Republic of Iraq
Ministry of Higher Education
and Scientific Research
University of Babylon
College of Nursing

Food and Personal Hygiene: Awareness and Mothers Practices toward their Children with Diarrhea

A Thesis Submitted

By

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To

The Council College of Nursing, University of Babylon in Partial

Fulfillment Of the Requirements for the Degree of Master in Nursing Sciences

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September, 2022 A.D *Safar,1444 A.H*

﴿ يَا أَيُّهَا النَّاسُ قَدْ جَاءَتْكُم مَّوْعِظَةٌ مِّن رَّبِّكُمْ وَشِفَاءٌ لِّمَا فِي الصُّدُورِ وَهُدًى وَرَحْمَةٌ لِّلْمُؤْمِنِينَ﴾

صدق الله العظيم

سورة يونس آية (٥٧)

Dedication

To

My Father and Mother, who dreamed to see me the best in this world.

To my brothers with all love and respect.

To the spirit of the oppressed martyr

My brother.

To my dear friends with all respect

Zahraa

2022

Supervisor Certification

*I certify that this thesis, entitled (**Food and Personal Hygiene: Awareness and Mothers Practices toward their Children with Diarrhea**), submitted by **Zahraa Basim Mohammed** was prepared under my supervision and guidance at the Department of Pediatric Nursing, College of Nursing, University of Babylon as a partial fulfillment of the requirement for the Degree of Master in Nursing Sciences.*

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Acknowledgements

Firstly, I would like to praise **Allah (the Great and Almighty)** prophet Mohammed, AL-Emam Ali and his immaculate household for giving me the strength and patience in completing this work and enabled me to fulfill this work.

I would like to thank **Prof. Dr. Amean A. Yasir** dean of Nursing College/ Babylon University.

I would like to thank Head of Department **Dr. Wafaa Ahmed Ameen** and members of **Pediatric Nursing Branch**.

I would like to submit my sincere thanks to my academic supervisor **Dr. Abdul Mahdi A. Hasan** and **Dr. Israa Harjan Mohsen** for their helpful comments, valuable suggestions, advice and encouragement.

My thank extended to **Thi-Qar Health Directorate and all Mothers** who agree to participate in the study

I gratefully acknowledge the endless generosity of the **Experts** in reviewing and evaluating the study instrument.

I would also like to acknowledge the positive efforts and assistance of the **Library Staff** in the College of Nursing /University of Babylon.

Finally ….

I pray to Allah (the Great and Almighty)

To bless them all.

Abstract

Food awareness and personal hygiene deals with children under the age of five years, as an important factor in preventing diarrhea and its spread. Assessment of food awareness and attention to hygiene is a public health priority. Therefore, the study aimed to assess food awareness and personal hygiene practices among mothers of children with diarrhea and to identify associated sociodemographic factors.

Descriptive and analytic study was conducted on a sample of two hundred women who had a child with diarrhea, loaded out to accomplish the goals, from 1st November 2021 to 12th May 2022. The sample was distributed on two hospitals (Bint Al-Huda Teaching Hospital (59%), and Al-Shaheed Muhammad Al-Mousawi Hospital for Children (41%) in Thi-Qar Province). The data were collected through the using of the questionnaire format and top up by the researchers and analyzed data were evaluated electronically through using the so-called statistic package social science (SPSS -version 23).

The results of the study indicated mothers showed a moderate level of food awareness and personal hygiene awareness and had adequate personal hygiene practices. There were significant differences in food awareness regarding maternal age, education and residents, as well the education level related to hygiene awareness and practices at statistical differences point ($p < 0.05$).

Study concluded that the health awareness of the mother reduces the prevalence of diarrhea. Therefore, health education programs towards mothers are needed to improve the health of their children (e.g nutrition, personal hygiene, home sanitation).

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A2	Approval from Collage of Nurses/ University of Babylon to Thi-Qar Health Directorate
A3	Official permissions were also obtained from the Thi-Qar Health Directorate
B	Questionnaire
C	List of Experts
D	Languistic Approval
E	List of figures

List of Abbreviations

Item	Meaning
ANOVA	Analysis of variance
AWW	*Anganwadi* Workers
CHWs	Community Health Workers
D.f	Degree of Freedom
E.g	For example (Example gratia)
EPI	Expanded Program on Immunization
F	Frequency
FSE	Food Safety Education
HS	Highly Significant
HUS	Hemolytic Uremic Syndrome
K	Number of Items
KABP	Knowledge, Attitudes, Beliefs, and Practices
LHWs	Lady Health Workers
M.S	Mean of Score
No.	Number
NS	Non Significant
ORS	Oral Rehydration Solution
ORT	Oral Rehydration Therapy
P.	Page
p.p.	Pages
P-value	Probability value
S	Significant
S.D	Standard Deviation
SPSS-XX	Statistical Package of Social Sciences 20
UNICEF	United Nations International Children Education Fund
US	United States
WHO	World Health Organization

Symbol table

Symbol	Meaning
%	Percentage
≥	More than or equal
≤	Less than or equal
σ_{ii}	Variance (not standard deviation) of item i
σ_{ij}	Estimated covariance between items i and j
$\sum$	Sum

Chapter One
Introduction

Chapter One

Introduction

1.1.Background

Diarrhea is passing three or more feces in one day. Diarrhea is the world's second biggest cause of death for children under the age of five after pneumonia and malaria. Diarrhea is still one of the main causes of death in children around the world. It is considered to be the cause of about 9% of all child deaths each year (Fischer et al., 2012; Anim-Larbi, 2017).

The World Health Organization (WHO) states that the presence of diarrhea in a certain location implies a faulty water and sewerage infrastructure. The occurrence of diarrheal disorders is mostly determined by the seasons and the age of a child. The youngest children are the most vulnerable, as diarrhea is common in the first two years of life. The rate of occurrence, on the other hand, declines with age (Yogman et al., 2018).

It is estimated that 80 percent of all diseases in the world are linked to the consumption of contaminated water or inadequate environmental hygiene. Furthermore, environmental factors are thought to be responsible for 24% of the worldwide disease burden and 23% of all deaths. Each year, poor sanitation and the drinking of contaminated water are projected to cause 5.4 billion instances of diarrhea and 1.6 billion deaths in children under the age of five (Prüss-Üstün et al., 2016).

Young age contributes to children's susceptibility to diarrhoeal diseases. Children under the age of two are more likely to get diarrhea than older children (Oloruntoba et al., 2014). Children under the age of five are more susceptible than older family members to contract diarrheal infections due to a lack of immunity (Baldwin, 2013). In addition, children are unable to adequately wash their hands before eating in order to prevent illness (Ogunsola et al., 2013).

Diarrhea can have a negative impact on a child's growth and development due to nutritional loss, according to the Centers for Disease Control and Prevention. As a result of the loss of body fluids caused by diarrhea, infants become dehydrated and die. Children's bodies contain less water than adults' bodies, making them more vulnerable to diarrhea-related dehydration (CDC, 2015).

Diarrheal illnesses were more prevalent in locations with poor hygiene practices and a lack of safe drinking, cooking, and cleaning water. Similarly, youngsters who did not wash their hands after defecating later developed serious diarrhea (Gedefaw & Berhe, 2015).

The prevalence of sickness was linked to children aged 6-11 months and moms who were illiterate. Most mothers did not use soap while washing their hands, and there were no lids on the water storage containers in their homes, unclean drinking water, and poor living conditions all contributed to diarrhea in children (Sahay et al., 2015).

In 2012, the likelihood of increased diarrhea cases were 2.6 times higher among children whose parents did not have a high school diploma compared to those who did. Similarly, diarrheal suffering were more common in children whose mothers were unaware of how the sickness transmitted and who washed their hands less frequently than those who did. The incidence of diarrheal sickness among youngsters was substantially linked to poor personal cleanliness and a lack of important knowledge (Mengistie et al., 2013).

Contaminated weaning food, improper feeding practices, a lack of clean water, poor hand washing, limited sanitary waste disposal, poor housing conditions, and a lack of access to adequate and affordable health care are all factors that aggravate the diarrheal disease in children under the age of five (Lakshminarayanan & Jayalakshmy, 2015).

The WHO and UNICEF report on diarrhoea survival in children (2004) focuses on disease prevention and management. Diarrhea can be avoided by washing hands with soap and water after using the restroom or changing a child's diaper, especially before eating or cooking (Dolstad et al., 2021).

Preparing and storing healthy food, safe drinking water, proper sanitation, supporting breastfeeding, and providing a rotavirus vaccination as part of the Expanded Program on Immunization (EPI) to save the lives of many children are all examples of public health measures (Workie et al., 2018).

More than 10% of diarrhea deaths may be avoided if moms were better informed and newborn and young child feeding practices were improved. Better hygienic measures, such as hand washing with soap and proper excreta disposal can, on the other hand, lower the frequency of diarrhea by 35 percent (Lanata et al., 2013).

Clean drinking , refined water, using current sanitary systems, and washing hands often with soap or other disinfectants are some of the preventative measures suggested in the literature for diarrhea, all of which can reduce the risk of infection (Taylor et al., 2015).

The awareness and understanding of the types of food used in the case of diarrhea by mothers or caregivers may be helpful in the treatment of the disease. Promoting good eating and hygiene practices in children with diarrhea is undoubtedly a practical way to lessen the severity of their condition (McGuinness et al., 2020).

Improved nutrition should be a crucial component of developmental intervention in this case, as child mortality is a strong predictor of future results. People who have had a lot of difficulties as a child have been demonstrated to have worse cognition, height, and maturity, as well as a higher chance of additional complications and mortality. Poor maternal

awareness of food-related diarrhea, as well as delayed treatment, can result in morbidity and mortality (Mumtaz et al., 2014).

Despite previous and current efforts to sensitize and educate stakeholders about the importance of proper environmental hygiene, environmental hygiene remains a serious concern. This, along with inadequate personal hygiene, poses a substantial hazard to human health, with high rates of mortality, particularly among children under the age of five. Hygiene (particularly that of the mother's child), sanitation, and water are all important in preventing diarrhoea and its related mortality (Agustina et al., 2013).

It is common knowledge that caregivers play an important role in the management of childhood sickness. The amount of preventive actions and subsequent rate of seeking treatment in the event that the kid develops diarrhea is ultimately determined by the level of food knowledge of caretakers about the severity of diarrheal disease (Stephen et al., 2016).

It is also critical to determine the food and hygiene practices of children's mothers and caregivers, and to provide enough attention for improvement in order to prevent the high prevalence of diarrhea among children under the age of five (Johansson et al., 2016).

Diarrhoea is not fatal in and of itself; nevertheless, mothers' lack of awareness and inadequate hygiene practices, as well as their misguided attitude to its care and prevention, result in severe dehydration and, eventually, death. As a result, it's critical to assess moms' knowledge of good nutrition and sanitation (Hackett et al., 2015).

1.2.Importance of the Study

It is imperative to note that most deaths (90.0%), due to diarrhea occur in South Asia and Sub-Saharan Africa. Uganda remains among the 15 countries that account for almost three quarters of all deaths from diarrhea among children under five years old, where a single child is

known to experience an average of 3.2 episodes per year (Bhutta et al., 2013). This leads to nutritional deficits and long-term consequences such as impaired cognitive function and stunted growth (Liu et al., 2015).

Children with family in low- and middle-income nations bear a disproportionately high burden of diarrhea. It's important to highlight that the majority of diarrhea-related deaths (90%) occur in South Asia and Sub-Saharan Africa (Bhutta et al., 2018).

Afghanistan, Angola, Burkina Faso, China, Democratic Republic of the Congo, Ethiopia, India, Indonesia, Kenya, Mali, Niger, Nigeria, Pakistan, Tanzania, and Uganda account for nearly three-quarters of all diarrhea deaths among children under the age of five, and all of these countries are in Africa and South Asia (Sperling & Winthrop, 2015).

Children died in the highest numbers in Sub-Saharan Africa, where 50.00 percent of deaths from diarrhea occurred in 2011, indicating that the most severe diarrhea outcomes are concentrated in the most burdened countries (Polansky & Laldjebaev, 2021).

The prevalence of diarrhea under 5 years in a recent research conducted in Iraq is 22.8% (Hussein, 2020). Mostly occurrence in children aged from less than one months to twenty-three month owing to the low level of mothers' education, lack of hygiene, lack of breast feeding, high rate of bottle feeding, decline of good practices such as washing hands, insufficient sanitation and water supply facilities, (Habash & Issa Habeeb, 2018).

During January and December from 2013, recorded 1639 cases of diarrheal diseases between children under 5 years admitted to 5 general pediatrics hospital and stool sample were collected for all children to identify causative pathogen in medical laboratory. In this study results higher prevalence of diarrheal diseases in karbala 30.51% than Other Iraq

province (Dyala 24.59%,Hila 24.41% and Najaf 20.50%)(Karem & Khlaif, 2016).

In underdeveloped nations, however, the proposed therapies have been prescribed for children with diarrhea in around 40% of instances, and progress toward widespread use of these methods has been gradual over the last ten years. Despite the fact that the standard of life has risen, public hygiene has improved, water purification has grown common, and food safety has become universally acknowledged, diarrheal disease continues to cause significant economic and social losses (Shafizadeh et al., 2019).

Many research on children's diarrhea have demonstrated that fast and proper treatment is critical to minimizing the unfavorable outcomes. The key to saving children's lives is immediate, uncomplicated interventions by mothers/caregivers for childhood diarrhea. Most diarrhea-related deaths in children under the age of five can be avoided with effective awareness. The majority of these interventions have a global reach of less than 50%. Effective care is frequently unavailable, particularly within the first 24 hours of sickness and in places where child mortality is high (Ellingson et al., 2014).

Diarrhoea cases rose steadily from 2011 to 2013, when they peaked. The number of instances decreased in the following years, such as 2014 and 2015, however these drops were larger than in 2011. Because mother knowledge is regarded the most important factor in the incidence of Diarrhea, as well as a lack of medical resources, the drop in the last two years could be attributed to better health education and immunization regimens (Enweronu-Laryea et al., 2014).

1.3.Statement of Study

"Food and Personal Hygiene: Awareness and Mothers Practices toward their Children with Diarrhea".

A vast number of research on mothers' awareness of the proper diet for children with diarrhea have found that mothers lack adequate knowledge of the disease's etiology, symptoms, therapies, and care approaches (Khalili et al., 2013).

A large number of diarrhoea cases are frequently linked to a lack of food awareness, poor hygiene practices, and poor sanitation. The high mortality rate and health institute burden due to diarrhea in children under the age of five can easily be averted if episodes of diarrhea are well controlled (Anim-Larbi, 2017).

1.4.Objectives of Study

The study aimed to :

1. Assess food and personal hygiene mothers awareness and practices whose children have diarrhea.
2. Investigate the differences in mothers food awareness and personal hygiene awareness and practices with regard socio-demographic data.

1.5.Definitions of Terms

1.5.1.Food Awareness

Theoretical Definition

The understanding that everyone should eat well and healthily in order to preserve their body's health and development (Bell et al., 2012).

Operation Definition

The degree that the mother obtains by evaluating her according to their information related to feeding of diarrheal children.

1.5.2.Personal Hygiene

Theoretical Definition

Bathing, hand washing, clothing, and other hygiene practices are used to avoid sickness (OUP, 2008).

Operation Definition

Are the behaviours that must be practised in daily life performed by the mothers of children with diarrhea.

Chapter Two
Literature Review

Chapter Two

Literature Review

2.1.Diarrhea: An Overview

Diarrhea, often known as diarrhoea, is a condition in which you have at least three fluid or liquid bowel movements every day. It usually lasts a few days and might cause dehydration owing to the loss of liquids. Dehydration manifests as in the skin's loss of natural stretch and irritable demeanor. As the illness progresses, it might cause less urination, skin discoloration, a rapid heartbeat, and a loss of focus. Breastfed newborns are more likely to have loose, but not watery, feces (Sekhi, 2022).

The most common cause is gastroenteritis, which is an infection of the intestines caused by a virus, bacteria, or parasite. Food or water contaminated with excrement, or direct contact with an infected person, are the most common ways to contract these infections (Ahmed, 2021).

There are three types of diarrhea are: short duration watery diarrhea, short duration bloody diarrhea, and persistent diarrhea (lasting more than two weeks, which can be either watery or bloody). The short duration watery diarrhea may be due to cholera, although this is rare in the developed world. If blood is present, it is also known as dysentery (Sapone et al ., 2012).

Diarrhea can be caused by a variety of non-infectious causes. Lactose intolerance, irritable bowel syndrome, non-celiac gluten sensitivity, celiac disease, ulcerative colitis, hyperthyroidism, bile acid diarrhea, and a variety of drugs are among them. In most cases, stool cultures aren't required to determine the exact cause (Slattery et al., 2015; Ruiz-Campos et al., 2019).

Improved sanitation, drinking clean water, and hand washing with soap can all help to reduce diarrhea. Breastfeeding for at least six months,

as well as the rotavirus vaccine, are recommended (Contreras & Eisenberg, 2020).

The therapy of choice is oral rehydration solution (ORS), which consists of clean water with small amounts of salts and sugar. It's also a good idea to take zinc supplements. In the last 25 years, it is believed that these treatments have saved the lives of 50 million children (Gregorio et al., 2016).

It is recommended that people who experience diarrhoea continue to eat healthy foods and breastfeed their babies. Homemade ORS solutions can be utilized if commercial ORS is not accessible. Intravenous fluids may be required in critically dehydrated persons (Diez-Sampedro et al., 2019).

The majority of cases, on the other hand, can be effectively controlled with oral fluids. Antibiotics may be prescribed in a select circumstances, such as when a person has bloody diarrhea with a high fever, when a person has severe diarrhea after traveling, or when a person's stool contains particular bacteria or parasites. Loperamide may help reduce bowel movements, however it is not indicated for people with severe illness (DuPont, 2014).

Every year, 1.7 to 5 billion individuals suffer from diarrhea. It is especially common in developing nations, where young children get diarrhea on average three times per year (Vos et al., 2015).

Diarrhoea claimed the lives of 1.26 million individuals in 2013, compared to 2.58 million in 1990. In 2012, it was the second most common cause of death among children under the age of five. (0.76 million, or 11% of the total) (Abubakar et al., 2015).

Frequent episodes of diarrhea are also a common cause of malnutrition and the most common cause in those younger than five years of age. Other long term problems that can result include stunted growth and poor intellectual development (Feigin, 2016).

2.1.1.Signs and Symptoms of Diarrhea

Children with diarrhea frequently experience abdominal pain, cramps, nausea, vomiting, and an urgent need to use the toilet, as well as a lack of bowel control, electrolyte loss due to dehydration, which affects the amount of water in the body, muscular activity, and other vital functions. Fever and chills, as well as bloody stool, are symptoms of several illnesses that induce diarrhea (Kabayiza, 2014).

Furthermore, children with diarrhea have frequent, watery, loose stools, lethargy, flatulence, nausea, vomiting, filthy bloody feces including mucus, and a fever that lasts two weeks or less (Farthing et al., 2013). Side effects include persistent diarrhea, rectal prolapse, septicemia (blood poisoning), and hemolytic uremic syndrome (HUS), a kidney and blood clotting system issue (Riddle et al., 2016).

