Deanship of Graduate

Al-Quds University

Mother's Knowledge, Attitude and Practice of Children under 5 years old with Diarrhea and Dehydration in the West Bank

Ameera Hatem Rasheed Marouf

Master Thesis

Ramallah-Palestine

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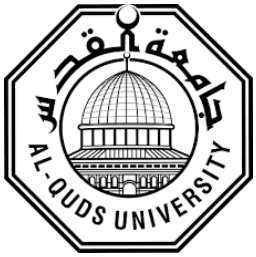

Thesis Approval

Mother's Knowledge, Attitude and Practice of Children under 5 years old with Diarrhea and Dehydration in the West Bank

Prepared by: Ameera Hatem Rasheed Marouf

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3- **External Examiner ……. Signature……**

4- **Committee Member …….. Signature……**

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Dedication

To the purest heart, who wiped away sorrow, oppression and hatred from my life and gave me strings of joy instead, the person who has been my strength in times of sadness and weakness, the person who gave me my first breaths and still gives me, my great mother.

To the spring of hopes and dreams and my first role model, the person who melted my rigid heart and lighted with his cresset my path, the person who taught me how to fight and withstand erupting volcanoes. Who taught me what life is and made me very proud, my great father.

To my partner, my friend, my future, my safe and my family, to the person with a distinctive laugh and a pure heart, who taught me how to be calm and patience at the height of storms, to the light of my coming paths and the joy of my life. To the person who holds my hand with both his hands and who taught me that despair is a sin, my beloved husband Mohammad Baddarin.

To the person who is the star of my life, my laughter, my little girl and the precious of them all, my love that is full of beautiful riot, my soul mate and everything, my dear sister Shefaa.

To the person that is my strength and shelter, and the shoulder that I lean upon when life puts me down. To the person with the intimate heart that will never tire and will not tire of protecting my back and carrying the burdens of my life, my dear brothers Ismat, Talaat, Ayser, Israr, Louai.

To the soldiers of rejection and rebellion, the valiant persons who refuse to bow their heads, the braves who write messages of freedom and the ones who light our life with the magic of their steadfastness, prisoners of freedom.

To the hard workers, to the wounded and martyrs, to anyone who ever wanted to be something and life did not allow them to. To the poor that life rejected them, to that mother that circumstances were against her; to that father that age ravages his body.

To the children of the world in general, and the children of Palestine in particular;

Finally, I dedicate this Master Thesis to those who bet on my failure and always worked to keep me behind. Thank you, this thesis would not have been done without all the challenges.

Ameera Hatem Rasheed Marouf

Declaration

I certify that thesis submitted for the degree of master is the result of my own research, except where otherwise acknowledged, and that this thesis (or any part of the same) has not been submitted for a higher degree to any other university or institution.

Signed

Ameera Hatem Rasheed Marouf

Date: (23/11/2019)

Acknowledgements

Stand in the appreciation shrine and spread its brigade with a head pole taken from the early dawn (Marouf Al-Rissafi)

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Ameera Hatem Rasheed Marouf

Abbreviation

WHO	World Health Organization
ORT	Oral Rehydration Therapy
ORS	Oral Rehydration Salts
UNICEF	United Nation Children Funds
PCBS	Palestinian Central Bureau of Statistics
HBM	Heath believe models
UNRWA	United Nations Relief and Works Agency
NGOs	non-governmental organizations
POU	Point of use
MOH	Ministry of health

Abstract

Diarrheal disease is the second most common cause of death in children under the age of five years. Children are the most sensitive group to environmental and social variables. Fortunately, the mother can prevent her children from diarrheal disease, as well as treat it and reduce its complications. The mother is the first caregiver of the child. A mother's knowledge of diarrheal disease, her behavior and beliefs affects her ability to control the disease and avoid complications. Given the lack of studies related to this disease in Palestine in general, and the lack of studies dealing with the role of the mother and her behavior in dealing with diarrheal disease in particular, this study aimed to assess and determine the knowledge, practice and attitude of mothers towards their children under the age of five years with diarrhea and dehydration. In addition, assess mothers' awareness of how to deal with their children who are under five years of age and affected by diarrhea episode and had be transferred to government hospitals in the West Bank, particularly Hebron, Ramallah and Nablus.

The research period lasted from 10 November 2017 to 10 March 2018.
The study population consisted of mothers of children under five years of age who were in the Department of Pediatrics and Pediatric Emergency in Ramallah Governmental Hospital, Alia Hospital, and Rafedia Governmental Hospital during the period of completion of this research..Which questionnaires were distributed to them after an official letter of this letter was sent by Al-Quds University and approval was obtained from the Palestinian Ministry of Health. However, the questionnaire consisted of four paragraphs distributed over four main sections: (demographic information, knowledge of mothers about diarrheal disease, beliefs about the disease, and practices carried out by Mothers when their children have diarrheal). The questionnaire was distributed to 471 mothers through the use of a purposive sampling method. The researcher found that the number of questionnaires valid for statistical analysis is 467 questionnaires representing 99% distributed to the mentioned cities. Statistical processing was carried out using SPSS statistical package (version 20).

The researcher used the descriptive method. The study showed unexpected results, as the majority of mothers have insufficient knowledge about diarrhea in terms of its causes, definition, significance and mechanism for dealing with, and the vast majority has incorrect usage of the dehydration solution in terms of quantity and method of administration, while

they have good knowledge and behavior towards breast feeding. Also, the results of the study indicated some differences between the cities that the research was applied to. One of the most important differences was the knowledge among mothers to define diarrhea and its severity, which was less in Nablus, compared to Ramallah and Hebron. While their knowledge of the serious signs that require them to bring the child to the hospital was better in Nablus than in Ramallah and Hebron. The correct preparation of the solution at home and incorrect knowledge is higher in Hebron compared to Ramallah and Nablus, while the correct knowledge for preparing the manufacture solution and the mechanism for preventing diarrhea in Hebron was better than Nablus and Ramallah. The study confirmed the presence of statistically significant differences between mothers' positive and negative beliefs with many demographic variables and different levels of knowledge among mothers and the mother's self-motivation. There is also significant statistical relationship and differences between self-motivation and correct practices in positive way.

The results also confirmed existence of a relationship between mothers' knowledge and many demographic variables that clearly affect this knowledge, which in turn affects the behavior and beliefs of the mother. Upon these results, the study concluded many recommendations, primarily finding and preparing awareness programs for mothers about diarrhea and oral rehydration solution by healthcare providers and focus on the quality of the services provided.

مُلخص:

يعتبر مرض الإسـهال هو ثاني أهمّ أسـباب وفاة الأطفال دون سـن الخامسـة، وذلك بسـبب أنّ الاطفال هم الفئة الاكثر حســـاســـية تجاه المتغيرات البيئية والإجتماعية, والإيجابي في الأمر أنّه يمكن توقّي وحماية الاطفال من هذا المرض ويمكن علاجه والحد من مضـاعفاته بواسـطة الأم والتي تُعتبر مقدم الرعاية المباشـر للطفل، فبمعرفة الأُم وسـلوكياتها واعتقاداتها تجاه الإسهال بامكاننا السيطرة على الامر وتجنب مضاعفات الإسهال، وبالرجوع والنظر الى الدراسات في فلسطين وُجد أنه لا يوجد أي دراسة تحدثت عن دور الأم ومعلوماتها وسلوكياتها بخصوص الاسهال، ولذلك هدفت هذه الدراســة إلى تقييم وتحديد معرفة وممارســة ومواقف الأمهات تجاه الأطفال المصــابون بالإســهال والجفاف الذين تقل أعمارهم عن خمس سنوات. وكذلك تحديد مستويات وعي الأمهات بكيفية التعامل مع الأطفال دون سن الخامسة الذين يعانون من الإسـهال والذين يتم نقلهم إلى المسـتشـفيات الحكومية في الضـفة الغربية، وتحديداً مناطق الخليل ورام الله ونابلس، حيث تكوّن مجتمع الدراســة من أمهات الأطفال الذين تقل اعمارهم عن خمس ســنوات واللاتي تواجدن بقســم الأطفال وطوارئه اثناء فتره انجاز هذا البحث, وامتدت فتره البحث من العاشر من تشرين الثاني 2017 الى العاشر من أذار 2018.

أما عينة الدراسـة فشـملت جميع الأمهات اللاتي يتواجدن بقسـم الاطفال وطوارئه في كل من مسـتشـفيات رام الله وعالية ورفيديا الحكوميه أثناء فترة توزيع الاسـتبانات، حيث تم جمع البيانات بواسـطه اسـتبانه بعد موافقة وزارة الصـحة عليها بكتاب رسـمي من جامعه القدس, حيث كانت الاسـتبانة مكونة من 4 فقرات موزعة على 4 أبعاد رئيسـية: (المعلومات الديموغرافية، والمعرفة لدى الامهات، والاعتقاد والممارســـات عند الأمهات التي يقمن بها اثناء فتره الإســـهال لدى اطفالهن)، وزعت الاســـتبانه على 471 أم من خلال اســـتخدام طريقة العينة القصـــدية، وتبين للباحث أن عدد الاستبانات المستردة والصالحة للتحليل الإحصائي هي 467 استبانه بنسبة تمثيل 99% موزعة على المدن المذكورة، وقد تم التأكد من صدقها وثباتها، وتمت المعالجة الإحصائية باستخدام برنامج الرزم الإحصائية (الإصدار 20)

استخدم الباحث المنهج الوصفي بأسلوب تحليلي، وتوصلت الدراسة إلى مجموعة من النتائج غير متوقعة حيث أن أغلبية الأمهات لديهن معرفة غير كافية عن الإسهال من حيث أسبابه وتعريفه وخطورته وآلية التعامل معه وأيضاً الغالبية العظمى لديهن سلوكيات غير صحيحة حول استخدام محلول الجفاف من حيث الكمية وطريقة الإعطاء بينما لديهن معرفة وسلوكيات جيده تجاه الرضاعة الطبيعي. واشارت أيضاً نتائج الدراسة بوجود فروقات بين المدن التي تم تطبيق البحث عليها، ومن أهم الفروقات كانت المعرفة لدى الأمهات بتعريف الإسهال وخطورته حيث كانت في نابلس أقل منها في رام الله والخليل بينما معرفتهن بالعلامات الخطرة التي توجب إحضار الطفل للمستشفى كانت في نابلس أفضل من رام الله والخليل اضافة إلى أن الممارسة الصحيحة بتحضير محلول الجفاف بالبيت والمعرفة غير الصحيحة كانت عالية بالخليل مقارنةً برام الله ونابلس بينما المعرفة الصحيحة بتحضير محلول الجفاف الجاهز وآلية منع الإسهال في الخليل كانت أفضل من نابلس ورام الله. وأكدت الدراسة على وجود فروق وعلاقه ذات دلالة احصائية بين اعتقاد الأمهات الإيجابي والسلبي مع العديد من المتغيرات الديموغرافيه والمعرفه بمختلف مستوياتها لدى الأمهات والتحفيز الذاتي للأم . وأيضاً وجود علاقة وفروق ذات دلالة احصائية ما بين التحفيز الذاتي والممارسات الصحيحة بشكل طردي وايجابي. وأكدت النتائج أيضاً على وجود علاقه بين مختلف مستويات المعرفة لدى الأم والعديد من المتغيرات الديموغرافيه التي تؤثر بشكل واضح على المعرفه التي بدورها تؤثر على سلوكيات واعتقادات الام بشكل واضح، وفي ضوء هذه النتائج خلصت الدراسة الى العديد من التوصيات التي أبرزها ايجاد وإعداد برامج توعوية للامهات حول الإسهال ومحلول الجفاف من قبل مقدمي الرعاية الصحية والتركيز على نوعية الخدمات المقدمة.

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Chapter One

1. Introduction

1.1 General background

Diarrhea defines as the passage of three or more frequent of watery or loose stool than normal average for an individual (WHO, 2017). It is considered the major cause of morbidity and mortality in children under the age of five in developing counties, causing about four million deaths in children every year. Where the symptom of infections caused by contaminated organisms like bacteria, viral and parasitic agents, which mostly transmitted by feces-contaminated water .The infection can be acute and last for one or two days (Kondo, et al, 2002). Diarrhea can be chronic if it lasts for more than few days or few week, and the signs may come and go (Longstreth et al., 2006).

Children less than five years of age are more sensitive because they are at the stage of rapid growth and development and their immune system does not fully developed to fight such infection. In fact, most of the diarrhea cases related to water and sanitation, so children who are exposed to the unsanitary conditions have a higher percentage of diarrheas (Bhutta et al., 2013).

Many of the risk factors for diarrhea illnesses are associated with poor socioeconomic conditions as lacking access to safe water and sanitation, poor hygiene practices and unsafe human waste disposal (Forsberg et al, 2009). Low socioeconomic status can limit access to health care and education and affect food safety and other housing conditions which increase likeliness of exposure to infectious organisms or reduce resistance to infectious diseases (Forsberg, 2010).

In this context, it should be noted that children with poor nutritional status and who have poor health status, and that 1 year exposed to frequent environmental conditions such as drinking unsafe water are more vulnerable to diarrhea and severe dehydration than healthy children. In addition, children are more likely to develop dehydration

Than adults and dehydration endangers the life of the person at risk, especially in children, as water forms a greater proportion of body mass. Therefore, children should use more water per day, especially since their metabolism levels are high, and their kidneys are less able to retain water, especially when compared to adults (Kosek et al, 2003).

By the epidemiological data from UNRWA, the reported editing that diarrhea episode was twofold in the current decade compared to the previous one, this ratio appears many of environmental and sanitary deterioration, also, the fact beyond this increasing rate was the

unsatisfactory management at home. However, only 42% of children‘s treated with oral rehydration solution but 50% of them treated with home remedies, as herbals special food formula (boiled rice water) (PCBS, 2007)……

The mothers in developing countries knowledge about this common disease are critically important. That because in developing countries, diarrheal episodes usually treated at home and mothers is the key caregivers to under-five children. They are not only the ones who decide about the type of food given to the child, they also provide management of the disease (Merga and Alemayehu, 2015).

Awareness, perception, individual actions and household actions to prevent and/or manage the disease, have paramount importance to reduce diarrhea-related morbidities and mortalities. On the other hand, mothers 'poor knowledge and attitude about the cause of diarrhea might limit them from taking appropriate timely actions (Merga and Alemayehu, 2015).

Morbidity rate due to diarrhea is being increased year by year for the children less than five years of age in the developing countries, with the outcome of poor health, stunted growth, mental retardation, and micronutrient deficiencies. The average death from diarrhea is 2 million every year, and other millions of children being affected as the disruption of their development and presence of high levels of chronic illness and disability in adult life, due to the presence of diarrhea-related disease (Kosek, Bern & Guerrant,2003).

Among these diseases, dehydration, which is a condition caused by excessive loss of body water (Dorland, 2007).This condition occurs due to acute malnutrition as a result of developing diarrheal disease, not treating it, losing too much water and electrolytes (WHO, 2009).

In Palestine, the proportion of diarrhea among children is 12.8% in 2010. The majority of their ages range from 12-23 months. 44.6% of them were treatment by Oral Rehydration Solution (ORS). (PCBS, 2007)To assess the mothers' perceived importance of diarrhea preventive and treatment measures, we constructed a series of questions in the context of the Health Belief Model (HBM), which postulates that health-seeking behavior is influenced by a person's perception of a threat posed by a health problem and the value associated with actions aimed at reducing the threat.

1.2 Problem statement and study justification

Although Oral Rehydration Therapy (ORT) considers as simple and effective home diarrhea treatment, but high rate of diarrhea related child mortality in developing countries including Palestine .mothers low of knowledge and awareness is the most causes of this rising in children mortality with diarrhea in Palestine, lack of research about this dangerous problem cause lack of mothers knowledge about the most simple and effective home treatment of diarrhea, which is the oral rehydration therapy (ORT).

1.3 Purpose of the study

The purpose of this study was to explore and determine the relationship between maternal beliefs, attitude, knowledge, social influence, and other factors related to maternal knowledge, attitude and practices in order to prevent diarrhea episodes, and to develop safety promotion activities in the field of diarrhea prevention.

1.4 General and Specific Objectives

1.4.1Generalobjectives

1. Evaluate the mothers ‘knowledge, attitude, and practice, about diarrhea management.
2. Evaluate the mothers ‘knowledge, attitude, and practice, about dehydration management.
3. Compare mothers ‘knowledge, attitude, and practice according to socio-demographic variables in 3cities.

1.4.2 Specific objectives

1. To identify the level of mothers' knowledge about causes, signs, symptoms and treatments of diarrhea and dehydration.
2. To determine mothers’ beliefs about the locally recognized type of diarrhea their perceived causes and managements approach.
3. To identify mother‘s practices to treat their children aged five years or younger who suffer from diarrhea and dehydration.
4. To determine the baseline knowledge, attitude and practice of mothers about diarrhea and its management and to see if there is a relationship with socio-demographic factors.
5. To determine mother‘s beliefs about perceived susceptibility and severity of diarrhea, and perceived benefits and barriers about taking recommended action.

1.5 Research question

This study will answer the following questions:

1. To what extent mothers have knowledge, attitude, and practice regarding diarrhea and dehydration with children less than 5 years?
2. Are there differences between knowledge of mothers who have the children less than 5 years regarding diarrhea and dehydration score, with specific demographic data?
3. Is there a difference between attitude score of mother's children fewer than 5 years regarding diarrhea and dehydration scores with specific demographic data?
4. Is there a difference between practices scores of mother's children under 5 years with specific demographic data?
5. Is there prediction of specific factors to be affected on awareness of mothers about and diarrhea and dehydration in children below 5years?

1.6 Hypotheses

1. Knowledge of safety precautions, prevention methods and risk factors will be positively related to susceptibility, seriousness of diarrhea episodes for children under five years of age.

2. Demographic variables will be significantly related to attitudinal self-efficacy and social influence variable

Chapter Two

2. Literature review

This chapter presents previous studies that were relied upon to reach the main purposes of the study, whose main headings revolve around the definition of diarrhea, causes leading to diarrhea, types of diarrhea, causes of diarrhea, diarrhea in children, methods of prevention and treatment of diarrhea infection among children who are Less than five years, Oral rehydration salts (ORS). In addition to explaining what 2.7 Health Belief model was used in the study to describe what is going on in this description.Besides explaining the Knowledge of mothers about diarrhea, and attitudes of the mothers towards diarrhea, as well as mothers' Roles in Prevention and Care of Diarrhea in Children.

2.1 What is diarrhea?

Diarrhea disease is defined as any change in the bowel habit and movement for the child resulting in more frequent and/or looser stools as diarrhea. However, the clinical feature differs depending on the cause, duration, and severity of the diarrhea, on the area of bowel affected, and on the patient's general health. For children, diarrhea characterize by excessive daily stool volume, more than the upper limit of around 10 g/kg/day (Armon, Stephenson, MacFaul, Eccleston, Werneke, 2001).

Usually, diarrhea occurs as symptoms for many different illnesses or as a result from drug interaction. Moreover, it results from imbalance between the absorption and secretion of the intestinal tract, as mean as if absorption decrease or secretion increase beyond normal level, the diarrhea will result. However, it can range by their severity from acute and self-limited annoyance to severe and life-threatening illness. Diarrhea depends on the normal situation for the individual, as mean as person may put loose stool discharge per day, other may have three bowel movement /day with discharge (Bhatnagar, Bhandari, Mouli, Bhan, 2004).

In addition, diarrheal disease is caused by other things such as poor hygiene, contact with contaminated food or water. It is found in developing countries very broadly. In those countries, a person does not have access to clean water, and there are about 2.5 that do not have access to basic sanitation services. There are two billion cases of diarrheal diseases worldwide, which kill about 1.5 million children (WHO, 2009).

2.2 Diarrhea types:

According to the World Health Organization (WHO), there are two clinical types of diarrhea,

which are acute and persistent diarrhea. Acute diarrhea also can divide to two types, which are acute watery diarrhea and acute bloody diarrhea (also called dysentery).

Acute diarrhea episodes last for several hours or days, but persistent diarrhea episodes last for more than 14 days. However, the average duration of diarrheal episodes is 4.3 days among community cases and 8.4 days among hospital inpatients (WHO/UNICEF, 2004).

2.3 Diarrhea etiology

The main causes of diarrhea are error in metabolism, chemical irritation, organic disturbance or by infectious pathogens (Jensen PK, Jayasinghe G, van der Hoek W, Cairncross S, Dalsgaard A, 2002).

Infectious diarrhea usually results from fecal to oral route, as the consumption of contaminated food or water, person-to-person contact, or direct contact with fecal matter. Moreover, water borne diarrhea results from the contamination of water storage facilities or/and water sources, in which the pathogenic agent multiply in the environment (Jensen et al., 2002). It results from different pathogens, as viruses, bacteria and protozoa. For example, viral infection caused by rotavirus is the leading cause of diarrhea episodes, account 38.2% of diarrhea-associated hospital admissions. Norwalk-like viruses, enteric adenoviruses, calici viruses, and astro viruses, also famous examples of viruses caused diarrhea (Nguyen et al., 2004).

Bacterial infection caused by Entero-pathogenic is an important pathogen especially in tropical and developing countries, and cause a serious problems in individuals with various age groups, these pathogens as Shigella, Vibrio cholera, Salmonella, Campylobacter, Yersinia, Clostridium difficile and Enterotoxigenic Escherichia coli (ETEC), these pathogens are mostly transmitted through fecal oral route as the ingestion of contaminated food or water (Ono, 2001).

As well as, Parasites can enter the body through food or water and settle in the digestive system, these pathogens as Giardia lamblia, Entamoeba histolytica, Cyclospora cayetanensis and Cryptosporidium (Teklemariam, Getaneh, Bekele,2000).

2.4 Diarrhea among children

Many studies have shown that there are cases of diarrhea among children in a significant way, that there are approximately 5.2 billion cases of diarrhea among children under five

years of age, and that this estimate has remained constant over the past years (UNICEF/WHO, 2009).As diarrheal diseases constitute 9% of child deaths in the world, which means that diarrhea is the second leading cause of death among children under five years of age (Centers for Disease Control and Prevention, 2013).There are approximately 1,600 children who die annually who are less than five years old (UNICEF,2013).As for children in Africa and Asia, the deaths due to diarrhea constitute 82% (UNICEF,2012).

Furthermore, many studies have been published to confirm that diarrhea is highest for children 6-11 months of age, but it remains high during the first year of life, and tend to decrease in later in the third and fourth year of life. In addition, it found that the rate of diarrhea episodes is higher for boys than for girls. As well as, low level of mother education linked with more diarrhea occurrence in children less than five (Vyas and Kumaranayake, 2006).

Other studies have been published to approve the relation between socio-economic factors as poor housing, crowded conditions, low Income, with high rate of diarrhea episode (Boschi-Pinto ,Velebit and Shibuya , 2008).

Another study have been published to predict the relation between Water-related factors and higher rate of diarrhea episode for children less than five years, through contamination of water and foods, from water sources, poor storage of drinking water (e.g. obtaining water from storage containers by dipping, no drinking water storage facility), use of unsafe water sources (such as rivers, pools, dams, lakes, streams, wells and other surface water sources (Clasen and Boisson, 2006).

Some studies revealed that some hygienic practices can reduce the risk of diarrhea morbidity in children, as washing hand before meals or after defecation, mothers washing hands before feeding children or preparing foods, children do not eat of cold leftovers, children do not use dirty feeding bottles and utensils, hygienic domestic places (kitchen, living room, yard), safe food storage, animals does not find inside the house, flies do not find inside the house (Girma, 2008).

The studies about the feeding practices and their relation to reduce diarrhea episode is extensive, but this condition increased with bottle-feeding. However, he strong protective effect of breast feeding comes from high concentration of specific antibodies, cells, and other mediators in breast milk reduces the risk of diarrhea following colonization with entero pathogens (Sur et al, 2004).

The association between malnutrition and diarrhea episode increased in many developing and low-income countries, however, children with weak immune

system are more vulnerable to diarrhea, as a result from mal absorption of nutrients or the inability to use nutrients properly to maintain health. Thus, persistent or chronic type of diarrhea will present. Usually, this case see with low weight-for-age, stunted immunodeficiency or infected children. However, Diarrheal incidence, duration, severity and mortality are higher in children with HIV/AIDS than in others (Kosek, Bern and Guerrant, 2003).

The seasonal distribution plays a role in the pattern of childhood diarrhea, in the summer season associated with bacterial infection, but with winter season, it associated with viral infection. Furthermore, diarrhea episode is related with rainy season than with the dry season (Kosek, Bern, Guerrant, 2003).

2. 5 Prevention and treatment of diarrhea among children under-five

UNICEF and WHO (2013) reported the strategies to reduce the diarrheal mortality rate by 2025.The prevention strategies representative in promotion of rotavirus and measles vaccination. While treatment strategies representative in vitamin A supplementation, early and exclusive

Breastfeeding, hand washing with soap, improved drinking water quantity and quality and community-wide sanitation.Also, reduced osmolarity ORS and zinc supplementation for 10-14 days following diarrhea onset considered as effective diarrhea treatment strategies (MorrisSK, Bassani DG, Kumar R, Awasthi S, Paul VK, Jha P., 2010).

2.6 Oral rehydration salts (ORS)

Until 1960, the primary role is to treat dehydration and eliminate the complication of diarrhea by the administration of Intravenous Fluid (IV). The reason beyond that, diarrhea episode causes the loss of water and electrolytes from the body, which needs for survival of children since dehydration is the immediate cause of death from diarrhea episodes (Vyas and Kumaranayake, 2006).

Nevertheless, IV fluids are not feasibly and practically way due to they are expensive and need a trained technician to administer it. By 1960, the discovery of sodium and glucose co-transport in the small intestine was an important thinking due to the invention of ORS; this operation reflects that the absorption of water and solute (i.e. sodium ions) is accelerated in the presence of glucose (Mayo, 1933).

Additional studies was published in South Asia in the period 1960-70s, to confirm the ability of ORS to both maintain fluid levels and rehydrate individuals with diarrhea resulting from

any etiologic causes. WHO recommended in 2004, the usage of ORS formulation with 90 moll/L of sodium, 111 moll/L of glucose and a total osmolarity of 311 moll/L to both prevent and treat dehydration, to replenish ions lost through loose stools and vomiting; and citrate to ameliorate the acidosis that results from dehydration. This formulation is gratefully due to it reduce the rate of diarrheal mortality from 4.6 million in 1980 to 3.3 million in 1990 and to 1.5 million (International Institute for Population Sciences IIPS,2007).

By 1980, Diarrhea management programs began to increase the awareness about the usage of recommended home fluids (RHFs) in order to prevent diarrhea episode, through making a mixture of sodium and glucose, rice water solutions, cereal-based solutions, soups, juices and teas (Munos, Walker, Black ,2010).

In 1988, oral rehydration therapy (ORT) is the process by which fluid is administered orally to prevent or treat diarrhea-associated dehydration, thereby encompassing both ORS and RHFs. This estimated 69% reduction in diarrhea-associated mortality among communities (Waldman, Fontaine, Richard, 1994).

The world health Organization estimated that about 1.8 million of children under five years of age die every year from diarrhea disease, due to many reasons. One of them, is the inaccessibility to drink fresh and clean water, therefore it considers that this ratio is high enough to belong 1.1 billion. So on, more studies was published about the Point of Use (POU) for water quality evaluation, as mean as the diarrhea disease can reduce by 70% through this evaluation. Furthermore, the level of contamination measures by their source that usually results from both household collection of water from multiple water sources and partial recontamination of water in transport and storage, this needs water treatment at the point of use(POU) particularly flocculation or disinfection in order to reduce the risk of diarrhea disease (WHO,1999).

The World Bank independent evaluation Group (Independent Evaluation Group, 2008) published that the reduction of diarrhea episodes comes from correctly hand washing process, sanitation and point of use water treatment. Furthermore, the laboratory assessment of gravity fed ultra-filtration water treatment device at moderate turbidity of (15NTU) achieved reduction of Escherichia coli and other bacterial infection in order to establish for microbiological purifiers. In addition, the Bio-Sand Filters (BSF) is household water treatment technology and approved effectively the reduction of diarrhea during 6-month period due to it works as protective effect against water borne diarrhea disease (Anna et al. 2012).

2.7 Health Belief model:

Health belief model (HBM) can defined as developed psychological health behavior change mode that explain and predict health-related behaviors (Siddiqui et al., 2016).

According to the HBM, people's beliefs about health problems, perceived benefits of action and barriers to action, and self-efficacy explain engagement or not in health-promoting behavior. A stimulus, or cue to action, must also be present in order to trigger the health-promoting behavior (Janz and Becker, 1984).

