mothers were aware of assessment signs of dehydration.

(42.0%) of the respondents have a good knowledge that dehydration associated with acute loss of water, salt from the body, backache, thirst and acute loss of blood.

The study Showed that about (52.0%) (more than halve mothers) had good knowledge about management of diarrhea, compared with previous study Mr.Terefe Dodicho Dosha from March to April, 2015. in Mareka district, Dawuro zone, SNNPR, Ethiopia was used to select 390 households, (46.7%) had good knowledge about ORS utilization for acute watery diarrheal disease management, while 208 (53.3%) of care givers had poor knowledge.

The study showed that majority of the respondents (64.0%) know the composition of oral rehydration therapy, compared with previous study. Mr.Terefe Dodicho Dosha in Mareka district, Dawuro zone, SNNPR, Ethiopia, Only 50 (37.6%) of respondents were aware about the correct amount of ingredients of home-made ORS (salt-sugar solution).

The study showed that majority of respondents (about 48.0%) have a good knowledge that during diarrhea they should modify the diet of child ,compared with previous study Mr.Terefe Dodicho Dosha from Mareka district, Dawuro zone, SNNPR, Ethiopia Most of the mothers, caregivers (70.3%) were in favor of sustained feeding (breast milk, solid and liquid food) during episodes of diarrhea in their children .

#### **5-1 Conclusion:**

Based on the results of current study concluded that most of the mothers had good knowledge regarding understanding term of diarrhea .signs, symptoms, composition of oral rehydration therapy and important of fluid continuation .

Mothers was poor knowledge about the spread, route of transmission of diarrhea and food avoiding during diarrheal diseases .

#### **5-2 Recommendation:**

Based on the result of this study the following recommendations are suggested:-

- 1- Recommendation of ministery of health provide continue education program through the radio and television weakly or dialy regarding to the spread of diarrhea and route of transmission.
- 2- Recommendation in hospital teach all mothers admitted with children in diarrheal diseases about personal hygiene, hand washing ,important of immunization,starting weaning and continuation of breast feeding in child aged tow years .
- 3- Recommendation to the mothers about hand washing of the child before eating, after toilet, provide a clean environment, provide the child safe drinking water and proper cooked food.

#### **References:**

- 1- Adato, M. R. Understanding the use of health services in conditional cash transfer programmes: Insights from qualitative research in Latin America and Turkey. Social Science and Medicine,,2011 72: 1921-1929.
- 2- Adele PiLLitteri Maternal and Child Health Nursing care of the child bearing and child rearing family Edition 6, 2010 page 1323 1328.
- 3- Author,multiple indicator cluster survey,Fedral minstry of health, centralBureauofstatistic,UNICEF,2000[26August2012],sudan.finalRe port,htt;//www,child inFo,org/Files/sudan.pdf.
- 4- Collage of pediatrics. Guideline on the management of acute diarrhea in children. Malyasia. . Journal of health medicine and nursing ISSN 2016 vol 27,2422-8419 .
- 5- Danile Bernstein, MD etal, Pediatrics for medical students third Edition 2012 page 95-103.
- 6- Esposito DH,Holman, etal, Baseline estimates of diarrhea-associated mortality among United states children before rotavirus vaccine introduction pediatr infect Dis J.2011 Nov.30(11):942-7.[Medline].
- 7- GodanaW, Mengistie B, Determinants of acute diarrhea among children under fives years of age in District,, southern Ethiopia 2013 page 1-11.
- 8- Guliani, H. S What impact does impact with the prenatal care system have on women's use of facility delivery? Evidence from low

- income countries.journal Social Science and Medicine,2012 vol. 74: 1882-1890.
- 9- JANE BALL etal Principle of pediatric Nursing care for children 2012.page 783-785.
- 10- Karrar Z A .Omer MI. Morbidity patterns among under-five children in rural community in sudan.Trop GegrMed. [pubMed].
- 11- Mukhtar, A., Izham, etal The Australasian Medical Journal, 2011. 4(9), 474–479.
- 12- Munos MK, and etal, The effect of oral rehydration solution and recommended home fluids on diarrhoea mortality. International journal contemprary pediatrics padlys;2017 may;4(3)966-971.
- 13-Niki l,potts, .Barbara l Mandleco Pediatric Nursing caring for Children and Their families 2012 page 670-677.
- 14- N.jayne Klossner\ Nancy T.Hatfield Introductory Maternity and Pediatric Nursing 2010 page835- 837.
- 15- OnyangoDM ,Anginda PO ,Epidemiology of water borne diarrheal diseases among children aged 6-36 months old inwestern Kenya. international journal of biological and lifeSciences.2010;6:2-5.1.
- 16- ParulDatta Pediatric Nursing Jaypee Brothers third Edition 2014 page 276-278.
- 17- Richards, E. T.. Going beyond the surface: Gendered intrahousehold bargaining as a social determinant of child health and nutrition in low and middle income countries. Social Sicence and Medicine, 2012 06.015.