2.1.2.Prevalence of Diarrhea

Many studies conducted in many countries reveal that the frequency of diarrhea among children under the age of five is still significant, particularly in Sub-Saharan Africa and Asia. According to studies conducted in India in 2015, the prevalence of diarrhea among children under the age of five was 21.70 percent (Ganguly et al., 2015). Diarrhea prevalence among children under the age of five accounts for about 3.6 percent of the worldwide illness burden (Thiam et al., 2017).

In Iran, 10.3 percent of children suffered from serious diarrhea, with an average of 2.8 occurrences per kid (Merga & Alemayehu, 2015). In Brazil, 11.9 percent of children under the age of five had diarrhea (Konstantyner et al., 2016). In Bangladesh, the total prevalence of diarrhea among children under the age of five years was estimated to be 5.71 percent (Sarker et al., 2016).

Diarrheal illnesses are a major public health concern in Sub-Saharan Africa, particularly in children under the age of five. Diarrhea is

widespread in Africa, with 2.5 billion instances reported among children under the age of five; global drought is responsible for 25 to 75 percent of all pediatric diseases (Tambe et al., 2015).

According to a study conducted in Nigeria, 43.4 percent of children under the age of five had diarrhea. Children of mothers who prepared their children's meals on the floor (45.5%) had more diarrhea than those who prepared it on the table (40.7%), and those who simply used water for hand cleaning (48.2%) had more diarrhea than those who used soap and water (40.3 percent) (Ntaji et al., 2014). In Zambia, 44.6 percent of children under the age of five had diarrhea (Chilambwe et al., 2015).

According to the Ethiopian Demographic and Health Survey, 18 percent of Ethiopian children under the age of five had diarrhea, according to the 2011 Demographic and Health Survey found13 percent of children under the age of five had diarrhea (Woldeamanuel & Tesfaye, 2019).

According to a survey conducted in Tanzania's Mkuranga District, 32.7% of children under the age of five years old had diarrhea (Kakulu, 2012). Another study published in the same country in 2014 found that diarrhea infections impacted 6.1 percent of the population, with children aged 12 to 23 months (11.6 percent to 15.8%) being the most afflicted (Mashoto et al., 2014).

2.1.3.Causes of Diarrhea

Various pathogens, including bacteria, virus, and parasites, were shown to be involved in the development of childhood diarrhea in studies from throughout the world. According to a study conducted in Nigeria in 2014, *Escherichia coli* (23.0%), *Salmonella species* (10.0%), and *Shigella species* (8.0%) were among the pathogens that caused acute diarrhea in children under the age of five (Duru et al., 2014).

Another study conducted in Ouagadougou, Burkina Faso, indicated that rotavirus was found in 30% of hospitalized children under the age of five, whereas *Escherichia Coli* was found in 24% (Bonkoungou et al., 2013).

The most prevalent cause of diarrhea is viral gastroenteritis, with rotavirus being the most common cause of severe dehydration problems, especially in developing nations with inadequate water supplies and sanitation. In Sub-Saharan Africa, the proportion of diarrhea cases hospitalized with positive rotavirus is estimated to be 40.3 percent (Tate et al 2016).

Other foods, such as lactose and gluten found in wheat, sugar in milk, barley, and some solid foods, can induce food intolerances or food poisoning in children. Food allergies and poisoning can be caused by bacteria found in undercooked or rotten food (Turnbull et al., 2015).

2.1.4.Diagnosis of Diarrhea

A stool pH of 5.5 or less or the presence of reducing chemicals in children with diarrhea shows carbohydrate intolerance, which is usually caused by viral disease and is very temporary. Look for leukocytes in any exudates seen in the stool. Exudates like these strongly suggest colitis (80 percent positive predictive value). To isolate bacteria, a variety of culture mediums are utilized, as well as common bacteria and the best culture mediums for their growth. In the presence of clinical indications of colitis or if fecal leucocytes are identified, always culture stool for *Salmonella*, *Shigella*, and *Campylobacter species*, as well as *Y enterocolitica*. *Enterohemorrhagic E coli* should be suspected if you have bloody diarrhea and have eaten ground beef (Rogawski et al., 2018).

2.1.5.Mothers Home Management of Diarrhea

Diarrhea treatment at home is an important element of diarrhea treatment. The fact that diarrhea begins at home, continues at home, or

returns after being seen at a health facility underscores the importance of home management of diarrhea (which essentially entails administration of fluid, use of zinc tablets, correct feeding during diarrheal episodes, and recognition of when to seek health care). Mothers are the primary caretakers for children under the age of five. They are the ones who make decisions about the type of food offered to the child and the disease's general management (Ghasemi et al., 2013).

Since 2004, the World Health Organization and UNICEF have recommended the use of low-osmolality oral rehydration salts (ORS), which include zinc supplementation, increased amounts of appropriate home-based fluids (such as soups, rice water, yoghurt drinks, or clean water), and continued feeding to treat diarrhea at home (WHO, 2019).

Despite the high prevalence of diarrhea in Rwanda, numerous initiatives were implemented to control diarrhoeal illnesses in children under the age of five, with a focus on home management and prevention (Mahor, 2013).

In the home management of diarrhea in children under the age of five, it is recommended to use oral rehydration salt, a 10-14 day supplemental treatment course of dispersible 20 mg zinc tablets, continued breastfeeding if the child is breast feeding, feeding the child many times in small amounts daily if the child has started eating, and increasing the drinks offered to the child each day (water from rice, porridge, clean water) (Osonwa et al., 2016).

In addition, the recommends that mothers wash their hands with soap after visiting the restroom, cleaning a defecated child, preparing and eating food, and serving food to their children (Thammanna et al., 2015).

Furthermore, the Ministry of Health has empowered Community Health Workers (CHWs) to play a critical role in educating communities about home-based diarrhea management, sanitation, and identifying and

referring diarrheal cases to health facilities using task-shifting concepts. Finally, the majority of Rwandans (approximately 84 percent) have access to both water and sanitation throughout the country (Joseph & Naregal, 2014).

2.2.Diarrheal Children Therapy

2.2.1.Oral Rehydration Therapy

Dehydration caused by the loss of bodily fluids and electrolytes in the stool is the most common cause of death in people who have acute diarrhea. Water and electrolytes may normally be replaced through the mouth, and only a few individuals require intravenous therapy to avoid serious complications or death. Because symmetrically sized deficits can exist whether diarrhea is caused by bacteria or viruses, treatment is determined by the size of the deficit rather than the type of diarrhea or the patient's other characteristics. As a result, identical hydration solutions can be used in people of various ages and with various forms of diarrhea (Sarker et al., 2016).

Dehydrated children who are not in shock and are able to drink should be rehydrated orally. Oral rehydration therapy (ORT) has sparked a lot of interest and has a lot of research behind it in both developed and developing countries (Binder et al., 2014).

The World Health Organization (WHO) recommends an oral rehydration solution formula that comprises 90 millimols of sodium, 80 millimols of chloride, 20 millimols of potassium, 111 millimols of glucose, and 30 millimols of a base, such as citrate tribasic or bicarbonate. The amount to be given is the amount that has been clinically recommended to repair the estimated shortfall. While the diarrhea persists, hydration can be maintained by alternating the oral solution with water until rehydration is complete. Water can be administered by breast-feeding on demand or by giving plain water in an amount equivalent to about half of the oral solution

(i.e. 2 parts of ORT solution to 1 part water or breast milk) (Mengistie et al., 2012).

If the whole formula is not accessible, ORT solutions to cure diarrhea can be made with a salt and glucose source obtainable at home. Raw or infrequently refined home sugar is the most prevalent source of glucose; however, other sources, such as correctly prepared rice powder, appear to aid with electrolyte and water absorption. Rice powder has been demonstrated in a number of recent trials to reduce stool production and diarrhea length (which contains glucose, amino acids, and oligopeptides) (Glass and Stoll, 2018).

It has been proven that adding an amino acid, such as glycine, to a regular oral rehydration solution including glucose and electrolytes will shorten diarrhea and minimize fecal fluid loss. Rice powder and other grains (or soybeans) are fine in theory since they include amino acids or carbs (in the form of glucose chains), both of which aid salt transfer (Charyeva et al., 2015).

Moreover, since glucose is in the form of starch, it is possible to provide more without raising the osmolarity. The maximum amount of starch that can be consumed has yet to be determined. Because pancreatic amylase development in children under 6 months is inadequate, it's unclear whether they'll be able to digest these starches entirely. If a better ORT solution with several water-soluble organic molecules becomes available, it could improve sodium and water absorption while reducing diarrheal volume and duration (Osonwa Kalu et al., 2016).

2.3.Effects of Oral Rehydration Therapy on Nutritional Status

Early clinical evaluations show that children receiving oral rehydration solutions want to eat within hours of correcting fluid and electrolyte deficit. This finding suggested that ORT might have further nutritional benefits (Gonzalez & Stevenson, 2014).

This possible advantage has been investigated in at least seven trials in children with diarrhea. Nutritional status was assessed in these investigations, and children treated with or without ORT solutions were encouraged to continue eating. Oral rehydration solution recipients acquired much more weight than those who did not; this difference remained over time, however not all children gained weight at the same rate. Oral rehydration solution groups gained 70 grams per month on average more than non-oral rehydration solution groups (Dangour et al., 2013).

These results suggest that ORT programs can result in nutritional benefit when oral rehydration solution is combined with feeding. Such programs would be expected to be most effective where the current practice is to withhold food during illness. Other factors, such as the adequacy of a child's usual diet and the parent's ability to purchase food, will also influence the impact of ORT (Lima et al., 2021).

2.2.2.Nutritional Therapy

During the convalescent and early stages of diarrhoea, the panel suggests continuing to feed the child. The projected advantages vary based on the nutritional quality of available foods, which can be temporarily boosted through fortification. On the other hand, having a regular diet is preferable than not eating at all (Zella & Israel, 2012).

The primary goal of nutrition should always be to reduce disease-related nutritional consequences. Absorption and digestive activities are secondary aims, as is the regeneration of the natural mucosa of the intestine. The goals are the same whether treatment is given at home, in a community health clinic, or in a hospital. Although a hospital may offer more extensive tailored nutritional treatment, the therapeutic concepts are the same in all settings (Guarino et al., 2015).

The importance of maintaining fluid balance will not be diminished by feeding. Water and electrolytes must be considered when determining nutrient requirements. As previously stated, the initial therapeutic goal is appropriate rehydration. Once normal hydration is restored within a few hours, dietary intake can be resumed (Escobar et al., 2015).

The optimum treatment delivers the nutrients needed to address the increased needs of disease and catch-up growth, in addition to the regular requirements for maintenance, growth, and physical activity. The age, eating history, and physiological state of the child determine the meal choice, preparation method, and feeding frequency. The nutrient density of the meal ingested, the quality of the carbohydrates and fats in it, the physiological value of protein, and, if possible, the food's osmolarity must all be considered. It's also crucial to think about the requirements for a specific vitamin supplement (Modi et al., 2015).

Cultural influences play especial crucial role in diarrhea management. The refusal of food by a child's caregiver and the failure to adjust for a fall in food intake during illness by boosting feeding following recovery are two important causes to diarrhea's negative nutritional impact. In addition to popular perception, medical guidance frequently recommends avoiding certain meals during and after diarrhea. Without the assistance of the community's varied medical practitioners, it will be impossible to shift folk beliefs. This group will require special consideration (Okubo et al., 2019).

This debate does not cover the establishment of specific guidelines for the nutritional management of acute diarrhea in various circumstances. Before a diet is prescribed, particular questions must be answered and protocols must be evaluated in some circumstances. However, there is enough information to provide advice for the formulation of clinical

procedures at all levels of care—at home, in community-based clinics, and in hospitals (Harris & Pietroni, 2017).

2.2.3. Intravenous Therapy

According to (WHO, 2017) Children with severe acute malnutrition and signs of shock or severe dehydration and who cannot be rehydrated orally or by nasogastric tube should be treated with intravenous fluids, either:

- half-strength Darrow's solution with 5% dextrose, or
- Ringer's lactate solution with 5% dextrose.

If neither is available, 0.45% saline + 5% dextrose should be used.

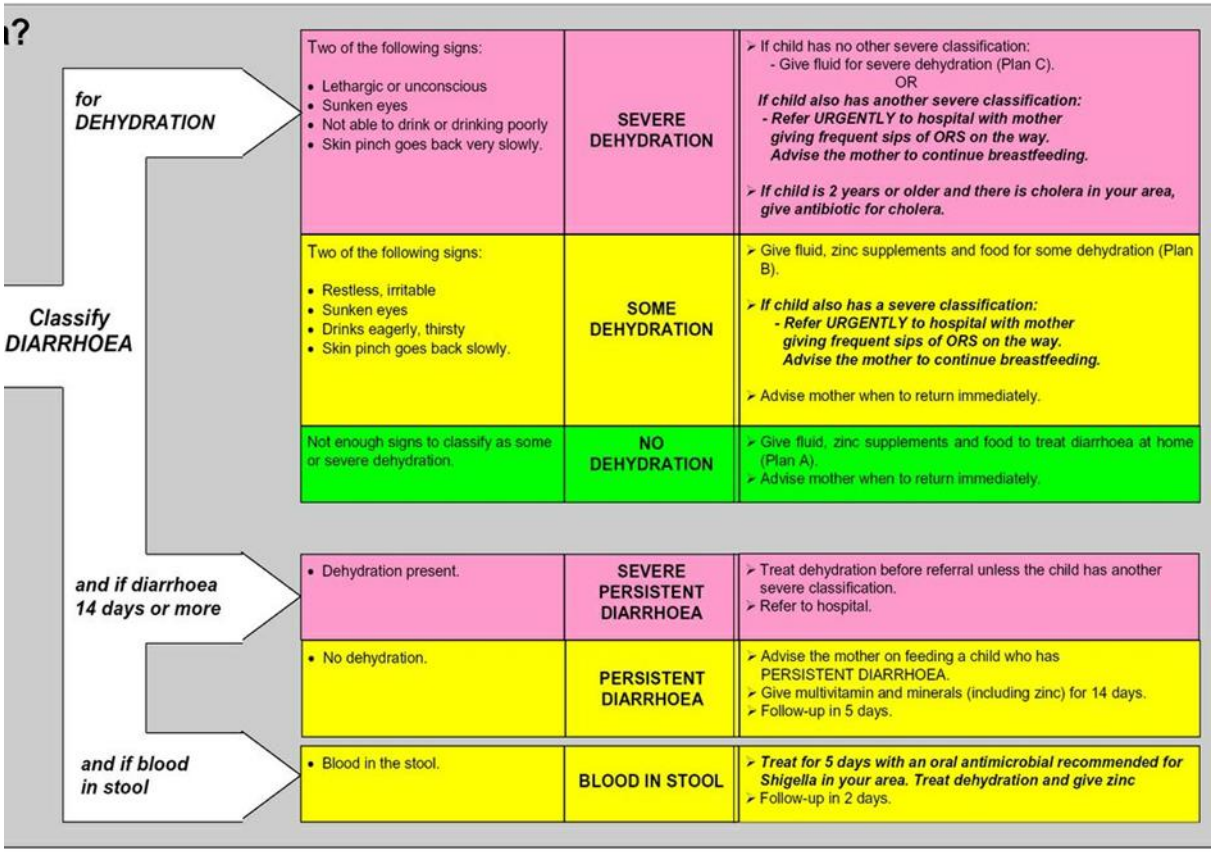

Figure 3-1: Dehydration Treatment Plans(WHO, 2018).

2.4.Choice of Foods for Diarrheal Children

Clear, practical, and generally applicable nutrition guidelines are required for many social and cultural situations. When generating such

recommendations, it is critical to understand the factors that influence dietary choices and target demographics. When choosing meals to satisfy the typical and additional needs of catch-up growth, consider nutritional content and density, familiarity with foods, and the potential for complementary component mixes that boost absorption, particularly carbs (Agustina et al., 2013).

Cultural norms and customs, economic constraints, food availability, and the difficulty of cooking foods at home all limit the development of particular feeding guidelines. Although the immediate availability and costs of particular foods are frequently assessed early in therapy, the availability and costs of such foods during the extended recovery phase and catch-up growth are equally significant (Ullah et al., 2019).

The quality of the blend of dietary proteins must be examined when choosing meals to supplement breast milk or to meet all of the nutritional demands of the child. Protein quality should be determined by the digestibility and balance of essential amino acids, which are determinants of the efficiency with which the protein is used for maintenance and growth. Many reference publications, including Energy and Protein Requirement, provide protein quality estimations (Giannattasio et al., 2016).

Animal protein is generally more digestible and biologically superior than plant protein. Processing techniques, on the other hand, can be employed to improve plant protein digestibility, and proteins from different sources can be blended to maximize their combined nutritional value. While wheat flour protein has a lower value than casein, a mixture of the two (55 percent wheat, 45 percent casein) has a value equivalent to 100 percent casein. The protein content of the corn and black bean combo (in equal amounts) is significantly higher than any other component. A blend

of corn and milk protein (in equal amounts) has a higher value than any other ingredient. Clinical staff and dieticians should be encouraged to look for locally available items that can be combined to boost the nutritional content of the meal (Ogbo et al., 2014).

Allergenic proteins, such as those found in cow's milk, can easily cross a damaged intestinal mucosa and sensitize a child. However, the subcommittee believes that this risk is small, compared with the benefits of continued nutrient intake. Known sensitivity to specific foods contraindicates their use in dietary management in an individual case (Pickering et al., 2018).

Based on the ratio of fat to energy in breast milk, the Subcommittee believes that fat supplies around 40-50 percent of dietary energy for the first six months of life and about 35-40 percent for the balance of early childhood, and that it provides an optimal blend of nutrients for the infant (Mumtaz et al., 2014).

As fat content falls below recommended levels, the amount of food required to provide suitable amounts of energy becomes overly big; this development raises the likelihood that energy intake will be insufficient (Farthing et al., 2013).

Vegetable fats with relatively high proportions of unsaturated fats or medium chain fats are indicated for the first 6 months of life and preferably during the early stages of treatment for diarrhea because they are generally more digestive and absorbable than excessively saturated long-chain fats (George et al., 2014).

Vegetable seed oils are high in unsaturated fats, including important fatty acids (e.g corn and soybean). Coconut oil, on the other hand, is more saturated and includes a higher proportion of medium-length lipids, but it lacks critical fatty acids (Paudel et al., 2012).

Although there isn't enough evidence to provide particular recommendations, a mixture of long-chain saturated and mixed polyunsaturated fats should help with absorption when compared to saturated fats alone. Although fat malabsorption does not appear to worsen diarrhea, it can slow nutritional recovery and has a negative impact on nitrogen retention when protein intake is inadequate (Darapheak et al., 2013).

During early infancy, carbohydrates typically account for 35–55 percent of nutritional energy. The most frequent kinds of dietary carbohydrates are starches, disaccharides, and lactose. Although it is not recommended to administer lactose to babies with gastroenteritis, this kind of acquired lactase deficiency is rarely complete due to the loss of intestinal lactase function during illness (Kvissberg et al., 2016).

In cases of diarrhea, lactose at half-strength concentrations of cow's milk is generally well tolerated, especially in mixed diets such milk and grain formulations. Children with diarrhea may normally digest and absorb sucrose, the second primary dietary disaccharide, and processed vegetable starches. Multiple feedings of small amounts of carbohydrate mixes can help to reduce the possibly harmful effects of dietary carbohydrate. This strategy is the least likely to put a strain on the body's carbohydrate digestion capacity (Bandsma et al., 2019).