In the 1950s, the health belief model was developed at the U.S. Public Health Service by social psychologists Irwin M. Rosenstock, Godfrey M. Hochbaum, S. Stephen Kegeles, and Howard Leventhal. Since that time, HBM remains one of the best known and most widely used theories in health behavior research (Carpenter, 2010).

Later in 1988, some Amendments were made to the HBM to incorporate emerging evidence within the field of psychology about the role of self-efficacy in decision-making and behavior (Glanz and Bishop, 2010).

In the past, HBM had been applied to predict a wide variety of health-related behaviors such as being screened for the early detection of asymptomatic diseases. Now days, HBM has been applied to understand patients' responses to symptoms of disease, compliance with medical regimens, lifestyle behaviors and behaviors related to chronic illnesses, which may require long-term behavior maintenance in addition to initial behavior change (Janz and Becker, 1984).

In 1996, a prospective study was occurring on 219 mothers in Nigeria. It was carried out to evaluate the efficacy of the HBM, it was reported that perceived severity had the largest beneficial impact on behavior (Edet, 1996).

The results of this study were show that half of the mothers indicated that diarrhea leads to death while fewer mentioned other dangers like dehydration and malnutrition before the educational intervention. This number was slightly increased after the intervention (Edet, 1996).

Although the majority of the mothers of this study was ranked diarrhea more serious than other childhood health conditions, but the mothers were not known if they attribute death to dehydration, or consider malnutrition serious or consider their children personally susceptible to these dangers (Edet, 1996).

Later on, in 2010, Kundu and his group were published a paper about the relationship between maternal perceptions and preventive behaviors. They were used framework guided

by the Health Belief Model. The maternal perceptions of acute diarrhea were at a high level whereas the maternal preventive behaviors were at a moderate level. There was a significantly moderate correlation between maternal perceptions (perceived susceptibility, perceived severity and perceived benefits) and maternal preventive behaviors regarding diarrhea in children. It is imperative for health workers to develop a theory-based health education program to improve maternal perceptions and maternal preventing behavior relating to diarrhea. Moderate relationships Were found between perception and behavior. Therefore, future research needs to identify other relating factors that may contribute to maternal preventive behaviors regarding diarrhea in children, such as self-efficacy and cues to action. (Kundu, 2010).

Although the maternal perceptions of acute diarrhea were at a high level, but the maternal preventive behaviors were at a moderate level (Kundu, 2010). A so the results were show that there was a significantly moderate correlation between maternal perceptions (perceived susceptibility, perceived severity and perceived benefits) and maternal preventive behaviors regarding diarrhea in children (Kundu, 2010).

2.8. Mothers and under-five children with diarrhea

2.8.1. Knowledge of mothers about diarrhea

In many developing countries, Most episodes of diarrhea are treated at home, mothers are the key caregivers to under-five children (Ghasemi AA, Talebian A, MasoudiAlavi N, Mousavi GA, 2013).Families and communities consider the key to achieving the goals set for managing diarrheal disease by making routine practice of new recommendations at home and in the health facility (Sur D, Dutta P, Bhattacharya S, 2003).Therefore, the knowledge of mothers with this disease is very important, that because mothers' decide about the type of food given to the child and the overall management of the disease.It is worth noting that Educational status, prior experience of managing the disease and even ethnicity are the major factors that improve the mothers' basic knowledge about diarrhea disease (Mukhtar, Izham and Pathiyil, 2011).

In addition, diarrhea episodes usually treated at home in most of developing countries. Therefore, their knowledge about this common disease is critically important (Merga and Alemayehu, 2015).

The mothers' knowledge, awareness and individual as well as household actions towards prevent and/or manage diarrhea plays important roles in reduce diarrhea-related morbidities

and mortalities. However, poor mothers' knowledge about the common disease might limit them from taking appropriate timely actions (Merga and Alemayehu, 2015).

For example, one of the international studies indicated that every year, diarrhea kills nearly 76,000,000 children under the age of 5 years, and about 1.7 billion deaths have been reported each year (Forsberg BC, Sreeramareddy CT, Low Y-P, 2017).The main cause of these deaths is dehydration, and mothers are not aware of what drugs are needed to take them, such as ORT (Kadam D, Hadaye R, Pandit D, 2012).

Also, the necessary factor in reducing the death rate from diarrhea is oral rehydration therapy (Munos MK, Walker CLF, Black RE, 2010), as it is the main supporter of the World Health Organization to reduce the rates of diseases and deaths from diarrhea (Bello UL, 2015). As ORT does not only prevent dying deaths, but also children showed that their growth and nutrition became better after using this solution (Gao W, 2013). Therefore, both the World Health Organization and the United Nations Children's Fund (UNICEF) have issued a joint statement to reduce diarrhea deaths among the world's most vulnerable children, and recommended that newly formulated low osmolarity oral rehydration salts (ORS) and zinc supplementation should be used to treat patients with diarrhea (Diallo AF, 2016).

Although most mothers are aware of oral rehydration salt (ORS), there are gaps in their knowledge about how to properly prepare and manage them (Rasania SK, et al, 2005). Also, many studies show despite that oral rehydration salt (ORS) is familiar term to most of the mothers, dehydration signs due to diarrhea remain unnoticed by most of the mothers (Merga and Alemayehu, 2015). Furthermore, there are many studies that indicate that ORT is still misused globally, especially in low-income countries (Agbolade M, Dipeolu I, Ajuwon A, 2015).There was a demographic and health analysis conducted in 34 countries that, about 68% of those countries, had a decrease in the use of ORT for children aged less than 5 years (Olson CK, 2011).

Maternal education is an important factor in the prevalence of diarrhea in children under five years of age, and there are many studies that have addressed this topic, among them are Rohmawati studies (2010); Yilgwan and Okolo, (2012) and Kahabuka, Kvåle and Hinderaker, (2010) who demonstrated that maternal education has a major impact on diarrhea. Furthermore, the study of Caruso, Stephenson and Leon, (2010) show that maternal education has a major impact on diarrhea, and a comparison was made between mothers with one or more secondary education and mothers without education. Mothers' knowledge can be improved through educational interventions, but written information is not sufficiently adequate. Therefore, this information must be combined with illustrations and

demonstrations (Rishi RK, 2003).

2.8.2. Attitudes of the mothers towards diarrhea

Cultural beliefs and attitudes influence how the family perceives disease, their choices towards health care and treatments available, and how to seek help. Many societies have their own beliefs and classifications of diseases, For example, diarrhea may not always be described as a single disease, and there are different types of diarrhea, and there are also various symptoms, causes, and treatments for it. There are families seeking to treat some types of diarrhea in childhood, and the method of treatment varies based on the difference in beliefs about this disease.

Which means that Mothers' attitude towards children with diarrhea disease varies based on their perception about its seriousness. This was indicated in a studies, show that an increase in mothers 'health attitude toward children with diarrhea comparison with the past decade; it was (13 %) in 2000 to (22 %) in 2005 and (32 %) in 2011. Although about one child in every two children with diarrhea (49%) were offered less or not at all fluid than usual. From these children, (28%) were offered somewhat less fluid, (13%) were offered much less fluid, and (7%) of these children were offered no fluids at all. Only (10%) of children with diarrhea were given increased liquids and continued feeding as recommended, while (25 %) of children with diarrhea continued to be fed and given ORT (Amare and Mullu, 2015).

Also, there is a study that indicated that when a child has diarrhea, the family may seek advice from several sources; the first source may be to give the medicine at home based on local principles and beliefs about the disease, and on the advice of family friends and neighbors. Later, there is advance to visit the doctor. For example, 3000 years ago there were practices of traditional medicine in many countries of the world, including India, and there were recommendations on how to deal with dissolving rock salts and molasses in tepid water as one of the ways to treat diarrhea (Enrique et al, 2002).

In a study conducted among rural mothers in Haryana state, India, in which mothers differed in their different beliefs about diarrheal disease. There are those who describe that the main cause of diarrhea is due to various factors such as excessive heat and cold, excessive eating, teething, side effects of the drug and others (Owusu, 1997).

In this context, there is a study conducted in Guatemala on the causes of diarrhea among children, in relation to health beliefs. But diarrhea in Guatemala was known ascents, so it was often thought that it was caused by the difference in the thermal balance in the body between heat and cold; this belief was known in Latin America, Asia and Europe (Bentley,

M.E., 1988).

There are other studies conducted on the beliefs associated with the disease diarrhea and teething, fontanels, fallen stomach or evil eye. An evil eye is a common disease in Africa, so common beliefs that adults who are jealous of that unborn child or its mother may give the child an evil eye. Another study conducted in Ghana was to detect diarrheal disease and the presence of magicians or evil spirits (Owusu, 1997).

2.8.3. Mothers' Roles in Prevention and Care of Diarrhea in Children

According to various statistics about knowledge and practice of mothers in prevention and care of diarrheal diseases in children (Saberi, Amini and Nesari,2014).

Many study showed that in developing countries, the second leading cause of death in children under five is diarrhea, also it considered as one of the nine causes of death in children worldwide (Salmalian, Omidvar and Esmaeili, 2005).

In developing countries and poor communities, diarrhea diseases are the major causes of malnutrition, delayed physical development, and early childhood mortality (Ghasemi et al., 2013).

Children who has diarrhea dying due to loss of water and essential minerals. Mother who can use the oral rehydration solution (ORS) to replace the lost minerals and water and prevent the progression of dehydration; she will keep her child alive (Hutton, Haller and Bartram, 2007).

Saberi and his group established three main factors that can prevent children from death, educating the communities on the adequate fluid and nutrition intakes, continuing breastfeeding, and child care during diarrhea (Saberi, Amini and Nesari, 2014).

As for the basic knowledge of diarrhea management, which is often adopted by the mother, it works to reduce diarrheal disease and death for children under the age of five. Knowledge of the mother in relation to the causes of the disease, signs, symptoms, prevention, and how to control the disease is very necessary. It is worth noting that the preventive measures for diarrhea include breastfeeding, the introduction of complementary feeding after a few months, the use of clean drinking water, that the mother's hands are clean and well washed when feeding her child, the proper use of toilets, the proper disposal of the feces of young children. In this context, Laura et al. (2011) found in their study evidence of the protective effects of breastfeeding because of its significant impact on reducing the incidence of diarrhea, disease prevalence, and death from this disease.

As for the study of Morrow et al., (2005), they concluded that human milk glycan's and their

oligosaccharides, which exist in the form of two forms, are free and conjugated forms; these sugars are part of the natural immune mechanism that protects infants from diarrheal disease. In this context, the Ogbo et al., (2017) study provided a review of infant feeding practices and on how to deal with diarrhea cases. In Sahrawi African countries, children who provide them with nutritional supplements at the age of less than six months are associated with a high risk In diarrhea.

As for the Black Study (2003), it found that there are approximately 88% of diarrhea deaths in the world, due to poor access to clean drinking water and good hygiene and sanitation practices. In this regard, the Waddington (2009) study showed that toilets allow safe disposal of human secretions and reduce transmission and ingestion of fecal diseases by fecal-oral route.

Whereas, Claudio & Robert (2008) study indicated that defecation in open spaces is closely related to the increased risk of intestinal parasitic infections and increases the incidence of diarrhea. The risk of diarrhea is reduced by washing hands thoroughly before preparing and eating, after defecation, or after cleaning a baby's bottom. Therefore, they must be the health-care providers who are mostly mothers with sufficient knowledge of diarrhea, so that they can save their children even in critical situations, such as dehydration, which poses the greatest danger to children. Drought affects children when they lose a lot of water and electrolytes such sodium, chloride, potassium and bicarbonate.

2.8.4 The theoretical framework of the study

A variety of psychosocial constructs and theories have been developed to explain how attitudes relate to an individual‘s decisions about health behavior. The theoretical framework for this study is based upon the Health Belief Model.

Health Belief Model (HBM) is a psychological model developed in the 1950s by social psychologists Hochbaum, Rosenstock and Kegels. It is explain and predict health behaviors due to focusing on the attitudes and beliefs of individuals.

2.8.5 Health Belief model components:

HBM consist from five major components, which are Perceived Susceptibility, Perceived severity, Perceived benefits, Perceived barriers and later Self-Efficacy was added (Janz and Becker, 1984).

2.8.6 Perceived Susceptibility:

The first component of HBM is perceived susceptibility; it refers to one's opinion of risk of developing a health problem (Janz and Becker, 1984).

The HBM proposes that the individuals who perceive that they are susceptible to individuals who perceive that they are susceptible to a particular health problem will take behaviors to prevent or reduce of developing the health problem (Janz and Becker, 1984).

2.9 Perceived severities:

Perceived severity is the second component of HBM, it refers to one's opinion of how Serious of the health problem, condition and its consequences are (Rosenstock, Strecher And Becker, 1988).

According to the HBM, the individuals who perceive a given health problem as serious are more like to take behaviors to prevent or reduce its severity (Glanz and Bishop, 2010).

Perceived seriousness involve the individual beliefs about the disease itself, if the disease Cause pain, or disability, or even threat the life. It is also involved the broader impacts of the disease on functioning in work and social roles (Rosenstock, Strecher and Becker, 1988).

2.9.1 Perceived benefits:

Perceived benefits is the third component of HBM, it is mean the belief in the efficacy of the advised action to reduce risk or seriousness of impact.

According to the HBM, if an individual believes that a particular action will reduce susceptibility to a health problem or decrease its seriousness, then this individual is likely to engage in that behavior regardless of objective facts regarding the effectiveness of the action (Rosenstock, Strecher and Becker,1988).

2.9.2 Perceived barriers:

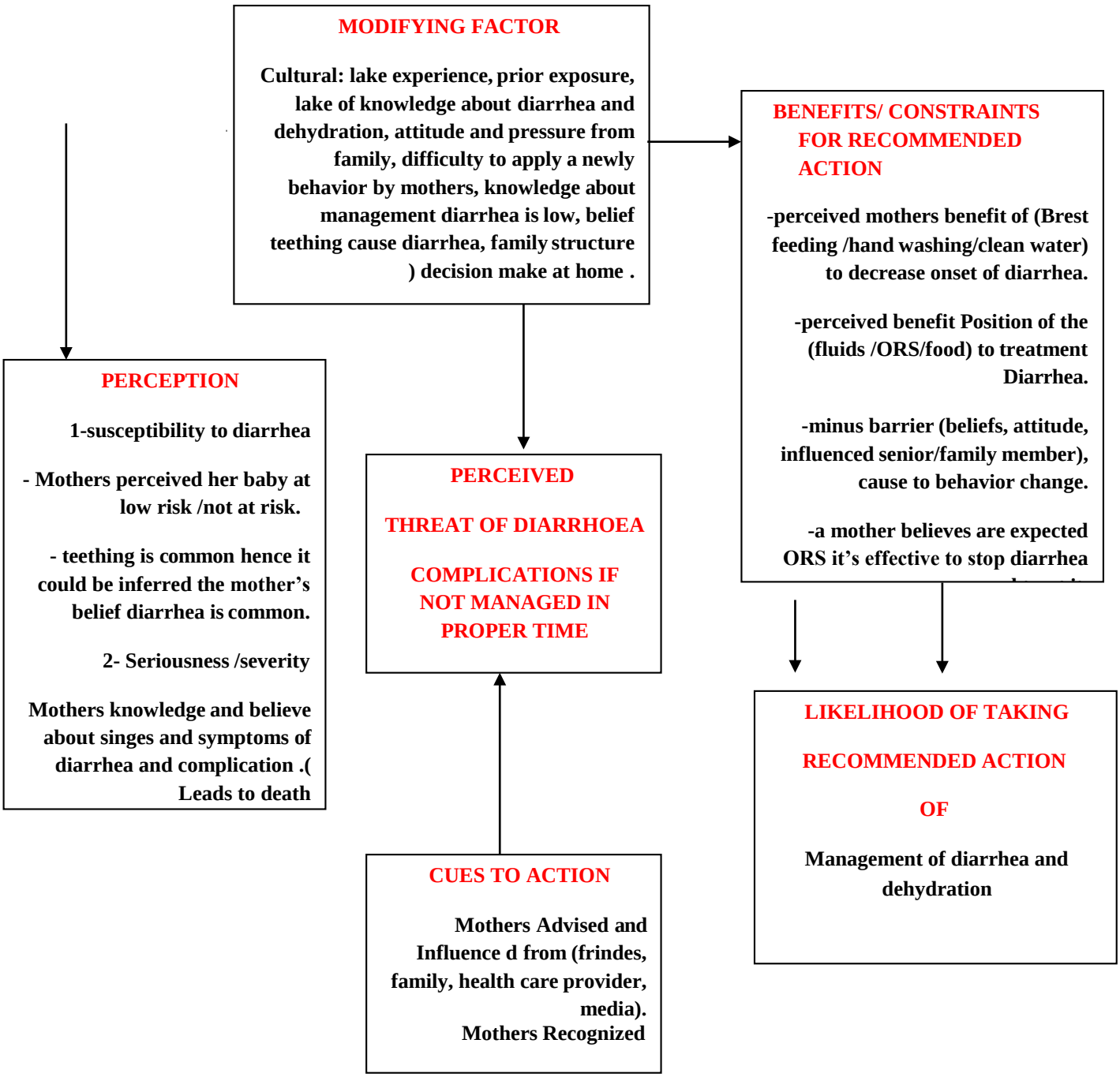
Perceived barriers is the fourth component of HBM, it is refer to an individual's assessment of the obstacles to behavior change, and one of them is the tangible and psychological costs of the action (Glanz and Bishop, 2010).

Even if an individual perceives the health problem as threatening and believes that a particular action will effectively reduce the threat, obstacles may prevent engagement in the health-promoting behavior (Rosenstock, Strecher and Becker, 1988).

2.9.3 Self-Efficacy:

In 1988, Self-efficacy was added as the fifth components of the HBM. Self-efficacy was added to the HBM in an attempt to better explain individual differences in health behaviors (Rosenstock, Strecher and Becker, 1988).

It is mean the confidence in one's ability to take action. HBM developers recognized that confidence in one's ability to effect change in outcomes (i.e., self-efficacy) was a key component of health behavior change (Rosenstock, Strecher and Becker, 1988).



Summary

Diarrheal disease is defined as a change in the bowel habit, often affecting children, and is more frequent or resting stools such as diarrhea. The infection in this disease varies depending on the cause of the diarrhea, the duration of the injury, the severity of diarrhea, depending on the area of the affected intestine, and the patient's general health. For children, it is characterized by the excessive volume of daily stools, and its upper bound is around 10 g / kg / day.

Often, diarrhea occurs as one of the symptoms of various diseases or as a result of drug interaction; or it occurs as a result of the presence of other factors such as poor hygiene, contact with contaminated food or water. However, according to the World Health Organization, there are two clinical types of diarrhea, which are acute diarrhea and persistent diarrhea. Acute diarrhea is divided into two parts, namely, acute watery diarrhea and acute bloody diarrhea or dysentery. With regard to bouts of diarrhea, they last from several hours to several days, and they can continue for more than 14 days.

There are many studies that have proven that diarrhea is most prevalent in children between the ages of 6 months and 11 months, and it is still high in the first year of the child's life, but it decreases later in the third and fourth years of life. Likewise, bouts of diarrhea are higher for males than for females.

In addition, there is a relationship between the severity of diarrhea and the level of maternal education for children under the age of five, and how to prepare them and provide them with food and drink for children. There is also a relationship between diarrhea and economic and social factors such as poor housing, low income, and crowded conditions.

It is worth noting that, until the 1960's, the treatment of dehydration and elimination of complications of diarrhea was carried out through intravenous administration of fluids, because dehydration is the main cause of death from diarrhea episodes. Because of the seriousness of the situation and the difficulty of the right of intravenous fluids, as they need a specialist in that injection, what has been known as ORS has been discovered, and this process reflects the absorption of water and dissolved sodium ions into the acceleration of glucose molecules.

Later on, there are a lot of studies that examined the importance of this solution to get rid of drought, and on how to provide awareness programs for this solution and its use for mothers of children.

UNICEF and WHO have reported strategies to reduce diarrhea mortality by 2025, which are to strengthen the rotavirus and measles vaccine, and to give Vitamin A supplements early. In addition to developing strategies related to breastfeeding, washing hands with soap, improving the amount of drinking water, improving the quality of sanitation. Also, work to reduce osmolarity ORS and zinc supplementation for 10-14 days after the onset of diarrhea. As for the health belief model, it clarifies the state of development of advanced mental health behavior that interprets health-related behaviors. In the fifties of the twentieth century the model of healthy beliefs was developed in the public health service in the United States of America, as it is considered one of the best known and most used theories in health behavior research. It is a model that describes what people's beliefs about health problems, the perceived benefits of this model, the barriers that exist to work in this model, as well as the ability to predict a wide range of public health behaviors to detect in relation to diseases early. The relationship of this model in the current study comes through mothers, referred to diarrhea as leading to death, but there are more serious causes that lead to death such as drought and malnutrition as a result of lack of awareness, education and appropriate knowledge to remedy matters in these cases by mothers.

The majority of cases of diarrhea for children who are less than five years old occur at home, so the mother's knowledge, awareness, attitudes and behavior in this case will affect the suspension of his diarrhea case and the child's general health.

Conceptual definition:

Knowledge	Knowledge is the capacity to acquire, retain and use information; a mixture of comprehension, experience, discernment and skill.
Attitude	Attitude refers to inclinations to react in a certain way to certain situations; to see and interpret events according to certain predispositions; or to organize opinions into coherent and interrelated structures
Practice	By practice we mean the application of rules and knowledge that leads to Action. Good practice is an art that is linked to the progress of knowledge and technology and is executed in an ethical manner.
Children	A child is a person 19 years or younger unless national law defines a Person to be an adult at an earlier age.

Chapter Three

3. Methodology

3.1 Introduction

This chapter presents the study methodology that was carried out to achieve the objectives of the study and answer its questions by discussing the method and approaches that was followed in this thesis. Besides it, this chapter will discuss the settings of the study, sources of the information, study design, population and sample of the study. In addition, the chapter highlights the data entry and analysis, instrumentation, the definition of variables validity and reliability considerations. Moreover, this chapter will present the data analysis method, the limitations of the research and ethical matters.

As well, this chapter applied to answer the research questions and strategy.

3.2 Study design

Across sectional study was conducted among the three different cities in Palestine, which were Hebron, Ramallah and Nablus. to explore and determine the relationship between maternal beliefs, attitude, knowledge, social influence, and other factors related to maternal practices, a questionnaire that was designed by Muir Shannon (2002) and Mukhtar Ansari (April 2012) was used in this thesis after modifying.

3.3 Study Population and Study Setting

The period of collecting the data of the thesis was during the period November 2017 – march 2018 in governmental hospitals in Ramallah, Nablus and Hebron with mothers who have child whose ages less than 5 years as these cities have the highest population in west bank. These Hospitals are: Rafedia Hospital in Nablus, alia Hospital and Ramallah governance Hospital.

The target population for this study was mothers with children under five years of age who lived within Hebron, Ramallah and Nablus cities since they assumed the primary mothering

role of care, nurturing, health and safety of the child. The numbers of mothers obtained from different locations in the same area, city, town, and village and refugee camp.

The study sample consisted of 467 of mothers who have children under five years old and who have diarrhea, in which 149 of those mothers were from Ramallah city, 169 of those mothers were from Hebron city, and 149 of those mothers were from Nablus city; who were chosen in a random sampling technique with 99% response rate.

3.3.1 Health care providers

There are four major health service providers in Palestine: the MOH, United Nations Relief and Work Agency (UNRWA), non-governmental organizations (NGOs), and private for-profit providers (WHO, 2006). MOH provides primary, secondary and tertiary health services, and purchases the unavailable tertiary health services from domestic and abroad providers. UNRWA provides primary care services, only for refugee and purchase secondary care services for the hardship cases. NGOs provide primary, secondary and some tertiary services (Claiborne, N, 2004). The private for-profit sector provides the three level of care through a variety of specialized hospitals and investigation centers (Patouillard, E, ET all, 2007).

The Palestinian Ministry of Health has a big role as health care providers in many regions Governorate. It activates our focus in the area outside the city‘s boundaries and provides PHC services to the Palestinians based on the Palestinian Governmental Health Insurance (Government Services Quality Department, 2017).

In Nablus, the samples were collected from Rafedia government hospital. It considered as the largest referral hospital in the northern West Bank and hence receives patients from all across the Palestinian Territory (Government Services Quality Department, 2017).

In Ramallah, the samples were collected from Palestine Medical Complex. It is the largest hospital in the middle of West Bank (National health plan, 1991).

In Hebron, the samples were collected from Princess Alia Governmental Hospital, Which is the largest hospital in the southern of Palestine tertiary

Demography of Hebron, Ramallah and Nablus cities

This study was done in the three major cities in the West Bank of Palestine, which are Nablus, Ramallah and Hebron; this is because they having the biggest population in west bank of Palestine. According to the Palestinian Central Bureau of Statistics, in 2017, the

population in Nablus city was 388,321 people, in Ramallah city was 328,861and Hebron city was 711,223. . In addition, they have many large hospitals that can receive huge number of patients with special pediatric section. (PCBS 2017).

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3.3.2 Inclusion criteria

1- Mothers or primary caregivers living in Hebron, Ramallah and Nablus cities, and stay in the hospital (in the Emergency Department or Children Section), that was carried by the objective of the research with the same period of time.
2- Mothers who have at least one child aged five years old or younger.
3- Children were diagnosis with diarrhea episodes by a pediatrician.
4- Children have not any chronic medical disease.

3.4 Exclusion criteria

Mothers or primary caregivers who are not living in Hebron, Ramallah and Nablus cities, and stay in the hospital (in the Emergency Department or Children Section).

3.5 Sampling techniques

Sample: Due to time and budget constraints, the participants have been selected from the three cities Nablus, Hebron and Ramallah. Study used the purposive sampling technique (judgment sampling) in selecting in order to have shared characteristic (homogeneous set of characteristics) to support the research, where four hundred sixty seven mothers who have children less than 5 years who have diarrhea, were selected from these three cities, Besides, selecting ten specialist in this field. The expected required time for the fulfillment of the questionnaire was taken about 20- 30 minutes including the introduction and some explanation of the research. Theirs included in this study who found in the governmental listed hospitals, where they are in the Emergency Pediatric Room and have a children less than five years with diarrhea episode.

There is an acceptance to collect the sample from the listed hospitals in these three locations from Ministry of Health got in 10/11/2017 and started actually in 10/3/2018.

3.6 Sample size calculation:

Since the Population of mothers (mothers who have children less than 5 years who have

diarrhea) is not specified (infinite), the purposive samples method is the useful in selecting the study sample. The sampling units here are mothers who have children less than 5 years who have diarrhea who come to Pediatric and emergency ward in the three cities. Therefore, the mothers were divided according to their geographical region in Palestine, into three sections: the North, which is represented in the Nablus region, and the questionnaires were distributed in this study to mothers who are with their children who are less than five years old and are present at the Rafedia Governmental Hospital. And the center, which is represented in Ramallah, so that the special questionnaires in this study were distributed to mothers who are with their children who are less than five years old and are present at the Palestine Medical Complex. And the south, in the Hebron region, where special questionnaires were distributed in this study to mothers who are with their children who are less than five years old and are present at Alia Governmental Hospital.

However, the statistical formulas to determine the correct number of the sample needed for a survey, the formulas of sample size are:

$$n = \frac{(Z_{\alpha})^2 * P * (1 - P)}{d^2}$$

Where:

N: sample size needed for a survey.

P: Percentage of sampling unit selection (usually taken 0.5). D: margin of error usually taken=0.05

From standard Normal Distribution: $Z_{\alpha} = Z_{0.025} = 1.96 \approx 2$

Then:

$$n = \frac{(2)^2 * 0.5 * 0.5}{(0.05)^2} = 400$$

So, the sample size needed is minimum 400 mothers (400/3≈134 from each city), so the Researcher decided to select **minimum**134 sampling units randomly, but she spread number of questionnaires above this number to guarantee getting the minimum sample size. Sample Size Formulas for our Sample Size Calculator. (Creative Research Systems, 2016).

3.7 **Scoring of the tools**

the Knowledge part in the questionnaire consists of number of items, each item consists of

number of true options and false options, according to the respondents answers, the percentage of true options were calculated for each respondent number of true options selected by mother over the total number of true options, the result is variable called True Knowledge, by the same way the variable of False Knowledge was calculated (number of false options selected by mother over the total number of false options), after that, each one of True Knowledge and False knowledge were transformed to categorical variable of three categories as the following: (0-33.3%) Low, (33.4%-66.6%) Medium, (66.7%-100%) High. Regarding Mothers Knowledge about causes of diarrhea, there are 8 true options and only one false option, so the variable of False Knowledge calculated as the percentage of 100% false knowledge for woman choses this false option and (0%) for woman doesn‘t choses this false option, and we named this variable as un-knowledge (Lack of knowledge) or low knowledge, and we used it to analyze the differences according to the level of education by One Way ANOVA Test.