- 18- Shah D, etal. Promoting appropriate management of diarrhoea: a systematic review of literature for advocacy and action. UNICEF-PHFI series on newborn and child health, India. Indian Pediatrics. 2012;49:627-49.
- 19- Susan L Ward and Shellton M.Hisley Maternal- Child health care 2009 page 798-800.
- 20- WGO Practice guideline Acute diarrhea.international journal of contemporary pediatrics April-May- 2012 vol 3 page 396.
- 21- WHO. Media Centre. Diarrhoeal disease. . 2013 Fact sheet N° 330.
- 22- World health organization, Global health observatory (GHO). Under-five mortility, Accessed 12 jan 2017, Available from: htt://www.WHO.int/gho/en/.

# Questionnaire of Awareness and knowledge of mothers regarding home management of diarrheal disease for children under five years in gaffar ibn auf specialized children'hospital

### Demographic data

A: 1- Age :				
a- 20 -25years	(	)	b-25 - 30  years	(
c- 30-35years	(	)	d- more than 35 years	(
2 /Qualification:				
a-illiterate	(	)	b-primary school	(
c-secandary school	(	)	d-university	(
3- Occupation				
4/ number of sons an	d dau	ghter		
a- 1-3	(	)	b- 3-5	(
c- 5-7	(	)	b- 3-5 d- >7	(
B- Knowledge of mot	thers'	about	home management of d	iarrheal
disease :-				
1-What do you under	rstand	by te	rm childhood diarrhea?	
a- Disturbance of gast	ro-inte	estinal	tract (	)
b- Passing of hard stoo	ol		(	)
c- Black stool			(	)
d- White stool			(	)
2- Childhood diarrhe	ea is al	lso reg	arded as	
a- Dysentery			(	)
b- Constipation			(	)
c- Loose watery stool			(	)
d- Abdominal pain			(	)

3-What do you do if diarrhea continues beyond 24	4 hours?	
a- Continues ORT	(	)
b- Discontinue with ORS	(	)
c- Introduce weaning food	(	)
d- Visit health facility	(	)
4- Which one of these is sign of diarrhea?		
a- Passing of watery stool	(	)
b- Feeling to pass stool but cannot	(	)
c- Blood in stool	(	)
d- Pain while passing stool	(	)
5- Which one of these is symptom of diarrhea?		
a- Constipation	(	)
b- Weight loss	(	)
c- Bronchial cough	(	)
d- Rickets	(	)
6-The sever symptom noticed in child with diarrh	ea is	
a- weight loss with weak pulse	(	)
b- Dry hand	(	)
c- Passing of loss faces	(	)
d- Sunken eyes	(	)
7- How does diarrhea spread?		
a- By contact	(	)
b- By/blood	(	)
c- By air droplet	(	)
d- Oro-fecal	(	)

8- Drinking contaminated water eating food p	repared	unwashed
hands in adirty environment can lead to		
a- Weakness and hanger	(	)
b- Adequate feeding	(	)
c- Diarrheal disease	(	)
d- Abdominal pain	(	)
9- The main danger of diarrhea is		
a- Kwashiorkor	(	)
b- Dehydration	(	)
c- Rickets	(	)
d- chest infection	(	)
10- Dehydration is associated with		
a- Acute loss of water and salt from the body	(	)
b- Backache and thirst	(	)
c- Bleeding and lower abdominal pain	(	)
d- Acute loss of blood	(	)
11- Which method have you used to prevent	diarrhe	a in your
family?		
a- Hand washing more frequently	(	)
b- Covered prepared food	(	)
c- Improving hygiene and sanitation	(	)
d- All above	(	)
12- The Management of diarrhea can be used :		
a- Correction of dehydration	(	)
b- Blood transfusion	(	)
c- Drug therapy	(	)
d- Herbal therapy	(	)

13- The composition of Oral rehydration t	therapy include	
a- Sodium chloride and sugar	(	)
b- Bicarbonate sodium and sugar	(	)
c- Potassium and sugar	(	)
d- Calcium and sugar	(	)
14-The oral rehydration therapy is given t	to child for diarr	hea with
a- Spoon and cup	(	)
b- By force	(	)
c- By neso-gastric tube	(	)
d- By bottle feeding	(	)
15-The mother during diarrhea can be avo	oid to same diet i	include
a- Breast feeding	(	)
b- Fatty food	(	)
C-Banana	(	)
d- Fibers diet	(	)