Clinical practices for primary health care professionals should take into account the possibility of carbohydrate intolerance. All too often, misconceptions about temporary carbohydrate intolerance lead to persistent dietary deprivation. In fact, sustained tolerance during the recovery period can be anticipated if single lactose-containing food challenges do not increase clinical symptoms (Kishor et al., 2017).

2.5.Food Preparation

When producing food, consistency, digestibility, and acceptability must be addressed in addition to the nutritional factors described above. Juices and diluted watery soups, as well as foods that are overly bulky, should be avoided as main food sources if at all possible. When made properly, juices or watery soups can be used as a supplement to fluid and electrolyte therapy, but they should not be utilized as a complete meal because the energy and nutritional concentrations in these preparations are typically relatively low (Agustina et al., 2013).

Digestibility can be affected in a number of ways. Because of the population's familiarity with local food processing processes, these should be adopted wherever possible. Traditional heating, fermentation, or germination methods not commonly utilized for feeding neonates, for example, may improve bean digestibility; particle size can be lowered using basic food mills. If the lactose content needs to be cut down, partially fermented foods like yogurt can be used. Lactose in the final meal can be minimized while the biological value of milk protein is preserved by combining powdered milk preparations with vegetables or grains (George et al., 2014).

Because suitable food storage facilities are rarely accessible in the house, it is recommended that people eat freshly cooked foods to avoid microbial contamination and development. Although warming previously cooked food to a boil before feeding may be necessary, it will lessen the risks of consuming significantly contaminated food (Huda et al., 2012).

It is critical to develop efficient communication methods for the required food preparation skills. Food preparation in a clinic or hospital, for example, can be an excellent learning opportunity for mothers and should be utilized whenever possible. Home visits by health care specialists to

improve food choices and cooking skills could be critical to the program's success (Alemayehu et al., 2020).

2.6.Frequency and Progression of Feeding

Breastfed newborns should be breastfed alternately between oral rehydration solutions and breast milk even during rehydration treatment. According to recent studies, breastfeeding is an effective adjuvant to ORT, obviating the requirement for plain water (Pantenburg et al., 2014).

Smaller, more frequent meals should be eaten in the beginning because they are more tolerated. For older infants, six meals per day should be attempted early in treatment; younger newborns may require more frequent feedings (Ogbo et al., 2014).

When children are hospitalized and refuse to eat, it is reasonable to consider continuous nasogastric feeding. By gradually introducing little amounts of food, this approach makes use of the body's residual ability to digest and absorb food. Enteral enteral nourishment can help you have more frequent bowel movements without raising your stool volume too much (Shati et al., 2020).

2.7.Conceptual Framework

The Health Belief Model was developed in the 1950s by social psychologists working with the US public health service to explain why people did not participate in public health campaigns such as the tuberculosis campaign. The model was subsequently developed to account for a wide range of responses to symptoms as well as medication adherence (Rosenstock et al., 1988).

According to the paradigm, health-related behaviors occur as a result of three simultaneous causes. There must be a sufficient justification for health issues to be relevant, such as perceived severity and susceptibility. Perceived threat refers to the fear of suffering a poor health consequence or contracting an illness. The third reason is the conviction

that, regardless of the expense, modifying a behavior would be useful in reducing the perceived threat. Perceived benefits and barriers are the third reason (Julinawati et al., 2013). Individual perceptions, modifying variables, and the likelihood of action are the three categories in the model (figure 2-1).

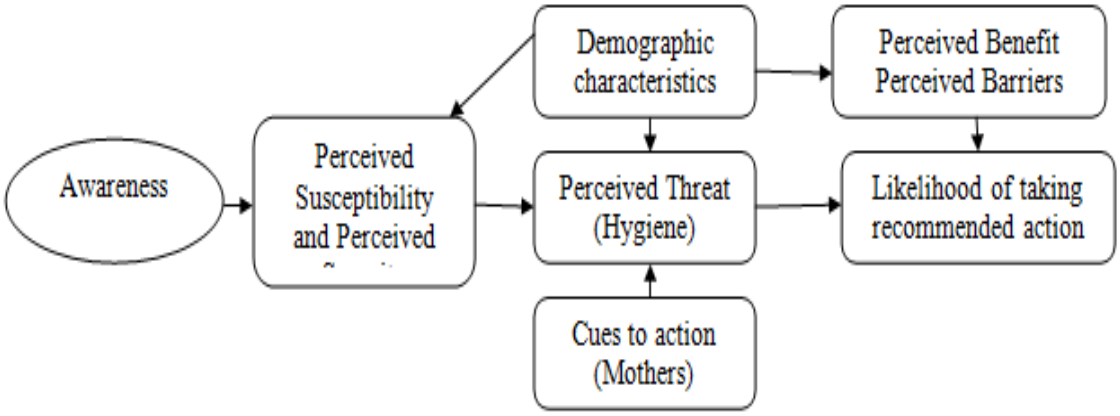

Figure2-1:Health Belief Model (Rosenstock et al., 1988).

2.8.Nutrition Management of Diarrheal Children

Despite the fact that the rate of newborn mortality from diarrhea has been progressively dropping since the 1980s, diarrhea remains the third leading cause of death among children under the age of five worldwide. Diarrhea killed an estimated 800,000 children under the age of five in 2010, accounting for 11% of all children under the age of five deaths, with around 80% of these deaths happening in WHO regions of Africa and Southeast Asia (Liu et al., 2012).

According to current WHO guidelines for the management and treatment of diarrhea in children, continuous feeding, as well as the provision of oral rehydration solutions and zinc therapy, is strongly recommended. Since the late 1940s, it has been recognized that early feeding of children with diarrhea is beneficial (Gaffey et al., 2013).

Since then, clinical and community-based research has added to the body of data supporting early and maintained feeding during diarrhea (Das et al., 2014). A recent systematic review found no evidence that early versus delayed feeding increases the risk of complications in cases of acute diarrhea, and that continuing to feed from the onset of a diarrheal episode can mitigate the consequences of reduced absorption and increased nutrient loss, thus reducing cumulative. Diarrheal morbidity's long-term consequences on infant development (Pieścik-Lech et al., 2013).

Continuous feeding is now largely regarded as a major component of acceptable newborn diarrhea treatment. However, there is still debate over the ideal diet or dietary ingredients to help children with diarrhea recover faster and preserve their nutritional status. Lactose malabsorption is a common cause of diarrhea (Binder et al., 2014).

If alternate sources of protein and energy are not sufficiently absorbed, reducing milk intake in young children, especially malnourished infants, can lead to greater nutritional deficits. Commercial soy-based or lactose-free formulas may be beneficial, but they are not frequently available in homes in places where the bulk of diarrhea and mortality cases occur, making it more possible to construct appropriate therapeutic meals using locally available items (Mohanty et al., 2021).

2.9.Mothers Awareness towards Diarrhea

Diarrhea in children under the age of five can be effectively managed if they are aware of the problem. The degree to which mothers of children under the age of five can use this therapy is determined by their level of awareness and practice. Because mothers are the ones who first recognize diarrhea and decide how to manage it at home before seeking medical help, their knowledge and practices about diarrhea at home remain critical in the management of the condition, allowing them to intervene early on the first signs and avoid complications (Mumtaz et al., 2014).

The relevance of mothers' knowledge in lowering diarrhea-related morbidity and mortality is critical; if mothers are recognized, suitable early steps can be done (Osonwa Kalu et al., 2016).

According to a study conducted in Nigeria, 42.7 percent of respondents had a decent understanding of the correct definition of diarrhea in a child, whereas 57.3 percent had a poor understanding of the concept. Teething was reported as a major cause of diarrhea by 68.1 percent, and germs were identified as a cause of diarrhea by 32.9%. Breast feeding is one of the ways a child can develop diarrhea, according to 23.4 percent of respondents, and interaction with another person is another method a child can get diarrhea, according to 13.6 percent. Mist kaolin 189 (64.1%) and metronidazole 175 were the most commonly suggested home remedies for diarrhea (59.3). A reasonable understanding of anti-diarrhea medicines was seen, as well as the capacity to name at least one of them. 71.2 percent of caregivers were also aware of ORS, according to the findings (Ogbeyi et al., 2016).

A quantitative survey systematically sampled mothers in southern Malawi regarding the implication of maternal knowledge for diarrhoea control. The survey revealed that mothers in different communities tend to have diverse knowledge about diarrhoea. The author examined knowledge patterns like diarrhoea clinical features, aetiology and prevention. The majority of the mothers in this study identified watery stools as signs of diarrhoea (n=1,171). Only a few mothers identified bloody stools (n=183), vomiting and increased number of stools (n=175) as signs of diarrhoea. The findings indicated that basic formal education had an impact on mothers' knowledge of the disease (Masangwi et al., 2012).

The study conducted by Siziya et al. (2013) In Sudan researchers assessed the factors associated with diarrhea in children under the age of five. The secondary study included nineteen states from northern and

southern Sudan. A total of 26,810 households were surveyed, with a 99.9% response rate. To identify the families who took part in the study, the authors employed stratified and systematic sampling approaches. Children of a certain age and gender have been proven to be more prone to diarrhoea. Diarrhoea was observed to be more common in children aged 6 to 35 months compared to those aged 48 to 59 months. Furthermore, male children were more likely than female children to suffer diarrhea. The authors utilized a sampling method to ensure that all respondents had an equal probability of being included in the study.

2.10.Personal Hygiene Associated Diarrhea

Childhood diarrhea risk factors vary by population, with certain factors being more relevant than others in specific circumstances. The majority of these links have been discovered through investigations conducted mostly in industrialized countries. In the fight against child mortality, more effort needs to be placed into discovering the primary causes of sickness. It is critical to identify the different risk factors for diarrhea in a given target population so that local intervention strategies can be devised and implemented to address them (Luby et al., 2011).

One of the most effective ways to reduce the incidence of diarrhea in children is to improve household cleanliness habits. The most prevalent cause of diarrhea in children is a lack of adequate water, basic sanitation, and hygiene, which accounts for around 88 percent of the disease burden (Darvesh et al., 2017).

It's critical to investigate the link between family habits and diarrhea morbidity in children under the age of five. It is believed that 80 percent of the world's population is affected by poor hand hygiene practices (Mshida et al., 2017).

Despite the fact that water-borne infectious diarrhea is particularly common among children in underdeveloped countries, there is a lack of

evidence from scientifically competent investigations such as randomized controlled trials (Wolf et al., 2014).

Because women are the primary caregivers for children under the age of five, healthy behaviours chosen by them can improve their children's health and reduce morbidity and mortality. The literacy of mothers has an impact on their hygiene and feeding behaviors toward their children. It is found that the relationship between maternal education and childhood diarrhea (Desmennu et al., 2017).

Because education has been linked to family socioeconomic status, which is a factor of child health, it is believed that educated mothers will deal with hygiene and diarrhea better (Agbolade et al., 2015).

2.10.1.Keep Drinking Water Clean

In the underdeveloped world, the necessity of clean water is sometimes overlooked. Many people are aware of the need of water, but they are less aware of the importance of clean water (Khalifa, M., & Bidaisee, 2018).

According to Clasen (2015), The following issues should be addressed by mothers:

- Drinking water should be stored in a clean container, such as a bucket, and in a clean location.
- Keep the container above the ground and away from pets and small children.
- Keep the container against the wall, away from the kitchen and windows.
- Cover the container with a clean lid even if it is empty.
- Make sure that the container is free of leaks and cracks, and that the lid completely covers the container mouth.
- Clean the lid once a day with boiling water, if possible.

- Rinse a bucket or other container of drinking water inside and out when it is empty.
- Always, use the same container to draw water from the bucket, such as a mug. This container should not be used for anything else around the house.
- Pour water from this bowl into a clean glass to drink (or your hands).
- Never put your hands or fingers in the bucket of drinking water.
- Never put your fingers or hands into the cup. Alternatively, if it has one, grip it by the handle.
- Place the cup on the lid upside down.

2.10.2.Hand Washing

In urban slums in underdeveloped nations, adequate hand washing with soap at five recommended times is especially crucial, but it's unclear which of the five recommended times is the most helpful in preventing diarrhea among children under the age of five who live in these regions (Chhapola & Brar, 2015).

According to Ejemot-Nwadiaro et al. (2021), Hands should be washed with soap and water in the following order:

- After defecating or using the latrine,
- Before you start cooking
- Always wash your hands before eating or feeding your children.
- Before starting to breastfeed
- After handling animals, poultry, or anything else filthy
- Following a meal.

2.10.3.Clean Supply

During the period 1996-2006, there were 271 occurrences of drinking water contamination in China, excluding the Tibet autonomous

region, with 63 percent of them being categorized as biological. A total of more than 7 million people were impacted (Wang et al., 2010). Furthermore, over the last 20 years, water source pollution has been blamed for 57 percent of incidents involving drinking water contamination in China. According to reports, just 30% of drinking water sources fulfill national requirements owing to pollution, and 82 percent of rivers and lakes in China have been polluted to varying degrees (Li et al., 2017).

According to Dey et al. (2019), As follows, mothers should keep the neighborhood well water supply clean:

- Wells must be dug at a minimum distance of 20 meters from latrines.
- Build a wall around the well head. Leaning on the wall is not a good idea.
- Place a lid on the top of the well.
- Use only one container to draw water. Never let this container come into contact with the earth.
- Only the handle and the outside of the bucket must be touched when getting water from the well.
- During the dry season, clean the well.
- Keep the well walls in good repair at all times.
- Chlorinate the water regularly if possible
- Make sure all spilled water surrounding the well is swiftly and completely drained.
- If you're using a vertical pipe, make sure that the tap is in a good functioning order and isn't dripping.
- Keep the area surrounding the header pipe clean, and make sure any spilled water is drained away.
- Ensure that someone is in charge of the well and standpipe, that they are maintained on a regular basis, and that spare parts are available.

A tiny payment could be provided by the community as a whole for this work.

2.10.4.Latrine Clean

Lack of operating latrines, unsanitary latrines utilized primarily for children, mothers' lack of awareness, and latrines without a superstructure are all problems associated with the use of latrines (Chhapola & Brar, 2015).

According to Yaya et al. (2018), Mothers should clean the latrine in the following manner:

- Clean the latrine walls, floor, and entrance on a regular basis.
- If there is enough water, wash out the latrine on a regular basis.
- Use soap and water to clean and wash the seat (if one exists).
- Keep the walls, floor, door, and roof in good shape by filling in any cracks.
- To keep mosquitoes at bay, put lime down the latrine on a regular basis.
- Do not throw trash on the floor.
- Cover the latrine vent with a fly screen
- Teach all youngsters how to correctly use the latrine.
- Wash hands with soap and water after using the latrine .

2.10.5.Food Clean

Inadequate food hygiene is thought to be one of the leading causes of diarrhoea. Food-borne diarrhoea accounts for up to 70% of diarrhoea episodes in underdeveloped nations. Children's weaning diet in West Africa, Bangladesh, and Peru contains large levels of germs (Agustina et al., 2013).

Food contamination is linked to food storage at high ambient temperatures for long periods of time, especially during the rainy season.

Utensils that were dirty were also thought to be a source of food contamination (Finn et al., 2013).

Furthermore, earlier research has linked various food-hygiene factors to diarrhoea in children. A prospective cohort study in Turkey, for example, found that newborns living in homes without a kitchen were more likely to suffer from diarrhea (Etiler et al., 2014). Similarly, children in Nigeria who lived in houses with a private kitchen had lower diarrhoea rates than those who lived in households without such kitchens (Oni et al., 2012).

According to Inderan & Weta (2018), Mothers should sanitize their food in the following manner:

- Make sure the food is clean.
- Keep food out of the reach of youngsters and animals.
- Keep food out of direct sunlight and in a cool, dry area.
- Store food in airtight containers.
- Dishes, pots, and utensils should all be clean.
- Wash your hands with soap and water before you start cooking.
- Keep your fingernails short and neat.
- Keep all trash and food scraps in covered containers, and instruct young children not to touch food while it is being prepared.
- Eliminate insects and other pests of animals on a daily basis to ensure that they do not reach the food source.
- Wash all raw veggies and fruits in clean water and peel or wash fruits.

2.11.Previous Studies

Alaa et al. (2014)

Aimed to determine the prevalence of diarrhoea and the factors associated with it in children less than five years old in Baghdad, Iraq. By

cross-sectional study which was conducted in Baghdad, Iraq. The study was conducted in three paediatric hospitals and from paediatric departments in other three general hospitals in Baghdad, Iraq. Sample was drawn conveniently, three paediatric hospitals from Baghdad hospital list. 150 respondents were chosen from these paediatric hospitals and 50 respondents were chosen from the paediatric departments in three general hospitals. Showed in their results that the males had twice the risk of diarrhoea (OR 1.9, 95% CI 1.1; 3.5). The risk of diarrhoea was 3 times higher among children with mothers who had lower level of education (OR 3.5 95% CI 1.3; 10.1), 5 times higher with unemployed mothers (OR 4.7 95% CI 2.1; 10.4) and 2 times higher with mothers who had poor nutritional knowledge (OR 2.5 95% CI 1.4; 4.9). Children in Baghdad remain at risk of frequent diarrhoea episodes and other complications which might affect their development status. It is becoming increasing ant to focus on improving the underlying factors by increasing the mother nutritional knowledge through special antenatal classes, and improving family economic status.

Mathiazhakan (2016)

The main aim of the study was to assess the knowledge, attitude and practice of caregiver of children admitted with diarrhoea. The objective of this study is Assess the level of Knowledge, Attitude and Practice of Caregiver regarding childhood diarrhea. Descriptive study design was used, 70 samples were recruited based on the inclusion and exclusion criteria. The caregivers Knowledge, attitude, Practice about diarrhea were assessed. The mean score of Knowledge on childhood diarrhoea among caregivers of under five children is 23.14 and mean score of Attitude on childhood diarrhoea among caregivers of under five children is 84.27, mean score of Practice on childhood diarrhoea among caregivers of under

five children is 14.57. The study reveals that the caregivers Knowledge, Attitude and Practice show there is no significant relation exists between Knowledge and Attitude, Knowledge and Practice, Attitude and Practice of caregivers.

Workie et al . (2018)

Aimed of this study was to assess mothers' knowledge, attitude & practice in prevention & home-based management of diarrheal disease among under-five children in Dire Dawa, Eastern Ethiopia. Institutional based cross-sectional study was conducted from March 15–April 14, 2016, in Diredawa among 295 Mothers who had under-five child with diarrhea in the last 2 weeks using simple random sampling method. Mothers were interviewed face to face by using pretested, standard and structured questionnaire. The data quality was assured by translation, retranslation and pretesting the questionnaire. Data were checked for completeness, consistency and then entered into Epi Info v3.1 and analyzed using SPSS v20. The descriptive statistical analysis was used to compute frequency, percentages, and mean of the findings of this study. In this study, 295 participants were included with 100% response rate. From total 295 mothers, around two-thirds (65.2%) of them had good knowledge, but more than half of mothers (54.9%) had a negative attitude towards home-based management and prevention of diarrhea among under-five children. Regarding the attitude of the mothers, 58% had poor practice towards home-based management and prevention of diarrhea among under-five children. The finding of this study showed that the attitude and practice of mothers were unsatisfactory about the prevention and home-based management of under-five diarrheal diseases. Therefore, Health education, dissemination of information, and community conversation should plan and

implement to create a positive attitude and practice towards the better prevention and management of under 5 diarrheal diseases.