3.8 Ethical consideration

Approval and permission for conducting the study obtained from the Palestinian Ministry of Health (MOH), and from the departments of government hospitals who were worked with in this study, such as Rafedia Governmental Hospital in Nablus Governorate, Palestine Medical Complex in Ramallah Governorate, and Alia Governmental Hospital in Hebron Governorate; and this was done after a written request for that work was issued by Al-Quds University (see appendix 4.2). Full disclosure about the study was given to parents who were informed about the purpose and objectives of the study as well as data collection and analysis procedures, Parents should be mothers, because recognition of maternal practices related to health care as the main factor behind preventing disease and deaths of children (Boschi-Pinto C, Velebit L, and K S.2008). In addition, they were informed when they expect to get the result of the data analysis.

Mother was assured of anonymity and confidentiality and they were told that they might experience some tired because of the language of the questionnaire.

3.9 Data collection procedure

Adopted questionnaire that was developed by Muir, Shannon (2002) in West Java, Indonesia and Mukhtar Ansari (April 2012) in Nepal to explore the factors influencing the maternal use of oral rehydration solution in the home treatment of childhood diarrhea in

West Java, Indonesia.

Data were collected from 467 mothers with children under five years of age who agreed to participate in the study. These are women who identified from Hebron, Ramallah and Nablus hospitals that provide mother/childcare to residents of these cities. Mothers were contacted in these hospitals given an appointment and participated by filling the questionnaire.

3.10 Study tools

The instrument used in this study was a questionnaire developed to assess the knowledge using health beliefs models and social influence perceptions of mothers with young children; the questionnaire was developed through a review of previous works and was modified in the context of the study in order to conduct the susceptibility, seriousness, benefits and barriers. The items measured maternal engagement in safety practices to prevent diarrhea episodes to the child focusing on the most common child problems. The higher the score a mother received, the higher the maternal safety behavior, whereas the lower the score, the lower the maternal safety behavior performance.

The first subscale in the questionnaire includes items intended to measure maternal perception of the likelihood of her child diarrhea episodes. The seriousness scale consist of the same items as the susceptibility scale, but focuses on maternal perception of the seriousness of a particular episodes to her child. In relation with other essential information‘s as personal demographic and social data such as (age, sex, address, income and so on) professional and mothers educational profile data such as current position, and higher education degree was attended.

The second scale included questions with 4 options and more with different meaning related to the specified question. The main item of this section includes the knowledge of mothers about diarrhea episode and the risk factors which promote occurrence of this problem, with the ability to differentiate diarrhea episode from other health problems, in addition to their types and symptoms that need to take her children to the health center or hospital in the time of diarrhea occurrence.

In addition, to the mother routes in order to prevent diarrhea cases, through environmental factors as healthy and non-healthy food in the period of diarrhea cases. Furthermore,the questions about Oral Rehydration Solution through the mother knowledge and experience of it, and the correct measurement of their amount in the preparation and give of it.

Moreover, which section contains multiple choice questions to ask them, through multiplication more than one answers in some of them?

Moreover, which section contains multiple choice questions to ask them, through multiplication more than one answers in some of them.

In the second section there are multiple choice questions, and it is possible to answer more than one option for the same question.

The third scale consists of 10 Yes/No questions put in order to measures maternal perception of the positive attitudes of performing diarrhea prevention measures for the child. The barriers scale includes items measuring maternal perceptions of the problems encountered in preventing diarrhea to the child .ability of the mothers perceived self-efficacy in performing diarrhea prevention behavior for her child. The social influence section consists of items that identify the degree that social influence affects doing things to prevent diarrhea episodes to the child. In addition, they were asked about previous diarrhea episodes in their children in the previous year which in later required emergency treatment or hospitalization. In addition, fourth scale of the questionnaire which included 15 multiple choice questions, which selected to determine the knowledge about diarrhea episodes to children in general. The actual safety practices section measured safety practices that the participants were actually doing at home to prevent diarrhea episodes to children as using of ORS solution and how often mother was taken her children to the hospital.

3.11 Validity and Reliability Content Validity

After finishing the questionnaire, the author sent it to experts (5 person) with covering letter and explanation sheet that explain study, purpose, objectives and other related information. The author distributed the questionnaire to estimate the relevancy, clarity, completeness, and appropriateness of each item. Some modifications and changes were introduced.

3.12Pretest: Pilot study

Conducting the pilot study is extremely important because it helps in introducing the process used to collect data, predict the response rate, predict the time taken to fill out the questionnaire by the respondent, know the validity and appropriateness of the questionnaire, know the area in the questionnaire that needs to make further adjustments, validity, and suitability of questionnaire as well as an area that requires modifications.(Mukhtar.April 2012)

The questionnaire was in English; so we had translated it into Arabic, afterward, the same questionnaire was translated from Arabic into English. The translator who has assisted us in

translation was so qualified in re-translating the questionnaire. Moreover, the content of the two obtained studies was carefully reviewed. After reviewing the questionnaire, it was given to a committee of five professionals who reviewed it and approved it. 45 mothers out of 3 cities were randomly selected to fill out the questionnaire, and then important modifications were conducted according to the mothers' preferences.

a pilot study with size 45 Questionnaires was used to conduct reliability analysis. The internal reliability analysis using Cronbach's alpha was performed for each scale in order to prepare scales of composite variables. The Cronbach's alpha was 0.76 for Practices part that used to conduct the Self Efficacy Variable. Regarding Attitudes' part (Behavior), The Cronbach's alpha was 0.61, and for Knowledge part was 0.90.

3.13 Data Analysis

The collected data was quantitative analyzed using SPSS version 20 statistical software program. Descriptive statistics was computed through analyzing the frequencies, percentages, means and standard deviation to answer the questions that are related to demographic questions, mothers awareness, attitudes and practice among child with Diarrhea and dehydration in the west bank. Besides, conducting inferential statistics that is Multifactorial ANOVA and T-test were utilized to answer the questions that interested to find wither there is a relationship between the variables of the study either between the dependent variable and independent variables and the demographic statements., bivariate distributions (cross-tabulations with Chi square test) were used to analyze associations between categorical variables. Logistic regression was performed to predict Mothers Attitudes toward children with dehydration and diarrhea and Mother's Self Efficacy by all the independent variables associated to them. The correct answers to the mother were used in analyzing the research results from Heartline Book during the use of and also from the two studies from which the questionnaire was formulated (Muir, Shannon (2002) and Mukhtar Ansari (2012)).

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3.14 Definition of variables Main dependent variables:

Maternal safety practices: Behavioral actions taken by the mothers to diarrhea

Susceptibility: Mothers 'beliefs about the chances that the child was accidentally diarrhea

Seriousness: Mothers 'beliefs about the seriousness of dehydration and diarrhea.

Benefits: Mothers 'belief in the benefits of preventing diarrhea and dehydration to her child.

Barriers: Mothers 'beliefs about the problems with trying to prevent dehydration and diarrhea to her child.

Self-efficacy: The ability of mothers to take safety precautions to prevent diarrhea and dehydration to the child.

Social influence: Effect of family/friends on what the mother is doing tithe complication of diarrhea.

3.15 Definition of Independent Variables

Table (3.1): Source of data—questionnaire

Independent variables	**Category**	**Scale**
Maternal characteristics		
Mothers' Age-q1	Less than 20/20-29/30-3940 or More	Ordinal
Mothers' age when married-q12	Less than 18/18-20/21-25/ More than 25	Ordinal
Mother's Age when had first baby-q16	Less than 18/18-20/21-25/ More than 25	Ordinal
Place of Residence-q2	City/ Town/ Village/ Refugee camp	Nominal
Children under five-q11	1/2/3 or more	Ordinal
Crowding Index	<1/1-2/>2	Ordinal
City	Ramallah/ Hebron/ Nablus	Nominal
Religion-q3	Islam/ Christianity/ Other	Nominal
Level of Education-q4	Less than Tawjihi/ Tawjihi/ More than Tawjihi	Ordinal
Having Job-q5	Yes/ No	Nominal
Household‘s monthly income-q7	Less than 1500 shekels/1500-2000 shekels/2001-2500 shekels/2501-3000shekels/ More than 3000 shekels	Ordinal
Husband‘s job status-q6	Unemployed/ Employed	
How often do you get any help From family or friends when your child is sick? –q17	Always/ Sometimes/ Never	Ordinal
Who decides to get treatment outside the house for a child when such childe has diarrhea?-q13	Mother/ Father/ Grandfather/ Grandmother/ Others	Nominal
Child characteristics		
Child‘s number in the Family	First /Second /Third/ Fourth or more	Ordinal
Child‘s sex-q15	Male/ Female	Nominal
How old is your child who has diarrhea?-q14	Less than a month/1-6 months/ More than 6 months to 1 year/ More than 1 year to 3 years/3-6 years	Ordinal

3.14.1 Definition of Dependent Variables

Table (3.2): level of education by One Way ANOVA Test.

	Category	Scale
True Knowledge(Causes of diarrhea among children)	Low/Medium/ High	Ordinal
False Knowledge(Causes of diarrhea among children)	Low/Medium/ High	Ordinal
True Knowledge(Dangerous symptoms that require taking a child who has diarrhea to a healthcare center)	Low/Medium/ High	Ordinal
False Knowledge(Dangerous symptoms that require taking a child who has diarrhea to a healthcare center)	Low/Medium/ High	Ordinal
True Knowledge(How to prevent diarrhea among children)	Low/Medium/ High	Ordinal
False Knowledge(How to prevent diarrhea among children)	Low/Medium/ High	Ordinal
True Knowledge(Appropriate Food and Liquids which must be given to a child who has diarrhea)	Low/Medium/ High	Ordinal
False Knowledge(Appropriate Food and Liquids which must be given to a child who has diarrhea)	Low/Medium/High	Ordinal
True Knowledge(Inappropriate Food and Liquids which must not be given to a child who has diarrhea)	Low/Medium/ High	Ordinal
False Knowledge(Inappropriate Food and Liquids which must not be given to a child who has diarrhea)	Low/Medium/ High	Ordinal
True practice(Treating child who has diarrhea at home)	Low/Medium/ High	Ordinal
False practice(Treating child who has diarrhea at home)	Low/Medium/ High	Ordinal
True Knowledge(The steps of preparing ORS)	Low/Medium/High	Ordinal
Lack of knowledge(The steps of preparing ORS)	Low/Medium/High	Ordinal
True Knowledge(The steps of preparing rehydration solution of sugar and salt at home)	Low/Medium/High	Ordinal
False Knowledge(The steps of preparing rehydration solution of sugar and salt at home)	Low/Medium/ High	Ordinal
Un knowledge(The steps of preparing rehydration solution of sugar and salt at home)	Low/Medium/High	Ordinal
True practice(When the mother takes her child who has diarrhea to a hospital)	Low/Medium/High	Ordinal
False practice(When the mother takes her child who has diarrhea to a hospital)	Low/Medium/High	Ordinal
Self-Efficacy	No/Yes	Nominal
Attitudes	Positive/Negative	Nominal

Source of data—questionnaire

3.15 Constrains and Limitation of the study

Place Limitation: the area of study was limited to child care departments in west bank government hospitals, and one hospital from each city was selected.

Time Limitation: the time span was limited to the period between November 2017-march2018.

Human Limitation: the human element was included mothers who care with their child below 5 years and resident in hospital work in government hospitals.

Chapter Four

4. Results

This chapter presents the results of the study including the characteristics of the study sample.In addition, to the results of the relevant inferential statistical tests to explore and identify the relationships between different variables.

4.1 Diarrhea management and treatment

Several questions were asked about the medical management and treatment of the children, such as if the children were treated for any medical conditions at the time of data collection, questions about the usage of Oral Rehydration Solution for the children**.**

The results showed that (41.1%) of mothers think that the child would have bowel movement (5-6) times a day which is alert them that he/she has diarrhea, (37%) of mothers think that it is 3-4 times, (15.4%) think that it is (7) or more times and only (6.4%) think that it is (0-2) times. The results showed that most of mothers think that diarrhea is Sometimes dangerous (66.6%), only (13.3%) of them think that it is always dangerous, and (7.3%) of them think that it is Never dangerous, and (12.8%) of them do not know.

Table (4.1): Mother knowledge about symptoms of diarrhea

Question	Options	Frequency	Percent
1) How many times would your child have bowel movement a day, which Would alert you that he/she has diarrhea?	0-2 times	30	6.4
	3-4 times	173	37.0
	5-6 times	192	41.1
	7 or more times	72	15.4
	Total	467	100.0
2) How dangerous is diarrhea in your opinion?	Always dangerous	62	13.3
	Sometimes dangerous	311	66.6
	Never dangerous	34	7.3
	I don‘t know	60	12.8
	Total	467	100.0

The results showed that most of mothers in the sample think that Virus, bacteria, or parasites infection is a cause of diarrhea among children (82.9%). The next highest percentage was (24.4%) for Lack of personal hygiene, and the next is (18.8%) for Improper Preparation of formula. The results showed that most of mothers think that teething is a cause for diarrhea (67.7%) while (32.3%) of them think that it is not.

Table (4.2): Mother knowledge about causes of diarrhea

Question	Options	N	Percent
3) Which of the following in your opinion is a cause of diarrhea among children?	Malnutrition	73	15.6%
	Virus, bacteria, or parasites infection	387	82.9%
	Water that is polluted with stool	78	16.7%
	Lack of personal hygiene	114	24.4%
	Improper Preparation of formula	88	18.8%
	Lack of clean water for drinking, cooking, and cleaning	57	12.2%
	Medication	52	11.1%
	Food poisoning	56	12.0%
	Envy and witchcraft	34	7.3%
4) Do you think that teething is a cause for diarrhea?	Yes	316	67.7
	No	151	32.3
	Total	467	100.0

The results showed that most of mothers think that the most dangerous type of diarrhea is Blood in stool (60.2%), (12.8%) of them think that it is Mucus in stool, and (19.7%) do not know, the other types have very low percentages.

The results showed that mothers think that the dangerous symptoms that require taking a child who has diarrhea to a healthcare center are ordered as the following: Fever(65.5%), Frequent vomiting (39.6%), The child does not get better after (3) days(35.8%), Fast breathing (33.8%), Blood in stool(33.4%), Loss of appetite(33.2%), Loose stool and The child is lazy(33%) for both, Fast heart beating (30%), Lack of sleeping and nonstop crying (29.3%), Sunken eyes(21.4%), Slow return of normal skin color (11.6%), Drowsiness and Irritability (8.8%) for both, No tears when crying (7.7%).

Table (4.3): Mother perceptions about dangerous signs of diarrhea

Question	Options	N	Percent
5) Which, in your opinion, is the most dangerous type of diarrhea?	Loose stool	19	4.1
	Blood in stool	281	60.2
	Green stool	15	3.2
	Mucus in stool	60	12.8
	I don‘t know	92	19.7
	Total	467	100.0
6) What, in your opinion, are the dangerous symptoms that require taking a child who has diarrhea to a healthcare center?	Fever	306	65.5%
	Sunken eyes	100	21.4%
	Slow return of normal skin color	54	11.6%
	The child does not get better after 3 days	167	35.8%
	Loss of appetite	155	33.2%
	Fast breathing	158	33.8%
	Blood in stool	156	33.4%
	Loose stool	154	33.0%
	Frequent vomiting	185	39.6%
	Drowsiness	41	8.8%
	Irritability	41	8.8%
	Fast heart beating	140	30.0%
	The child is lazy	154	33.0%
	No tears when crying	36	7.7%
	Lack of sleeping and nonstop crying	137	29.3%

The results showed that mothers think that options may prevent diarrhea among children are ordered as the following: Natural breastfeeding (70.9%), Observing hygiene (67.7%), Washing the hands(42.2%), Using clean water (40.3%), Eating fresh food (33.8%), Using bathrooms and safe disposal of stool(27.8%), Artificial feeding(5.2%), Other(3%).

The results showed that mothers think that food and liquids are appropriate and must be given to a child who has diarrhea are ordered as the following: Boiled potatoes only (69.1%), ORS (60.7%), Salty rice water (42.5%), Sterilized water (37.6%), Yogurt (36.9%), Vegetables (21.7%), Carbonated soft drinks such as 7UP (20.6%), Sugar and salt solution (14.8%), Fruits(14.4%), Fresh foods (9.9%), Soup with salt (9%), Other (6.4%), Soup without salt (4.9%), Foods containing sugar and salt (3.9%), Ready-made juice(3%), Sweetened foods (1.3%).

The results showed that mothers think that food and liquids that inappropriate and must not be given to a child who has diarrhea are ordered as the following: Fatty and rich in spices

food(66.3%), Carbonated drinks (51.3%), Sweetened tea (50.6%), Sweetened fruit drinks (48.1%), Coffee (41%), Solid food (23%) and Other (4.3%).

Table (4.4): Mothers knowledge or attitudes about perceptions of diarrhea

Question	Options	N	Percent
7) Which of the following options, in your opinion, may prevent diarrhea among children?	Natural breastfeeding	329	70.9%
	Washing the hands	196	42.2%
	Observing hygiene	314	67.7%
	Using clean water	187	40.3%
	Artificial feeding	24	5.2%
	Eating fresh food	157	33.8%
	Using bathrooms and safe disposal of stool	129	27.8%
	Other	14	3.0%
8) Which, in your opinion, of the following food and liquids is appropriate and must be given to a child who has diarrhea?	Sterilized water	175	37.6%
	ORS	283	60.7%
	Soup with salt	42	9.0%
	Soup without salt	23	4.9%
	Salty rice water	198	42.5%
	Vegetables	101	21.7%
	Fruits	67	14.4%
	Foods containing sugar and salt	18	3.9%
	Fresh foods	46	9.9%
	Carbonated soft drinks such as 7UP	96	20.6%
	Boiled potatoes only	322	69.1%
	Sugar and salt solution	69	14.8%
	Yogurt	172	36.9%
	Ready-made juice	14	3.0%
	Sweetened foods	6	1.3%
	Other	30	6.4%
9) Which, in your opinion, of the following food and liquids is inappropriate and must not be given to a child who has diarrhea?	Carbonated drinks	239	51.3%
	Fatty and rich in spices food	309	66.3%
	Sweetened fruit drinks	224	48.1%
	Sweetened tea	236	50.6%
	Solid food	107	23.0%
	Coffee	191	41.0%
	Other	20	4.3%

The results showed that most of mothers know when to start giving their children ORS (76%). The results showed that (41.1%) of mothers think that ORS Compensates for the

child‘s loss of salts and liquids, while (39.2%) of them think that ORS Prevents child‘s dehydration. The results showed that most of mothers know how to prepare ORS (60.4%) and (39.6%) of them do not know.

Table (4.5): Knowledge of mothers about Oral Rehydration Solution (ORS)

Question	Options	N	Percent
10) Do you know when to start giving your child ORS?	Yes	355	76.0
	No	112	24.0
	Total	467	100.0
11) What does ORS, in your opinion, do?	Prevents child‘s dehydration	183	39.2
	Reduces the frequency of bowel movement	21	4.5
	Increases the frequency of bowel movement	6	1.3
	Kills the germ that causes diarrhea	28	6.0
	Compensates for the child‘s loss of salts and liquids	192	41.1
	I don‘t know	37	7.9
	Total	467	100.0
12) Do you know how to prepare ORS?	Yes	282	60.4
	No	185	39.6
	Total	467	100.0

The results showed that the steps for preparing ORS are arranged as the following:

- Wash hands and utensils to be used with soap and water (71.9%).
- Add the ORS in the utensil and stir it using clean spoon (68%).
- Measure 1 liter of clean water to be put in clean utensil (67.6%).
- ORS must be given to the child within 24hours (61.9%).

The results showed that the steps of preparing the rehydration solution of sugar and salt at home are arranged as the following:

1. Wash hands and utensil with soap and water (50.9%).
2. Measure half a liter of clean water (46.2%).
3. Mix the ingredients with a spoon (39.8%).
4. Add salt until the solution tastes like tears (36.9%).
5. Use small amount (handful) of sugar (34.1%).

And the percentage of mothers who do not know how to prepare the rehydration solution of sugar and salt at home is (39.1%).

Table (4.6): Knowledge about the preparation of ORS at home by mothers

Question	Options	N	Percent
13) What are the steps for preparing ORS?	Wash hands and utensils to be used with soap and water	202	71.9%
	Measure 1 liter of clean water to be put in clean utensil	190	67.6%
	Add the ORS in the utensil and stir it using clean spoon	191	68.0%
	ORS must be given to the child within 24 hours	174	61.9%
	I don‘t know	11	3.9%
14) What are the steps of preparing the rehydration solution of sugar and salt at home?	Wash hands and utensil with soap and water	142	50.9%
	Measure half a liter of clean water	129	46.2%
	Use small amount (handful) of sugar	95	34.1%
	Mix the ingredients with a spoon	111	39.8%
	Add salt until the solution tastes like tears	103	36.9%
	I don‘t know	109	39.1%

The results showed that (34.9%) of mothers don‘t know the amount of ORS that needs to be given to the child after and between each bowel movement. From the other hand, (28.9%) of them say that It depends on child‘s weight, 22.5% think that It depends on degree of dehydration, and (13.7%) think that It depends on child‘s age.

The results showed that most of mothers (65.7%) don‘t know the amount of ORS that needs to be given to a child aged (6) months to less than a year after and between each bowel movement. From the other hand, (13.9%) of them think that it is (10) cm for every kilogram of child‘s weight, (12%) think that it is (80-100) cm (two-thirds of a cup - 1 cup), (4.5%) think that it is (100- 200) cm (1-2 cups), and (3.9%) says other answers.

The results showed that also most of mothers (64%) don‘t know the amount of ORS that needs to be given to a child aged 1 to 3 years after and between each bowel movement. (10.5%) of them think that it is (100-140) cm (1-1.5 cups), (10.1%) think that it is 8 cm for every kilogram of child‘s weight, (8.8%) think that it is (2) cups, (3.6%) says other answers and (3%) think that Natural breastfeeding is sufficient.

The results showed that also most of mothers (64%) don‘t know the amount of ORS that

needs to be given to a child aged more than (3) years after and between each bowel movement. (13.5%) of them think that it is (2-3) cups, (13.1%) think that it depends on child‘s weight, (6.2%) think that it is (150-180) cm (1.5-2 cups), and (3.2%) answered others. The results showed that most of mothers (60.2%) don‘t know what is the required amount of ORS to be given to a child who weighs 10 kilograms after each bowel movement to prevent dehydration. From the other hand, (16.3%) think that the amount is (2) cups, (12.4%) think it is (1) cup, and (11.1%) think that it is 3 cups.

The results showed that (43.7%) of mothers don‘t know when it is possible to start giving a child ORS, (38.5%) of them think that it is possible to start giving a child ORS at (6) months, (13.1%) think that it is at 1 month and (4.7%) think that it is possible at (1)day.

Table (4.7-A): The exact amount that necessary for preparation of ORS at home by mothers

Question	Options	N	Percent
15) What is the amount of ORS that needs to be given to the child after and between each bowel movement?	It depends on child‘s weight	135	28.9
	It depends on child‘s age	64	13.7
	It depends on degree of dehydration	105	22.5
	I don‘t know	163	34.9
	Total	467	100.0
16) What is the amount of ORS that needs to be given to a child aged 6 months to less than a year after and between each bowel movement?	80-100 cm (two-thirds of a cup - 1 cup)	56	12.0
	100-200 cm (1-2 cups)	21	4.5
	10 cm for every kilogram of child‘s weight	65	13.9
	Other	18	3.9
	I don‘t know	307	65.7
	Total	467	100.0
17) What is the amount of ORS that needs to be given to a child aged 1 to 3 years after and between each bowel movement?	100-140 cm (1-1.5 cups)	49	10.5
	8 cm for every kilogram of child‘s weight	47	10.1
	2 cups	41	8.8
	Natural breastfeeding is sufficient	14	3.0
	Other	17	3.6
	I don‘t know	299	64.0
	Total	467	100.0

Table (4.7-B): The exact amount that necessary for preparation of ORS at home by mothers

Question	Options	N	Percent
18) What is the amount of ORS that needs to be given to a child aged more than 3 years after and between each bowel movement?	150-180 cm (1.5-2 cups)	29	6.2
	It depends on child‘s weight	61	13.1
	2-3 cups	63	13.5
	Other	15	3.2
	I don‘t know	299	64.0
	Total	467	100.0
19) What, in your opinion, is the required amount of ORS to be given to a child who weighs 10 kilograms after each bowel movement to prevent dehydration?	1 cup	58	12.4
	2 cups	76	16.3
	3 cups	52	11.1
	I don‘t know	281	60.2
	Total	467	100.0
When, in your opinion, is it possible to start giving a child ORS (at what age)?	1 day	22	4.7
	1 month	61	13.1
	6 months	180	38.5
	I don‘t know	204	43.7
	Total	467	100.0

4.2 Knowledge, attitude and behavior descriptive result:

The results of behaviors questions showed the following:

Mothers would feel that it is necessary to take the child immediately to healthcare center if the diarrhea is not treated within 3 days (94.4%), they think that giving lots of water and liquids to a child who has diarrhea would help (87.4%), they think that a child with diarrhea must not be left without food since that would cause malnutrition (81.6%), they think that increasing the frequency and duration of natural breastfeeding during diarrhea would reduce the frequency and intensity of bowel movement(72.6%), they think that it is necessary to give ORS to a child after each bowel movement(71.5%), they think that it is necessary to measure 1 liter of clean water while preparing ORS(66.6%), they think that artificial feeding could cause child diarrhea(66%), From the other hand, they don‘t think that giving lots of water to a dehydrated child, where diarrhea is the cause of such dehydration, would prevent the child's death(40.7%), they don‘t think that diarrhea would eventually pass and does not require medical intervention(27%), they don‘t think that diarrhea could be caused by envy and witchcraft(21.8%).

Table (4.8): Mothers knowledge about foods and waters that giving for children who

have diarrhea and dehydration

Question	N	%
21) Is it, in your opinion, necessary to measure 1 liter of clean water while preparing ORS?	311	66.6
22) Do you think it is necessary to give ORS to a child after each bowel movement?	334	71.5
23) Do you think that increasing the frequency and duration of natural Breastfeeding during diarrhea would reduce the frequency and intensity of bowel movement?	339	72.6
24) Would you feel that it is necessary to take the child immediately to healthcare center if the diarrhea is not treated within 3 days?	441	94.4
25) Do you think that giving lots of water and liquids to a child who has diarrhea would help?	408	87.4
26) Do you think that artificial feeding could cause child diarrhea?	308	66.0
27) Do you think that diarrhea would eventually pass and does not require medical intervention?	126	27.0
28) Do you think that giving lots of water to a dehydrated child, where diarrhea is the cause of such dehydration, would prevent the child's death?	190	40.7
29) Do you think that a child with diarrhea must not be left without food since that would cause malnutrition?	381	81.6
30) Do you think that diarrhea could be caused by envy and witchcraft?	102	21.8

3.4 Practice descriptive result:

The results showed that most of mothers take their children who have diarrhea to a hospital if he/she does not get better in (3) days (61.7%). From the other hand, (33.1%) answered that when the child has high temperature, 22.4% answered that when he/she vomits, (20.2%) answered that when the child shows signs of fatigue, and (17.2%) answered that after one day.

From the other hand, only (8.34%) answered decrease in alertness and consciousness, (4.1%) answered if he/she does not get better in (7) days, and (0.4%) answered that don‘t take the child to hospital because they treat him/her at home.

Table (4.9) when do you take your child who has diarrhea to a hospital?

	N	%
After one day	80	17.2%
If he/she does not get better in 3 days	287	61.7%
If he/she does not get better in 7 days	19	4.1%
When the child shows signs of fatigue	94	20.2%
don‘t take my child to hospital because I treat him/her at home	2	.4%
Decrease in alertness and consciousness	39	8.4%
When the child has high temperature	154	33.1%
When he/she vomits	104	22.4%

The results showed that most of mothers treat your child who has diarrhea at home by feeding

the child boiled potatoes (71.9%). The other highest answers are: Observe hygiene (60.3%), Feed the child boiled soft rice (51.9%), Use clean drinking water (51.5%).