# بسم الله الرحمن الرحيم جامعة شندي

## كلية الدراسات العليا والبحث العلمي

# برنامج ماجستير علوم التمريض

# استبيان قياس الوعي و المعرفة للأمهات للمعالجة المنزلية للإسهالات للأطفال دون سن الخامسة

ضع علامة (/) امام اا	جابة اا	لصحيد	وعلامة(x) ا	امام الاجابة ا	الخاطئ	ä.			
أ/ بيانات سكانية اجتم	عية للا	لمهات							
1/ العمر :									
أ/ 20-25سنة	)	(	ب/30 - 25	اسنة	)	(			
ج/ 30 - 35سنة	)		د/ اکثر من 5	35سنة	)	(			
2/ المؤهل:									
أ/ امي	)	(		ب / تعليم	م اساسے	ي		)	(
ج / تعليم ثانوي	)	(		د/ جامعي	في			)	(
3/ المهنة									
4/ عدد الابناء									
3-1 /	)	(		ب/ 5-3				)	(
ج/ 7-5	)	(		د /اکتر مز	ىن 7			)	(
ب / معرفة الامهات ع	، معال	جة الاس	ال في المنازل	C					
1/ ماذا تقهمین من م	لطلح	اسهالاه	الاطفال هي:-	-					
1/ اضرابات في القناة	لهضم	ية (		وج فضلات م					
ج/ خروج فضلات زو	لون اس	سود (	) د/خروج	ح فضلات زو	و لون ا	ابيض	)	(	
2 / اسهالات الاطفال	ضا تع	ىتبر							
ا/ دسنتاریا		)	ب/ امسانًا	اك		)	(		
ج/اسهال مائي		)	د/ الم في	ي البطن		)	(		
3/ ماذا تفعلين في حا	استم	رار الا	هال لمدة اكثر	ِ من 24 ساء	عة ؟				
ا/ الاستمرار في تناول	ملح الا	(رواء	) ب/ عدم ا	الاستمرار في	في تناوا	ل متح	الاروا	راء (	(
ج/ ايقاف تناول الطعا.		)	د/ الذهاب ا	الي الوحدة ال	الصحيا	ä	)	(	

		4/ اي من هذة العلامات ادناه تعتبر من علامات الاسهال ؟
(		ا/خروج اسهال ) ب/ امساك
(	)	ج/ الم اثناء التبرز ( ) د/ براز مصحوب بدم
		5/ اي من هذة الاعراض تعتبر من اعراض الاسهال ؟
(		ا/ امساك ) ب/ نقصان في الوزن
(	)	ج/كحة ( ) د/ الكساح
		6/ من الاعراض الخطيرة الملاحظة عند حدوث الاسهال للطفل هي:-
(		ا/ نقصان في الوزن وضعف في النبض ( ) ب/ جفاف اليدين
(	)	ج/ خروج غائط بسيط ( ) د/ غراء العينين
		7/ تنقل الاسبهالات بالآتي :-
(		ا/ بالاحتكاك ) ب/ بالدم
(	)	ج/ بالهواء ) د/ عن طريق ابتلاع الفضلات
	الي.	8/ شرب الماء الملوث واعداد الطعام من غير غسل الأيدي والبئة المتسخة يؤدي
(	)	ا/ الضعف والجوع ) ب/ الغذاء الكافي
(	)	ج/ امراض الاسهالات () د/ الم في البطن
		9/ اهم مخاطر الاسهال هي:
(	)	ا/ الكواش ) ب/ جفاف الجسم
(	)	ج/ الكساح ) د/ التهاب في الصدر
		10/ جفاف الجسم عند الاطفال مرتبط ب
(	)	ا/ نقصان حاد في الماء واملاح الجسم ( ) ب/ الم في الظهر وعطش
(	)	ج/ نزيف والم في اسفل البطن ( ) د/ نقصان حاد في الدم
(	ن سن	11/ ماهي الطريقة التي تستخدمينها للوقاية من الاسهال في الاسرة للاطفال دور
		الخامسة
(	)	ا/ كثرة غسل الايدي ( ) ب/ غطاء الاكل المطهي
(	)	ج/ تحسين البئة الصحية ( ) د/ كل ماذكر صحيح
		12/ لعلاج الاسهال تستخدمي الاتي
(	)	ا/ معالجة الجفااف ( ) ب/ نقل الدم
(	)	ج/ العقاقير الطبية ( ) د/ استخدام الاعشا ب

			هي	لارواء	13/ من مكونات محلول ا
(	)	ب/ بیکر بونات صودیم وسکر	(	)	ا/ ملح وسكر
(	)	د/ كالسيوم وسكر	(	)	ج/ بوتاسيوم وسكر
		ب بالاسهال عن طريق.	لمصاب	لطفل ا	14/ ملح الارواء يعطي ا
(	)	ب/ بالقوة	(	)	ا/ الملعقة والكوب
(	)	د/ البزازة	(	)	ج/ انبوب التغذية
15/ علي الام اثناء فترة اسهال الطفل من المفترض ان تمتنعه من بعض الاطعمة مثل					
(	)	ب/ تجنب الاغذية الدهنية	(	)	ا/ تجنب الرضاعة
(	)	د/ الاغذية الغنية بالالياف	(	)	ج/ تجنب الموز