Herawanto et al. (2020)

Aimed to determine the relationship between personal hygiene and food processing on the incidence of diarrheal diseases in post disaster toddlers in the evacuation area of Biromaru Public Health Center. This research is analytic observational. Samples in the study were 130 respondents, taken using the proportional stratified random sampling method. Data were analyzed using univariate and bivariate analysis with a chi-square test using α = 5%. Chi-square test results showed hand washing with soap habits (ρ = 0,000), nail hygiene (ρ = 0,000) and food processing (ρ = 0,000). The conclusion of this study there is a relationship between hand washing with soap habits with the incidence of toddler diarrhea in the refugee working area of the Biromaru Public Health Center, there is a relationship between nail hygiene with the incidence of toddler diarrhea in the refugee working area of the Biromaru Public Health Center, and there is a relationship between food processing and the incidence of toddler diarrhea in the refugee working area of the Biromaru Public Health Center. We expected mothers/caregivers of toddlers to take hand washing with soap actions, maintain nail hygiene, and process food properly

Saha et al . (2022)

Aimed was to assess the knowledge and awareness about personal hygiene among the caregivers of the patient of acute watery diarrhoea. This Descriptive type of cross-sectional study was conducted in the Department of Paediatrics at Chittagong Medical College Hospital, Chittagong, Bangladesh from 20th March 2015 to 19th September 2015 for a period of six months. All caregivers were the respondents of children

with up to 3 years old suffering from acute watery diarrhoea attended in Paediatrics unit of Hospital. This included persons residing in urban and semi-urban areas around Chittagong city, as well as persons transferred from hospitals in rural areas of the country. Sample was selected from the population by purposive sampling technique. The details of socio-demographic characteristics, including age, different questions of awareness and knowledge were recorded. A total number of 100 patients were taken as sample for study. Mean age of the patient were 18.05 ± 6.78 month. Over half of the respondents (52%) make answered that personal hygiene means to remain neat and clean. Some of the caregivers (32.0%) maintain personal hygiene by clean hand properly with soap after using toilet. About 30.0% respondents reported that they do not know what to do before taking meal or feed the baby. Many of the respondents (45%) knew about the use of sanitary latrine and (45%) use of clean latrine is mandatory to maintain environmental hygiene. Majority of caregiver (38%) answered that waste products of child's may be harmless. In conclusion the knowledge and awareness about personal hygiene among the caregivers of the children presented with acute watery diarrhea is not satisfactory.

Chapter Three Methodology

Chapter Three

Methodology

3.1.Study Design

Cross-sectional descriptive study design is conducted during the present research to determine the level of food awareness and personal hygiene awareness and practice in AL-Nasiriyah City/Thi-Qar Province period of November 1st 2021- May 12th 2022.

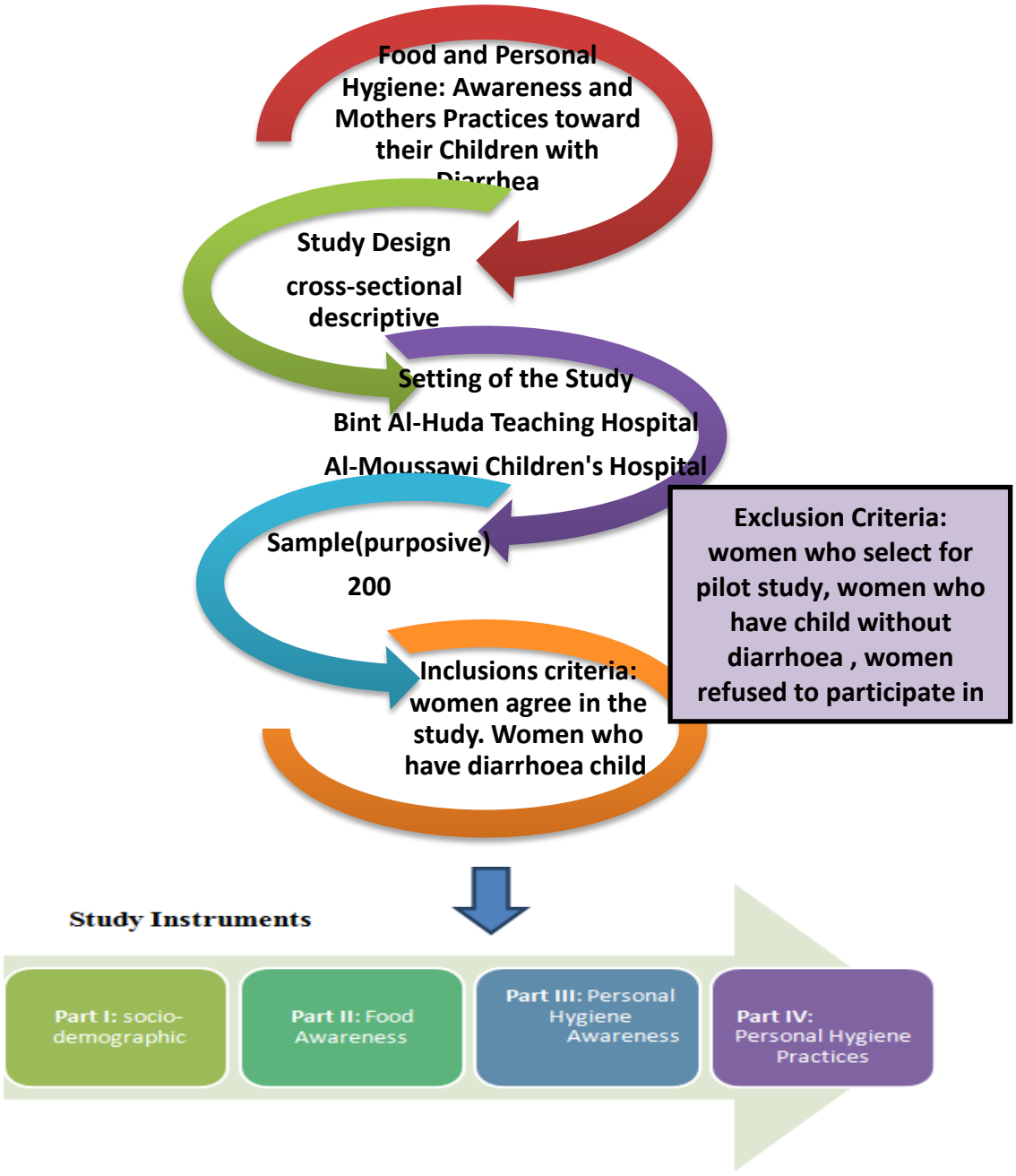

Figure 3-1:Steps of the study

3.2.Administrative Arrangements

Before collecting the study data, the following official clearances were sought from appropriate authorities:

1. The first permission was obtained from the Babylon University College of Nursing to the Higher Education Committee as a presented which consist of the major statement and its objectives.
2. The research approval was established from ethical committee/ college of nursing that involve five advanced scientific titles in the college, it sent to the settings of sample collection which specified in the study plan (Appendix A1).
3. Approval of the study by the University of Babylon/ College of Nursing Council (Appendix A2).
4. In order to formally visit the hospitals, official approvals were required from the Thi-Qar Health Directorate (Training and Development Division) (Appendix A3).
5. Official approval has been gained from a number of hospitals, including:
   A. Bint Al-Huda Teaching Hospital.
   B. Martyr Muhammad Al-Moussawi Children's Hospital.

3.3.Setting of the Study

The study was carried out in AL-Nasiriyah City/Thi-Qar Province, at two hospitals. These hospitals are include (Bint Al-Huda Teaching Hospital and Martyr Muhammad Al-Moussawi Children's Hospital). These hospitals are selected for the purpose of study as shown in figure (3-2).

3.3.1.Bint Al-Huda Teaching Hospital

It was established in 1980 and opened in 1983. The work was carried out by the Japanese company Marubeni and Tasty on an area of (65.000) square meters and a capacity of (400) beds. Bint Al-Huda

Teaching Hospital: It is one of the hospitals specialized in the field of maternity and pediatric.

3.3.2.Martyr Muhammad Al-Moussawi Children's Hospital

AL-Nasiriyah Hospitals, which receive pediatric patients, are considered one of the most important private health institutions in southern Iraq, and were built as an edifice and processions of scientific developments that took expansion and spread to penetrate all disciplines and scientific and cognitive fields, and aims to provide high-level medical services, and the hospitals include care departments.

3.4.Sample of the Study

The non-probability (Purposive) sample was selected to carry out the study which consists of (200) women who are visiting selected hospitals. This sample is distributed throughout two hospitals as shown in figure (3-2) and selected according to the following criteria include:

3.4.1.Inclusions criteria:

1. Women who have diarrhoeal child.
2. Women who agree to be included in study sample.

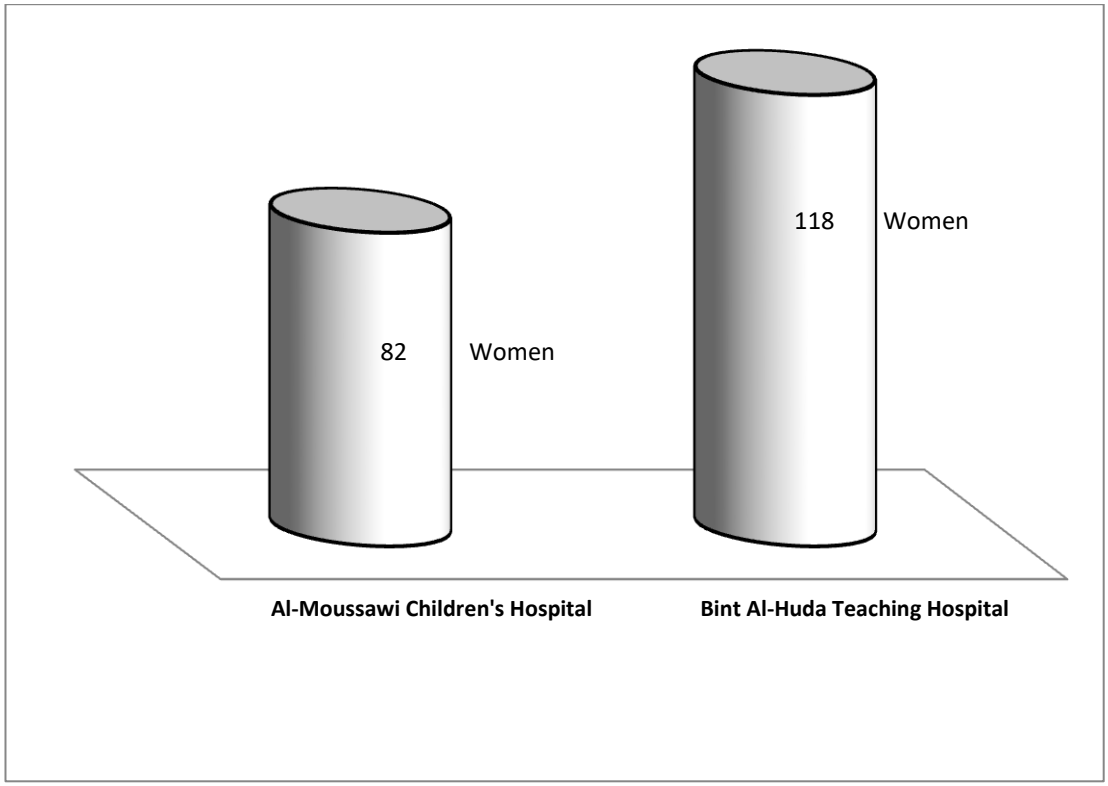

Figure3-2:Distribution of Sample according to Hospitals

3.5.Study Instruments

The questionnaire is one of the means to help collect data that contribute to achieving the results expected by the study, so the researcher designed this questionnaire, which aims to clarify the study objectives and significance by obtaining answers to the study's questions (Appendix B).

This questionnaire consists of four parts which include the following:

Part I: This section composed of socio-demographic information which includes women age, education level, occupation, income/month, residents, child's age and number of children in the family.

Part II: This section deals with Food Awareness adopted and developed by Shafizadeh et al. (2019), and consists of (20-items) to assess the

mother awareness towards food. It measured on 2-point of Likert Scale (*2×Agree and 1×Disagree*).

Part III: This part deals with Personal Hygiene Awareness adopted and developed by Ndayisaba (2019), and consists of (10-items) used to interrogate the sample about personal hygiene awareness. It measured on 2-point of Likert Scale (*2×Agree and 1×Disagree*).

Part IV: This part deals with Personal Hygiene Practices adopted and developed by Ndayisaba (2019), and consists of (10-items) used to interrogate the sample about the personal hygiene practices. It measured on 3-point of Likert Scale (*1×Never, 2×Sometime and 3×Always*).

The researcher adhered to the rules of writing the questionnaire due to the importance of the type of information that the researcher is keen to be sufficient and comprehensive for all aspects of the problem and can be relied upon and trusted. To vague and complex answers. The type of questions was of the closed type, which required answering with reference to what was appropriate.

3.7.Validity of the Questionnaire

The questionnaire's validity refers to its ability to measure what it was created to evaluate, while honesty refers to the questionnaire's inclusion of all aspects that must be included in the analysis on one side, and the clarity of its contents on the other. On the other hand, terminology must be understood by everyone who uses it.

To ensure the questionnaire's validity, it was submitted to 11 specialists in diverse Departments of Nursing (Appendix C). Experts were invited to provide their thoughts and ideas on each study questionnaire item in terms of linguistic relevance, relationship to the dimensions of the study variables allocated to it, and applicability to the study of community's setting.

The experts responses indicated that minor changes should be done to some items and they were made according to their suggestions , then the final draft was completed to be ready for conducting the study.

3.8.Pilot Study

This preliminarily study was conducted to determine the stability and credibility of the study tool, clarity and its efficiency which confirmed, and standard time required to collect data for each subject which can estimated during the interview procedures and to difficulties identification that may encounter. The pilot study was conducted during the period from February 1st to February 13th 2022.

The pilot study aimed to achieve the following objectives.

1. Adequacy of research tools development and testing
2. Evaluation of the instrument's viability.
3. Identifying any logistical issues that may arise as a result of the proposed methods.
4. Assessment of proposed data analysis approaches for the detection of potential issues.
5. The researcher's time estimate during data collecting.

Results of pilot study

1. The questionnaire is reliable.
2. The time required for answering the questionnaire ranged from (15-20) minutes.

The instrument items were clarify and understood the phenomenon underlying of the study (Table 3-1).

Before the questionnaire reached its final form, it went through the following stages:

1. Determining the data that will be collected through the questionnaire according to the study questions.
2. Determining the method and format of the questionnaire.
3. Determining the type of criterion that determines the type of answer in the questionnaire.
4. Presenting the questionnaire to the supervising to express his opinion and observations in developing the questionnaire and modifying it based on his observations.
5. Presenting the questionnaire to a number of panel of experts to express their opinions and observations in developing the questionnaire and modifying it based on what they submitted.
6. Conducting a reliability test by distributing the questionnaire to a sample of 20 mothers.
7. Writing the questionnaire in its final form, then printing, reviewing and distributing it.

Reliability of the Questionnaire:

The reliability of the study instruments entails ensuring that the result will be almost identical if it is administered to the same persons multiple times at different times. The researcher applied it to a random exploratory sample of 20 mothers as composed 10% of the original sample. Where the members of this sample were later excluded from the original sample on which the final study was conducted. Reliability coefficient using the test coefficient of Alpha Cronbach as shown below.

Table3-1:Reliability of the Studied Questionnaire (*n=20*)

Reliability Cronbach's Alpha	
Food Awareness= 20 items	**0.841**
Personal hygiene Awareness= 10 items	**0.762**
Personal hygiene Practices= 10 items	**0.738**

3.9.Ethical Considerations

Ethical obligations are one of the most important things that the researcher must follow and abide it when doing the study. Before the starting of collecting the data from the community that has been identified for the study, the researcher should clarify the main purpose and desired goal of conducting this study for the sample to be including in the study, as well as adhere to the strict confidentiality of the data taken from the study sample and pledge to use it for scientific purposes related to the study only.

Before the starting of gathering the data from the sample who are participating in the study, the researcher gave a brief explanation about the scientific background of the research and the purpose of conducting it. Mothers were verbally informed about the study aims and were asked to participate and this participation was voluntary. After their agreement to participate in the study, anonymous questionnaire was handed to them to maintain a complete confidentiality for the participants.

3.10.Methods of Data Collection

The data was carried out from February 15th to April 1st 2022. The data collection was through the use of interview technique. After obtaining the approval of the Thi-Qar Health Directorate and verifying the validity and reliability of the questionnaire. The researcher interviewed study participants (Mothers), explained the instructions, answered their questions regarding the form, urged them to participate and thanked them for the cooperation. The interview techniques was used on individual bases, and each interview took (15-20) minutes after taking the important steps that must be included in the study design.

3.11.Statistical Data Analysis Approach

In order to statistically analyze the data collected from the study sample to arrive at the results, the researcher used the SPSS version (20)

and Microsoft Excel (2010) program to analyze this data and deal with it statistically, to find the relationships between the variables, and obtain the final results of the research based on a set of statistical tests.

3.11.1.Descriptive approach

Descriptive statistics includes a set of mathematical and statistical methods that are adopted to describe the main features of a data quantitatively by using tables and charts. Descriptive statistics always aim to present and describe the data which is required to be processed, organized, summarized and categorized, as well as presenting them in a simple and clear manner that makes it easier for the recipient to recognize and understand its content. The analysis was performed through the use of :

A. Statistical tables "Frequencies and percent" which are:

$$\% = \frac{\boldsymbol{Frequency}}{\boldsymbol{Sample\ Size}}\ x100$$

B. Statistical Mean "*M*±".

The average score can be calculated by using the following:

$$\boldsymbol{total\ mean\ of\ scores} = \frac{\boldsymbol{Maximum\ total\ sores - munimum\ total\ sores}}{\mathbf{3}}$$

C.Standard Deviation test ±*SD*.

D. It uses a correlational coefficient "Cronbach alpha" used in estimating the internal consistency of the study tool.

3.11.2.Inferential approach

1. **Independent Sample t-test**

The sample that is unrelated The t-test compares the means of two independent groups to check if there is statistical evidence that the associated population means differ significantly.

2. **Analysis of Variance**

For equality of means, is used (ANOVA test when the mean parameter varies).

Chapter Four Results of the Study

Chapter Four

Results of the Study

This chapter extensively introduces the outcomes of the research in tables and these refer to the objectives of this report, which are as follows:

4.1.Descriptive Statistic Analysis of Demographic Variables

Table4-1-1:Particpants Age Groups

	Classification	Freq.	%
Age/years (*M± SD= 26.39+6.352*)	<20years old	59	29.5
	20-29years old	65	32.5
	30-39years old	71	35.5
	≥40 years old	5	2.5
	Total	200	100.0

This table show participants age, the mean age is 26, the age 30-39 years old were recorded the highest percentage (*n=71*; 35.5%), followed by those who are age 20-29 years old (*n=65*; 32.5%), followed by those who are age <20 years old (*n=59*; 29.5%), and followed by those who are age ≥ 40 years old (*n=5*; 2.5%).