Table (4.10) Mother practice about treating diarrhea at home

	N	%
Continue with feeding the child regular food	16	3.4%
Safe disposal of stool	167	35.8%
Use clean drinking water	240	51.5%
Give sugar and salt solution to the child	166	35.6%
Observe hygiene	281	60.3%
Feed the child more yogurt	183	39.3%
Feed the child boiled soft rice	242	51.9%
Increase the frequency of natural breastfeeding	32	6.9%
Increase the number of meals	45	9.7%
Buy medicine that would stop diarrhea and give it to the child according to directions for use	216	46.4%
Give the child 7UP to drink	162	34.8%
Give the child tea to drink	16	3.4%
Feed the child boiled potatoes	335	71.9%
Give the child rice water to drink	217	46.6%
Other	33	7.1%

The results showed that most of mothers give boiled water after it cools down (The water is well-covered) to the child who has diarrhea (68.5%).

Table (4.11) what kind of water do you give to your child who has diarrhea?

		N	%
Valid	Boiled water after it cools down. The water is well-covered	320	68.5
	Boiled water after it cools down. The water is not well-covered	9	1.9
	Tap water (well-covered)	75	16.1
	Tap water (not well-covered)	18	3.9
	Other	45	9.6
	Total	467	100.0

The results showed that most of mothers dispose of their children's stool outside the house (58%), then In the bathroom (35.5%) and only (6.4%) using other ways.

The results showed that most of mothers took the child out for treatment last time the child has diarrhea (63.4%), (25.9%) of them treated him/here at home and (10.7%) of them did not do anything.

Table (4.12) Mother knowledge about disposing of child's stool

Question	Option	N	%
34) How do you dispose of your child's stool?	In the bathroom	166	35.5
	Outside the house	271	58.0
	Other	30	6.4
Question	**Option**	**N**	**%**
34) How do you dispose of your child's stool?	In the bathroom	166	35.5
	Outside the house	271	58.0
	Other	30	6.4
35) What did you do last time your child has diarrhea?	I treated him/her at home	121	25.9
	I took him/her out for treatment	296	63.4
	I did not do anything	50	10.7

The results showed that most of mothers breastfeed their children when he/she has diarrhea (78.4%) and only (21.6%) do not do that. The results showed that (42.1%) breastfeed their children who have diarrhea More than usual, (39.6%) As usual, (10.7%) Less than usual and (7.7%) not necessarily.

The results showed that most of mothers have ever given ORS to their children who had diarrhea (70.9%) and 29.1% have not. The results showed that (48.6%) of mothers had ever given ORS to their children who had diarrhea after each bowel movement, (29.6%) As often as the child asks for, and (21.7%) don't know.

The results showed that most of mothers **have not** ever given home-prepared sugar and salt solution to their children who had diarrhea (75.2%). The results showed that (57.8%) of mothers have ever given home-prepared sugar and salt solution to their children who had diarrhea after each bowel movement, (31.9%) As often as the child asks for, and 1.8%other. The results showed that about half of mothers (49%) have previous experience with diarrhea or ORS influence their decision.

Table (4.13) Mother knowledge about breastfeeding of her child while having diarrhea

Question	N	%
36) Do you breastfeed you child when he/she has diarrhea?	366	78.4
38) Have you ever given ORS to your child who had diarrhea?	331	70.9
40) Have you ever given home-prepared sugar and salt solution to your child who had diarrhea?	116	24.8
42) Does any previous experience with diarrhea or ORS influence you decision?	229	49.0

The results showed that (42.1%) breastfeed their children who have diarrhea More than usual, (39.6%) As usual, (10.7%) Less than usual and (7.7%) not necessarily.

Table (4.14) How often do you breastfeed your child who has diarrhea?

		Frequency	Percent
Valid	More than usual	154	42.1
	As usual	145	39.6
	Less than usual	39	10.7
	Not necessarily	28	7.7
	Total	366	100.0

The results showed that most of mothers (70.2%) had children admitted to hospital due to diarrhea. Most of them admitted once.

The results showed that most of mothers (76%) had advised to give ORS or sugar and salt solution to their children.

Table (4.15) Route as the children has diarrhea

Question	N	%
43) Has any of your children been admitted to hospital due to diarrhea?	139	29.8
44) Has anyone advised you to give ORS or sugar and salt solution to your child?	355	76.0

The results showed that (55.7%) of mothers think that it is moderate difficult to give ORS to their child, (25.9%) think that it is very difficult, and (18.4%) think that it is very easy.

Table (4.16) How difficult is it to give ORS to your child?

		Frequency	Percent
Valid	Very difficult	121	25.9
	Moderate	260	55.7
	Very easy	86	18.4
	Total	467	100.0

The results showed that (44.1%) of mothers stop administering ORS and immediately take the child to hospital when the child starts vomiting, (27.4%) says that they continue administering ORS and take the child to hospital, (11.1%) don‘t know, (7.7%) continue administering ORS but with lesser amounts, (6.6%) continue administering the recommended ORS and keep the child at home, and (3%) stop administering ORS and keep the child at home.

As it is clear from the above table that there were different aspect related to practices and behaviors from the mothers toward her children if you have diarrhea symptoms, among the families of the target population. But specifically, about (60%) of them recommend that blood in the stool is the worst thing, as demonstrated from (467) family members who had diarrhea.

Table (4.17) what do you do when your child starts vomiting?

		Frequency	Percent
Valid	I stop administering ORS and I immediately take the child to hospital	206	44.1
	I continue administering the recommended ORS and keep the child at home	31	6.6
	I continue administering ORS but with lesser amounts	36	7.7
	I continue administering ORS and take the child to hospital	128	27.4
	I stop administering ORS and keep the child at home	14	3.0
	I don‘t know	52	11.1
	Total	467	100.0

The table below shows that there are no statistically significant differences in Mothers' Knowledge about causes of diarrhea among children according to Mother's education level since the P value of the F test (0.208) is less than 0.05. The highest mean of knowledge was (32.5) for mothers who did not have received any education, while the lowest mean of knowledge (22.64) for mothers who have Secondary education.

Also, the table shows that there are no statistically significant differences in Mothers 'lack of Knowledge about causes of diarrhea among children according to Mother's education level since the P value of the F test (0.755) is less than 0.05. The highest mean of lack of knowledge was (8.76) for mothers who have Secondary education, while the lowest mean of lack of knowledge (0.00) for mothers who did not have received any education.

Table (4.18): Relationship between mothers knowledge about causes of diarrhea and mothers education level

Mother's education level		N	Mean	Std. Deviation	F	P-value
Knowledge	I have not received any education	5	32.50	14.25	1.477	.208
	Elementary education	36	23.26	11.63		
	Secondary education	217	22.64	14.21		
	BA degree	163	25.92	17.82		
	Other	46	25.54	17.87		
	Total	467	24.22	15.87		
lack of knowledge	I have not received any education	5	.00	.00	.473	.755
	Elementary education	36	5.56	23.23		
	Secondary education	217	8.76	28.33		
	BA degree	163	6.75	25.16		
	Other	46	4.35	20.62		
	Total	467	7.28	26.01		

From Table number (20), we note that there are statistically significant differences in the knowledge of real mothers about the causes of diarrhea among children, so that all values <0.05.

It was found that there are statistically significant differences in the mothers' lack of knowledge about the causes of diarrhea among children under the age of five, and this was calculated according to several variables such as place of residence, employment, monthly family income, age of the child with diarrhea, the number of times that The mother gets help from families or friends when her baby is sick.

As for the place of residence, the city, it was found that there is a slight level of maternal knowledge about diarrhea for their children who are less than five years in Hebron and Nablus (34.9%, 40.3%), while there is a percentage (18.8%) of that knowledge in Ramallah. As for wrong knowledge, the average of what is found in Ramallah Governorate was (73.2%)

and was higher than the percentage that existed in the Hebron and Nablus governorates (58%, 55.7%).

With regard to obtaining a job, the level of misconception among working mothers was (43.2%), and was higher than the percentage that was found for unemployed mothers, which reached (29%). On the other hand, the average misconception level of working mothers was (49.4%) and it was lower than the level of unemployed mothers.

With regard to the monthly income of the family, it has been shown that there is an inverse relationship between the increase in income and wrong knowledge, and this was shown in the wrong knowledge of the groups who have a high income, i.e. those who earn (more than 2000 shekels a month) and were (31.4%, 39.3%, 36.5%) It is higher than the percentage of households that receive a low monthly income, which amounted to (25.6%, 21%). On the other hand, the percentage for families receiving monthly low incomes was (2500 NIS or below) (65.3%, 74%, 67.4%), and the proportion was higher than that found for high-income groups (more than 2500 NIS) (51.4%, 55.2%).

Furthermore, with regard to the age of the child with diarrhea, the level of false knowledge for their ages (3-6 years) is (46.3%), and it was higher than that for other age groups. There is a false knowledge level for the 3-6 years age group, which amounted to (46.3%), and thus it was less than the percentage achieved by other age groups.

Finally, regarding the number of times a mother received help from family or friends when her child had diarrhea, the level of misconception was 18.5%, and that percentage is lower than the percentage that was found for mothers who sometimes received support before Family or friends, and those who did not get help. On the other hand, the mean misconception level for mothers who always get help is (73.8%), and that percentage was higher than those who sometimes get help or do not receive help.

Table (4.19-A): Relationship between mother's knowledge about causes of diarrhea

and mothers age (actually, when married, when had first baby), city, and place of residence

		True Knowledge(Causes of diarrhea among children)				
		Low	**Medium**	**High**		
		N (%)	**N (%)**	**N (%)**	**Chi-square**	**P-value**
Mothers' Age	Less than 20	5(71.4%)	2(28.6%)	0(0%)	1.112	0.981
	20-29	203(74.9%)	63(23.2%)	5(1.8%)		
	30-39	111(75.5%)	33(22.4%)	3(2%)		
	40 or More	32(76.2%)	10(23.8%)	0(0%)		
Children under five	1	145(73.2%)	50(25.3%)	3(1.5%)	2.491	0.646
	2	171(77%)	46(20.7%)	5(2.3%)		
	3 or more	35(74.5%)	12(25.5%)	0(0%)		
Mothers' age when married	Less than 18	43(69.4%)	18(29%)	1(1.6%)	3.681	0.72
	18-20	146(78.1%)	37(19.8%)	4(2.1%)		
	21-25	141(74.6%)	46(24.3%)	2(1.1%)		
	More than 25	21(72.4%)	7(24.1%)	1(3.4%)		
Mother's Age when had first baby	Less than 18	18(75%)	5(20.8%)	1(4.2%)	5.671	0.461
	18-20	94(70.7%)	36(27.1%)	3(2.3%)		
	21-25	196(79%)	49(19.8%)	3(1.2%)		
	More than 25	43(69.4%)	18(29%)	1(1.6%)		
Crowding Index	<1	23(71.9%)	8(25%)	1(3.1%)	1.033	0.905
	1-2	203(74.4%)	65(23.8%)	5(1.8%)		
	>2	125(77.2%)	35(21.6%)	2(1.2%)		
City	Ramallah	109(73.2%)	37(24.8%)	3(2%)	6.762	0.149
	Hebron	120(71%)	47(27.8%)	2(1.2%)		
	Nablus	122(81.9%)	24(16.1%)	3(2%)		
Place of Residence	City	110(76.4%)	31(21.5%)	3(2.1%)	2.323	0.888
	Town	53(75.7%)	16(22.9%)	1(1.4%)		
	Village	152(75.2%)	46(22.8%)	4(2%)		
	Refugee camp	36(70.6%)	15(29.4%)	0(0%)		
Religion	Islam	349(75.2%)	107(23.1%)	8(1.7%)	1.159	0.885
	Christianity	1(50%)	1(50%)	0(0%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have not received any	2(40%)	3(60%)	0(0%)	8.425	0.393
	education					
	Elementary education	27(75%)	9(25%)	0(0%)		
	Secondary education	169(77.9%)	46(21.2%)	2(0.9%)		
	BA degree	121(74.2%)	37(22.7%)	5(3.1%)		
	Other	32(69.6%)	13(28.3%)	1(2.2%)		

Table (4.19-B): Relationship between mother's knowledge about causes of diarrhea and

mothers age (actually, when married, when had first baby), city, and place of residence

		True Knowledge(Causes of diarrhea among children)				
		Low	**Medium**	**High**		
		N (%)	**N (%)**	**N (%)**	**Chi-square**	**P-value**
Having Job	Yes	55(67.9%)	23(28.4%)	3(3.7%)	4.130	0.127
	No	296(76.7%)	85(22%)	5(1.3%)		
Husband's job status	Unemployed	20(64.5%)	11(35.5%)	0(0%)	3.262	0.196
	Employed	331(75.9%)	97(22.2%)	8(1.8%)		
Household's monthly income	Less than 1500 shekels	32(74.4%)	10(23.3%)	1(2.3%)	10.086	0.259
	1500-2000 shekels	78(78%)	22(22%)	0(0%)		
	2001-2500 shekels	94(77.7%)	27(22.3%)	0(0%)		
	2501-3000 shekels	71(74%)	23(24%)	2(2.1%)		
	More than 3000 shekels	76(71%)	26(24.3%)	5(4.7%)		
Child's number in the family	First	94(75.8%)	28(22.6%)	2(1.6%)	1.888	0.93
	Second	99(75%)	30(22.7%)	3(2.3%)		
	Third	61(70.9%)	24(27.9%)	1(1.2%)		
	Fourth or more	97(77.6%)	26(20.8%)	2(1.6%)		
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	228(75.5%)	67(22.2%)	7(2.3%)	9.315	0.316
	Father	103(76.9%)	31(23.1%)	0(0%)		
	Grandfather	4(57.1%)	3(42.9%)	0(0%)		
	Grandmother	5(55.6%)	4(44.4%)	0(0%)		
	Others	11(73.3%)	3(20%)	1(6.7%)		
The age of the child who has diarrhea	Less than a month	17(70.8%)	6(25%)	1(4.2%)	11.431	0.178
	1-6 months	114(82.6%)	23(16.7%)	1(0.7%)		
	More than 6 months to 1 year	77(75.5%)	23(22.5%)	2(2%)		
	More than 1 year to 3 years	80(66.1%)	39(32.2%)	2(1.7%)		
	3-6 years	63(76.8%)	17(20.7%)	2(2.4%)		
Child's sex	Male	190(74.8%)	60(23.6%)	4(1.6%)	.131	0.937
	Female	161(75.6%)	48(22.5%)	4(1.9%)		
How often do the mother get any help from family or friends when her child is sick	Always	96(73.8%)	32(24.6%)	2(1.5%)	6.828	0.145
	Sometimes	143(71.1%)	55(27.4%)	3(1.5%)		
	Never	112(82.4%)	21(15.4%)	3(2.2%)		

The results of this study showed that there are statistically significant differences regarding the true knowledge of mothers about the dangerous symptoms that require taking a child less

than five years old and suffering from diarrhea to the health care center, and the following: the age of the child who is under the age of five, the age of the mother upon her marriage, the city, The mother's age when she gave birth to the first child (since the P-values <0.05 for these variables only).

From these results, it is clear that there is a direct relationship between the number of children under five years of age and the mother's knowledge of diarrheal disease, as the more children under the age of five increases the higher knowledge of mothers. As the level of knowledge for mothers with one child is higher compared to the level of knowledge for mothers with two or more children, as the percentage of knowledge for mothers with one child has reached (72.2%), while the percentage of knowledge for mothers with two or more children is (59.9%, 66 %).

Likewise, the high real knowledge level for mothers of those who have 3 or more children under the age of five is higher compared to the high real knowledge level for mothers who have one or two children, as the high real knowledge rate for those who have 3 or more children under the age of five is It reached (12.8%), and the percentage of real high knowledge of those who had one or two children was (2.3%, 5.6%).

The level of low knowledge for mothers who married at the age of (21-25) was lower in comparison to the level of low knowledge for mothers who married in other age groups, as it reached (59.8%). While, the level of high knowledge of mothers for those under 18 years of age was lower in comparison to the level of real and high knowledge of mothers from other groups. The level of true knowledge of those under the age of 18 was (11.3%).

The level of high true knowledge of mothers who were at birth (Less than 18) or (18-20) was lower in comparison to the level of real knowledge of mothers who were at birth among other groups present in this study, and reached (20.8%, 22.6%). While, the level of real high knowledge of mothers who were at the age of first birth (Less than 18) was higher compared to the level of high real knowledge of mothers who were among other age groups in the study, and it reached (16.7%).

The level of real low knowledge for mothers who are from Nablus governorate was higher in comparison to the level of low real knowledge for mothers who are from the Hebron and Ramallah governorates. The percentage of the level of true low knowledge for mothers who are from Nablus Governorate (71.8%), and the percentage of the level of real knowledge The low for mothers who are from Hebron and Ramallah governorates is (61.5%, 64.4%).

On the other hand, there are statistically significant differences regarding misconception of mothers about the dangerous symptoms that require taking a child with diarrhea to the health

care center, the following: Children under the age of five, the city, the husband's job, the monthly family income, the number of times that A mother gets help from family or friends when her child is sick (since the P-values<0.05 for these variables only).

The low level of misconception of mothers with one child under the age of five (70.7%) was higher compared to the low level of misconception of mothers with two or more children and those under five years of age who reached (55.4%, 66%).

The Medium False Knowledge for mothers with two children under five years of age was 38.7% higher compared to the mean misconception level for mothers with 3 or more children under the age of five and reached (27.7%), and for those with one child of those who are under five years of age and reached (26.3%).

Regarding City, the level of Low False Knowledge in Nablus (80.5%) is higher in comparison to the level of Low False Knowledge Hebron and Ramallah (43.8%, 67.1%). From the other hand, the level of Medium False Knowledge in Hebron (50.9%) is higher in comparison to the level of Medium False Knowledge in Ramallah (27.5%) or Nablus (16.1%).

Regarding Husband's job status, the level of Medium False Knowledge for mothers who have Unemployed Husbands(25.8%) is lower in comparison to the level of Medium False Knowledge for mothers who have Employed Husbands(32.8%). From the other hand, the level of High False Knowledge for mothers who have Unemployed Husbands (16.1%) is higher in comparison to the level of High False Knowledge for mothers who have Employed Husbands (3.9%).

Regarding Household's monthly income, the level of Low False Knowledge for group(2501-3000 shekels) is (72.9%) which is higher in comparison to the level of Low False Knowledge for group of all the other income groups. From the other hand, the level of High False Knowledge for group (Less than 1500 shekels) is (16.3%) which is higher in comparison to the level of High False Knowledge of all the other income groups.

Finally, Regarding How often do the mother get any help from family or friends when her child is sick, it is clear from the results that generally as the help decreases, the False Knowledge increases. The level of Low False Knowledge for mothers who always get help is (72.3%) which is higher in comparison to the level of Low False Knowledge for mothers who sometimes or never get help. From the other hand, the level of Medium False Knowledge for mothers who always get help is (25.4%) which is lower in comparison to the level of Medium False Knowledge for mothers who sometimes or never get help. (See appendxTable7).

Table (4.20-A): Relationship between mothers knowledge about dangerous symptoms that require taking a child who has diarrhea to a healthcare center and mothers age (actually, when married, when had first baby), city, place of residence, religion, level of education, having job, husband's job status, Household's monthly, income, child's number in the family, The age of the child who has diarrhea, Child's sex, and how often do the mother get any help from family or friends when her child is sick.

		True Knowledge(Dangerous symptoms that require taking a child who has diarrhea to a healthcare center)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi- square	P-value
Mothers' Age	Less than 20	5(71.4%)	2(28.6%)	0(0%)	6.686	0.351
	20-29	184(67.9%)	77(28.4%)	10(3.7%)		
	30-39	87(59.2%)	51(34.7%)	9(6.1%)		
	40 or More	31(73.8%)	8(19%)	3(7.1%)		
Children under five	1	143(72.2%)	44(22.2%)	11(5.6%)	21.882	0.000*
	2	133(59.9%)	84(37.8%)	5(2.3%)		
	3 or more	31(66%)	10(21.3%)	6(12.8%)		
Mothers' age when married	Less than 18	42(67.7%)	13(21%)	7(11.3%)	18.288	0.006*
	18-20	132(70.6%)	45(24.1%)	10(5.3%)		
	21-25	113(59.8%)	71(37.6%)	5(2.6%)		
	More than 25	20(69%)	9(31%)	0(0%)		
Mother's Age when had first baby	Less than 18	15(62.5%)	5(20.8%)	4(16.7%)	17.523	0.008*
	18-20	93(69.9%)	30(22.6%)	10(7.5%)		
	21-25	158(63.7%)	84(33.9%)	6(2.4%)		
	More than 25	41(66.1%)	19(30.6%)	2(3.2%)		
Crowding Index	<1	23(71.9%)	8(25%)	1(3.1%)	.634	0.959
	1-2	178(65.2%)	82(30%)	13(4.8%)		
	>2	106(65.4%)	48(29.6%)	8(4.9%)		
City	Ramallah	96(64.4%)	43(28.9%)	10(6.7%)	11.945	0.018*
	Hebron	104(61.5%)	62(36.7%)	3(1.8%)		
	Nablus	107(71.8%)	33(22.1%)	9(6%)		

Table (4.20-B): Relationship between mothers knowledge about dangerous symptoms that require taking a child who has diarrhea to a healthcare center and mothers age (actually, when married, when had first baby), city, place of residence, religion, level of education,

having job, husband‘s job status, Household‘s monthly, income, child‘s number in the family, The age of the child who has diarrhea, Child‘s sex, and how often do the mother get any help from family or friends when her child is sick.

		True Knowledge(Dangerous symptoms that require taking a child who has diarrhea to a healthcare center)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi- square	P-value
Place of Residence	City	100(69.4%)	36(25%)	8(5.6%)	6.656	0.354
	Town	42(60%)	25(35.7%)	3(4.3%)		
	Village	126(62.4%)	66(32.7%)	10(5%)		
	Refugee camp	39(76.5%)	11(21.6%)	1(2%)		
Religion	Islam	305(65.7%)	137(29.5%)	22(4.7%)	.975	0.914
	Christianity	1(50%)	1(50%)	0(0%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have not received any education	2(40%)	3(60%)	0(0%)	9.337	0.315
	Elementary education	23(63.9%)	12(33.3%)	1(2.8%)		
	Secondary education	147(67.7%)	57(26.3%)	13(6%)		
	BA degree	100(61.3%)	55(33.7%)	8(4.9%)		
	Other	35(76.1%)	11(23.9%)	0(0%)		
Having Job	Yes	51(63%)	26(32.1%)	4(4.9%)	.341	0.843
	No	256(66.3%)	112(29%)	18(4.7%)		
Husband‘s job status	Unemployed	20(64.5%)	8(25.8%)	3(9.7%)	1.904	0.386
	Employed	287(65.8%)	130(29.8%)	19(4.4%)		
Household‘s monthly	Less than 1500 shekels	27(62.8%)	11(25.6%)	5(11.6%)	11.382	0.181
income	1500-2000 shekels	64(64%)	31(31%)	5(5%)		
	2001-2500 shekels	89(73.6%)	28(23.1%)	4(3.3%)		
	2501-3000 shekels	64(66.7%)	28(29.2%)	4(4.2%)		
	More than 3000 shekels	63(58.9%)	40(37.4%)	4(3.7%)		

Table (4.20-C): Relationship between mothers knowledge about dangerous symptoms that require taking a child who has diarrhea to a healthcare center and mothers age (actually, when married, when had first baby), city, place of residence, religion, level of education,

having job, husband‘s job status, Household‘s monthly, income, child‘s number in the family, The age of the child who has diarrhea, Child‘s sex, and how often do the mother get any help from family or friends when her child is sick.

		True Knowledge(Dangerous symptoms that require taking a child who has diarrhea to a healthcare center)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi- square	P-value
Child‘s number in the family	First	82(66.1%)	35(28.2%)	7(5.6%)	4.098	0.663
	Second	84(63.6%)	45(34.1%)	3(2.3%)		
	Third	58(67.4%)	24(27.9%)	4(4.7%)		
	Fourth or more	83(66.4%)	34(27.2%)	8(6.4%)		
Who decides to get treatment outside the house for a child when such childe has Diarrhea?	Mother	207(68.5%)	81(26.8%)	14(4.6%)	6.826	0.556
	Father	81(60.4%)	45(33.6%)	8(6%)		
	Grandfather	3(42.9%)	4(57.1%)	0(0%)		
	Grandmother	6(66.7%)	3(33.3%)	0(0%)		
	Others	10(66.7%)	5(33.3%)	0(0%)		
The age of the child who has diarrhea	Less than a month	13(54.2%)	10(41.7%)	1(4.2%)	12.111	0.146
	1-6 months	95(68.8%)	38(27.5%)	5(3.6%)		
	More than 6 months to 1 year	63(61.8%)	35(34.3%)	4(3.9%)		
	More than 1 year to 3 years	73(60.3%)	38(31.4%)	10(8.3%)		
	3-6 years	63(76.8%)	17(20.7%)	2(2.4%)		
Child‘s sex	Male	163(64.2%)	78(30.7%)	13(5.1%)	.656	0.720
	Female	144(67.6%)	60(28.2%)	9(4.2%)		

Table (4.20-D): Relationship between mothers knowledge about dangerous symptoms that require taking a child who has diarrhea to a healthcare center and mothers age (actually, when married, when had first baby), city, place of residence, religion, level of education,

having job, husband‘s job status, Household‘s monthly, income, child‘s number in the family, The age of the child who has diarrhea, Child‘s sex, and how often do the mother get any help from family or friends when her child is sick.						
		True Knowledge(Dangerous symptoms that require taking a child who has diarrhea to a healthcare center)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi- square	P-value
How often do the mother get any help from family or friends when her child is sick	Always	88(67.7%)	31(23.8%)	11(8.5%)	7.554	0.109
	Sometimes	131(65.2%)	64(31.8%)	6(3%)		
	Never	88(64.7%)	43(31.6%)	5(3.7%)		

The results of the table below show that there are statistical significant differences between knowledge level and demographic among mothers age and the inappropriate food and liquids which must not be given to a child who has diarrhea according to: Mothers’ age, Mothers’ age when married, Mothers’ age when had first baby, City, Household’s monthly income. The age of the child who has diarrhea, and How often do the mother get any help from family or friends when her child is sick (since the P-values<0.05 for these variables only).

Regarding Mothers' Age, it is clear from the results that generally as mother's age increases, the high Knowledge increases. The level of Low True Knowledge for group (Less than 20) is (57.1%) which is higher in comparison to the level of Low True Knowledge for the other groups. From the other hand, the level of Medium True Knowledge for group (40 or More) is (57.1%) which is higher in comparison to the level of Medium True Knowledge for the other groups.

Regarding Children under five, the levels of Medium True Knowledge for groups (1 and 2) are (40.4%, 31.5%) that are higher in comparison to the levels of Medium True Knowledge for the group (3 or more) with (17%). From the other hand, the level of High True Knowledge for groups (1 and 2) are (28.3%, 38.3%) that are lower than the group (3 or more) with (48.9%).

Regarding City, the levels of Low Knowledge level in Ramallah and Nablus (34.2%, 38.3%) are higher in comparison to the levels of Low Knowledge level in Hebron (21.9%).

Also, the level of Medium True Knowledge in Ramallah and Nablus (34.9%, 38.3%) are higher in comparison to the level of Medium True Knowledge in Hebron (29%). From the other hand, the level of High True Knowledge in Hebron (49.1%) is higher in comparison to the level of High True Knowledge in Ramallah and Nablus (30.9%, 23.5%).