Table4-1-2:Participants Education Level

	Classification	Freq.	%
Education Level	Illiterate	74	37.0
	Primary school	44	22.0
	Intermediate school	33	16.5
	Secondary school	25	12.5
	College and above	24	12.0
	Total	200	100.0

Respected to the education level, the findings in table (4-1-2) show that illiterate were predominated (*n=74*; 37%), followed by those who are primary school (*n=44*; 22%), followed by those who are intermediate school (*n=33*; 16.5%) and those who are secondary (*n=25*; 12.5) and those who are college (*n=24*; 12%).

Table4-1-3:Participants Occupation

	Classification	Freq.	%
Occupation	Housewife	180	90.0
	Students	15	7.5
	Employment	5	2.5
	Total	200	100.0

In terms of occupation, table (4-1-3) shows that the majority of mothers were housewives (*n=180*; 90%), as compared with those who are students and employees (*n=15*; 7.5% and *n=5*; 2.5%) respectively.

Table4-1-4:Participants Residents

	Classification	Freq.	%
Residents	Urban	116	58.0
	Rural	84	42.0
	Total	200	100.0

Residents related findings, results of table (4-1-4) shows that urban residents were composed more than half of study sample (*n=116*; 58%), as compared with those who are rural residents (*n=84*; 42%).

Table4-1-5:Participants Monthly Income

	Classification	Freq.	%
Income/month	Enough	65	32.5
	Certain limit	45	22.5
	Not enough	90	45.0
	Total	200	100.0

In regard with monthly income, table (4-1-5) shows that mothers expressed not enough monthly income (*n=90*; 45%), as compared with those who are enough to certain limit enough (*n=65*; 32.5% and *n=45*; 22.5) respectively.

Table4-1-6:Participants according Number of Children

	Classification	Freq.	%
Number of Children	1 Child's	55	27.5
	2 Child's	55	27.5
	≥3 Child's	90	45.0
	Total	200	100.0

Concerning the number of children, table (4-1-6) shows that most of families exhibit ≥3 children (*n=90*; 45%), as compared with those who had 1 and 2 children (*n=55*; 27.5%).

Table4-1-7:Participants according to Child's Age

	Classification	Freq.	%
Child's Age	<1 year	85	42.5
	1-2 years	55	27.5
	3-4 years	60	30.0
	Total	200	100.0

In terms of child's age, most of studied mothers in table (4-1-7) shows that had diarrheal children less than 1 year (*n=85*; 42.5%), as compared with those who had children aged from 1 to 4 years old (*n=60*; 30% as 3 to 4 years) and (*n=55*; 27.5% as 1 to 2 years).

Table4-2-1.Food Awareness among Diarrheal Children Mothers

List	Food Awareness Items	Weighted	Freq.	%	*M.s ± SD*	*Ass.*
1	The child needs more fluids and water to drink during diarrhoea.	Disagree	45	22.5	*1.77±0.418*	*Good*
		Agree	155	77.5		
2	For children with diarrhea, all kinds of fluids are useful.	Disagree	86	43.0	*1.57±0.496*	*Fair*
		Agree	114	57.0		
3	Water should not be taken with food and should be at intervals (e.g. half an hour)	Disagree	118	59.0	*1.41±0.493*	*Fair*
		Agree	82	41.0		
4	Beverages that are high in caffeine (such as tea and soft drinks) ..	Disagree	161	80.5	*1.19±0.397*	*Poor*
		Agree	39	19.5		
5	The child is not allowed to continue his usual diet during diarrhoea	Disagree	91	45.5	*1.54±0.499*	*Fair*
		Agree	109	54.5		
6	The use of foods rich in fat is not useful for a child with diarrhea	Disagree	135	67.5	*1.32±0.469*	*Poor*
		Agree	65	32.5		
7	The use of smoked meats (such as sausages) is good for a child with diarrhea	Disagree	158	79.0	*1.21±0.408*	*Poor*
		Agree	42	21.0		
8	The use of spicy foods is beneficial for a child with diarrhoea.	Disagree	139	69.5	*1.30±0.461*	*Poor*
		Agree	61	30.5		
9	Carbohydrates (such as rice, starch, pasta, and potatoes) are good for a child with diarrhoea	Disagree	62	31.0	*1.69±0.463*	*Good*
		Agree	138	69.0		
10	Very sweet foods should be avoided from the diet of a child with diarrhea	Disagree	107	53.5	*1.46±0.500*	*Fair*
		Agree	93	46.5		
11	The diet of a child with diarrhea should contain high calories	Disagree	131	65.5	*1.34±0.476*	*Fair*
		Agree	69	34.5		
12	The diet of a child with diarrhea should have a high protein content.	Disagree	99	49.5	*1.50±0.501*	*Fair*
		Agree	101	50.5		
13	Breast milk prevents diarrhea in children	Disagree	92	46.0	*1.54±0.499*	*Fair*
		Agree	108	54.0		
14	Cow's milk should be avoided from the diet of a child with diarrhea	Disagree	104	52.0	*1.48±0.500*	*Fair*
		Agree	96	48.0		
15	Berry and prebiotics (in supplement form or added to yogurt) are useful in treating diarrhea in children.	Disagree	101	50.5	*1.49±0.501*	*Fair*
		Agree	99	49.5		
16	A diet rich in fiber (such as fruits and vegetables) is helpful in treating children's diarrhea	Disagree	99	49.5	*1.50±0.501*	*Fair*
		Agree	101	50.5		
17	Fiber should be gradually added to a child's diet when the child has diarrhoea	Disagree	108	54.0	*1.46±0.499*	*Fair*
		Agree	92	46.0		
18	Cooked vegetables should be used during diarrhea	Disagree	139	69.5	*1.30±0.461*	*Poor*
		Agree	61	30.5		
19	Artificial fruit juice is good for a child with diarrhoea	Disagree	112	56.0	*1.44±0.497*	*Fair*
		Agree	88	44.0		
20	Honey is good for a child with diarrhea	Disagree	157	78.5	*1.21±0.411*	*Poor*
		Agree	43	21.5		

"(M.s) Mean of scores, (SD) Standard deviation, Level of Assessment (Poor [M= 1-1.33], Fair [M=1.34-1.67], Good [M ≥1.68])"

In terms of statistical mean and standard deviation, this table demonstrated that the diarrheal children mothers expressed a fair responses

regarding food awareness at all items of the scale (*M=1.34-1.67*) except, the items number (4, 6, 7, 8,18 and 20) the responses were poor (*M≤1.33*), as well as, the items number (1 and 9) the responses were good (*M≥1.68*) as shown in figure (4-1).

Table4-2-2:Overall Assessment of Food Awareness among Diarrheal Children Mothers

Food Awareness	Freq.	%	*M ± SD*
Poor (*M=20-26*)	70	35.0	*28.78±5.947*
Fair (*M=27-33*)	86	43.0	
Good (*M=34-40*)	44	22.0	
Total	200	100.0	

M: Mean for total score, SD=Standard Deviation for total score

According to the total mean of score and standard deviation, the findings demonstrated at (*M ± SD= 28.78±5.947)*, and according to the study criteria the diarrheal children mothers were expressed a fair (moderate) food awareness (*n=86*; 43%), followed by those who are expressed a poor food awareness (*n=70*; 35%) and those who are good food awareness (*n=44*; 22%).

Table4-3-1.Personal Hygiene Awareness among Diarrheal Children Mothers

List	Personal Hygiene Awareness Items	Weighted	Freq.	%	*M.s. ± SD*	*Ass.*
1	Child's hands should be washed after the toilet	Disagree	51	25.5	*1.74±0.436*	*Good*
		Agree	149	74.5		
2	Should only use water to wash my child's hands before and after eating	Disagree	117	58.5	*1.41±0.493*	*Fair*
		Agree	83	41.5		
3	Must use soap and water to wash my child's hands before and after eating	Disagree	80	40.0	*1.60±0.491*	*Fair*
		Agree	120	60.0		
4	Must wash my hands with soap and water before preparing food (cooking)	Disagree	154	77.0	*1.23±0.421*	*Poor*
		Agree	46	23.0		
5	Personal hygiene is a protection for the body from diarrhea	Disagree	67	33.5	*1.66±0.473*	*Fair*
		Agree	133	66.5		
6	Hand washing is an important factor in preventing the spread of diarrhea	Disagree	122	61.0	*1.39±0.488*	*Fair*
		Agree	78	39.0		
7	Using disinfectants at home prevents the spread and transmission of disease to and from others	Disagree	125	62.5	*1.37±0.485*	*Fair*
		Agree	75	37.5		
8	Chlorine is one of the important materials and methods for water sterilization	Disagree	83	41.5	*1.58±0.493*	*Fair*
		Agree	117	58.5		
9	Share information with others about practicing good hygiene for a diarrhea-free community	Disagree	85	42.5	*1.57±0.495*	*Fair*
		Agree	115	57.5		
10	Pay close attention to the child and not let him play with unclean things, and pay special attention to the hygiene of the pacifier	Disagree	101	50.5	*1.49±0.501*	*Fair*
		Agree	99	49.5		

"(M.s) Mean of scores, (SD) Standard deviation, Level of Assessment (Poor [M= 1-1.33], Fair [M=1.34-1.67], Good [M ≥1.68])"

In terms of statistical mean and standard deviation, this table demonstrated that the diarrheal children mothers expressed a fair responses regarding personal hygiene awareness at all items of the scale (*M=1.34-1.67*) except, the item number (4) the responses were poor (*M≤1.33*), as well as, the item number (1) the responses were good (*M≥1.68*) as shown if figure (4-2).

Table4-3-2:Overall Assessment of Personal Hygiene Awareness among Diarrheal Children Mothers

Hygiene Awareness	Freq.	%	*M ± SD*
Poor (*M=10-13*)	66	33.0	*15.07±1.864*
Fair (*M=14-16*)	77	38.5	
Good (*M=17-20*)	57	28.5	
Total	200	100.0	

M: Mean for total score, SD=Standard Deviation for total score

According to the total mean of score and standard deviation, the findings demonstrated at (*M ± SD= 15.07±1.864),* and according to the study criteria the diarrheal children mothers were expressed a fair (moderate) awareness towards personal hygiene (*n=77*; 38.5%), followed by those who expressed a poor awareness related to personal hygiene (*n=66*; 33%) and those who have a good awareness related to personal hygiene (*n=57*; 28.5%) as shown in figure (4-2).

Table4-4-1.Personal Hygiene Practices among Diarrheal Children Mothers

List	Personal Hygiene Practices Items	Weighted	Freq.	%	*M.s ± SD*	*Ass.*
1	Wash my hands before preparing food with soap and water	Never	21	10.5	*2.64±0.665*	*Good*
		Sometime	30	15.0		
		Always	149	74.5		
2	Wash my hands before feeding the baby	Never	11	5.5	*2.71±0.561*	*Good*
		Sometime	35	17.5		
		Always	154	77.0		
3	Wash hands after changing a diaper	Never	49	24.5	*2.49±0.862*	*Good*
		Sometime	3	1.5		
		Always	148	74.0		
4	Wash the child's hands before eating	Never	7	3.5	*2.69±0.532*	*Good*
		Sometime	47	23.5		
		Always	146	73.0		
5	Wash the child's hands after defecation	Never	3	1.5	*2.67±0.502*	*Good*
		Sometime	60	30.0		
		Always	137	68.5		
6	Wash the child's hands after playing	Never	32	16.0	*2.61±0.748*	*Good*
		Sometime	13	6.5		
		Always	155	77.5		
7	Shortening baby's nails	Never	17	8.5	*2.67±0.626*	*Good*
		Sometime	32	16.0		
		Always	151	75.5		
8	Clean the house daily with sterilizers	Never	109	54.5	*1.57±0.697*	*Poor*
		Sometime	67	33.5		
		Always	24	12.0		
9	Dispose of waste on a daily basis	Never	146	73.0	*1.44±0.774*	*Poor*
		Sometime	19	9.5		
		Always	35	17.5		
10	Mosquitoes / flies spread in the near / surrounding area	Never	5	2.5	*2.57±0.543*	*Good*
		Sometime	75	37.5		
		Always	120	60.0		

"(M.s) Mean of scores, (SD) Standard deviation, Level of Assessment (Poor [M= 1-1.66], Fair [M=1.67-2.33], Good [M ≥2.34])"

Take into account statistical analysis of statistical mean, this table demonstrated that the diarrheal children mothers expressed a good responses regarding personal hygiene practices at all items of the scale (*M≥2.34*) except, the items number (8, 9 and 10) the responses were poor (*M≤1.66*) as shown in figure (4-3).

Table4-4-2:Overall Assessment of Personal Hygiene Practices among Diarrheal Children Mothers

Hygiene Awareness	Freq.	%	*M ± SD*
Inadequate (*M=10-16*)	2	1.0	*24.09±3.063*
Fair (*M=17-23*)	77	38.5	
Adequate (*M=24-30*)	121	60.5	
Total	200	100.0	

M: Mean for total score, SD=Standard Deviation for total score

According to the total mean of score and standard deviation, the findings demonstrated at (*M ± SD= 24.09±3.063),* and according to the study criteria the diarrheal children mothers were expressed an adequate personal hygiene (*n=121*; 60.5%), followed by those who expressed a fair personal hygiene (*n=77*; 38.5%) and those who have inadequate personal hygiene (*n=2*; 1%) as shown in figure (4-3).

4.5.Differences in Food and Personal Hygiene Awareness and Practices with regards Mothers Socio-Demographic Variables

Table 4-5-1:Differences in Food and Personal Hygiene Awareness and Practices with regard Mothers Age Groups (*n=200*)

Mothers Age	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Food Awareness	Between Groups	1.821	3	.607	7.539	.000
	Within Groups	15.780	196	.081		
	Total	17.601	199			
Personal Hygiene Awareness	Between Groups	.091	3	.030	.872	.457
	Within Groups	6.828	196	.035		
	Total	6.919	199			
Personal Hygiene Practices	Between Groups	.670	3	.223	2.430	.067
	Within Groups	18.002	196	.092		
	Total	18.672	199			

d.f: Degree of freedom, F: F-statistic

The findings demonstrated there were significant differences in food awareness with regard mothers age (*p<0.01*); and there were no significant differences in personal hygiene awareness and practices with regard mothers age (*p> 0.05*).

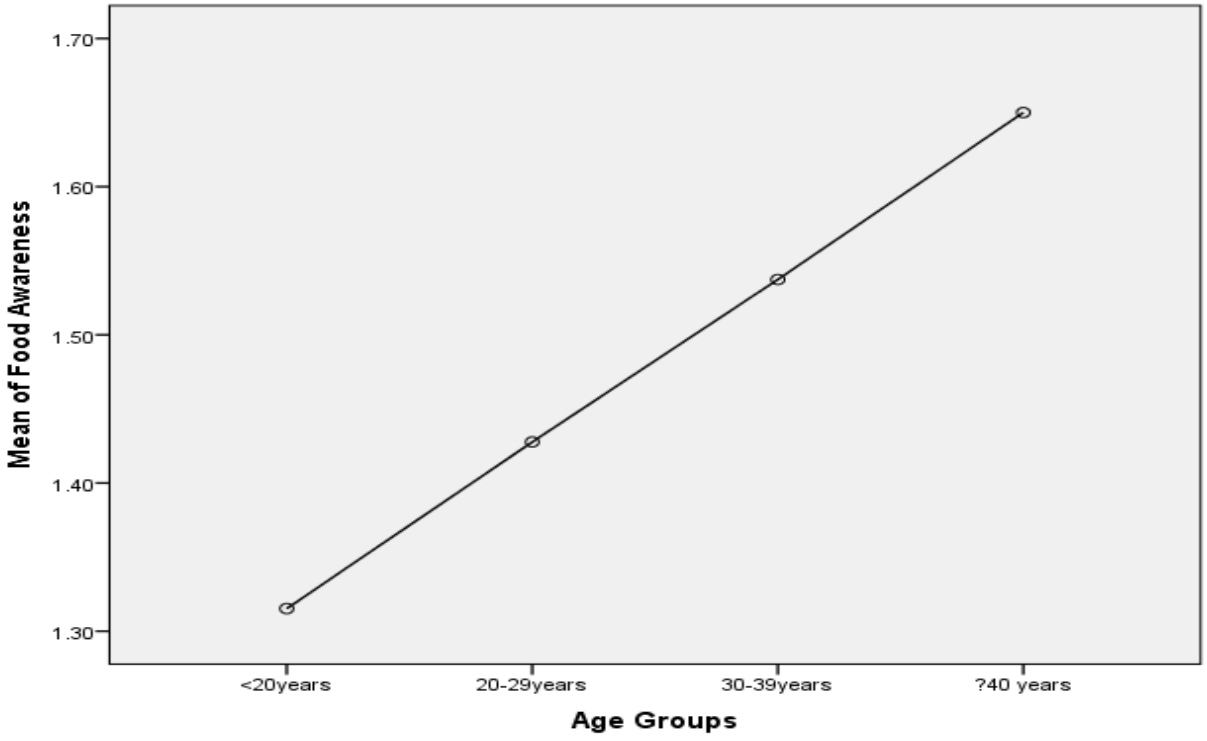

Figure 4-4:Discription of Food Awareness according to Age Groups

Table 4-5-2:Differences in Food and Personal Hygiene Awareness and Practices with regard Mothers Education Level (*n=200*)

Education	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Food Awareness	Between Groups	1.465	4	.366	4.427	.002
	Within Groups	16.135	195	.083		
	Total	17.601	199			
Personal Hygiene Awareness	Between Groups	.474	4	.119	3.587	.008
	Within Groups	6.445	195	.033		
	Total	6.919	199			
Personal Hygiene Practices	Between Groups	.981	4	.245	2.704	.032
	Within Groups	17.691	195	.091		
	Total	18.672	199			

d.f: Degree of freedom, F: F-statistic

The findings demonstrated that there were significant differences in food awareness, personal hygiene awareness and practices with regard mothers level of education (*p<0.05*).

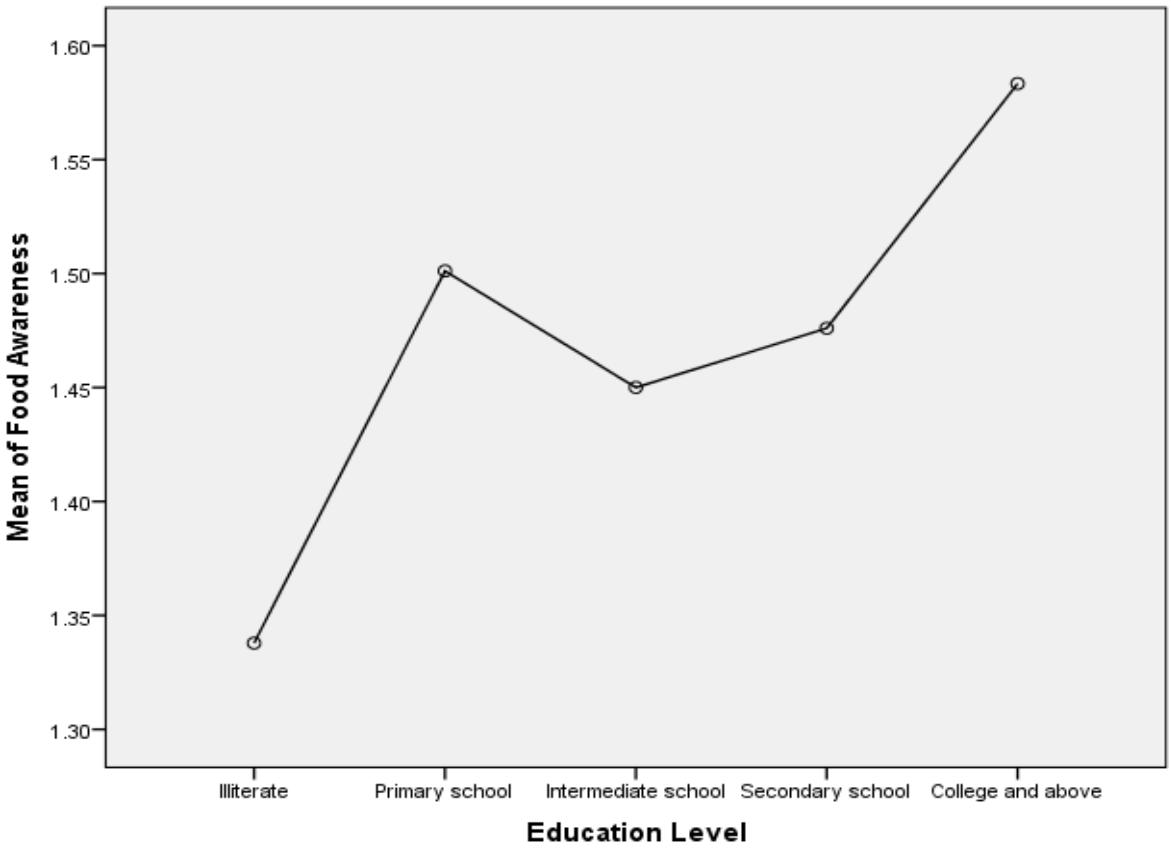

Figure 4-5:description of Food Awareness according to Education Level

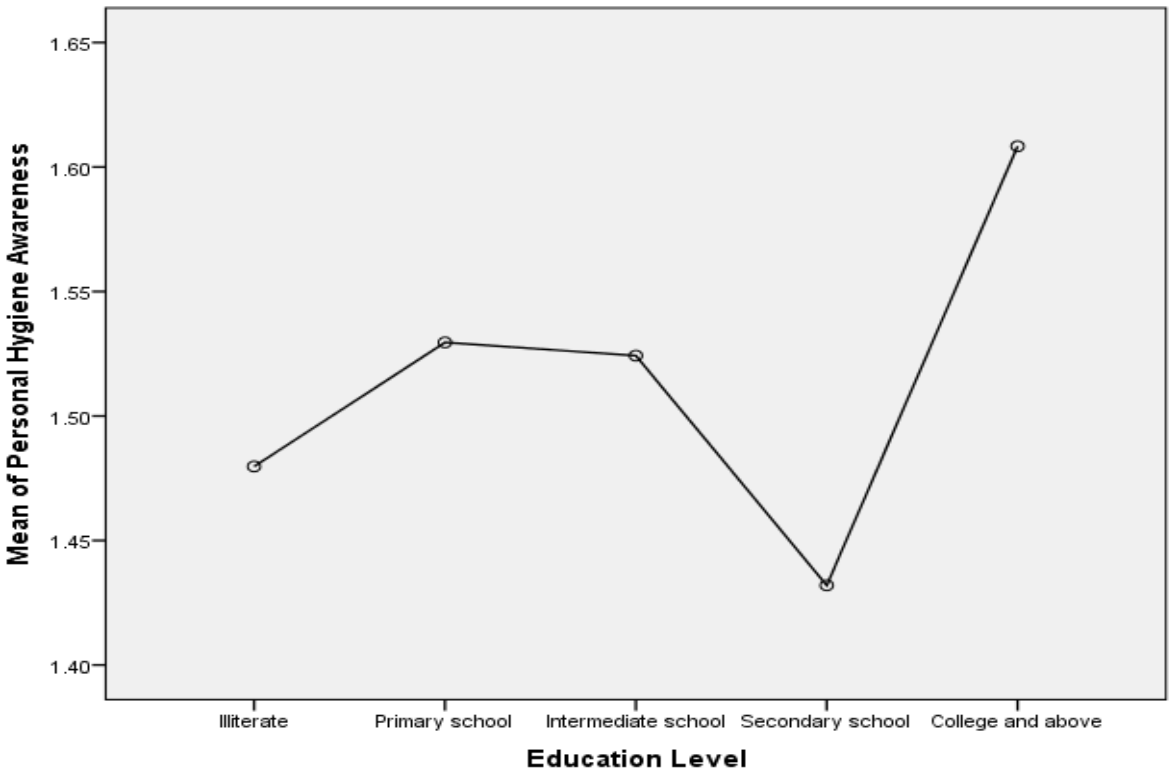

Figure 4-6:Distribution of Personal Hygiene Awareness according to Education Level

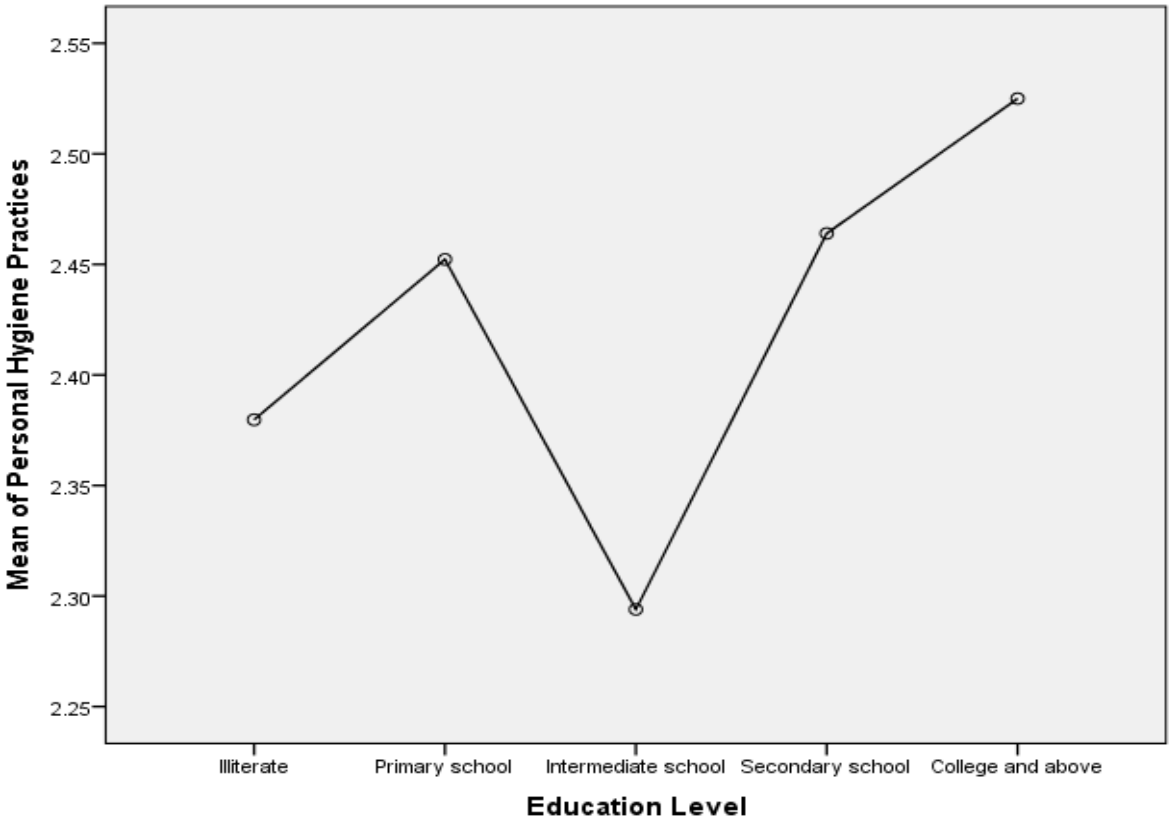

Figure 4-7:Distribution of Personal Hygiene Practices according to Education Level

Table 4-5-3:Differences in Food and Personal Hygiene Awareness and Practices with regard Mothers Occupation (*n=200*)

Occupation	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Food Awareness	Between Groups	.155	2	.078	.876	.418
	Within Groups	17.446	197	.089		
	Total	17.601	199			
Personal Hygiene Awareness	Between Groups	.287	2	.144	.270	.115
	Within Groups	6.631	197	.034		
	Total	6.919	199			
Personal Hygiene Practices	Between Groups	.063	2	.032	.335	.716
	Within Groups	18.609	197	.094		
	Total	18.672	199			

d.f: Degree of freedom, F: F-statistic

The findings demonstrated that there were no-significant differences in food awareness, personal hygiene awareness and practices with regard mothers occupation (*p>0.05*).

Table 4-5-4:Differences in Food and Personal Hygiene Awareness and Practices with regard Mothers Residents (*n=200*)

Variables	Residents	Mean	SD	t-value	d.f	*p≤ 0.05*
Food Awareness	Urban	1.49	.290	3.425	198	*.001*
	Rural	1.35	.287			
Personal Hygiene Awareness	Urban	1.49	.178	1.130	198	*.260*
	Rural	1.52	.196			
Personal Hygiene Practices	Urban	2.39	.335	.010	198	*.455*
	Rural	2.42	.261			

SD: Standard deviation, t: t-test, d.f: Degree of freedom, Sig: Significance, p: Probability value, No-sig.: Not significant.

The findings demonstrated there were significant differences in food awareness with regard residents (*p<0.05*); and there were no-significant differences in personal hygiene awareness and practices with regard residents (*p>0.05*).

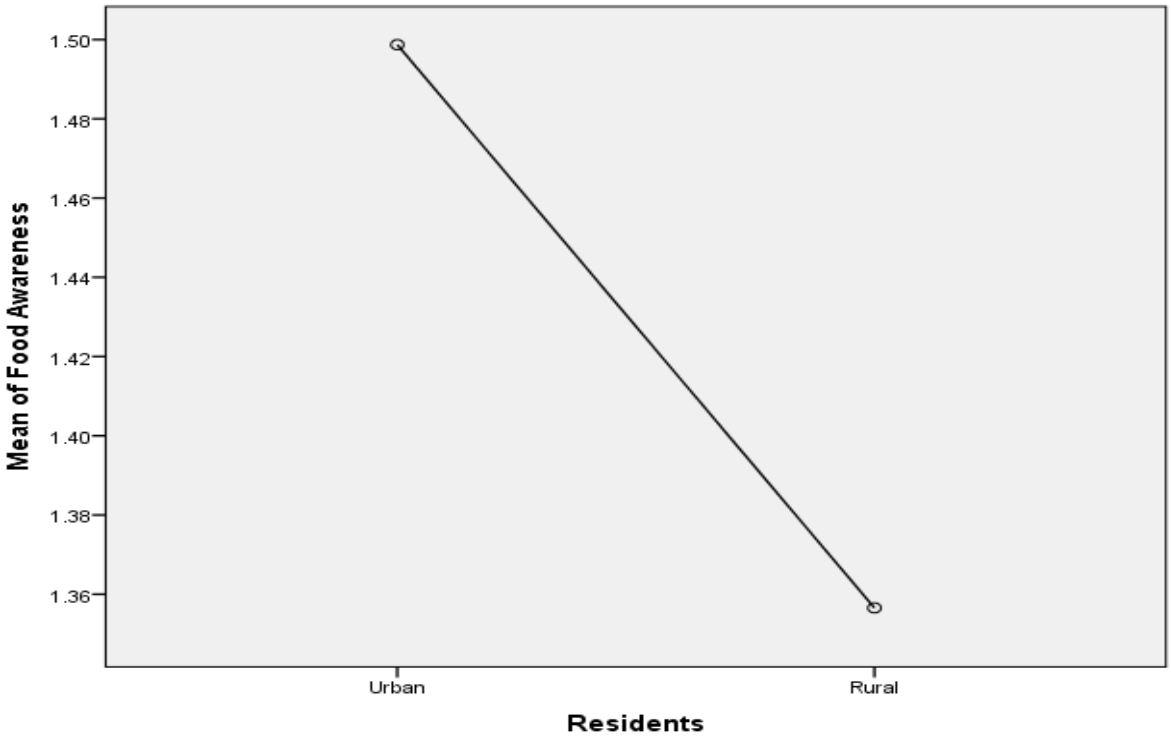

Figure 4-7:Distribution of Food Awareness according to Residents

Table 4-5-5:Differences in Food and Personal Hygiene Awareness and Practices with regard Mothers Monthly Income (*n=200*)

Income	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Food Awareness	Between Groups	.003	2	.002	.019	.981
	Within Groups	17.597	197	.089		
	Total	17.601	199			
Personal Hygiene Awareness	Between Groups	.126	2	.063	1.821	.165
	Within Groups	6.793	197	.034		
	Total	6.919	199			
Personal Hygiene Practices	Between Groups	.345	2	.173	1.854	.159
	Within Groups	18.327	197	.093		
	Total	18.672	199			

d.f: Degree of freedom, F: F-statistic

The findings demonstrated that there were no-significant differences in food awareness, personal hygiene awareness and practices with regards mothers monthly income (*p>0.05*).

Table 4-5-6:Differences in Food and Personal Hygiene Awareness and Practices with regard Number of Children (*n=200*)

No. Children	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Food Awareness	Between Groups	.088	2	.044	.494	.611
	Within Groups	17.513	197	.089		
	Total	17.601	199			
Personal Hygiene Awareness	Between Groups	.100	2	.050	1.439	.240
	Within Groups	6.819	197	.035		
	Total	6.919	199			
Personal Hygiene Practices	Between Groups	.218	2	.109	1.165	.314
	Within Groups	18.454	197	.094		
	Total	18.672	199			

d.f: Degree of freedom, F: F-statistic

The findings demonstrated that there were no-significant differences in food awareness, personal hygiene awareness and practices with regard to number of children (*p>0.05*).

Table 4-5-7:Differences in Food and Personal Hygiene Awareness and Practices with regard Child's Age (*n=200*)

Child's Age	Source of variance	Sum of Squares	d.f	Mean Square	F	*p≤ 0.05*
Food Awareness	Between Groups	.205	2	.102	1.158	.316
	Within Groups	17.396	197	.088		
	Total	17.601	199			
Personal Hygiene Awareness	Between Groups	.073	2	.037	1.052	.351
	Within Groups	6.846	197	.035		
	Total	6.919	199			
Personal Hygiene Practices	Between Groups	.324	2	.162	1.739	.178
	Within Groups	18.348	197	.093		
	Total	18.672	199			

d.f: Degree of freedom, F: F-statistic

The findings demonstrated that there were no-significant differences in food awareness, personal hygiene awareness and practices with regard child's age (*p>0.05*).

Chapter Five Discussion of the Study Results

Chapter Five

Discussion of the Study Results

Awareness of food and personal hygiene for children under the age of five plays an important role in prevention and prevalence of diarrhea. For the health of children, the assessment of maternal food and hygiene awareness is a public health priority. This chapter extensively introduces the outcomes of the research in tables and these refer to the objectives of this work, which are as follows:

5.1.Socio-demographic Characteristics of the Study Sample

The finding show participants age, the mean age is 26, the age 30-39 years old were recorded the highest percentage, while age ≥ 40 years old were recorded the lowest percentage (table 4-1-1), This is result may be due that age in our community is acceptable age to get married and considered the most productive age to have child .These findings come in line with Bimpong et al. (2020), demonstrated in their findings that the majority of mothers were less than 30 years old, due to those age groups more deal with children.

With respect to the education level, the illiterate were recorded the highest percentage, while college and above were recorded the lowest percentage(table 4-1-2). The low level of education may be due to residents factors play an importance role in availability of education facility. This findings are supported by Bimpong et al. (2020), the majority of mothers were uneducated.

In terms of occupation, the majority of mothers housewives recorded the highest percentage, while employees were recorded the lowest percentage (table 4-1-3). This is result may be due that the occupation is significantly with education level, We find that most of the mothers are housewives because their education is not qualified to get a job outside the home.

Residents related findings, the urban residents were recorded the highest percentage, while rural residents were recorded the lowest percentage (table 4-1-4). This is result may be due that the urban population is more than the rural population, and since the hospitals that were covered in the study are in the urban area.

In regard with income, mothers expressed not enough monthly income were recorded the highest percentage, while certain limit enough were recorded the lowest percentage (table 4-1-5), This is result may be due that of increased financial burden that patients' families suffer due to the high costs of care such as medicines, medical care and transportation. As being, the monthly income is associated with the educational level and profession. The insufficient monthly income results from their work as housewives because of their education that is not qualified for a job.

Concerning the number of children, most families exhibit ≥3 children were recorded highest percentage, as compared with those who had 1 and 2 children were recorded lowest percentage (table 4-1-6), This is result may be due that of their love for children and their ability to educate and spend, or they are controlled by social factors. . In terms of the child's age, most of studied mothers had diarrheal children less than 1 year, were recorded highest percentage as compared with those who had children aged from 1 to 4 years old as 3 to 4 years and as 1 to 2 years were lowest percentage (table 4-1-7), this result may be Because these ages are more dangerous and less immune. While, in study of Reiher and Mohammadnezhad (2017), most of studied sample had 1 child's less than 1 years. The differences trace population culture and geographical location.

5.2.Food Awareness among Diarrheal Children Mothers

Mothers awareness refers to personal knowledge, beliefs, and attitudes…, etc, which is usually acquired through many ways such as education, interrelation with persons around, different types of media, and

personal experiences…, etc. It directs and determines mothers behavior and practices related to health and illness. using various indicators related to health awareness.

According to the total mean of score and standard deviation, the findings demonstrated at (*M ± SD= 28.78±5.947*) (table 4-2-2). The results were in the following sequence as diarrheal children mothers were expressed a fair (moderate) food awareness, followed by those who expressed a poor food awareness and those who expressed a good food awareness. These findings may be come because the most important influenced factors such as the age of the mother is considered an influential variable in relation to food awareness, as well as differences in educational levels (the presence of a large percentage of the studied sample is uneducated), in addition to a very important factor that plays a major role in food awareness is housing (there was a large difference between urban residents and rural). This is result may be due that Importance of food awareness among mothers. The higher mothers food awareness is significantly prevention of diarrheal children. It is possible to hold sessions and seminars related to educating mothers about food awareness and its importance in maintaining the general health of their children.

In line of these findings, Afaf et al. (2014), the study found that up to percentage 43% of mothers have middle level of awareness, 34% have either a high or very high levels of awareness and only 23% of mothers have lower levels of awareness, while Bimpong et al. (2020), depicted in their findings the majority of mothers were of poor awareness towards complementary feeding.

Health and food awareness in mothers strongly contributes to the child malnutrition especially when mothers are educated. One of the best ways to raise awareness on health and food might be Lady Health Workers

(LHWs) program with proper training because they are often in close contact with pregnant and lactation women (Shahid et al., 2022).

Moreover, mother's health awareness leads to decrease the prevalence of diarrhea. Therefore, intervention health awareness programmes towards mothers are needed to improve children's health (e.g. nutrition, personal hygiene and home sanitation). The government must also give more attention to the adoption of new policies for improving the general standard of living (Mahgoub et al., 2014).