Table (4.21-A): Relationship between True Knowledge about How to prevent diarrhea among children according and Demographic variables

		True Knowledge(How to prevent diarrhea among children)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	4(57.1%)	2(28.6%)	1(14.3%)	20.441	0.002*
	20-29	97(35.8%)	86(31.7%)	88(32.5%)		
	30-39	38(25.9%)	46(31.3%)	63(42.9%)		
	40 or More	6(14.3%)	24(57.1%)	12(28.6%)		
Children under five	1	62(31.3%)	80(40.4%)	56(28.3%)	12.820	0.012*
	2	67(30.2%)	70(31.5%)	85(38.3%)		
	3 or more	16(34%)	8(17%)	23(48.9%)		
Mothers' age when married	Less than 18	19(30.6%)	22(35.5%)	21(33.9%)	7.648	0.265
	18-20	66(35.3%)	61(32.6%)	60(32.1%)		
	21-25	50(26.5%)	62(32.8%)	77(40.7%)		
	More than 25	10(34.5%)	13(44.8%)	6(20.7%)		
Mother's Age when had first baby	Less than 18	11(45.8%)	6(25%)	7(29.2%)	4.236	0.645
	18-20	43(32.3%)	43(32.3%)	47(35.3%)		
	21-25	73(29.4%)	84(33.9%)	91(36.7%)		
	More than 25	18(29%)	25(40.3%)	19(30.6%)		
Crowding Index	<1	7(21.9%)	15(46.9%)	10(31.3%)	4.691	0.320
	1-2	93(34.1%)	87(31.9%)	93(34.1%)		
	>2	45(27.8%)	56(34.6%)	61(37.7%)		
City	Ramallah	51(34.2%)	52(34.9%)	46(30.9%)	25.547	0.000*
	Hebron	37(21.9%)	49(29%)	83(49.1%)		
	Nablus	57(38.3%)	57(38.3%)	35(23.5%)		
Place of Residence	City	45(31.3%)	41(28.5%)	58(40.3%)	11.426	0.076
	Town	20(28.6%)	23(32.9%)	27(38.6%)		
	Village	60(29.7%)	71(35.1%)	71(35.1%)		
	Refugee camp	20(39.2%)	23(45.1%)	8(15.7%)		

Table (4.21-B): Relationship between True Knowledge about How to prevent diarrhea among children according and Demographic variables

	True Knowledge(How to prevent diarrhea among children)				
	Low	**Medium**	**High**		
	N (%)	N (%)	N (%)	Chi-square	P-value

Religion	Islam	144(31%)	156(33.6%)	164(35.3%)	3.057	0.548
	Christianity	1(50%)	1(50%)	0(0%)		
	Other	0(0%)	1(100%)	0(0%)		
level of education	I have not received any education	1(20%)	4(80%)	0(0%)	16.464	0.036*
	Elementary education	7(19.4%)	16(44.4%)	13(36.1%)		
	Secondary education	74(34.1%)	71(32.7%)	72(33.2%)		
	BA degree	51(31.3%)	45(27.6%)	67(41.1%)		
	Other	12(26.1%)	22(47.8%)	12(26.1%)		
Having Job	Yes	24(29.6%)	22(27.2%)	35(43.2%)	3.180	0.204
	No	121(31.3%)	136(35.2%)	129(33.4%)		
Husband's job status	Unemployed	9(29%)	13(41.9%)	9(29%)	1.038	0.595
	Employed	136(31.2%)	145(33.3%)	155(35.6%)		
Household's monthly income	Less than 1500 shekels	19(44.2%)	13(30.2%)	11(25.6%)	10.044	0.262
	1500-2000 shekels	29(29%)	34(34%)	37(37%)		
	2001-2500 shekels	38(31.4%)	41(33.9%)	42(34.7%)		
	2501-3000 shekels	33(34.4%)	36(37.5%)	27(28.1%)		
	More than 3000 shekels	26(24.3%)	34(31.8%)	47(43.9%)		
Child's number in the family	First	46(37.1%)	38(30.6%)	40(32.3%)	9.981	0.125
	Second	41(31.1%)	51(38.6%)	40(30.3%)		
	Third	30(34.9%)	24(27.9%)	32(37.2%)		
	Fourth or more	28(22.4%)	45(36%)	52(41.6%)		

Table (4.21-C): Relationship between True Knowledge about How to prevent diarrhea among children according and Demographic variables

		True Knowledge(How to prevent diarrhea among children)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi-square	P-value
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	104(34.4%)	107(35.4%)	91(30.1%)	12.697	0.123
	Father	31(23.1%)	41(30.6%)	62(46.3%)		
	Grandfather	2(28.6%)	2(28.6%)	3(42.9%)		
	Grandmother	2(22.2%)	4(44.4%)	3(33.3%)		
	Others	6(40%)	4(26.7%)	5(33.3%)		
The age of the child who has diarrhea	Less than a month	8(33.3%)	7(29.2%)	9(37.5%)	21.621	0.006*
	1-6 months	56(40.6%)	33(23.9%)	49(35.5%)		
	More than 6 months to 1 year	27(26.5%)	37(36.3%)	38(37.3%)		
	More than 1 year to 3 years	34(28.1%)	39(32.2%)	48(39.7%)		
	3-6 years	20(24.4%)	42(51.2%)	20(24.4%)		
Child's sex	Male	77(30.3%)	85(33.5%)	92(36.2%)	.312	0.856
	Female	68(31.9%)	73(34.3%)	72(33.8%)		
How often do the mother get any help from family or friends when her child is sick	Always	54(41.5%)	41(31.5%)	35(26.9%)	12.019	0.017*
	Sometimes	57(28.4%)	73(36.3%)	71(35.3%)		
	Never	34(25%)	44(32.4%)	58(42.6%)		

Regarding level of education, the level of Medium True Knowledge for Uneducated mothers (80%) is higher in comparison to the level of Medium True Knowledge for the other groups. Form the other hand, the level of High True Knowledge for Uneducated mothers (0%) is lower in comparison to the level of High True Knowledge for the other groups.

Regarding The age of the child who has diarrhea, the level of Low True Knowledge for the groups (Less than a month) and (1-6 months) are (33.3%, 40.6%) are higher in comparison to the level of Low True Knowledge for the other groups. From the other hand, the level of Medium True Knowledge for the group (3-6 Years) is (51.2%) which is higher in comparison to the level of Medium True Knowledge for the other groups.

Regarding How often do the mother get any help from family or friends when her child is sick, the level of Low True Knowledge for mothers who always get help(41.5%) is higher in comparison to the level of Low True Knowledge for the mothers who sometimes or never get help(28.4%, 25%). From the other hand, the level of high True Knowledge for mothers who always get help (26.9%) is lower in comparison to the level of high True Knowledge for the mothers who sometimes or never get help (35.3%, 42.6%).

While there are statistical significant differences in False Knowledge of mothers about How to prevent diarrhea among children only according to Husband‘s job status (since the P-value=0.004<0.05 for this variable only). The level of Low False Knowledge for mothers who have employed husbands (95.6%) is higher in comparison to the level of Low False Knowledge for mothers who have Unemployed husbands (83.9%). From the other hand, the level of High False Knowledge for mothers who have employed husbands (4.4%) is lower in comparison to the level of High False Knowledge for mothers who have Unemployed husbands (16.1%).(see appendix table 9).

The results of the table below show that there are statistical significant differences in True Knowledge of mothers about Appropriate Food and Liquids which must be given to a child who has diarrhea according to: Mothers' Age, Mothers' age when married, City, Having Job, Husband‘s job status, How often do the mother get any help from family or friends when her child is sick (since the P-values<0.05 for these variables only).

Regarding Mothers' Age, it is clear from the results that generally as the age increases, the True Knowledge increases. The level of Low True Knowledge for group (Less than 20) is (85.7%) which is higher in comparison to the level of Low True Knowledge for the other groups. From the other hand, the level of Medium True Knowledge for group (Less than 20) is (14.3%) which is lower in comparison to the level of Medium True Knowledge for the other groups. Also, the level of High True Knowledge for group (40 or More) is (9.5%) which is higher in comparison to the level of High True Knowledge for the other groups.

Regarding Mothers' age when married, the level of Low True Knowledge for group (Less than18) Is (72.6%) which is higher in comparison to the level of Low True Knowledge for the other groups? From the other hand, the level of Medium True Knowledge for group (21-25) is (47.1%) which is higher in comparison to the level of Medium True Knowledge for the other groups.

Regarding City, the level of Low True Knowledge in Nablus is (73.2%) which is higher in comparison to the level of Low True Knowledge in the other cities (Hebron=42%, Ramallah=63.8%). From the other hand, the level of Medium

True Knowledge in Hebron is (58%) which is higher in comparison to True Knowledge in the other cities (Nablus=24.8%, Ramallah=31.5%).

Regarding Having Job, the level of Low True Knowledge for Unemployed mothers is (62.4%) which is higher in comparison to the level of Low True Knowledge for employed mothers (42%). From the other hand, the level of Medium True Knowledge for employed mothers is (56.8%) which is higher in comparison to the level of Medium True Knowledge

for Unemployed mothers (35.2%).

Regarding Husband‘s job status, the level of Low True Knowledge for mothers who have Unemployed husbands is(64.5%) which is higher in comparison to the level of Low True Knowledge for mothers who have employed husbands(58.5%). From the other hand, the level of Medium True Knowledge for mothers who have employed husbands is (39.9%) which is higher in comparison to the level of Medium True Knowledge for mothers who have Unemployed husbands (25.8%).

Regarding How often do the mother get any help from family or friends when her child is sick, the level of Low True Knowledge for mothers who always get help is (66.2%) which is higher in comparison to the level of Low True Knowledge for mothers who sometimes or never get help(56.7%, 55.1%). From the other hand, the level of Medium True Knowledge for mothers who always get help is (28.5%) which is lower in comparison to the level of Medium True Knowledge for mothers who sometimes or never get help (43.3%, 42.6%).

While there are statistical significant differences in False Knowledge of mothers about Appropriate Food and Liquids which must be given to a child who has diarrhea according to: Mothers' age when married, level of education, Husband‘s job status, Household‘s monthly income, Who decides to get treatment outside the house for a child when such childe has diarrhea?, The age of the child who has diarrhea (since the P-values<0.05 for these variables only).

Regarding Mothers' age when married, the level of Low False Knowledge for group (More than 25) is (86.2%) which is lower in comparison to the level of Low False Knowledge for the other groups. From the other hand, the level of Medium False Knowledge for group (More than 25) is (13.8%) which is higher in comparison to the level of Medium False Knowledge for the other groups.

Regarding level of education, it is clear from the results that generally as the level of education increases, the False Knowledge decreases. The level of Low Knowledge for Uneducated mothers is (80%) which is lower in comparison to the level of Low Knowledge for the other groups. From the other hand, the level of Medium False Knowledge for Uneducated mothers is (20%) which is higher in comparison to the level of Medium False Knowledge for the other groups.

Regarding Husband‘s job status, the level of Low Knowledge for mothers who have employed husbands is(98.2%) which is higher in comparison to the level of Low Knowledge for mothers who have unemployed husbands(90.3%). From the other hand, the levels of Medium or High Knowledge for mothers who have unemployed husbands (6.5%, 3.2%) are

higher in comparison to the levels of Medium or High Knowledge for mothers who have employed husbands (1.4%, 0.5%).

Regarding Household‘s monthly income, it is clear from the results that generally as the income increases, the False Knowledge decreases. The level of Low Knowledge for income group (Less than 1500 shekels) is (86%) which is lower in comparison to the level of Low Knowledge for the other higher income groups. From the other hand, the level of Medium False Knowledge for income group (Less than 1500 shekels) is (11.6%) which is higher in comparison to the level of Medium False Knowledge for the other higher income groups.

Regarding Who decides to get treatment outside the house for a child when such child has diarrhea, the levels of Low Knowledge when Grandmother or Others who decide are(88.9%, 93.3%) that are lower in comparison to the levels of Low Knowledge that when Mother, Father or Grandfather who decide(98.3%, 97%, 100%). From the other hand, the level of Medium False Knowledge when Grandmother who decide is(11.1%) which is higher in comparison to, the level of Medium False Knowledge that when Mother, Father, Grandfather or Others who decide.

Regarding The age of the child who has diarrhea, the levels of Low False Knowledge for groups (Less than a month=95.8%) and (More than 1 year to 3 years=95%) are lower in comparison to the levels of Low False Knowledge for the other groups. From the other hand, the level of Medium False Knowledge for groups (Less than a month=4.2%) and (More than 1 year to 3 years=5%) are higher in comparison to the level of Medium False Knowledge for the other groups. (See appendix table 11).

Table (4.22-A): Relationship between true knowledge and appropriate Food and Liquids which must be given to a child who has diarrhea according to Demographic variables

		True Knowledge(Appropriate Food and Liquids which must be given to a child who has diarrhea)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	6(85.7%)	1(14.3%)	0(0%)	21.962	0.001*
	20-29	174(64.2%)	94(34.7%)	3(1.1%)		
	30-39	74(50.3%)	70(47.6%)	3(2%)		
	40 or More	21(50%)	17(40.5%)	4(9.5%)		
Children under five	1	125(63.1%)	67(33.8%)	6(3%)	5.728	0.22
	2	121(54.5%)	98(44.1%)	3(1.4%)		
	3 or more	29(61.7%)	17(36.2%)	1(2.1%)		
Mothers' age when married	Less than 18	45(72.6%)	14(22.6%)	3(4.8%)	15.438	0.017*
	18-20	113(60.4%)	70(37.4%)	4(2.1%)		
	21-25	97(51.3%)	89(47.1%)	3(1.6%)		
	More than 25	20(69%)	9(31%)	0(0%)		
Mother's Age when had first baby	Less than 18	18(75%)	5(20.8%)	1(4.2%)	7.004	0.321
	18-20	84(63.2%)	46(34.6%)	3(2.3%)		
	21-25	135(54.4%)	108(43.5%)	5(2%)		
	More than 25	38(61.3%)	23(37.1%)	1(1.6%)		
Crowding Index	<1	23(71.9%)	8(25%)	1(3.1%)	7.633	0.106
	1-2	167(61.2%)	99(36.3%)	7(2.6%)		
	>2	85(52.5%)	75(46.3%)	2(1.2%)		
City	Ramallah	95(63.8%)	47(31.5%)	7(4.7%)	47.537	0.000*
	Hebron	71(42%)	98(58%)	0(0%)		
	Nablus	109(73.2%)	37(24.8%)	3(2%)		
Place of Residence	City	87(60.4%)	55(38.2%)	2(1.4%)	5.854	0.44
	Town	35(50%)	33(47.1%)	2(2.9%)		
	Village	117(57.9%)	80(39.6%)	5(2.5%)		
	Refugee camp	36(70.6%)	14(27.5%)	1(2%)		
Religion	Islam	274(59.1%)	180(38.8%)	10(2.2%)	3.836	0.429
	Christianity	0(0%)	2(100%)	0(0%)		
	Other	1(100%)	0(0%)	0(0%)		

Table (4.22-B): Relationship between true knowledge and appropriate Food and Liquids which must be given to a child who has diarrhea according to Demographic variables

		True Knowledge(Appropriate Food and Liquids which must be given to a child who has diarrhea)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
level of education	I have-not received any education	2(40%)	3(60%)	0(0%)	6.505	0.591
	Elementary education	21(58.3%)	13(36.1%)	2(5.6%)		
	Secondary education	134(61.8%)	80(36.9%)	3(1.4%)		
	BA degree	90(55.2%)	68(41.7%)	5(3.1%)		
	Other	28(60.9%)	18(39.1%)	0(0%)		
Having Job	Yes	34(42%)	46(56.8%)	1(1.2%)	13.119	0.001*
	No	241(62.4%)	136(35.2%)	9(2.3%)		
Husband's job status	Unemployed	20(64.5%)	8(25.8%)	3(9.7%)	10.462	0.005*
	Employed	255(58.5%)	174(39.9%)	7(1.6%)		
Household's monthly income	Less than 1500 shekels	26(60.5%)	14(32.6%)	3(7%)	14.854	0.062
	1500-2000 shekels	64(64%)	35(35%)	1(1%)		
	2001-2500 shekels	66(54.5%)	54(44.6%)	1(0.8%)		
	2501-3000 shekels	64(66.7%)	31(32.3%)	1(1%)		
	More than 3000 shekels	55(51.4%)	48(44.9%)	4(3.7%)		
Child's number in the family	First	82(66.1%)	39(31.5%)	3(2.4%)	9.685	0.139
	Second	81(61.4%)	51(38.6%)	0(0%)		
	Third	46(53.5%)	37(43%)	3(3.5%)		
	Fourth or more	66(52.8%)	55(44%)	4(3.2%)		
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	191(63.2%)	104(34.4%)	7(2.3%)	15.215	0.055
	Father	65(48.5%)	67(50%)	2(1.5%)		
	Grandfather	4(57.1%)	2(28.6%)	1(14.3%)		
	Grandmother	6(66.7%)	3(33.3%)	0(0%)		
	Others	9(60%)	6(40%)	0(0%)		

Table (4.22-C): Relationship between true knowledge and appropriate Food and Liquids which must be given to a child who has diarrhea according to Demographic variables

		True Knowledge(Appropriate Food and Liquids which must be given to a child who has diarrhea)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
The age of the child who has diarrhea	Less than a month	12(50%)	12(50%)	0(0%)	8.147	0.419
	1-6 months	88(63.8%)	47(34.1%)	3(2.2%)		
	More than 6 months to 1 year	59(57.8%)	42(41.2%)	1(1%)		
	More than 1 year to 3 years	64(52.9%)	52(43%)	5(4.1%)		
	3-6 years	52(63.4%)	29(35.4%)	1(1.2%)		
Child's sex	Male	147(57.9%)	103(40.6%)	4(1.6%)	1.288	0.525
	Female	128(60.1%)	79(37.1%)	6(2.8%)		
How often do the mother get any help from family or friends when her child is sick	Always	86(66.2%)	37(28.5%)	7(5.4%)	17.457	0.002*
	Sometimes	114(56.7%)	87(43.3%)	0(0%)		
	Never	75(55.1%)	58(42.6%)	3(2.2%)		

The results of the table below show that there are statistical significant differences between Knowledge of mothers about Inappropriate Food and Liquids which must not be given to a child who has diarrhea according to: Mothers' Age, Mothers' age when married, Mother's Age when had first baby, City, Household's monthly income, The age of the child who has diarrhea (since the P-values<0.05 for these variables only).

Regarding Mothers' age, the levels of Low True Knowledge for age group (Less than 20=57.1%) and group(40 or More=47.6%) are higher in comparison to the levels of Low True Knowledge for the other age groups(20-29=29.9%) and (30-39=24.5%). From the other hand, the levels of Medium True Knowledge for age group (Less than 20=28.6%) and group (40 or More=28.6%) are lower in comparison to the levels of Medium True Knowledge for the other age groups (20-29=45.4%) and (30-39=40.1%).

Regarding Mothers' age when married, it is clear from the results that generally as the age increases, the high Knowledge level increases. The levels of Low True Knowledge for age group (Less than 18=40.3%) and group (More than 25=37.9%) are higher in comparison to the levels of Low True Knowledge for the other age groups(18-20=32.1%) and (21-25=23.8%). From the other hand, the levels of Medium True Knowledge for age group (18-20=46%) and group (More than 25=51.7%) are higher in comparison to the levels of Medium True Knowledge for the other age groups(Less than 18=37.1%) and (21-25=38.1%).

Regarding Mother's Age when had first baby, the levels of Low True Knowledge for age group (Less than 18=37.5%) and group (More than 25=40.3%) are higher in comparison to the levels of Low True Knowledge for the other age groups (18-20=33.1%) and (21-25=25.4%). From the other hand, the level of High True Knowledge for age (More than 25=14.5%) is lower in comparison to the level of High True Knowledge for the other age groups (Less than 18=20.8%) and (18-20=20.3%) and (21-25=35.9%).

Regarding City, the level of Low True Knowledge for (Nablus=46.3%) is higher in comparison to the level of Low True Knowledge for the other cities (Ramallah=25.5%) and (Hebron=20.1%). From the other hand, the level of Medium True Knowledge for (Ramallah=51%) is higher in comparison to the level of Medium True Knowledge for the other cities (Nablus=37.6%) and (Hebron=37.9%). From the other hand, the level of High True Knowledge for (Hebron=42%) is higher in comparison to the level of High True Knowledge for the other cities (Nablus=16.1%) and (Ramallah=23.5%).

Regarding Household‘s monthly income, it is clear from the results that generally as the income increases, the True Knowledge increases. The level of Low True Knowledge for income group (Less than 1500 shekels=44.2%) is higher in comparison to the level of Low True Knowledge for the other higher income groups. From the other hand, the level of High True Knowledge for income group (Less than 1500 shekels=16.3%) is lower in comparison to the level of High True Knowledge for the other higher income groups.

Regarding The age of the child who has diarrhea, the level of Low True Knowledge for the age group (Less than a month=45.8%) is higher in comparison to the level of Low True Knowledge for the other higher age groups. From the other hand, the level of Medium True Knowledge for the age group (Less than a month=25%) is lower in comparison to the level of Medium True Knowledge for the other higher age groups. And, from the other hand, the level of High True Knowledge for the age group (3-6 years=18.3%) is lower in comparison to the level of High True Knowledge for the other lower age groups.

While there are statistical significant differences in False Knowledge of mothers about Inappropriate Food and Liquids which must not be given to a child who has diarrhea according to: Mothers' Age, Mother's Age when had first baby, level of education(since the P- values<0.05 for these variables only).

Regarding Mothers' age, the level of Low False Knowledge for age group (40 or More=59.5%) is lower than the other age groups (Less than 20=85.7%) and (20-29=78.6%) and (30- 39=78.9%). From the other hand, the level of High False Knowledge for age groups (40 or More=40.5%) is higher in comparison to the level of High False Knowledge for the

other age groups (Less than 20=14.3%) and (20-29=21.4%) and (30-39=21.1%).

Regarding Mother's Age when had first baby, the levels of Low False Knowledge for age groups (Less than 18=66.7%) and groups (More than 25=64.5%) are lower in comparison to the levels of Low False Knowledge for the other age

Groups (18-20=82.7%) and (21-25=78.2%). From the other hand, the levels of High False Knowledge for age groups (Less than 18=33.3%) and groups (More than 25=35.5%) are higher in comparison to the levels of High False Knowledge for the other age groups (18-20=17.3%) and (21-25=21.8%).

Regarding level of education, it is clear from the results that generally as the level of education increases, the False Knowledge decreases. The level of Low False Knowledge for Uneducated mothers (20%) is lower in comparison to the level of Low False Knowledge for the other education groups. From the other hand, the level of High False Knowledge for Uneducated mothers (80%) is higher in comparison to the level of High False Knowledge for the other education groups (see appendix table 13).

Table (4.23-A): Relationship between mother's knowledge levels and inappropriate Food and Liquids which must not be given to a child who has diarrhea according to Demographic variables

		True Knowledge (Inappropriate Food and Liquids which must not be given to a child who has diarrhea)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	4(57.1%)	2(28.6%)	1(14.3%)	15.118	0.019*
	20-29	81(29.9%)	123(45.4%)	67(24.7%)		
	30-39	36(24.5%)	59(40.1%)	52(35.4%)		
	40 or More	20(47.6%)	12(28.6%)	10(23.8%)		
Children under five	1	67(33.8%)	83(41.9%)	48(24.2%)	5.149	0.272
	2	57(25.7%)	96(43.2%)	69(31.1%)		
	3 or more	17(36.2%)	17(36.2%)	13(27.7%)		
Mothers' age when married	Less than 18	25(40.3%)	23(37.1%)	14(22.6%)	21.154	0.002*
	18-20	60(32.1%)	86(46%)	41(21.9%)		
	21-25	45(23.8%)	72(38.1%)	72(38.1%)		
	More than 25	11(37.9%)	15(51.7%)	3(10.3%)		

Table (4.23-B): Relationship between mother's knowledge levels and inappropriate Food and Liquids which must not be given to a child who has diarrhea according to Demographic

variables

		True Knowledge (Inappropriate Food and Liquids which must not be given to a child who has diarrhea)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mother's Age when had first baby	Less than 18	9(37.5%)	10(41.7%)	5(20.8%)	19.109	0.004*
	18-20	44(33.1%)	62(46.6%)	27(20.3%)		
	21-25	63(25.4%)	96(38.7%)	89(35.9%)		
	More than 25	25(40.3%)	28(45.2%)	9(14.5%)		
Crowding Index	<1	8(25%)	14(43.8%)	10(31.3%)	3.451	0.485
	1-2	84(30.8%)	121(44.3%)	68(24.9%)		
	>2	49(30.2%)	61(37.7%)	52(32.1%)		
City	Ramallah	38(25.5%)	76(51%)	35(23.5%)	44.416	0.000*
	Hebron	34(20.1%)	64(37.9%)	71(42%)		
	Nablus	69(46.3%)	56(37.6%)	24(16.1%)		
Place of Residence	City	38(26.4%)	63(43.8%)	43(29.9%)	6.794	0.340
	Town	19(27.1%)	28(40%)	23(32.9%)		
	Village	62(30.7%)	85(42.1%)	55(27.2%)		
	Refugee camp	22(43.1%)	20(39.2%)	9(17.6%)		
Religion	Islam	140(30.2%)	195(42%)	129(27.8%)	3.300	0.509
	Christianity	0(0%)	1(50%)	1(50%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have not received any Education	2(40%)	3(60%)	0(0%)	12.788	0.119
	Elementary education	14(38.9%)	12(33.3%)	10(27.8%)		
	Secondary education	76(35%)	84(38.7%)	57(26.3%)		
	BA degree	34(20.9%)	78(47.9%)	51(31.3%)		
	Other	15(32.6%)	19(41.3%)	12(26.1%)		
Having Job	Yes	20(24.7%)	34(42%)	27(33.3%)	2.046	0.359
	No	121(31.3%)	162(42%)	103(26.7%)		
Husband's job status	Unemployed	9(29%)	15(48.4%)	7(22.6%)	.670	0.715
	Employed	132(30.3%)	181(41.5%)	123(28.2%)		

Table (4.23-C): Relationship between mother's knowledge levels and inappropriate Food and Liquids which must not be given to a child who has diarrhea according to Demographic

variables

		True Knowledge (Inappropriate Food and Liquids which must not be given to a child who has diarrhea)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi-square	P-value
Household's monthly income	Less than 1500 shekels	19(44.2%)	17(39.5%)	7(16.3%)	16.287	0.038*
	1500-2000 Shekels	35(35%)	41(41%)	24(24%)		
	2001-2500 Shekels	31(25.6%)	46(38%)	44(36.4%)		
	2501-3000 Shekels	32(33.3%)	44(45.8%)	20(20.8%)		
	More than 3000 shekels	24(22.4%)	48(44.9%)	35(32.7%)		
Child's number in the family	First	37(29.8%)	54(43.5%)	33(26.6%)	1.423	0.964
	Second	39(29.5%)	55(41.7%)	38(28.8%)		
	Third	23(26.7%)	38(44.2%)	25(29.1%)		
	Fourth or more	42(33.6%)	49(39.2%)	34(27.2%)		
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	95(31.5%)	127(42.1%)	80(26.5%)	5.806	0.669
	Father	35(26.1%)	59(44%)	40(29.9%)		
	Grandfather	3(42.9%)	1(14.3%)	3(42.9%)		
	Grandmother	2(22.2%)	5(55.6%)	2(22.2%)		
	Others	6(40%)	4(26.7%)	5(33.3%)		
The age of the child who has diarrhea	Less than a month	11(45.8%)	6(25%)	7(29.2%)	15.957	0.043*
	1-6 months	39(28.3%)	54(39.1%)	45(32.6%)		
	More than 6 months to 1 year	29(28.4%)	38(37.3%)	35(34.3%)		
	More than 1 year to 3 years	31(25.6%)	62(51.2%)	28(23.1%)		
	3-6 years	31(37.8%)	36(43.9%)	15(18.3%)		
Child's sex	Male	84(33.1%)	104(40.9%)	66(26%)	2.354	0.308
	Female	57(26.8%)	92(43.2%)	64(30%)		

Table (4.23-D): Relationship between mother's knowledge levels and inappropriate Food and Liquids which must not be given to a child who has diarrhea according to Demographic variables

	True Knowledge (Inappropriate Food and Liquids which must not be given to a child who has diarrhea)					
	Low	**Medium**	**High**			**Low**
	N (%)	N (%)	N (%)	Chi-square	P-value	N (%)
How often do the mother get any help from family or friends when her child is sick	Always	41(31.5%)	59(45.4%)	30(23.1%)	7.935	0.094
	Sometimes	59(29.4%)	91(45.3%)	51(25.4%)		
	Never	41(30.1%)	46(33.8%)	49(36%)		

The results of the table below show that there are statistical significant differences in mothers' knowledge of preparing ORS according to: Mothers' Age, Crowding Index, City, Having Job, Child's number in the family (since the P-values<0.05 for these variables only). Regarding Mothers' Age, it is clear from the results that generally as the age increases, the Knowledge increases. The levels of Knowledge for mothers aged (30-39=67.3%) and 40 or More=64.3%) are higher in comparison to the levels of Knowledge for mothers aged (20-29=54.6%) and (Less than 20=14.3%). Regarding Crowding Index, it is clear from the results that generally as the crowding index increases, the Knowledge increases. The levels of Knowledge for groups (>2=66%) and (1- 2=56.8%) are higher in comparison to the levels of Knowledge for group (<1=40.6%).