By the unsatisfactory level of food awareness, nurses should emphasize to provide an educational program tailored to each mother in the community about food awareness, and healthcare organizations must develop a dedicated funding plan that supports health education about healthy food and food borne illness (Ali et al., 2021).

As confirmed by Yabancı et al. (2014), higher food knowledge level mothers avoid giving the foods which contains artificial to their children, and believe more the knowledge about nutrition-health. Mothers' nutrition knowledge level affects children's eating habits.

5.3.Personal Hygiene Awareness among Diarrheal Children Mothers

According to the total mean of score and standard deviation, the findings demonstrated at (*M ± SD= 15.07±1.864)*, and according to the study criteria the diarrheal children mothers were expressed a fair (moderate) awareness towards personal hygiene, While, mothers were expressed an adequate personal hygiene practices.

This is result may be due that attention to personal hygiene is not less important than the food aspect. Awareness of personal hygiene and its practice contributes to reducing the spread of diarrhea in children. The first person responsible for personal hygiene is the mother. Awareness of the

mother is the most important aspect that contributes to maintaining the general health of children under five years of age.

The majority of mothers washed their hands without soap after performing housework and cooking. Improving mothers' knowledge while incorporating existing perceptions might lead to positive changes (Usfar et al., 2010).

The level of personal hygiene knowledge in the community influences the quality of healthy food in the environment. Ambari, Latiana & Khamidun (2018), stated that illness is one of the important factors that affect a person's nutritional status directly, especially in children. People who do not have knowledge related to personal hygiene can be a factor in the emergence of various infectious diseases.

The finding of this study showed that the practice of mothers were unsatisfactory about the prevention and home-based management of under-five diarrheal diseases. Therefore, Health education, dissemination of information, and community conversation should plan and implement to create a positive practice towards the better prevention and management of under 5 diarrheal diseases (Workie et al., 2018).

The Majority of mothers had poor hygienic practice during complementary feeding. Awareness of mothers, access to media, household private latrine ownership, presence of hand washing facility, and residence of the study participants were significantly associated with hygiene practice of mothers during complementary feeding. The health sector should train mothers on good hygiene practices during complementary feeding (Demmelash et al., 2020).

The majority of mothers who were knowledgeable about hand washing were not executing it accuractely. Diarrheal admissions among under-five children have been influenced by their mother's poor hand washing practices. Therefore, it is imperative to improve the understanding

of proper hand washing practices of mothers at every level in the community (Taddese et al., 2020).

Improving the hand hygiene of mothers and children is essential because hands are central to our day-to-day operations and working with hands that may be contaminated for cooking and eating increases the transfer of contaminants which may cause ill health. Mothers play a dual role in the infant care, they are responsible for child hygiene and general housekeeper (preparing meals for the family, feeding children), and poor hygiene practices can increase the risk of disease spread to children (Alula et al., 2018).

5.4.Demographic Variables Associated with Food Awareness

5.4.1.Food Awareness and Mothers Age

The findings demonstrated that there were significant association in food awareness with regards mothers age (*p=0.000*) (table 4-5-1). These findings are is supported by Mahgoub et al. (2014), the mothers awareness were significantly associated with mothers age (*p=0.004*). Agize et al. (2017), mothers age significantly influenced their knowledge towards food (younger women must be given more attention). Yeganeh et al. (2018), younger mothers have poor awareness towards food safety.

From the current study findings, the differences were in favor of the age group 40 and over, which recorded the highest mean of food awareness, while the age group which is less than 20 years old recorded the lowest mean (Figure 4-4). This is result may be due that the age is a sociodemographic factor that influence both awareness and practices of mothers on home management of diarrhoea among children. As mothers age significantly increased food awareness. It seems, through the results, that the older mother has the best food awareness due to her experience and dealing with children.

5.4.2.Food Awareness and Mothers Education

In the current study findings, there were significant association in food awareness in responses to the mothers education level (p=0.002) (table 4-5-2). Education appeared to have an important effect on scores of mothers' food awareness. These results are in accordance with a study investigating the consumption of specific food items in Flemish preschool children, where differences in consumption of fruits, vegetables, and soft drinks were found to be related to the mothers' educational levels (Vereecken et al., 2004; Al-Shookri et al., 2011).

The educational level of the mother is considered a factor affecting their food awareness, as the difference was in favor of those who graduated from college or above, who scored the highest average of food awareness, compared to those who are considered uneducated (illiterate), who scored the lowest average of food awareness (Figure 4-5). So the educational level plays an important role in food awareness. This is result may be due that as the educational level progresses, the mother has better food awareness and it is possible to help her prevent her child's diarrhea. Mother's education is widely recognized as an important factor in bringing healthier and better educated families.

A direct positive association between the level of education and mothers health awareness was detected (*p=0.021*). Education increases the knowledge about prevention methods; including hygienic behavior, improved home sanitation to fight insects and vectors carrying diseases (Mahgoub et al., 2014). Another, mothers education must be given more attention , because it is the most important factor affecting overall health. Though, health education of mothers is a key to prevent diseases and significant to improve health status of the whole family and should be achieved (Afaf et al., 2014).

5.4.3.Food Awareness and Mothers Residents

Mothers who are resident in urban areas exhibit better food awareness (*M ± SD= 1.49±0.290*) than those who are resident in rural areas (*M ± SD= 1.35±0.287*), and there were statistical significant association in food awareness between urban and rural residents (*t=3.425; p=0.001*) (table 4-5-4). Through the arithmetic mean, the significant differences were in favor of the urban residents this is result may be due they are more informed and interact with the community and that makes them more information-gaining.

In line with those, Yabancı et al. (2014), the urban residents have significantly better knowledge than the rural in regard with food and nutrition, the economic cost (needs of living) and life in general in rural areas are usually lower compared to the city, and social relations are more interconnected between members of the community.. Diarrheal associated food were more prevalent in rural areas than the urban (Mohammed & Tamiru, 2014). Shahid et al. (2022), stated that the housing areas considered influencing factors of mothers awareness towards feeding of their children (rural residents were limited and need more attention).

5.5.Demographic Variables Associated with Personal Hygiene Awareness and Practices

Mothers in the current study exhibit that there were significant association in personal hygiene awareness (*p=0.008*) and practices (*p=0.032*) with regard to education level (table 4-5-2).

Regarding the awareness of personal hygiene, the significant differences in favor of the mother who are graduated from college and above have better personal hygiene, and secondary school mothers record the lowest mean of personal hygiene awareness (Figure 4-6).

This is result may be due that concerning the practices of personal hygiene, where a mother graduating from a college or above scored the highest arithmetic average in personal hygiene practices, while a mother graduating from intermediate school records the lowest mean of personal hygiene practices this is because Educated mothers practice good hygiene, better child feeding and weaning practices, and the interpretation of symptoms and enhance timely action on childhood illness, all of which increase a child's resistance against infectious diseases (Figure 4-7).

Mothers education may have a considerable importance on child health and survival in the region. The long term solution for reducing the morbidity from diarrhea might involve the provision of better sanitation, and expanding family planning services so that they are accessible to the entire population (Sinmegn et al., 2014).

Therefore, the educational level is an influencing factor, personal hygiene and awareness and practices significantly increased with high level of education. Therefore, the educational level is an influencing factor in the findings of Seksaria and Sheth (2014), those who are not educated registered a poor personal hygiene practices than those who are educated. Diarrhoea, a major contributor of childhood morbidity and mortality is mostly caused by poor hygiene practices influenced by mothers education level (Yaya et al., 2018).

Under poor environmental conditions, mothers with primary education and above protected their children against diarrhea better than mothers with no education. Thus, implementing effective educational programs that emphasize environmental health and sanitation practices and encouraging female school enrolment would reduce childhood diarrheal morbidity in the region (Sinmegn et al ., 2014).

Chapter Six Conclusions & Recommendations

Chapter Six

Conclusions and Recommendations

6.1.Conclusions:

In the light of the results and their interpretations, our study concludes that:

6.1.1. Mothers expressed a moderate level of food awareness and influenced by their age, education level and residence.

6.1.2. Food awareness is significantly improved by mothers increased age (mothers who are aged 40 years and more have better food awareness).

6.1.3. Food awareness is significantly influenced by mothers education level (mothers who are college and above graduated better awareness than others graduation) but majority were illiterate.

6.1.4. Residence is considered as influencing factors of food awareness.

6.1.5. Mothers expressed a moderate to adequate level of personal hygiene awareness and practices are influenced by their education.

6.1.6. Holding awareness training sessions and seminars by health care providers indeed help to develop the awareness and practices of the mothers.

6.2.Recommendations:

The present study could recommend , based on the above stated conclusions, that:

-Mothers health awareness leads to decrease the prevalence of diarrhea

Therefore must

1-Recommendation of ministry of health provide continue education program through the media and television weekly or daily regarding to the spread of diarrhoea and route of transmission .

2- Recommendation in hospital teach all mothers admitted with children in diarrheal diseases about nutrition, personal hygiene, hand washing , important of immunization, starting weaning and continuation of breast feeding in child aged two 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 .

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Appendices

University of Babylon
College of Nursing
Research Ethics Committee
Issue No:
Date: / /2021

جـامـعة بـابـل
كـلية التمريـض
لجنة اخلاقيات البحث العلمي

Approval Letter

To,

Zahraa Basim Mohammed

The Research Ethics committee at the **University of Babylon, College of Nursing** has reviewed and discussed your application to conduct the research study entitled **"Food and personal hygiene: awareness and mothers' practices toward their children with diarrhea**
The Following documents have been reviewed and approved:

1. Research protocol
2. Research instrument/s
3. Participant informed consent

Committee Decision.

The committee approves the study to be conducted in the presented form. The Research Ethics committee expects to be informed about any changes occurring during the study, any revision in the protocol and participant informed consent.

Prof. Dr. Salma K. Jehad
Chair Committee
College of Nursing
Research Ethical Committee
18 / 01 /2022

وزارة التعليم العالي والبحث العلمي
جمهورية العراق
Ministry of Higher Education and Scientific Research
جامعة بابل
كلية التمريض
لجنة الدراسات العليا
University of Babylon
College of Nursing

العدد : ٥٢٩
التاريخ : ٢٠٢٢/١/٢٠
Ref. No. :
Date: / /

الى / دائرة صحة ذي قار / مركز التدريب والتطوير
م/ تسهيل مهمة

تحية طيبة :
يطيب لنا حسن التواصل معكم ويرجى تفضلكم بتسهيل مهمة طالبة الماجستير (زهراء باسم محمد) لغرض جمع عينة دراسة الماجستير والخاصة بالبحث الموسوم :

الغذاء والنظافة الشخصية: وعي الامهات وممارساتهن المتعلقة باطفالهن المصابين بالاسهال.

Food and Personal Hygiene: awareness and mothers practices toward their children with Diarrhea.

مع الاحترام ...

المرفقات //
- بروتوكول.
- استبانة.

ا.م . د. نهاد محمد قاسم الدوري
معاون العميد للشوون العلمية والدراسات العليا
٢٠٢٢/١/٢٠

صورة عنه الى //
- مكتب السيد العميد للتفضل بالاطلاع مع الاحترام
- لجنة الدراسات العليا
- الصادرة

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وزارة الصحـــــــة/ البيئة
دائـــــرة صحـــــة ذي قـــــار
قسم التدريب و التنمية البشرية
العدد /
التاريخ \ /٢٠٢٢/٢

الى / مستشفى الشهيد محمد الموسوي للاطفال

مستشفى بنت الهدى التعليمي

م/ تسهيل مهمة

تحية طيبة..

اشارة الى كتاب جامعة بابل / كلية التمريض ذي العدد ٥٢٩ بتاريخ ٢٠٢٢/١/٣٠ ،وبناء على موافقتكم المبدئية على استمارة مشروع البحث المقدمة من قبل الباحثة ، تم عرض الاستمارة على لجنة البحوث في دائرتنا خلال جلستها الاسبوعية وكان قرار اللجنة :

" الموافقة على تنفيذ مشروع البحث بصيغته المقدمة ولا مانع من تنفيذه في مؤسسات الدائرة "

نرفق لكم ربطا قرار لجنه البحوث ذي العدد (٢٠٢٢٠٤٦) ولا مانع لدينا من تسهيل مهمتها، على ان لا تتحمل دائرتنا اي تبعات مالية او قانونية وان يلتزم الباحثة بالاعتبارات الاخلاقية اثناء اجراء البحث .

... للتفضل بالاطلاع مع الاحترام...

الدكتور

مشعل زوري جبار

مدير قسم التدريب والتنمية البشرية

**٢٠٢٢/٢/ **

نسخة منه الى//

- **قسم التدريب والتنمية البشرية/ شعبة ادارة البحوث والمعرفة... مع الاولويات**

البريد الالكتروني thiqarhealthtraining@yahoo.com

عبير ٢٠٢٢

وزارة الصحة
دائرة صحة ذي قار
مركز التدريب والتنمية البشرية
لجنة البحوث

استمارة رقم ٢٠٢١/٠٣

رقم القرار: ذي قار/٢٠٢٢٠٤٦
تاريخ القرار ٢٠٢٢/٢/١

قرار لجنة البحوث

درست لجنة البحوث في دائرة صحة ذي قار مشروع البحث ذي الرقم (٢٠٢٢٠٤٦) المعنون:

Food and personal hygiene :awareness and mothers practieces toward their children with diarrhea

والمقدم من الباحثين (دراسات عليا- الماجستير/ م. جامعي زهراء باسم محمد) الى وحدة إدارة البحوث و التنمية في مركز التدريب والتنمية البشرية في دائرة صحة ذي قار بتاريخ ٢٠٢٢/٢/١ وقررت:

"الموافقة على تنفيذ مشروع البحث بصيغته المقدمة ولاما نع من تنفيذه في مؤسسات الدائرة."

الدكتور سعدي كاظم الماجد
رئيس لجنة البحوث
٢٠٢٢/٢/

الموقعات:
لا يوجد

ملاحظات:
- تم تحويل رئيس لجنة البحوث او مقرر اللجنة للتوقيع على هذا القرار استنادا الى النظام الداخلي لجنة البحوث
- الموافقة تعني ان مشروع البحث قد استوفى المعايير الاخلاقية والعلمية لاجراء بحث والمعتمدة في وزارة الصحة. اما التسديد فيعتمد على التزام الباحث بتعليمات المؤسسة الصحية التي سيتم فيها البحث

Part I: Socio-demographic Characteristics

1.Age ☐

2.Education status of mother

Illiterate (Does not read and write) ☐ Primary school ☐

Intermediate school ☐ secondary school ☐

College and above ☐

3.Mother occupation

House wife ☐ Student ☐ Employment ☐

4.monthly income level

Enough ☐ Certain limit ☐ Not enough ☐

5.Residence

Urban ☐ Rural ☐

6.Child age

< 1 year ☐ 1-2 year ☐ 3-4 year ☐

7.Number of children

1 child ☐ 2 child ☐ ≥ 3 child ☐

Part II: Food Awareness (Shafizadeh et al., 2019)

List	Paragraph	Agree	Disagree
1	The child needs more fluids and water to drink during diarrhoea.		
2	For children with diarrhea, all kinds of fluids are useful.		
3	Water should not be taken with food and should be at intervals (eg half an hour).		
4	Beverages that are high in caffeine (such as tea and soft drinks) are good for a child with diarrhoea.		
5	The child is not allowed to continue his usual diet during diarrhoea		
6	The use of foods rich in fat is not useful for a child with diarrhea		
7	The use of smoked meats (such as sausages) is good for a child with diarrhea		
8	The use of spicy foods is beneficial for a child with diarrhoea.		
9	Carbohydrates (such as rice, starch, pasta, and potatoes) are good for a child with diarrhoea.		
10	Very sweet foods should be avoided from the diet of a child with diarrhea.		
11	The diet of a child with diarrhea should contain high calories.		
12	The diet of a child with diarrhea should have a high protein content.		
13	Breast milk prevents diarrhea in children.		
14	Cow's milk should be avoided from the diet of a child with diarrhea		
15	Berry and prebiotics (in supplement form or added to yogurt) are useful in treating diarrhea in children.		
16	A diet rich in fiber (such as fruits and vegetables) is helpful in treating children's diarrhea		
17	Fiber should be gradually added to a child's diet when the child has diarrhoea.		
18	Cooked vegetables should be used during diarrhea		
19	Artificial fruit juice is good for a child with diarrhoea.		
20	Honey is good for a child with diarrhea		

Part III: Personal Hygiene Awareness (Ndayisaba, 2019)

List	Paragraph	Agree	Disagree
1	Child's hands should be washed after the toilet		
2	Should only use water to wash my child's hands before and after eating		
3	Must use soap and water to wash my child's hands before and after eating		
4	Must wash my hands with soap and water before preparing food (cooking)		
5	Personal hygiene is a protection for the body from diarrhea		
6	Hand washing is an important factor in preventing the spread of diarrhea		
7	Using disinfectants at home prevents the spread and transmission of disease to and from others		
8	Chlorine is one of the important materials and methods for water sterilization		
9	Share information with others about practicing good hygiene for a diarrhea-free community		
10	Pay close attention to the child and not let him play with unclean things, and pay special attention to the hygiene of the pacifier		

Part IV: Personal Hygiene Practices (Agustina et al., 2013)

List	Paragraph	Always	Sometime	Never
1	Wash my hands before preparing food with soap and water			
2	Wash my hands before feeding the baby			
3	Wash hands after changing a diaper			
4	Wash the child's hands before eating			
5	Wash the child's hands after defecation			
6	Wash the child's hands after playing			
7	Shortening baby's nails			
8	Clean the house daily with sterilizers			
9	Dispose of waste on a daily basis			
10	Mosquitoes / flies spread in the near / surrounding area			

الجزء الاول: الخصائص الديموغرافية

١.عمر الام ☐

٢.المستوى التعليمي للأم

لا تقرا ولا تكتب (أمي) ☐ الدراسة الابتدائية ☐

الدراسة المتوسطة ☐ الدراسة الاعدادية ☐

كلية فما فوق ☐

٣.مهنة إلام

ربة بيت ☐ طالبة ☐ موظفة ☐

٤.الدخل الشهري

يكفي ☐ يكفي الى حد ما ☐ لا يكفي ☐

٥.السكن

مدينة ☐ ريف ☐

٦.عمر الطفل

< ا سنة ☐ ١-٢ سنة ☐ ٣-٤ سنة ☐

٧.عدد الأطفال في العائلة

١ طفل ☐ ٢ طفل ☐ ≥ ٣ طفل ☐

الجزء الثاني: الوعي الغذائي لأمهات الأطفال المصابين بالإسهال

ت	الفقرات	موافق	لا أوافق
١	يحتاج الطفل إلى المزيد من السوائل والماء للشرب أثناء الإسهال.		
٢	بالنسبة للأطفال الذين يعانون من الإسهال ، فإن جميع أنواع السوائل مفيدة.		
٣	يجب عدم تناول الماء مع الطعام ويجب أن يكون على فترات (على سبيل المثال نصف ساعة).		
٤	المشروبات التي تحتوي على نسبة عالية من الكافيين (مثل الشاي والمشروبات الغازية) مفيدة للطفل المصاب بالإسهال.		
٥	لا يسمح للطفل بمواصلة نظامه الغذائي المعتاد أثناء الإسهال		
٦	استخدام الأطعمة الغنية بالدهون غير مفيده للطفل المصاب بالإسهال		
٧	استخدام اللحوم المدخنة (مثل النقانق) مفيد للطفل المصاب بالإسهال		
٨	استخدام الأطعمة الغنية بالتوابل مفيد للطفل المصاب بالإسهال.		
٩	الكربوهيدرات (مثل الأرز والنشا والمعكرونة والبطاطس) مفيدة للطفل المصاب بالإسهال.		
١٠	يجب تجنب الأطعمة شديدة الحلاوة من النظام الغذائي للطفل المصاب بالإسهال.		
١١	النظام الغذائي للطفل المصاب بالإسهال يجب أن يحتوي على سعرات حرارية عالية.		
١٢	يجب أن يحتوي النظام الغذائي للطفل المصاب بالإسهال على نسبة عالية من البروتين.		
١٣	حليب الأم يمنع الإسهال عند الأطفال.		
١٤	يجب تجنب حليب الابقار من غذاء الطفل المصاب بالإسهال		
١٥	البر وبيوتيك (في شكل مكملات أو مضاف إلى الزبادي) مفيدة في علاج الإسهال عند الأطفال.		
١٦	النظام الغذائي الغني بالألياف (مثل الفاكهة والخضروات) مفيد في علاج إسهال الأطفال		
١٧	يجب إضافة الألياف تدريجياً إلى نظام الطفل الغذائي عندما يكون الطفل مصاباً بالإسهال.		
١٨	يجب استخدام الخضار المطبوخة أثناء الإسهال		
١٩	عصير الفاكهة الصناعي مفيد للطفل المصاب بالإسهال.		
٢٠	العسل مفيد للطفل المصاب بالإسهال		

Adopted and developed by Shafizadeh et al. (2019).

الجزء الثالث: وعي أمهات الأطفال المصابين بالإسهال بالنظافة الشخصية

ت	الفقرات	موافق	لا موافق
١	يجب غسل يدي طفلي بعد المرحاض		
٢	يجب استخدم الماء فقط لغسل يدي طفلي قبل وبعد الأكل		
٣	يجب استخدم الماء والصابون لغسل يدي طفلي قبل وبعد الأكل		
٤	يجب إن اغسل يدي بالماء والصابون قبل تحضير الطعام (الطبخ)		
٥	النظافة الشخصية تعتبر وقاية للجسم من الإسهال		
٦	غسل اليدين من العوامل المهمة لمنع انتشار العدوى بالإسهال		
٧	استخدام المطهرات في المنزل تمنع تفشي وانتقال المرض من والى الآخرين		
٨	مادة الكلور من المواد والطرق المهمة لتعقيم المياه		
٩	تشارك المعلومات مع الآخرين حول ممارسة النظافة لخلو المجتمع من الإسهال		
١٠	الانتباه للطفل جيداً وعدم تركه يلهو بأشياء غير نظيفة والاهتمام بشكل خاص لنظافة اللاهية.		

Adopted and developed by Ndayisaba (2019).

الجزء الرابع: ممارسات النظافة الشخصية لأمهات الأطفال المصابين بالإسهال

ت	الفقرات	دائما	أحيانا	أبدا
١	اغسل يدي قبل تحضير الطعام بالماء والصابون			
٢	اغسل يدي قبل إطعام الطفل			
٣	اغسل يدي بعد تغيير الحفاظ			
٤	اغسل يدي الطفل قبل الأكل			
٥	اغسل يدي الطفل بعد التبرز			
٦	اغسل يدي الطفل بعد اللعب			
٧	أقوم بتقصير اضافير طفلي			
٨	أقوم بالتنظيف اليومي داخل المنزل بالمعقمات			
٩	أتخلص من النفايات بشكل يومي			
١٠	البعوض / الذباب ينتشر في المنطقة القريبة / المحيطة			

Adopted and developed by Agustina et al. (2013).

خبراء تحكيم استمارة الاستبانة

ت	اسم الخبير	اللقب العلمي	الاختصاص	مكان العمل	سنوات الخبرة
١	د. سلمى كاظم جهاد	استاذ	تمريض صحة المجتمع	جامعة بابل كلية التمريض	42
٢	د. عفيفة رضا عباس	استاذ	تمريض اطفال	جامعة بغداد كلية التمريض	40
٣	د. يحيى عبد الشهيد عبدالله	استاذ	طب أطفال	جامعة بابل كلية الطب	36
٤	د. نهاد محمد قاسم	استاذ	تمريض أطفال	جامعة بابل كلية التمريض	34
٥	د.فاطمة وناس خضير	أستاذ	تمريض صحة المجتمع	جامعة الكوفة كلية التمريض	29
٦	د. احمد شمران مضلل	استاذ	طب أطفال	جامعة بابل/ كلية الطب	29
٧	د. ختام مطشر حطاب	استاذ	تمريض أطفال	جامعة بغداد كلية التمريض	24
٨	د. خميس بندر عبيد	استاذ	تمريض أطفال	جامعة كربلاء كلية التمريض	21
٩	د. علي عبد الرزاق عبيد	استاذ مساعد	طب اطفال	جامعة بغداد كلية طب الكندي	29
١٠	د. عدنان محسن بوهان	استاذ مساعد	طب أطفال	جامعة ذي قار كلية التمريض	27
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العدد : ١٨٥٧
التاريخ : ١٨ / ٥ / ٢٠٢٢

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م/ مقوم لغوي

تحية طيبة :

يرجى التفضل بتحديد عضو هيئة تدريس في كليتكم لغرض تقويم رسالة الماجستير للطالبة (**زهراء باسم محمد**) والموسومة ب

الغذاء والنظافة الشخصية: وعي الامهات وممارساتهن المتعلقة بأطفالهن المصابين بالإسهال.

Food and Personal Hygiene: awareness and mothers practices toward their children with Diarrhea.

مع الاحترام ...

أ.م . د. نهاد محمد قاسم
معاون العميد للشؤون العلمية والدراسات العليا
٢٠٢٢/٥/١٨

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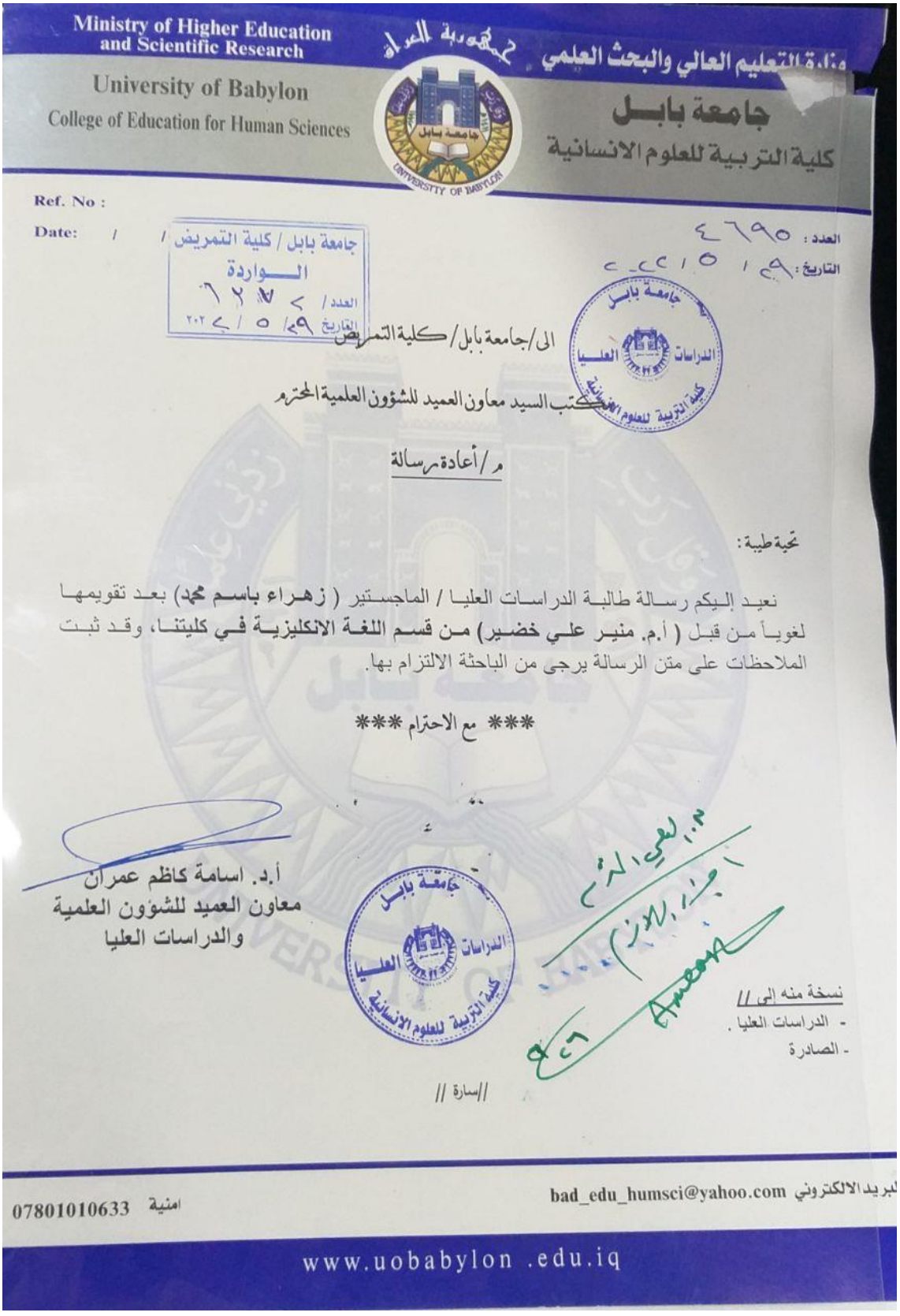

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Ref. No :
Date: / /

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التاريخ : ٢٩ / ٥ / ٢٠٢٤

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العدد / ٦٢٧٧
التاريخ ٢٩ / ٥ / ٢٠٢٤

الى/جامعة بابل/ كلية التمريض

م/ أعادة رسالة

تحية طيبة:

نعيد إليكم رسالة طالبة الدراسات العليا / الماجستير (**زهراء باسم محمد**) بعد تقويمها لغوياً من قبل (**أ.م. منير علي خضير**) **من قسم اللغة الانكليزية في كليتنا**، وقد ثبت الملاحظات على متن الرسالة يرجى من الباحثة الالتزام بها.

*** مع الاحترام ***

أ.د. اسامة كاظم عمران
معاون العميد للشؤون العلمية
والدراسات العليا

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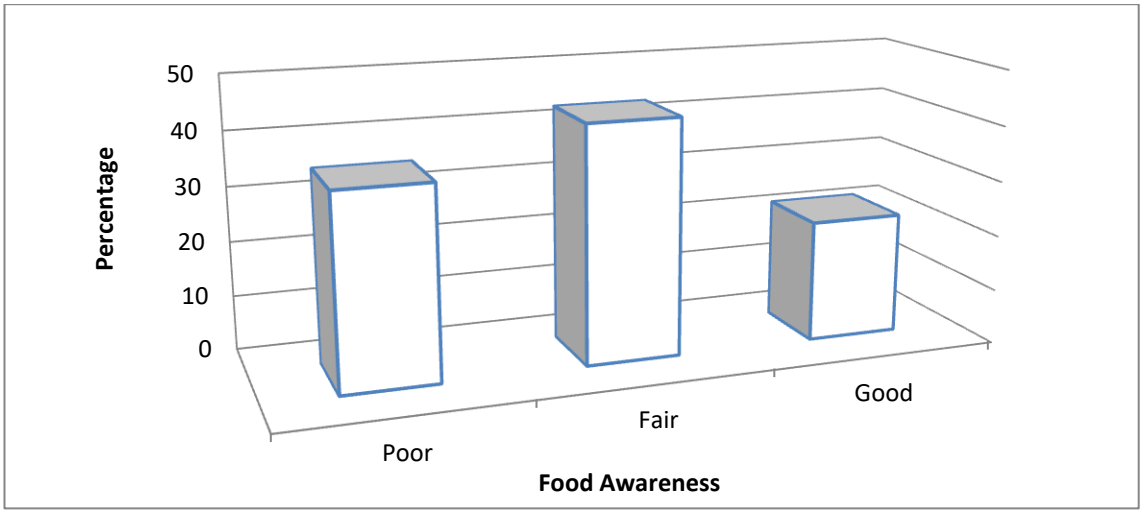

Figure4-1:Level of Food Awareness

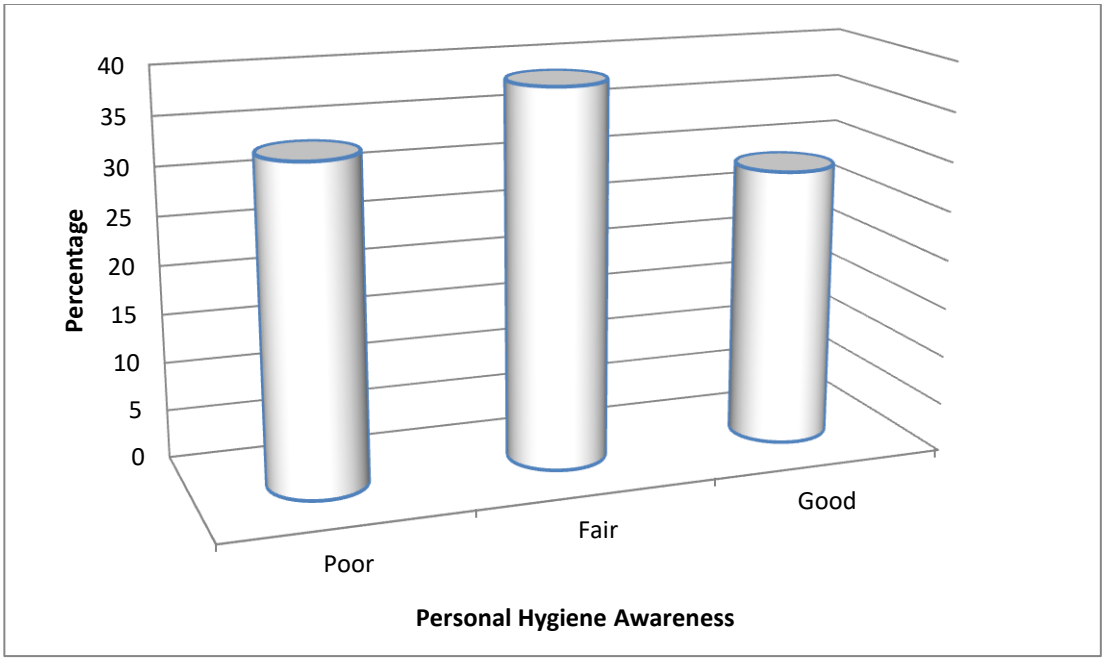

Figure4-2:Level of Personal Hygiene Awareness

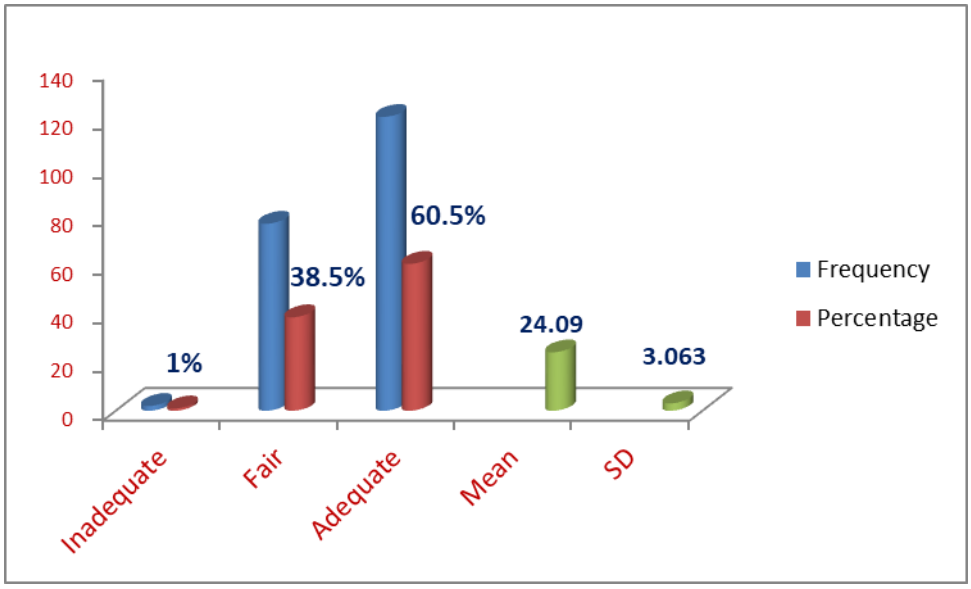

Figure4-3:Level of Personal Hygiene Practices

الخلاصة

يتعامل الوعي الغذائي والنظافة الشخصية مع الأطفال دون سن الخامسة ، كعامل مهم في الوقاية من الإسهال وانتشاره. يعد تقييم الوعي الغذائي والاهتمام بالنظافة من أولويات الصحة العامة. لذلك ، هدفت الدراسة إلى تقييم الوعي الغذائي وممارسات النظافة الشخصية بين أمهات الأطفال المصابين بالإسهال وتحديد العوامل الاجتماعية والديموغرافية المرتبطة بها

أجريت الدراسة الوصفية والتحليلية على عينة من مائتي سيدة لديهن طفل مصاب بالإسهال ، لتحقيق الأهداف ، من ١ نوفمبر ٢٠٢١ إلى ١٢ مايو ٢٠٢٢. تم توزيع العينة على مستشفيين (مستشفى بنت الهدى التعليمي) بنسبة (٥٩٪) ومستشفى الشهيد محمد الموسوي للأطفال بنسبة (٤١٪) من حجم العينة الكلية في محافظة ذي قار). تم جمع البيانات من خلال استخدام الاستبيان وتزويدها من قبل الباحثين وتم تحليل البيانات الكترونيًا من خلال استخدام ما يسمى بعلوم الاجتماع بالحزمة الإحصائية (SPSS - الإصدار ٢٣).

أشارت نتائج الدراسة إلى أن الأمهات أظهرن مستوى معتدلاً من الوعي الغذائي والوعي بالنظافة الشخصية ولديهن ممارسات النظافة الشخصية الكافية. كانت هناك فروق ذات دلالة إحصائية في الوعي الغذائي فيما يتعلق بعمر الأم والتعليم والمقيمين ، وكذلك مستوى التعليم المتعلق بالتوعية والممارسات الصحية عند نقطة فروق ذات دلالة إحصائية ($P < 0.05$).

استنتجت الدراسة ان الوعي الصحي للأم يؤدي إلى تقليل انتشار الاسهال. لذلك ، هناك حاجة لبرامج التوعية الصحية تجاه الأمهات لتحسين صحة أطفالهن (مثل التغذية والنظافة الشخصية والصرف الصحي المنزلي).

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رسالة مقدمة من قبل

زهراء باسم محمد

الى

مجلـــس كلية التمريض/ جامعة بابل

كجزء من متطلبات نيل درجة الماجستير في علوم التمريض

بإشراف

أ.د. عبد المهدي عبد الرضا حسن

أ.م.د. إسراء حرجان محسن

ايلول/ ٢٠٢٢ ميلادية صفر/ ١٤٤٤ هجرية