Regarding Mothers' Age, the level of Knowledge in (Hebron=72.2%) is higher in comparison to the level of Knowledge in (Ramallah=53.7%) which is higher in comparison to the level of Knowledge in (Nablus=49%).

Regarding Having Job, the level of Knowledge for employed mothers (70.4%) is higher in comparison to the level of Knowledge for unemployed mothers (56.5%).

Finally, regarding Child's number in the family, it is clear from the results that generally as the child's number in the family increases, the Knowledge increases. The levels of Knowledge for groups (Third=64%) and (Fourth or more=69.6%) are higher in comparison to the levels of Knowledge that for groups (First=45.2%) and (Second=58.3%).

Table (4.24-A): Relationship between mother's knowledge levels and knowledge of

preparing ORS according to Demographic variables

		K12: Do you know how to prepare ORS?			
		Yes	**No**		
		N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	1(14.3%)	6(85.7%)	12.648	0.005*
	20-29	148(54.6%)	123(45.4%)		
	30-39	99(67.3%)	48(32.7%)		
	40 or More	27(64.3%)	15(35.7%)		
Children under five	1	113(57.1%)	85(42.9%)	0.520	0.771
	2	133(59.9%)	89(40.1%)		
	3 or more	29(61.7%)	18(38.3%)		
Mothers' age when married	Less than 18	35(56.5%)	27(43.5%)	1.674	0.643
	18-20	106(56.7%)	81(43.3%)		
	21-25	118(62.4%)	71(37.6%)		
	More than 25	16(55.2%)	13(44.8%)		
Mother's Age when had first baby	Less than 18	12(50%)	12(50%)	2.465	0.482
	18-20	77(57.9%)	56(42.1%)		
	21-25	153(61.7%)	95(38.3%)		
	More than 25	33(53.2%)	29(46.8%)		
Crowding Index	<1	13(40.6%)	19(59.4%)	8.343	0.015*
	1-2	155(56.8%)	118(43.2%)		
	>2	107(66%)	55(34%)		
City	Ramallah	80(53.7%)	69(46.3%)	20.038	0.000*
	Hebron	122(72.2%)	47(27.8%)		
	Nablus	73(49%)	76(51%)		
Place of Residence	City	84(58.3%)	60(41.7%)	1.706	0.636
	Town	42(60%)	28(40%)		
	Village	123(60.9%)	79(39.1%)		
	Refugee camp	26(51%)	25(49%)		
Religion	Islam	273(58.8%)	191(41.2%)	2.829	0.243
	Christianity	2(100%)	0(0%)		
	Other	0(0%)	1(100%)		

Table (4.24-B): Relationship between mother's knowledge levels and knowledge of

preparing ORS according to Demographic variables

		K12: Do you know how to prepare ORS?			
		Yes	**No**		
		N (%)	N (%)	Chi-square	P-value
level of education	I have not received any education	3(60%)	2(40%)	3.724	0.445
	Elementary education	24(66.7%)	12(33.3%)		
	Secondary education	119(54.8%)	98(45.2%)		
	BA degree	103(63.2%)	60(36.8%)		
	Other	26(56.5%)	20(43.5%)		
Having Job	Yes	57(70.4%)	24(29.6%)	5.338	0.021*
	No	218(56.5%)	168(43.5%)		
Husband's job status	Unemployed	21(67.7%)	10(32.3%)	1.076	0.300
	Employed	254(58.3%)	182(41.7%)		
Household's monthly income	Less than 1500 shekels	27(62.8%)	16(37.2%)	1.840	0.765
	1500-2000 shekels	56(56%)	44(44%)		
	2001-2500 shekels	67(55.4%)	54(44.6%)		
	2501-3000 shekels	59(61.5%)	37(38.5%)		
	More than 3000 shekels	66(61.7%)	41(38.3%)		
Child's number in the family	First	56(45.2%)	68(54.8%)	16.503	0.001*
	Second	77(58.3%)	55(41.7%)		
	Third	55(64%)	31(36%)		
	Fourth or more	87(69.6%)	38(30.4%)		
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	176(58.3%)	126(41.7%)	4.184	0.382
	Father	85(63.4%)	49(36.6%)		
	Grandfather	3(42.9%)	4(57.1%)		
	Grandmother	5(55.6%)	4(44.4%)		
	Others	6(40%)	9(60%)		
How old is your child who has diarrhea?	Less than a month	10(41.7%)	14(58.3%)	5.232	0.264
	1-6 months	77(55.8%)	61(44.2%)		
	More than 6 months to 1 year	64(62.7%)	38(37.3%)		
	More than 1 year to 3 years	71(58.7%)	50(41.3%)		
	3-6 years	53(64.6%)	29(35.4%)		
Child's sex	Male	151(59.4%)	103(40.6%)	0.073	0.787
	Female	124(58.2%)	89(41.8%)		
How often do you get any help from family or friends when your child is Sick?	Always	70(53.8%)	60(46.2%)	2.819	0.244
	Sometimes	118(58.7%)	83(41.3%)		
	Never	87(64%)	49(36%)		

The results of the table below showed that there are statistical significant differences in True Knowledge of mothers about The steps of preparing ORS according to: Mothers' Age, Child‘s number in the family, City, Having Job, Crowding Index, How often do the mother get any help from family or friends when her child is sick (since the P-values<0.05 for these variables only).

Regarding Mothers' Age, it is clear from the results that generally as the age increases, the True Knowledge increases. The levels of Low True Knowledge for age groups (Less than 20=100%) and (20-29=60.5%) are higher in comparison to the levels of Low True Knowledge for groups (30-39=40.8%) and (40 or More=42.9%). From the other hand, the level of Medium True Knowledge for age groups (40 or More=21.4%) is higher in comparison to the level of Medium True Knowledge for the other groups (Less than 20=0%) and (20-29=14%) and (30- 39=10.2%). And, from the other hand, the levels of High True Knowledge for age groups (Less than 20=0%) and (20-29=25.5%) are higher in comparison to the levels of High True Knowledge for groups (30-39=49%) and (40 or More=35.7%).

Regarding Crowding Index, it is clear from the results that generally as the Crowding index increases, the True Knowledge increases. The level of Low True Knowledge for groups (<1=75%) is higher in comparison to the level of Low True Knowledge for groups (1-2=55.7%) and (>2=45.1%). From the other hand, the level of Medium True Knowledge for groups (<1=6.3%) is lower in comparison to the level of Medium True Knowledge for groups (1-2=14.7%) and (>2=12.3%). Also the level of High True Knowledge for groups (<1=18.8%) is lower in comparison to the level of High True Knowledge for groups (1-2=29.7%) and (>2=42.6%).

Regarding City, the level of Low True Knowledge for (Nablus=67.1%) is higher in comparison to the level of Low True Knowledge for (Ramallah=57%) and (Hebron=37.9%). From the other hand, the level of High True Knowledge for (Hebron=52.1%) is higher in comparison to the level of High True Knowledge for (Ramallah=28.2%) and (Nablus=17.4%).

Regarding Having Job, the level of Low True Knowledge for Unemployed Mothers (56%) is higher than Employed Mothers (40.7%). From the other hand, the levels of Medium and High True Knowledge for Employed mothers (17.3%, 42%) are higher than those for Unemployed Mothers (12.4%, 31.6%).

Regarding Child‘s number in the family, it is clear from the results that generally as the child's number in the family increases, the True Knowledge increases. The level of Low True Knowledge for groups (First=69.4%) is higher in comparison to the level of Low True

Knowledge for the groups (Second=54.5%) and (Third=50%) and those are higher in comparison to the level of Low True Knowledge for the groups (Fourth or more=38.4%). From the other hand, the level of High True Knowledge for group (First=21%) is higher in comparison to the level of High True Knowledge for the groups (Second=32.6%) and (Third=39.5%) and those are higher in comparison to the level of High True Knowledge for the groups (Fourth or more=42.4%).

Regarding How often do the mother get any help from family or friends when her child is sick, the level of Low True Knowledge for mothers who always get help(60%) is higher in comparison to the level of Low True Knowledge for mother who sometimes or never(54.2%,45.6%). From the other hand, the level of High True Knowledge

For mothers who always get help (26.9%) is higher in comparison to the level of High True Knowledge who sometimes or never (29.9%, 44.9%).

While are statistical significant differences in the lack of knowledge of mothers about the steps of preparing ORS according to: Mothers' Age, Child‘s number in the family (since the P- values<0.05 for these variables only).

Regarding Mothers' Age, it is clear from the results that generally as the age increases, the Un- Knowledge decreases. The level of lack of Knowledge for age groups (Less than 20=28.6%) is higher in comparison to the level of lack of Knowledge for the other groups (20-29=8.5%) and (30-39=4.8%) and (40 or More=0%).

Regarding Child‘s number in the family, it is clear from the results that generally as the Child's number in the family increases, the Un-Knowledge decreases. The level of Un-Knowledge for groups (First=11.3%) is higher in comparison to the level of Un- Knowledge for the groups (Second=7.6%) and (Third=5.8%) and those are higher in comparison to the level of Un- Knowledge for the group (Fourth or more=2.4%). (See appendix table 18).

Table (4.25-A): Relationship between mother's knowledge levels and Knowledge about The steps of preparing ORS according to Demographic variables

		True Knowledge(The steps of preparing ORS)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	7(100%)	0(0%)	0(0%)	33.055	0.000*
	20-29	164(60.5%)	38(14%)	69(25.5%)		
	30-39	60(40.8%)	15(10.2%)	72(49%)		
	40 or More	18(42.9%)	9(21.4%)	15(35.7%)		
Children under five	1	117(59.1%)	25(12.6%)	56(28.3%)	5.088	0.278
	2	110(49.5%)	30(13.5%)	82(36.9%)		
	3 or more	22(46.8%)	7(14.9%)	18(38.3%)		
Mothers' age when married	Less than 18	34(54.8%)	15(24.2%)	13(21%)	10.769	0.096
	18-20	103(55.1%)	20(10.7%)	64(34.2%)		
	21-25	96(50.8%)	23(12.2%)	70(37%)		
	More than 25	16(55.2%)	4(13.8%)	9(31%)		
Mother's Age when had first baby	Less than 18	16(66.7%)	5(20.8%)	3(12.5%)	6.150	0.407
	18-20	73(54.9%)	15(11.3%)	45(33.8%)		
	21-25	126(50.8%)	34(13.7%)	88(35.5%)		
	More than 25	34(54.8%)	8(12.9%)	20(32.3%)		
Crowding Index	<1	24(75%)	2(6.3%)	6(18.8%)	14.153	0.007*
	1-2	152(55.7%)	40(14.7%)	81(29.7%)		
	>2	73(45.1%)	20(12.3%)	69(42.6%)		
City	Ramallah	85(57%)	22(14.8%)	42(28.2%)	45.558	0.000*
	Hebron	64(37.9%)	17(10.1%)	88(52.1%)		
	Nablus	100(67.1%)	23(15.4%)	26(17.4%)		
Place of Residence	City	81(56.3%)	13(9%)	50(34.7%)	9.016	0.173
	Town	33(47.1%)	8(11.4%)	29(41.4%)		
	Village	105(52%)	31(15.3%)	66(32.7%)		
	Refugee camp	30(58.8%)	10(19.6%)	11(21.6%)		
Religion	Islam	248(53.4%)	61(13.1%)	155(33.4%)	4.146	0.387
	Christianity	0(0%)	1(50%)	1(50%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have-not received any education	2(40%)	1(20%)	2(40%)	12.221	0.142
	Elementary education	17(47.2%)	7(19.4%)	12(33.3%)		
	Secondary education	124(57.1%)	32(14.7%)	61(28.1%)		
	BA degree	77(47.2%)	17(10.4%)	69(42.3%)		
	Other	29(63%)	5(10.9%)	12(26.1%)		

Table (4.25-B): Relationship between mother's knowledge levels and Knowledge about The steps of preparing ORS according to Demographic variables

		True Knowledge(The steps of preparing ORS)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi-square	P-value
Having Job	Yes	33(40.7%)	14(17.3%)	34(42%)	6.248	0.044*
	No	216(56%)	48(12.4%)	122(31.6%)		
Husband's job status	Unemployed	16(51.6%)	7(22.6%)	8(25.8%)	2.757	0.252
	Employed	233(53.4%)	55(12.6%)	148(33.9%)		
Household's monthly income	Less than 1500 shekels	25(58.1%)	6(14%)	12(27.9%)	9.885	0.273
	1500-2000 shekels	58(58%)	14(14%)	28(28%)		
	2001-2500 shekels	65(53.7%)	11(9.1%)	45(37.2%)		
	2501-3000 shekels	51(53.1%)	18(18.8%)	27(28.1%)		
	More than 3000 shekels	50(46.7%)	13(12.1%)	44(41.1%)		
Child's number in the family	First	86(69.4%)	12(9.7%)	26(21%)	26.219	0.000*
	Second	72(54.5%)	17(12.9%)	43(32.6%)		
	Third	43(50%)	9(10.5%)	34(39.5%)		
	Fourth or more	48(38.4%)	24(19.2%)	53(42.4%)		
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	160(53%)	46(15.2%)	96(31.8%)	13.916	0.084
	Father	68(50.7%)	11(8.2%)	55(41%)		
	Grandfather	5(71.4%)	1(14.3%)	1(14.3%)		
	Grandmother	5(55.6%)	3(33.3%)	1(11.1%)		
	Others	11(73.3%)	1(6.7%)	3(20%)		
The age of the child who has diarrhea	Less than a month	18(75%)	2(8.3%)	4(16.7%)	8.889	0.352
	1-6 months	79(57.2%)	15(10.9%)	44(31.9%)		
	More than 6 months to 1 year	54(52.9%)	12(11.8%)	36(35.3%)		
	More than 1 year to 3 years	57(47.1%)	21(17.4%)	43(35.5%)		
	3-6 years	41(50%)	12(14.6%)	29(35.4%)		
Child's sex	Male	138(54.3%)	37(14.6%)	79(31.1%)	1.689	0.429
	Female	111(52.1%)	25(11.7%)	77(36.2%)		
How often do the mother get any help from family or friends when her child is sick	Always	78(60%)	17(13.1%)	35(26.9%)	12.853	0.012*
	Sometimes	109(54.2%)	32(15.9%)	60(29.9%)		
	Never	62(45.6%)	13(9.6%)	61(44.9%)		

The results of the table below show that there are statistical significant differences in True Knowledge of mothers about The steps of preparing rehydration solution of sugar and salt at home according to: City, Having Job, and How often do the mother get any help from family or friends when her child is sick (since the P-values<0.05 for these variables only).

Regarding City, the levels of Low True Knowledge for (Ramallah=75.2%) and (Nablus=69.1%) are higher than in (Hebron=45.6%). From the other hand, the levels of High True Knowledge for (Ramallah=15.4%) and (Nablus=19.5%) are lower in comparison to the levels of High True Knowledge in (Hebron=42.6%).

Regarding Having Job, the level of Low True Knowledge for Unemployed Mothers (65.8%) is higher in comparison to the level of Low True Knowledge for Employed Mothers (46.9%). From the other hand, the levels of Medium and High True Knowledge for Employed mothers (16%, 37%) are higher in comparison to the levels of Medium and High True Knowledge for those Unemployed Mothers (9.8%, 24.4%).

Regarding How often do the mother get any help from family or friends when her child is sick, the level of Low True Knowledge for mothers who always get help (74.6%) is higher in comparison to the level of Low True Knowledge for mothers who sometimes or never get help(55.2%,61.8%). From the other hand, the level of High True Knowledge for mothers who always get help (15.4%) is lower in comparison to the level of High True Knowledge for mothers who sometimes or never get help (29.4%,33.1%).

While there are statistical significant differences in False Knowledge of mothers about The steps of preparing rehydration solution of sugar and salt at home according to: Children under five, City, Crowding Index, Having Job, How often do the mother get any help from family or friends when her child is sick (since the P-values<0.05 for these variables only).

Regarding Children under five, it is clear from the results that generally as the number of children under five increases, the False Knowledge increases. The levels of Low False Knowledge for mothers who have 1 child (83.8%) is higher in comparison to the levels of Low False Knowledge for mothers who have 2 or more children under five (70.7%, 68.1%). From the other hand, the levels of High False Knowledge for mothers who have 1 child (11.1%) is lower in comparison to the levels of High False Knowledge for mothers who have 2 or more children under five (23.4%,25.5%).

Regarding Crowding Index, it is clear from the results that generally as the crowding index increases, the False Knowledge increases. The level of Low False Knowledge for group (<1=87.5%) is higher in comparison to the level of Low False Knowledge for groups (1-2=77.7%) and (>2=71%). From the other hand, the level of High False Knowledge for groups (<1=6.3%) is higher in comparison to the level of High False Knowledge for groups (1-2=15.8%) and (>2=25.3%).

Regarding City, the levels of Low False Knowledge in (Ramallah=85.9%) and (Nablus=85.9%) are higher in comparison to the levels of Low False Knowledge in

(Hebron=58.6%). From the other hand, the levels of High False Knowledge in (Ramallah=9.4%) and (Nablus=6.7%) are lower in comparison to the levels of High False Knowledge in (Hebron=36.7%). Regarding Having Job, the level of Low False Knowledge for Unemployed mothers (78.5%) is higher in comparison to the level of Low False Knowledge for the employed mothers (64.2%). From the other hand, the level of High False Knowledge for Unemployed mothers (16.6%) is lower in comparison to the level of High False Knowledge for the employed mothers (27.2%).

Regarding how often do the mother get any help from family or friends when her child is sick, it is clear from the results that generally as the help increases, the False Knowledge decreases. The level of Low False Knowledge for mothers who always get help (86.9%) is higher in comparison to the level of Low False Knowledge for mothers who sometimes or never get help (74.6%, 67.6%). From the other hand, the level of High False Knowledge for mothers who always get help (6.2%) is lower in comparison to the level of High False Knowledge for mothers who sometimes or never get help (20.4%,27.2%). (See appendix table 20).

While there are statistical significant differences in the lack of knowledge of mothers about the steps of preparing rehydration solution of sugar and salt at home according to: City, and How often does the mother get any help from family or friends when her child is sick (since the P-values<0.05 for these variables only).

Regarding City, the level of lack of Knowledge in (Ramallah=37.6%) is higher in comparison to the level of lack of Knowledge in (Hebron=23.1%) and in (Nablus=29.5%).

Regarding How often do the mother get any help from family or friends when her child is sick, the levels of lack of Knowledge for mothers who always get help(36.9%) or who never get help(35.3%) are higher in comparison to the levels of lack of Knowledge for mothers who sometimes get help(21.4%).(see appendix table21).

Table (4.26-A): Relationship between chi-Square test for True Knowledge about the steps of preparing rehydration solution of sugar and salt at home according to

Demographic variables

		True Knowledge (The steps of preparing rehydration solution of sugar and salt at home)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	5(71.4%)	2(28.6%)	0(0%)	7.117	0.31
	20-29	176(64.9%)	30(11.1%)	65(24%)		
	30-39	87(59.2%)	15(10.2%)	45(30.6%)		
	40 or More	24(57.1%)	4(9.5%)	14(33.3%)		
Children under five	1	133(67.2%)	22(11.1%)	43(21.7%)	6.045	0.196
	2	132(59.5%)	26(11.7%)	64(28.8%)		
	3 or more	27(57.4%)	3(6.4%)	17(36.2%)		
Mothers' age when married	Less than 18	41(66.1%)	6(9.7%)	15(24.2%)	8.062	0.234
	18-20	120(64.2%)	18(9.6%)	49(26.2%)		
	21-25	113(59.8%)	20(10.6%)	56(29.6%)		
	More than 25	18(62.1%)	7(24.1%)	4(13.8%)		
Mother's Age when had first baby	Less than 18	19(79.2%)	2(8.3%)	3(12.5%)	6.296	0.391
	18-20	82(61.7%)	15(11.3%)	36(27.1%)		
	21-25	152(61.3%)	24(9.7%)	72(29%)		
	More than 25	39(62.9%)	10(16.1%)	13(21%)		
Crowding Index	<1	25(78.1%)	1(3.1%)	6(18.8%)	8.343	0.079
	1-2	174(63.7%)	34(12.5%)	65(23.8%)		
	>2	93(57.4%)	16(9.9%)	53(32.7%)		
City	Ramallah	112(75.2%)	14(9.4%)	23(15.4%)	39.256	0.000*
	Hebron	77(45.6%)	20(11.8%)	72(42.6%)		
	Nablus	103(69.1%)	17(11.4%)	29(19.5%)		
Place of Residence	City	89(61.8%)	19(13.2%)	36(25%)	3.536	0.739
	Town	43(61.4%)	7(10%)	20(28.6%)		
	Village	126(62.4%)	18(8.9%)	58(28.7%)		
	Refugee camp	34(66.7%)	7(13.7%)	10(19.6%)		
Religion	Islam	290(62.5%)	50(10.8%)	124(26.7%)	3.992	0.407
	Christianity	1(50%)	1(50%)	0(0%)		
	Other	1(100%)	0(0%)	0(0%)		

Table (4.26-B): Relationship between chi-Square test for True Knowledge about the steps of preparing rehydration solution of sugar and salt at home according to Demographic variables

		True Knowledge (The steps of preparing rehydration solution of

		sugar and salt at home)				
		Low	**Medium**	**High**		
		N (%)	N (%)	N (%)	Chi-square	P-value
level of education	I have-not received any education	2(40%)	2(40%)	1(20%)	14.407	0.072
	Elementary education	23(63.9%)	2(5.6%)	11(30.6%)		
	Secondary education	143(65.9%)	23(10.6%)	51(23.5%)		
	BA degree	95(58.3%)	15(9.2%)	53(32.5%)		
	Other	29(63%)	9(19.6%)	8(17.4%)		
Having Job	Yes	38(46.9%)	13(16%)	30(37%)	10.238	0.006*
	No	254(65.8%)	38(9.8%)	94(24.4%)		
Husband's job status	Unemployed	16(51.6%)	7(22.6%)	8(25.8%)	4.773	0.092
	Employed	276(63.3%)	44(10.1%)	116(26.6%)		
Household's monthly income	Less than 1500 shekels	25(58.1%)	11(25.6%)	7(16.3%)	14.529	0.069
	1500-2000 shekels	67(67%)	9(9%)	24(24%)		
	2001-2500 shekels	73(60.3%)	12(9.9%)	36(29.8%)		
	2501-3000 shekels	62(64.6%)	11(11.5%)	23(24%)		
	More than 3000 shekels	65(60.7%)	8(7.5%)	34(31.8%)		
Child's number in the family	First	89(71.8%)	10(8.1%)	25(20.2%)	9.410	0.152
	Second	79(59.8%)	19(14.4%)	34(25.8%)		
	Third	54(62.8%)	9(10.5%)	23(26.7%)		
	Fourth or more	70(56%)	13(10.4%)	42(33.6%)		
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	190(62.9%)	34(11.3%)	78(25.8%)	10.399	0.238
	Father	76(56.7%)	14(10.4%)	44(32.8%)		
	Grandfather	6(85.7%)	1(14.3%)	0(0%)		
	Grandmother	7(77.8%)	1(11.1%)	1(11.1%)		
	Others	13(86.7%)	1(6.7%)	1(6.7%)		
The age of the child who has diarrhea	Less than a month	16(66.7%)	2(8.3%)	6(25%)	1.814	0.986
	1-6 months	86(62.3%)	13(9.4%)	39(28.3%)		
	More than 6 months to 1 year	63(61.8%)	12(11.8%)	27(26.5%)		
	More than 1 year to 3 years	76(62.8%)	16(13.2%)	29(24%)		
	3-6 years	51(62.2%)	8(9.8%)	23(28%)		
Child's sex	Male	162(63.8%)	33(13%)	59(23.2%)	4.645	0.098
	Female	130(61%)	18(8.5%)	65(30.5%)		
How often do the mother get any help from family or friends when her child is sick	Always	97(74.6%)	13(10%)	20(15.4%)	21.636	0.000*
	Sometimes	111(55.2%)	31(15.4%)	59(29.4%)		
	Never	84(61.8%)	7(5.1%)	45(33.1%)		

4.4 Differences of knowledge between three cities:

The results of Chi square test show that there are significant differences in mothers'

responses toward the question(How many times would your child have bowel movement a day, which would alert you that he/she has diarrhea?) according to the City, since the P-value of chi square test=0.003 is less than0.05.

The results of Cross-tabulation show that: In Ramallah (10.7%) of mothers answered (0-2 times) which is higher than the other cities. In Hebron (45%) of mothers answered (3-4 times) which is higher than the other cities. In Nablus (22.1%) of mothers answered (7 or more times) which is higher than the other cities.

The results of Chi square test show that there are significant differences in mothers' responses toward the question (How dangerous is diarrhea in your opinion?) according to the City, since the P-value of chi square test=0.001 is less than 0.05.

The results of Cross-tabulation show that: In Ramallah (18.1%) of mothers answered (Always dangerous) which is higher than the other cities. In Nablus (21.5%) of mothers answered (I don‘t know) which is higher than the other cities.

The results of Chi square test show that there are **no** significant differences in mothers' responses toward (**Malnutrition**) **as a cause of diarrhea among children** according to the City, since the P-value of chi square test=0.886 is greater than 0.05. The total percentage of selecting this option was 15.6%.

Table (4.27)

			City			Chi-Square	P-value
			Ramallah	Hebron	Nablus		
How many times would you child have bowel movement day, which would alert you that he/she has diarrhea?	0-2 times	Count	16	6	8	19.988	0.003
		% within City	10.7%	3.6%	5.4%		
	3-4 times	Count	55	76	42		
		% within City	36.9%	45.0%	28.2%		
	5-6 times	Count	61	65	66		
		% within City	40.9%	38.5%	44.3%		
	7 or more times	Count	17	22	33		
		% within City	11.4%	13.0%	22.1%		
How dangerous is diarrhea in your opinion?	Always dangerous	Count	27	25	10	23.951	0.001
		% within City	18.1%	14.8%	6.7%		
	Sometimes dangerous	Count	92	120	99		
		% within City	61.7%	71.0%	66.4%		
	Never dangerous	Count	14	12	8		
		% within City	9.4%	7.1%	5.4%		
	I don‘t know	Count	16	12	32		
		% within City	10.7%	7.1%	21.5%		
Which of the following in your opinion is a cause of	No	Count	124	144	126	0.243	0.886
		% within City	83.2%	85.2%	84.6%		
Diarrhea among children? Malnutrition	Yes	Count	25	25	23		
		% within City	16.8%	14.8%	15.4%		

4.5 Characteristics of the study population

The results of this study showed that the average age of the mothers participating in this

study was (29.22) years. Also, the average number of rooms in a home is (3) rooms, as well as, the average of Family Members is about (5), the number of Children under five on the average is approximately (2). The average of Mothers' age when married about (21), and on the average, the mother's age is (22) when she had her first baby.

Table (4.28): Demographic characteristics of the participants

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
1) Mothers' Age	467	17	52	29.22	6.52
8) Number of rooms in house	467	1	9	2.88	1.11
9) Family Members	467	2	14	5.18	1.89
10) Children under five	467	1	4	1.69	0.678
12) Mothers' age when married	467	8.0	39.0	20.71	3.36
16) How old where you when you had your first baby?	467	16.0	40.0	22.21	3.49

The results showed that (43.3%) of mothers in the sample reside in Villages, (30.8%) reside in cities, (15%) reside in Towns and 10.9% reside in Refugee Camps. The results showed that most of mothers in the sample are Muslims (99.4%), the remaining are Christians and from other religions. The results showed that (46.5%) of mothers in the sample have secondary education, (34.9%) have BA degrees, only (1.1%) have not receive any education, (7.7%) have elementary education and (9.9%) have other level of education. The results showed that most of mothers do not have job (82.7%)**.** The results showed that (93.4%) of mothers in the sample have employ husbands and only (6.6%) of them have unemployed husbands. The results showed that most of Household‘s monthly income ranged from (1500-3000) shekels (about 68%), and (22.9%) have monthly income more than (3000) shekels and only (9.2%) have Household‘s monthly income less than (1500) shekels.

Table (4.29): Demographic characteristics of the mothers

Demographic Variable	Category	No	%
Place of Residence	City	144	30.8
	Town	70	15
	Village	202	43.3
	Refugee camp	51	10.9
	Total	467	100
Religion	Islam	464	99.4
	Christianity	2	0.4
	Other	1	0.2
	Total	467	100
Level of education	Not Educated	5	1.1
	Elementary education	36	7.7
	Secondary education	217	46.5
	BA degree	163	34.9
	Other	46	9.9
	Total	467	100
Having Job	Yes	81	17.3
	No	386	82.7
	Total	467	100
Husband's job status	Unemployed	31	6.6
	Employed	436	93.4
	Total	467	100
Household's monthly income	1500-2000 shekels	100	21.4
	2001-2500 shekels	121	25.9
	2501-3000 shekels	96	20.6
	More than 3000 shekels	107	22.9
	Less than 1500 shekels	43	9.2
	Total	467	100

The results of the study showed with regard to the number of children within the family who participated in this study, that about (28.3%) of them were ranked the second child in the family, (26.8%) of them were ranked fourth or more in the family, (26.6%) of children with diarrhea were arranged as the first child in the family, as well as about (18.4%) of them were ranked the third child Family. In addition, with regard to obtaining treatment from outside the home in the event of a child with diarrhea, the results of the current study showed that the percentage of the mother receiving support from outside the home was about (64.7%),

and that the percentage of the father receiving external support was (28.7%).

As for the age of the child with diarrhea, the study results showed that there were (29.6%) of them were (1-6) months old, (25.9%) of them were more than one to three years old, (21.8%) more than (6) months to a year, and, and (17.6%) Of them, from (3) years to (6) years old, and only (5.1%) were less than one month old.

But about the gender of the children, the results showed that (54.4%) of children with diarrhea were male, while (45.6%) of them were female.

In terms of receiving assistance from family or friends, the results of the study showed that (43%) receive this assistance when their child is sick, while (27.8%) of mothers always receive help, and (29.1%) did not receive any help.

Table (4.30): Child's-Demographic Characteristics

Demographic Variable	Category	Frequency	Percent
Child's number(order) in the family	First	124	26.6
	Second	132	28.3
	Third	86	18.4
	Fourth or more	125	26.8
	Total	467	100
Who decides to get treatment outside the house for a child when such child has diarrhea	Mother	302	64.7
	Father	134	28.7
	Grandfather	7	1.5
	Grandmother	9	1.9
	Others	15	3.2
	Total	467	100
Child's Age(who has diarrhea)	Less than a month	24	5.1
	1-6 months	138	29.6
	More than 6 months to 1 year	102	21.8
	More than 1 year to 3 years	121	25.9
	3-6 years	82	17.6
	Total	467	100
Child's sex	Male	254	54.4
	Female	213	45.6
	Total	467	100
How often do you get any help from family or friends when your child is sick?	Always	130	27.8
	Sometimes	201	43
	Never	136	29.1
	Total	467	100

4.6 Self Efficacy Analysis.

To determine factors affect on the Self Efficacy, we used logistic regression (Forward Method) assuming the Self Efficacy (1=No, 2=Yes) as dependent variable and all other variables as independent variables (Knowledge determinants, Practices determinants, and Demographic Variables). The next table shows the results of Binary logistic regression analysis.

The results of logistic regression show that there are statistical significant relationships between Self Efficacy and the following factors (P-values<0.05):

1. Previous experience with diarrhea or ORS.
2. How dangerous is diarrhea in mothers 'opinion.
3. The required amount of ORS to be given to a child who weighs 10 kilograms after each bowel movement to prevent dehydration.
4. True Knowledge of the steps of preparing rehydration solution of sugar and salt at home.
5. City.
6. Level of education.
7. Household‘s monthly income.
8. Child‘s number in the family.

Regarding Previous experience with diarrhea or ORS, it is about 3.5 times (OR=3.476) more likely to have self-efficacy for mothers who had Previous experience with diarrhea or ORS than for mothers who had not experience.

Regarding How dangerous is diarrhea in mothers' opinion, it is about 6 times more likely to have self-efficacy for mothers who don‘t know than for mothers who think that it is Sometimes(OR=5.812) or Never dangerous(OR=6.370).

Regarding The required amount of ORS to be given to a child who weighs 10 kilograms after each bowel movement to prevent dehydration, it is about 6 times(OR=5.683) more likely to have self-efficacy for mothers who answered (2 cups) than mothers who answered(Don‘t know).

Regarding True Knowledge of the steps of preparing rehydration solution of sugar and salt at home, it is about 27 times (OR=26.720) more likely to have self-efficacy for mothers who have high True Knowledge than who have Low True Knowledge, also it is about 5 times (OR=4.795) more likely to have self-efficacy for mothers who have high True Knowledge than who have Medium True Knowledge.

Regarding City, it is about 8 times(OR=8.054) more likely to have self-efficacy for mothers in Hebron than for mothers in Nablus, while no difference between self-efficacy between Ramallah and Nablus.

Regarding level of education, it is about 3.6 times (OR=3.575) more likely to have self-efficacy for elementary educated mothers than for Uneducated mothers.

Regarding Household‘s monthly income, it is about 7 times (OR=6.709) more likely to have self-efficacy for (Less than 1500 shekels) group than for (More than 3000 shekels). Finally, regarding Child‘s number in the family, it is about 3 times (OR=3.171) more likely to have self-efficacy for the group (Fourth or more) than for group (First).

Table (4.31-A): Self Efficacy —logistic regression- last model

Independent Variables	Categories	B	P-Value	Exp (B) =OR (Odds Ratio)	1/Exp (B) =1/(O.R)	95% CI
P42: Does any previous experience with diarrhea or ORS influence your decision?	No	-1.246	0.001	0.288	3.476	(0.142 , 0.583)
	Yes			1		
K2: How dangerous is diarrhea in your opinion?	Always dangerous	0.705	0.285	0.494		(0.136 , 1.8)
	Sometimes dangerous	1.760	0.002	0.172	5.812	(0.055 , 0.536)
	Never dangerous	1.852	0.041	0.157	6.370	(0.027 , 0.929)
	I don‘t know			1		
K19: What, in your opinion, is the required amount of ORS to be given to a child who weighs 10 kilograms after Each bowel movement to prevent dehydration?	1 cup	0.696	0.194	2.006		(0.701 , 5.742)
	2 cups	1.738	0.000	5.683		(2.365 , 13.656)
	3 cups	0.964	0.061	2.623		(0.956 , 7.195)
	I don‘t know			1		
K14_T_1: True Knowledge(The steps of preparing rehydration solution of sugar and salt at home)	Low	3.285	0.000	0.037	26.720	(0.017 , 0.084)
	Medium	1.568	0.001	0.209	4.795	(0.08 , 0.543)
	High			1		

Table (4.31-B): Self Efficacy —logistic regression- last model

Independent Variables	Categories	B	P-Value	Exp (B) =OR (Odds	1/Exp (B) =1/(O.R)	95% CI

				Ratio)		
City	Ramallah	0.336	0.487	1.400		(0.542 , 3.613)
	Hebron	2.086	0.000	8.054		(3.436 , 18.881)
	Nablus			1		
SE4: level of education	Elementary education	1.274	0.308	3.575		(0.308 , 41.432)
	Secondary education	1.053	0.374	0.349		(0.034 , 3.556)
	BA degree	0.065	0.957	0.937		(0.085 , 10.376)
	Other	1.066	0.411	0.344		(0.027 , 4.378)
	I have not received any education			1		
SE7: Household's monthly income	Less than 1500 shekels	1.903	0.005	6.709		(1.782 , 25.253)
	1500-2000 shekels	0.115	0.845	1.122		(0.354 , 3.555)
	2001-2500 shekels	0.811	0.110	2.250		(0.833 , 6.073)
	2501-3000 shekels	0.713	0.188	2.040		(0.706 , 5.891)
	More than 3000 shekels			1		
SE11: Child's number in the family	First	1.154	0.020	0.315	3.171	(0.119 , 0.834)
	Second	0.106	0.799	1.112		(0.491 , 2.519)
	Third	0.822	0.082	2.275		(0.901 , 5.746)
	Fourth or more			1		
						R^2=0.63

The results of the table below show that there are statistical significant relationships between Self Efficacy of mothers and the following knowledge variables (P-values<0.05):

1. Knowledge of mothers about amount of ORS should be given
2. True Knowledge(How to prevent diarrhea among children)
3. True Knowledge(Appropriate Food and Liquids which must be given to a child who has diarrhea)
4. True Knowledge(Inappropriate Food and Liquids which must not be given to child who has diarrhea)
5. True practice(Treating child who has diarrhea at home)
6. True Knowledge(The steps of preparing ORS)
7. True Knowledge (The steps of preparing rehydration solution of sugar and salt at home).

The results show that mother has self-efficacy when they have Knowledge of mothers about amount of ORS should be given (45.1%).

As the True Knowledge of How to prevent diarrhea among children increases, the Self Efficacy increases (from 11.7% to 33.5%).

As the True Knowledge of Appropriate Food and Liquids which must be given to a child who has diarrhea increases, the Self Efficacy increases (from 14.9% to 20% and 35.7%).

As the True Knowledge of Inappropriate Food and Liquids which must not be given to a child who has diarrhea increases, the Self Efficacy increases (from 14.9% to 36.2%).

As the True practice of Treating child who has diarrhea at home increases, the Self Efficacy increases (from 11.5% to 32.2%).

As the True Knowledge of The steps of preparing ORS increases, the Self Efficacy increases (from 7.2% to 3.6%).

Finally, as the True Knowledge of The steps of preparing rehydration solution of sugar and salt at home increases, the Self Efficacy increases (from 5.8% to 59.7%).

Table (4.32- A): Counts and Percentages of Cross tabulation with chi-Square test for relationships between Self Efficacy and Knowledge scales.

Knowledge scale	Category	Self-Efficacy				Chi-square	P-value
		No		Yes			
		N	%	N	%		
Knowledge of mothers about amount of ORS should be given	No	314	81.6%	71	18.4%	27.068	0.000*
	Yes	45	54.9%	37	45.1%		
True Knowledge(Causes of diarrhea among children)	Low	277	78.9%	74	21.1%	4.686	0.096
	Medium	75	69.4%	33	30.6%		
	High	7	87.5%	1	12.5%		
True Knowledge(Dangerous symptoms that require taking a child who has diarrhea to a healthcare center)	Low	244	79.5%	63	20.5%	4.839	0.089
	Medium	97	70.3%	41	29.7%		
	High	18	81.8%	4	18.2%		
True Knowledge(How to prevent diarrhea among children)	Low	128	88.3%	17	11.7%	20.611	0.000*
	Medium	122	77.2%	36	22.8%		
	High	109	66.5%	55	33.5%		
False Knowledge(How to prevent diarrhea among children)	Low	338	76.3%	105	23.7%	1.607	0.205
	Medium	0	.0%	0	.0%		
	High	21	87.5%	3	12.5%		
True Knowledge(Appropriate Food and Liquids which must be given to a child who has diarrhea)	Low	234	85.1%	41	14.9%	26.722	0.000*
	Medium	117	64.3%	65	35.7%		
	High	8	80.0%	2	20.0%		

Table (4.32- B): Counts and Percentages of Cross tabulation with chi-Square test for relationships between Self Efficacy and Knowledge scales.

Knowledge scale	Category	Self-Efficacy					
		No		Yes		Chi-square	P-value
		N	%	N	%		
False Knowledge(Appropriate Food and Liquids which must be given to a child who has diarrhea)	Low	350	76.8%	106	23.2%	0.688	0.709
	Medium	7	87.5%	1	12.5%		
	High	2	66.7%	1	33.3%		
True Knowledge(Inappropriate Food and Liquids which must not be given to a child who has diarrhea)	Low	120	85.1%	21	14.9%	18.600	0.000*
	Medium	156	79.6%	40	20.4%		
	High	83	63.8%	47	36.2%		
False Knowledge(Inappropriate Food and Liquids which must not be given to a child who has diarrhea)	Low	281	78.1%	79	21.9%	1.235	0.267
	Medium	0	.0%	0	.0%		
	High	78	72.9%	29	27.1%		
True practice(Treating child who has diarrhea at home)	Low	162	88.5%	21	11.5%	23.080	0.000*
	Medium	157	69.8%	68	30.2%		
	High	40	67.8%	19	32.2%		
False practice(Treating child who has diarrhea at home)	Low	288	76.4%	89	23.6%	1.581	0.454
	Medium	66	80.5%	16	19.5%		
	High	5	62.5%	3	37.5%		
True Knowledge(The steps of preparing ORS)	Low	231	92.8%	18	7.2%	77.468	0.000*
	Medium	40	64.5%	22	35.5%		
	High	88	56.4%	68	43.6%		
Un-knowledge(The steps of preparing ORS)	Low	330	75.9%	105	24.1%	3.654	0.056
	Medium	0	.0%	0	.0%		
	High	29	90.6%	3	9.4%		
True Knowledge(The steps of preparing rehydration solution of sugar and salt at home)	Low	275	94.2%	17	5.8%	145.355	0.000*
	Medium	34	66.7%	17	33.3%		
	High	50	40.3%	74	59.7%		
True practice(When the mother takes her child who has diarrhea to a hospital)	Low	295	77.0%	88	23.0%	0.120	0.942
	Medium	56	75.7%	18	24.3%		
	High	8	80.0%	2	20.0%		
False practice(When the mother takes her child who has diarrhea to a hospital)	Low	313	77.1%	93	22.9%	0.430	0.806
	Medium	45	75.0%	15	25.0%		
	High	1	100.0%	0	.0%		

4.7 Attitudes Analysis:

To determine factors affect on the Attitudes, we used logistic regression (Backward Method) assuming the Attitudes (1=Negative, 2=Positive) as dependent variable and all other variables as independent variables (Knowledge determinants, Practices determinants, and Demographic Variables). The next table shows the results of Binary logistic regression analysis.

The results of logistic regression show that there are statistical significant relationships between Attitudes and the following factors (P-values<0.05, some p-values more than 0.05 but closed to it):

4.6.1.1.1 Mothers' age when married

4.6.1.1.2 Crowding Index

4.6.1.1.3 Level of Education

4.6.1.1.4 Household‘s monthly income

4.6.1.1.5 Childs's

4.6.1.1.6 True Knowledge about How to prevent diarrhea among children

4.6.1.1.7 True Knowledge about The steps of preparing ORS Existing previous experience with diarrhea or ORS influence mother's decision

4.6.1.1.7 Knowledge of how to preparers

4.6.1.1.8 Self-Efficacy Regarding Mothers' age when married, it is about 12 times (OR=12.1) more likely to have positive Attitudes for the age group (More than 25) than for the age group (21-25).

Regarding Crowding Index, it is about 3 times (OR=2.695) more likely to have positive Attitudes for the crowding index group (1-2) than for the crowding index group (>2).

Regarding Level of Education, it is about 2 times (OR=2.078) more likely to have positive Attitudes for Tawjihi Educated mothers than for More than Tawjihi educated mothers.

Regarding Household‘s monthly income, it is about 4 times (OR=4.225) more likely to have positive Attitudes for income group (More than 3000 shekels) than for (Less than 1500 shekels).

Regarding Child‘s sex, it is about 2.3 times (OR=2.279) more likely to have positive Attitudes for Female Child‘s sex than for Male Child‘s sex.

Regarding True Knowledge about How to prevent diarrhea among children, it is about 3.4 times (OR=3.365) more likely to have positive Attitudes for mothers with high true knowledge than for mothers with medium true knowledge.

Regarding True Knowledge about The steps of preparing ORS, it is about 5 times (OR=4.988) more likely to have positive Attitudes for mothers with high true knowledge than for mothers with medium true knowledge.

Regarding Existing previous experience with diarrhea or ORS influence mother's decision, it is about 2.5 times (OR=2.496) more likely to have positive Attitudes for mothers with previous experience than for mothers without previous experience.

Regarding Knowledge of how to prepare ORS, it is about 2.4 times (OR=2.376) more likely to have positive Attitudes for mothers who Know how to prepare ORS than for mothers who don‘t know how to prepare ORS.

Finally, regarding Self Efficacy, it is about 4 times (OR=3.915) more likely to have positive Attitudes for mothers who have Self Efficacy than for mothers who don‘t have Self Efficacy.

Table (4.33): Attitudes —logistic regression- last model

Independent Variables	Categories	B	P-Value	Exp (B) =OR (Odds Ratio)	1/Exp (B) =1/(O.R)	95%CI for OR
Mothers' age when married	Less than 18	-2.032	0.051	0.131	7.627	(0.017 , 1.005)
	18-20	-1.931	0.053	0.145	6.895	(0.02 , 1.026)
	21-25	-2.493	0.013	0.083	12.100	(0.012 , 0.592)
	More than 25			1		
Crowding Index	<1	0.168	0.785	1.183	0.845	(0.352 , 3.972)
	1-2	0.991	0.006	2.695	0.371	(1.338 , 5.427)
	>2			1		
Level of Education	Less than Tawjehi	-0.838	0.137	0.433	2.311	(0.143 , 1.306)
	Tawjihi	0.731	0.060	2.078	0.481	(0.969 , 4.455)
	More than Tawjihi			1		
Household‘s monthly income	Less than 1500 shekels	-1.441	0.027	0.237	4.225	(0.066 , 0.851)
	1500-2000 shekels	-0.540	0.308	0.583	1.717	(0.206 , 1.648)
	2001-2500 shekels	-0.410	0.431	0.663	1.507	(0.239 , 1.841)
	2501-3000 shekels	0.367	0.511	1.444	0.693	(0.483 , 4.317)
	More than 3000 shekels			1		
Child‘s sex	Male	-0.824	0.015	0.439	2.279	(0.226 , 0.853)
	Female			1		
How often do you get any help from family or friends when your child Is sick?	Always	0.156	0.744	1.169	0.855	(0.458 , 2.987)
	Sometimes	-0.729	0.071	0.482	2.073	(0.219 , 1.063)
	Never			1		
True Knowledge(How to prevent diarrhea among children)	Low	-0.716	0.141	0.489	2.045	(0.188 , 1.268)
	Medium	-1.214	0.007	0.297	3.365	(0.123 , 0.719)
	High			1		
True Knowledge(The steps of preparing ORS)	Low	-0.658	0.312	0.518	1.932	(0.144 , 1.855)
	Medium	-1.607	0.011	0.200	4.988	(0.058 , 0.691)
	High			1		
P42: Does any previous experience with diarrhea or ORS influence your Decision?	No	-0.915	0.012	0.401	2.496	(0.197 , 0.816)
	Yes			1		
K12: Do you know how to prepare ORS?	No	-0.865	0.066	0.421	2.376	(0.167 , 1.06)
	Yes			1		
Self-Efficacy	No	-1.365	0.021	0.255	3.915	(0.08 , 0.816)
	Yes			1		
R^2=0.28						

Chapter five

5. Discussion of the results

5.1 Introduction

The present study is one of many study that focus on Diarrhea in Palestine, but the first study that concerned with knowledge, attitude and practice of mothers toward their children less than five years who having diarrhea episodes. This study was occurring in the three main cities in Palestine, which are Nablus, Hebron and Ramallah cities.

The main aim of this study was to identify the most environmental risk factors that affect pediatric diarrhea in Nablus, Hebron and Ramallah. To fulfill the purpose of our study, a descriptive design was conducted and mother participants were our target population (n=467) mother selected from different main hospitals in this cities which were diagnosed with diarrhea by pediatrician. The distribution of participants in related to health center is clarified in (Table5.1).

The samples were collected depend on purposive samples method; the data were collected from participant child family and the respondent group range Less than one month to 5 Years old.

A locally designed questionnaire that included both close and open ended question was used to fulfill the purpose of our study. Mainly was concentrate about the most environmental risk factor that induces the condition.

On the other hand, we investigate the knowledge and awareness of mothers toward these conditions and the management and treatment for it.

Low education and poor knowledge about diarrhea among mothers, inadequate breastfeeding, poor care of hands after defecating, unsafe disposal of feces/garbage, unsafe water source, sharing hand washing water at meals, and un cleanliness of kitchen were significantly positive associated with diarrhea morbidity in the children under five years of age.

5.2 Main Result

In this study, the data necessary for the purpose of the study were collected from (467) children with diarrhea who are less than five years old and are present with their mothers; the majority of the study participants were male, so they formed about 54.4% (n = 254), and the lowest percentage Females so that they formed approximately 45.6% (n = 213).On the other hand, most of the participants in this study were those who were in the villages and their percentage was 43.3% (n = 202), while those who resided in the cities accounted for their proportion30.8% (n=144). Also, there are 15% (n=70) of the study participants who

are in Towns, and about 10.9% (n=51) who are in Refugee Camps. This is similar to that found in an Indian study published in 2002, which showed that there are factors from the environment that affect children's exposure to diarrhea. This survey showed that there are some villages that were affected by the presence of continuous and repeated floods every year, and was compared with what was exposed in these villages with what is in other villages that were not exposed to anything. In this context, there are many studies that report on the impact of the presence of repeated floods on public health. Which means that the aim of this study is to try to address and understand the long-term effects of repeated floods on the general health of children under five years of age and the impact of this on diarrhea (Kondo, Seo, Yasuda, Hasizume, Koido, Ninomiya, Yamamoto, 2002).Among this and other studies published in 2006, it was found that maternal perceptions of diarrhea were high. The expected cause that mothers perceived their children to be susceptible to diarrhea, perceived the severity of diarrhea and perceived the benefits of taking preventive steps. However, the perceived barrier of taking preventive behavior was at a moderate level.

Explanation for the economic status in diarrhea predominance by husband job status, his work and monthly outcomes have been discussed in several reviews on different status (Park. Jabalpur, 2000).

Furthermore, when we look to the exact age of children who have diarrhea, our results showed that 29.6% are 1-6 months, 25.9% are (More than 1 year to 3 years), 21.8% are (More than 6 months to 1 year), 17.6% are 5 years and only 5.1% are Less than a month. Other researcher concluded that diarrhea predominantly occurred in the age group of 0–6 years accounted for 22% of total rural deaths, this possess a formidable challenge to health planners (Watson, Gayer,Connolly,2007).

For the knowledge and education of mothers with the reflection on the performance toward her children during the period of diarrhea episodes, the results showed that 46.5% of mothers in the sample have secondary education, 34.9% have BA degrees, only 1.1% have not received any education, 7.7% have elementary education and 9.9% have other level of education.

One of the studies that survey the families' income, education level and diarrhea relationship was published on 2015 by Bello and his group. This study was occurring on 700 care-givers of children less than 5 years of age. The age distribution of the care-givers showed that majority of the care givers were between 21-35 years. This study itself was occurring to compressive between two residential areas, Dorayi and Nasarawa G. R. A.

The results were showed that 38%, 29% and 9.6% of the care-givers had secondary, Qur‘anic

and tertiary education respectively in Dorayi quarters, while 36%, 30.50% and 21.30% of the care-givers in Nasarawa G. R. A. had secondary, tertiary and Qur‘anic education respectively. However, Nasarawa G.R.A. care-givers of 30.50% had tertiary education while, in Dorayi quarters had only 9.60% of the care givers attained tertiary education, these findings are most likely to be associated with socioeconomic status of the people living in the two areas. Most of people living in Dorayi quarters had poor socioeconomic status which may likely be the reason why most of them could not continue with high education, unlike those in Nasarawa G.R.A. where most of them have good socioeconomic status which may likely be the reason made them to continue their education up to tertiary level. Most of the care-givers (54.10%) were full time house wives, with few of them either as civil servant or petty traders and (8.50% and 27.2% respectively) in Dorayi. In contrast to this, house wife (42.90%) and civil service (24.40%) were the predominant occupations of the care givers in Nasarawa G. R. A. Only 17.30% of care-givers were traders, however, there‘s overlapping of occupation among some of them in both two areas. Majority of care-givers had at least two children under the age of five years. The mean number of children per household was 2.89±1.32 (Bello ET al.2015).

By other researcher these ideas can be explained by the article was published in 2014 on the topic ‒Knowledge and practice of mothers in the management of children‘s diarrhea, in Northwest, Iran‖.

The results showed that 95.5% of the mothers referred to a doctor after the first day following an episode of diarrhea. The knowledge of 37.23%, 44.24%, and 18.53% of the mothers was poor, medium and good, respectively.

Moreover, the performance of 51.98%, 30.03% and 17.99% of the mothers was poor, medium and good, respectively. A significant relationship was found between maternal education and knowledge (P = 0.000), but no relationship was observed between maternal age and knowledge (P = 0.36). There was also a direct relationship between maternal education and performance, which was significant (P = 0.001). There was no relationship found between any other variables. (Babak Abdinia, 2014).

As well, most of the mothers were 25-30 years old (43.8%). Slightly more than half (55.6%) had just one child. The health center, educational programs and the personal reading were the main sources of the knowledge about the treatment, with less than the half of mothers by (43.7%). Twenty eight point eight percent of the mothers had a good knowledge in diarrhea diagnosis and its treatment, while the 46.5% had medium and 24.7% suffered low knowledge.

5.3 Factors Associated with Diarrhea

The signs of diarrhea episode can be used correctly by mothers to improve better home managements, about 65.5% (n=306) of the respondents share that fever is the first predictable signs, whereas 39.6% (n=185) show that frequent vomiting, 33.8% (n=158) is fast breathing, 33.4% (n=156) is presence of blood inside stool, 33.2% (n=155) is loss of appetite, 33.0%(n=154) is loose stool discharge, 33.0%(n=154) is the child being lazy, 29.3% (n=137) is lack of sleeping and nonstop crying events,21.4% (n=100) is sunken eye, 8.8% (n=41) for irritability and drowsiness, and 7.7%(n=36) for non tears when crying, are other signs of dehydration and diarrhea episode. In the comparison with other study, 35.1% show that sunken eyes as the major symptoms of dehydration with the appearance of dry tongue (21.8%), dry lips/tongue (15.2%), body weakness (10.4%) and irritability (7.6%). Therefore, high literacy level and regular maternal education on childhood preventable diseases such as diarrhea could account for the high knowledge level of the signs and symptoms of dehydration. However, mothers whose children had suffered from diarrhea were more likely to identify signs and symptoms of dehydration than mothers or caregivers who had not manage any diarrhea case (Boschi-Pinto, Velebit, Shibuya, 2008).

Most of mothers by this study know the importance of observing hygiene practice to be around 67.7% (n=314), and the effective issue from washing hands to be 42.2% (n=196), with 33.8% (n=157) for eating fresh food, and 5.2% (n=24) for artificial feeding. In the comparison with other study to have answers from respondents about the effective of hand washing before and after meal (34.5%), hand washing after using the toilet (33.5%) and proper preparation and storage of cooked food (21.8%) were ways to prevent childhood diarrhea. These findings help mothers to have a proper ways to prevent diarrheal in children, thereby ameliorating childhood morbidity and mortality from infectious diseases. Therefore, educational programs on hand washing and personal hygiene practices should be prioritized in all ANC and postnatal care outlets (Othero, Orago, Groenewegen, Kaseje, Otengah,2008).

Most mothers agree that teething cause diarrhea in children less than five years of age, in this study 67.7%(n=316) of them answers agreement to this situation while 32.3%(n=151) do not agree this. However, the relation between teething and diarrhea is significantly different between the communities (Bachrach, Gardner , 2002)

5.4 Food consumption patterns

Most mothers gave complimentary food to their children before the age of 5 years, about 3.4% (n=16) of mothers continue feeding with regular food, 51.9% (n=242) offer boiled soft rice, also about 71.9% (n=335) feed boiled potatoes. By the comparative study, 17.7% of the respondents give complementary food for these children. UNICEF and WHO recommend the introduction of solid foods to infants from the age of 6 months due to in that age breast milk is not sufficient for long period of time to maintain a child‘s optimal growth (UNICEF, 2006). Therefore, there is an association between the age and complementary food and whether the child suffered from diarrhea episode. The prevalence of diarrhea was attributed to poor feeding practices and unhygienic procedures in the preparation of feeds as well as early initiation of solid foods. This was as a result of the child‘s digestive system not being well developed and thus when the child was fed on other foods other than breast milk before the sixth month it may result to ulceration and irritation of the gastrointestinal tract thus exposing the child to diarrhea cases (Waswa, 2005).

The availability and consumption patterns of food for most purchasing households, represent that about 9.7% (n=45) prefer to increase the number of meal. In the comparison by other study, around 52.3% prefer to increase the number of meal. The consumption of Protein-rich foods (meat, milk, fish poultry and eggs was highest among the age group of 36-37 months, the times of meals is more than three times (KDHS, 2008).

The importance of natural breast feeding comes from the association with nutritional well-being of children, by this study 70.9% (n=329) of the respondents practice it, while 19.5% of the children from the comparative study were underweight. The fact beyond this percentage is most of mothers were busy with their children in the market places, and the breast feeding was not done on demand (KDHS 2008).

Nutritional status measured by wasting or low weight for children less than five years of age, as well as energy drinks as 7UP may lead to choke or caused constipation. By this study around 34.8% (n=162) of the respondents give 7UP to the children to drink, and this affect to the type of stool which discharge from them as watery or loose stool to be in this study 33% (n=154). In the comparison to other study, to show 9.1% of the children have watery stool, and the ratio of wasting their weight is high to be 6.3% (SCN, 2000).

5.5 Knowledge about diarrhea management

The Knowledge of causes, danger signs and symptoms of diarrheal disease among mothers, is the major influence way to manage this condition in the home. Most of the respondent in

this study share that the decision of getting outside treatment for the child get from her mother's to be 64.7% (n=302), but 28.7% (n=134) from her fathers, 3.2% (n=15) from other persons, 1.9% (n=9) from her grandmother and 1.5% (n=7) from her grandfather. In the comparison with other study, 45.7% of respondents heard of diarrhea from health workers. Also, other sources of information on diarrhea include: the media (television/radio) (21.2%), friend (14.9%), mother (4.8%), books/magazine/newspapers (4.8%) and poster/handbills (4.3%). These studies approved that health workers or educators are the major channel for easy, effective and reliable dissemination of health information to the populace. And the disseminating information about the characteristics of diarrhea is very imperative in managing diarrhea in children especially when the need arises. Furthermore, the media can be used as an alternative Channel to propagate

Messages on diarrhea and its management strategies to mothers especially who are

rarely visit the health care facilities for child care (Grant , 1993).

However, home treatment is an important and correct way to manage acute diarrhea, the reason beyond that is diarrhea begins and ends in the home environment, and most of pharmacological treatment given at home after returning from health centers. Depending on this goals most of the respondent asked what they will first do when their children develop diarrhea at home. Most of mothers know the correct preparation and administration of ORS in this study to be 76% (n=355), but only 24% (n=112) do not know that. In the comparison with other study present that 62% know and 76% do now know that. Therefore, advocacy and awareness of ORS being very effective in the study area, in further to it the difference in the rate of ORS utilization may be attributed to the study setting, knowledge level of mothers on ORS benefits, socioeconomic status of mothers and knowledge level of the correct composition and preparation method of ORS in the management of childhood diarrhea (Adimora, Ikefuna, Ilechukwu, 2011).

Most of mothers give ORS to a child after each bowel movement to be 71.5% (n=334), while in the comparison with other studies 20.3% of mothers give it at the signs of body weakness, and 5.5% of mothers administers it immediately after passing watery stool. However, delay in the treatment of diarrhea has significantly resulted in high rates of childhood morbidity and mortality. Therefore, health workers should educate mothers on the early recognition of diarrhea cases and the importance of initiating prompt treatment (Saltzman, Warren, Lloyd, 2013).

Most of mothers asked they gave ORS about 60.7% (n=283), as the same as seen in other study, around 65.2% of mothers (n=163) will give the sick child ORS, but 14% of them

(n=35) seen to take the child to a health facility. In addition, 39.3% of mothers gave more types of fluids and foods to children, in the same way 20% of other respondent gave anther answers as gave more fluids and buying medicine from drugstore. This message approved that the importance of ORS for sick children especially who are under five years of age is widely distributed, in the same time other health educators based on the recommendation of WHO to encourage mothers to give other homemade fluids as cereal gruel or sugar-salt solution (SSS) (BASOHONYAH,2008).

Other findings indicated that 70.9% depending on breast feeding practice, this ensure that they have an important knowledge about their benefits.

In the comparison with other research study, Basoh was published a study show that only 50.8% of mothers (n=127) gave continuously breast feeding. While 36.8% of mothers (n=92) will increase breast feeding. This done in the parallel of WHO recommendation of continuous breast feeding.

Most of mothers aware the importance and contribution of breast milk in diarrhea management. In the comparative study seen that 8.8% (n=22) of the respondents worrying about breast feeding and will stop to doing it. the recommendation of this study that it is very substantial issue to increase education programs at child welfare clinics on the importance of exclusive breastfeeding particularly during episodes of diarrhea in children, because that help in treatment the diarrhea and decrease the percentage of children who has a dehydration (BASOH ONYAH, 2008).Another finding, about 11.1% (n=52) of the respondentsaskedtheygaveamedicationasantibioticsandother−anti-diarrhea1‖drugs, as the management of diarrhea in children under five years of age. While 80.4% (n=201) of respondent from the comparative study used that. These medications must approve with medical advice from physicians, due to these treatments promotes bacterial Resistance. In this goal, health educators must plan and organize workshops on the rational drug use for the chemical sellers (BASOH ONYAH, 2008).

5.6 Reasons for no use of good practices by women regarding water and sanitation

Good practices regarding water and sanitation is an important factor associated with diarrhea episode, unavailability of safe water could lead to using unsafe water sources, in addition to lack of knowledge about treating water and use clean thing. In this study, about 12.2% (n=57) of mothers seen diarrhea causes refers to lack of clean water for drinking, cooking and cleaning. While in other study, to show the association between safety issue of water and use it for drinking and the rate of child who suffered from diarrhea episode, 45.1% of the respondent store water in buckets, around 62.7% have reporting of diarrhea episodes. These buckets are not well covered and exposed to dust, in addition Children usually scoop water for drinking directly from buckets with any reasonably clean cup or bowl, thereby increasing the risk of contamination. Therefore, drinking water should be stored in a separate container from other domestic water and that this drinking water should be taken away from the storage vessel in such a way that hands, cups or other objects cannot contaminate the water.

Chapter Six

6. Conclusion and Recommendation

6.1 Conclusion

In order to assess the opinion of mother towards having of diarrhea by her children, quantitative descriptive research was conducted. It is worth to remember that this study is the first studies that have been conducted in Ramallah, Hebron and Nablus cities for this purpose. The study finding could help in improving the awareness about the diarrhea problem and improve the knowledge and the conditions for conducting these programs.

The sample size was 467 participants, with 99% response rate. The majority of participants were female, married and have not a work in any sector. The highest percentage represent for the secondary education and been 46.5% of study population. Graduate from B.A degree constituted 34.9% while other is still studying either in the school or in the University and constituted 9.9%. About 17.3% of them having work.

Knowledge analysis was to determine both the true and false knowledge of diarrhea by mothers about her children, according to demographic variables. The extracted variables were mother age actually and when they are married and had a first baby, children age and sex, city and place of residency, religion, level of education, Job status for both mother and her husband, household monthly income, child‘s number in the family, the decision maker to take the appropriate treatment by the children, and how often the mother can get the help from other person as the children was sick.

However, open-ended question reveal interesting responses. They reported that they participated in this study to improve their knowledge about her children‘s beside what will they do if having diarrhea episodes, Other reasons as to increase self-satisfaction and self-actualization to improve social status.

The study reveal that respondents increase their knowledge and new concept like decision making, problem solving, and follow up and supervision skills.

This study explore that mothers in Palestine have a high knowledge of diarrhea in children less than five years of age. As well as, this study shows that most mothers and caregivers educated about how to prepare and use ORS accurately and successfully, besides taking diet and fluids with continuous breast-feeding. This knowledge directed toward using of home-made replacement fluids.

Therefore, there is need for adequate health education on childhood diarrhea and its management within household and community environment. As using of antibiotics and

anti-diarrheal drugs, practicing continuously breastfeeding, using of hygiene practices and sanitation

In addition, it was clear from the results of the study that there is a great need to provide more educational and health programs for mothers and health care providers, towards a significant improvement in society.

However, the researcher faced many obstacles and difficulties; the most prominent of these obstacles were financial constraints, family and social responsibilities, progressive age, and the condition of children.

6.2 Recommendations

The study provided the author the opportunity to make a number of recommendations those bases on the study findings and can be achieved within the health centers and hospitals that institute in this study. Ministry of Health at different levels need to be oriented that the success of planning and conducing the educational and awareness programs for mothers especially who having children less than five years of age.

6.3 General Recommendation

1- Mothers must be educated to promote medical attention by health facilities, as they observe Premiers signs of dehydration such a fever, loss of appetite, vomiting, and bloody stool in children less than five years.

2- Public health policy makers must increase the level of utilization of Oral Rehydration Therapy (ORT) with regular diet and breast feeding in children less than 5years.

3- Health policy makers must implement these programs in the parallel with improvement of personal and environmental conditions as hygiene and sanitation area which encourage diarrhea condition in children less than five years.

4- Health Policy Makers must implement meeting with Pharmacy Council in order to organize successful workshops on the rational usage of drugs as the availability of antibiotics to mothers as the management of diarrhea in children less than five years.

5- Health educators as well as mothers have to educated against the usage of enema in order to manage diarrhea for children less than five years, due to this facilitate the loss of fluids and electrolytes which lead to severe dehydration cases in the parallel with diarrhea condition, itself.

6- Health educators must emphasize the strategy of Integrated Management of Childhood Illnesses (IMCI), as the education of home managements for mothers and caregivers for other diseases and conditions as malaria and pneumonia.

7- Conduct further research on the study of the relation between non breast-feeding practices and high rate of diarrhea condition in children less than five years of age, in order to encourage this practice by mothers.

8- Health educators must encourage mothers to continuously practice breast feeding and determine the effect of this practice on mother and childhood health.

9- Policy makers should take a plan with the Ministry of Health to implement effectively health education programs in order to educate mothers about the relation between

sanitation and diarrhea. In addition, to determine how many germs transmits and causes many complications one of them is diarrhea, this encourage them to wash hand as in instance before and after meal

10- Health educators must provide the safer and affordable household water treatment and storage systems as well as determine the relation between diarrhea and dirty useful water, and to improve childhood nutritional status of the children less than five years.

11- Health educators must give more training on the management of diarrhea in children less than five years of age as well as determine the benefit of using ORS in order to manage this condition, and to compare their usage between urban and rural areas in other locations in Palestine.

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Appendix

Appendix Table (1): Counts and Percentages of Cross tabulation with chi-Square test for False Knowledge about Causes of diarrhea among children according to Demographic variables

		False Knowledge(Causes of diarrhea among children)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	2(28.6%)	5(71.4%)	0(0%)	9.854	0.131
	20-29	75(27.7%)	176(64.9%)	20(7.4%)		
	30-39	49(33.3%)	89(60.5%)	9(6.1%)		
	40 or More	21(50%)	20(47.6%)	1(2.4%)		
Children under five	1	62(31.3%)	121(61.1%)	15(7.6%)	2.730	0.604
	2	67(30.2%)	141(63.5%)	14(6.3%)		
	3 or more	18(38.3%)	28(59.6%)	1(2.1%)		
Mothers' age when married	Less than 18	16(25.8%)	39(62.9%)	7(11.3%)	4.800	0.569
	18-20	64(34.2%)	111(59.4%)	12(6.4%)		
	21-25	59(31.2%)	120(63.5%)	10(5.3%)		
	More than 25	8(27.6%)	20(69%)	1(3.4%)		
Mother's Age when had first baby	Less than 18	3(12.5%)	19(79.2%)	2(8.3%)	8.872	0.181
	18-20	38(28.6%)	84(63.2%)	11(8.3%)		
	21-25	80(32.3%)	153(61.7%)	15(6%)		
	More than 25	26(41.9%)	34(54.8%)	2(3.2%)		
Crowding Index	<1	10(31.3%)	21(65.6%)	1(3.1%)	3.659	0.4541
	1-2	81(29.7%)	170(62.3%)	22(8.1%)		
	>2	56(34.6%)	99(61.1%)	7(4.3%)		
City	Ramallah	28(18.8%)	109(73.2%)	12(8.1%)	18.351	0.001*
	Hebron	59(34.9%)	98(58%)	12(7.1%)		
	Nablus	60(40.3%)	83(55.7%)	6(4%)		
Place of Residence	City	49(34%)	86(59.7%)	9(6.3%)	5.774	0.449
	Town	24(34.3%)	44(62.9%)	2(2.9%)		
	Village	57(28.2%)	132(65.3%)	13(6.4%)		
	Refugee camp	17(33.3%)	28(54.9%)	6(11.8%)		
Religion	Islam	146(31.5%)	289(62.3%)	29(6.3%)	8.790	0.067
	Christianity	0(0%)	1(50%)	1(50%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have not received any Education	2(40%)	3(60%)	0(0%)	6.826	0.555
	Elementary education	10(27.8%)	25(69.4%)	1(2.8%)		
	Secondary education	66(30.4%)	134(61.8%)	17(7.8%)		
	BA degree	59(36.2%)	94(57.7%)	10(6.1%)		

	Other	10(21.7%)	34(73.9%)	2(4.3%)		
Having Job	Yes	35(43.2%)	40(49.4%)	6(7.4%)	6.985	0.030*
	No	112(29%)	250(64.8%)	24(6.2%)		
Husband‘s job status	Unemployed	7(22.6%)	20(64.5%)	4(12.9%)	3.036	0.219
	Employed	140(32.1%)	270(61.9%)	26(6%)		
Household‘s monthly income	Less than 1500 shekels	11(25.6%)	29(67.4%)	3(7%)	16.291	0.038*
	1500-2000 Shekels	21(21%)	74(74%)	5(5%)		
	2001-2500 Shekels	38(31.4%)	79(65.3%)	4(3.3%)		
	2501-3000 Shekels	35(36.5%)	53(55.2%)	8(8.3%)		
	More than 3000 shekels	42(39.3%)	55(51.4%)	10(9.3%)		
Child‘s number in the family	First	36(29%)	81(65.3%)	7(5.6%)	3.297	0.770
	Second	38(28.8%)	83(62.9%)	11(8.3%)		
	Third	31(36%)	49(57%)	6(7%)		
	Fourth or more	42(33.6%)	77(61.6%)	6(4.8%)		
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	95(31.5%)	184(60.9%)	23(7.6%)	11.278	0.186
	Father	48(35.8%)	80(59.7%)	6(4.5%)		
	Grandfather	2(28.6%)	5(71.4%)	0(0%)		
	Grandmother	2(22.2%)	7(77.8%)	0(0%)		
	Others	0(0%)	14(93.3%)	1(6.7%)		
The age of the child who has diarrhea	Less than a month	8(33.3%)	16(66.7%)	0(0%)	16.559	0.035*
	1-6 months	41(29.7%)	90(65.2%)	7(5.1%)		
	More than6 months to1 year	22(21.6%)	71(69.6%)	9(8.8%)		
	More than 1 year to 3 years	38(31.4%)	75(62%)	8(6.6%)		
	3-6 years	38(46.3%)	38(46.3%)	6(7.3%)		
Child‘s sex	Male	80(31.5%)	156(61.4%)	18(7.1%)	.422	0.809
	Female	67(31.5%)	134(62.9%)	12(5.6%)		
How often do the mother get any help from family or friends when her child is sick	Always	24(18.5%)	96(73.8%)	10(7.7%)	15.194	0.004*
	Sometimes	71(35.3%)	116(57.7%)	14(7%)		
	Never	52(38.2%)	78(57.4%)	6(4.4%)		

Appendix Table (2): Counts and Percentages of Cross tabulation with chi-Square test for False Knowledge about Dangerous symptoms that require taking a child who has diarrhea to a healthcare center according to Demographic variables

		False Knowledge(Dangerous symptoms that require taking a child who has diarrhea to a healthcare center)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	5(71.4%)	2(28.6%)	0(0%)	10.039	0.123
	20-29	177(65.3%)	85(31.4%)	9(3.3%)		
	30-39	82(55.8%)	56(38.1%)	9(6.1%)		
	40 or More	30(71.4%)	8(19%)	4(9.5%)		
Children under five	1	140(70.7%)	52(26.3%)	6(3%)	11.442	0.022*
	2	123(55.4%)	86(38.7%)	13(5.9%)		
	3 or more	31(66%)	13(27.7%)	3(6.4%)		
Mothers' age when married	Less than 18	42(67.7%)	15(24.2%)	5(8.1%)	8.477	0.205
	18-20	121(64.7%)	59(31.6%)	7(3.7%)		
	21-25	109(57.7%)	70(37%)	10(5.3%)		
	More than 25	22(75.9%)	7(24.1%)	0(0%)		
Mother's Age when had first baby	Less than 18	15(62.5%)	8(33.3%)	1(4.2%)	11.604	0.071
	18-20	95(71.4%)	34(25.6%)	4(3%)		
	21-25	140(56.5%)	92(37.1%)	16(6.5%)		
	More than 25	44(71%)	17(27.4%)	1(1.6%)		
Crowding Index	<1	24(75%)	8(25%)	0(0%)	8.640	0.071
	1-2	178(65.2%)	79(28.9%)	16(5.9%)		
	>2	92(56.8%)	64(39.5%)	6(3.7%)		
City	Ramallah	100(67.1%)	41(27.5%)	8(5.4%)	49.637	.000*
	Hebron	74(43.8%)	86(50.9%)	9(5.3%)		
	Nablus	120(80.5%)	24(16.1%)	5(3.4%)		
Place of Residence	City	96(66.7%)	44(30.6%)	4(2.8%)	6.132	0.409
	Town	37(52.9%)	27(38.6%)	6(8.6%)		
	Village	128(63.4%)	65(32.2%)	9(4.5%)		
	Refugee camp	33(64.7%)	15(29.4%)	3(5.9%)		
Religion	Islam	292(62.9%)	150(32.3%)	22(4.7%)	.930	0.920
	Christianity	1(50%)	1(50%)	0(0%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have-not received any education	2(40%)	3(60%)	0(0%)	6.844	0.554
	Elementary education	19(52.8%)	14(38.9%)	3(8.3%)		
	Secondary education	139(64.1%)	68(31.3%)	10(4.6%)		

	BA degree	100(61.3%)	56(34.4%)	7(4.3%)		
	Other	34(73.9%)	10(21.7%)	2(4.3%)		
Having Job	Yes	53(65.4%)	24(29.6%)	4(4.9%)	.328	0.849
	No	241(62.4%)	127(32.9%)	18(4.7%)		
Husband‘s job status	Unemployed	18(58.1%)	8(25.8%)	5(16.1%)	9.753	0.008*
	Employed	276(63.3%)	143(32.8%)	17(3.9%)		
Household‘s monthly income	Less than 1500 shekels	27(62.8%)	9(20.9%)	7(16.3%)	25.277	0.001*
	1500-2000 Shekels	62(62%)	34(34%)	4(4%)		
	2001-2500 Shekels	72(59.5%)	48(39.7%)	1(0.8%)		
	2501-3000 Shekels	70(72.9%)	22(22.9%)	4(4.2%)		
	More than 3000 shekels	63(58.9%)	38(35.5%)	6(5.6%)		
Child‘s number in the family	First	77(62.1%)	43(34.7%)	4(3.2%)	2.092	0.911
	Second	84(63.6%)	42(31.8%)	6(4.5%)		
	Third	57(66.3%)	24(27.9%)	5(5.8%)		
	Fourth or more	76(60.8%)	42(33.6%)	7(5.6%)		
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	203(67.2%)	86(28.5%)	13(4.3%)	8.978	0.344
	Father	73(54.5%)	53(39.6%)	8(6%)		
	Grandfather	4(57.1%)	3(42.9%)	0(0%)		
	Grandmother	5(55.6%)	3(33.3%)	1(11.1%)		
	Others	9(60%)	6(40%)	0(0%)		
The age of the child who has diarrhea	Less than a month	16(66.7%)	7(29.2%)	1(4.2%)	8.361	0.399
	1-6 months	82(59.4%)	52(37.7%)	4(2.9%)		
	More than6 months to1 year	62(60.8%)	36(35.3%)	4(3.9%)		
	More than 1 year to 3 years	78(64.5%)	33(27.3%)	10(8.3%)		
	3-6 years	56(68.3%)	23(28%)	3(3.7%)		
Child‘s sex	Male	170(66.9%)	74(29.1%)	10(3.9%)	3.869	0.145
	Female	124(58.2%)	77(36.2%)	12(5.6%)		
How often do the mother get any help from family or friends when her child is sick	Always	94(72.3%)	33(25.4%)	3(2.3%)	9.710	0.046*
	Sometimes	125(62.2%)	64(31.8%)	12(6%)		
	Never	75(55.1%)	54(39.7%)	7(5.1%)		

Appendix Table (3): Counts and Percentages of Cross tabulation with chi-Square test for False Knowledge about How to prevent diarrhea among children according to Demographic variables

		False Knowledge(How to prevent diarrhea among children)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	7(100%)	0(0%)	0(0%)	3.203	0.361
	20-29	254(93.7%)	0(0%)	17(6.3%)		
	30-39	143(97.3%)	0(0%)	4(2.7%)		
	40 or More	39(92.9%)	0(0%)	3(7.1%)		
Children under five	1	188(94.9%)	0(0%)	10(5.1%)	.111	0.946
	2	210(94.6%)	0(0%)	12(5.4%)		
	3 or more	45(95.7%)	0(0%)	2(4.3%)		
Mothers' age when married	Less than 18	58(93.5%)	0(0%)	4(6.5%)	.919	0.821
	18-20	176(94.1%)	0(0%)	11(5.9%)		
	21-25	181(95.8%)	0(0%)	8(4.2%)		
	More than 25	28(96.6%)	0(0%)	1(3.4%)		
Mother's Age when had first baby	Less than 18	23(95.8%)	0(0%)	1(4.2%)	6.035	0.11
	18-20	121(91%)	0(0%)	12(9%)		
	21-25	240(96.8%)	0(0%)	8(3.2%)		
	More than 25	59(95.2%)	0(0%)	3(4.8%)		
Crowding Index	<1	29(90.6%)	0(0%)	3(9.4%)	1.271	0.53
	1-2	260(95.2%)	0(0%)	13(4.8%)		
	>2	154(95.1%)	0(0%)	8(4.9%)		
City	Ramallah	138(92.6%)	0(0%)	11(7.4%)	3.203	0.202
	Hebron	164(97%)	0(0%)	5(3%)		
	Nablus	141(94.6%)	0(0%)	8(5.4%)		
Place of Residence	City	137(95.1%)	0(0%)	7(4.9%)	7.141	0.068
	Town	65(92.9%)	0(0%)	5(7.1%)		
	Village	196(97%)	0(0%)	6(3%)		
	Refugee camp	45(88.2%)	0(0%)	6(11.8%)		
Religion	Islam	440(94.8%)	0(0%)	24(5.2%)	.164	0.921
	Christianity	2(100%)	0(0%)	0(0%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have not received any education	4(80%)	0(0%)	1(20%)	5.649	0.227
	Elementary education	33(91.7%)	0(0%)	3(8.3%)		
	Secondary education	206(94.9%)	0(0%)	11(5.1%)		
	BA degree	158(96.9%)	0(0%)	5(3.1%)		

	Other	42(91.3%)	0(0%)	4(8.7%)		
Having Job	Yes	78(96.3%)	0(0%)	3(3.7%)	.414	0.52
	No	365(94.6%)	0(0%)	21(5.4%)		
Husband‘s job status	Unemployed	26(83.9%)	0(0%)	5(16.1%)	8.226	0.004*
	Employed	417(95.6%)	0(0%)	19(4.4%)		
Household‘s monthly income	Less than 1500 shekels	38(88.4%)	0(0%)	5(11.6%)	8.141	0.087
	1500-2000 shekels	94(94%)	0(0%)	6(6%)		
	2001-2500 shekels	113(93.4%)	0(0%)	8(6.6%)		
	2501-3000 shekels	95(99%)	0(0%)	1(1%)		
	More than 3000 shekels	103(96.3%)	0(0%)	4(3.7%)		
Child‘s number in the family	First	117(94.4%)	0(0%)	7(5.6%)	.608	0.895
	Second	125(94.7%)	0(0%)	7(5.3%)		
	Third	83(96.5%)	0(0%)	3(3.5%)		
	Fourth or more	118(94.4%)	0(0%)	7(5.6%)		
Who decides to get treatment outside the house for a child when Such childe has diarrhea?	Mother	285(94.4%)	0(0%)	17(5.6%)	3.366	0.499
	Father	129(96.3%)	0(0%)	5(3.7%)		
	Grandfather	6(85.7%)	0(0%)	1(14.3%)		
	Grandmother	8(88.9%)	0(0%)	1(11.1%)		
	Others	15(100%)	0(0%)	0(0%)		
The age of the child who has diarrhea	Less than a month	23(95.8%)	0(0%)	1(4.2%)	1.435	0.838
	1-6 months	132(95.7%)	0(0%)	6(4.3%)		
	More than 6 months to 1 year	98(96.1%)	0(0%)	4(3.9%)		
	More than 1 year to 3 years	114(94.2%)	0(0%)	7(5.8%)		
	3-6 years	76(92.7%)	0(0%)	6(7.3%)		
Child‘s sex	Male	240(94.5%)	0(0%)	14(5.5%)	.159	0.69
	Female	203(95.3%)	0(0%)	10(4.7%)		
How often do the mother get any help from family or friends when her child is sick	Always	120(92.3%)	0(0%)	10(7.7%)	2.516	0.284
	Sometimes	192(95.5%)	0(0%)	9(4.5%)		
	Never	131(96.3%)	0(0%)	5(3.7%)		

Appendix Table(4): Counts and Percentages of Cross tabulation with chi-Square test for False Knowledge about Appropriate Food and Liquids which must be given to a child who has diarrhea according to Demographic variables

		False Knowledge(Appropriate Food and Liquids which must be given to a child who has diarrhea)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	7(100%)	0(0%)	0(0%)	10.939	0.09
	20-29	266(98.2%)	4(1.5%)	1(0.4%)		
	30-39	145(98.6%)	1(0.7%)	1(0.7%)		
	40 or More	38(90.5%)	3(7.1%)	1(2.4%)		
Children under five	1	193(97.5%)	4(2%)	1(0.5%)	2.150	0.708
	2	218(98.2%)	3(1.4%)	1(0.5%)		
	3 or more	45(95.7%)	1(2.1%)	1(2.1%)		
Mothers' age when married	Less than 18	59(95.2%)	1(1.6%)	2(3.2%)	35.084	0.000*
	18-20	184(98.4%)	2(1.1%)	1(0.5%)		
	21-25	188(99.5%)	1(0.5%)	0(0%)		
	More than 25	25(86.2%)	4(13.8%)	0(0%)		
Mother's Age when had first baby	Less than 18	23(95.8%)	0(0%)	1(4.2%)	12.602	0.050*
	18-20	129(97%)	2(1.5%)	2(1.5%)		
	21-25	245(98.8%)	3(1.2%)	0(0%)		
	More than 25	59(95.2%)	3(4.8%)	0(0%)		
Crowding Index	<1	31(96.9%)	1(3.1%)	0(0%)	3.304	0.508
	1-2	266(97.4%)	6(2.2%)	1(0.4%)		
	>2	159(98.1%)	1(0.6%)	2(1.2%)		
City	Ramallah	143(96%)	4(2.7%)	2(1.3%)	6.735	0.151
	Hebron	168(99.4%)	0(0%)	1(0.6%)		
	Nablus	145(97.3%)	4(2.7%)	0(0%)		
Place of Residence	City	141(97.9%)	2(1.4%)	1(0.7%)	3.956	0.683
	Town	70(100%)	0(0%)	0(0%)		
	Village	196(97%)	5(2.5%)	1(0.5%)		
	Refugee camp	49(96.1%)	1(2%)	1(2%)		
Religion	Islam	453(97.6%)	8(1.7%)	3(0.6%)	.073	0.999
	Christianity	2(100%)	0(0%)	0(0%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have-not received any education	4(80%)	1(20%)	0(0%)	16.864	0.032*
	Elementary education	34(94.4%)	1(2.8%)	1(2.8%)		
	Secondary education	210(96.8%)	5(2.3%)	2(0.9%)		

	BA degree	162(99.4%)	1(0.6%)	0(0%)		
	Other	46(100%)	0(0%)	0(0%)		
Having Job	Yes	81(100%)	0(0%)	0(0%)	2.364	0.307
	No	375(97.2%)	8(2.1%)	3(0.8%)		
Husband‘s job status	Unemployed	28(90.3%)	2(6.5%)	1(3.2%)	7.984	0.018*
	Employed	428(98.2%)	6(1.4%)	2(0.5%)		
Household‘s monthly income	Less than 1500 shekels	37(86%)	5(11.6%)	1(2.3%)	31.990	0.000*
	1500-2000 shekels	98(98%)	1(1%)	1(1%)		
	2001-2500 shekels	121(100%)	0(0%)	0(0%)		
	2501-3000 shekels	95(99%)	1(1%)	0(0%)		
	More than 3000 shekels	105(98.1%)	1(0.9%)	1(0.9%)		
Child‘s number in the family	First	122(98.4%)	2(1.6%)	0(0%)	6.080	0.414
	Second	127(96.2%)	4(3%)	1(0.8%)		
	Third	86(100%)	0(0%)	0(0%)		
	Fourth or more	121(96.8%)	2(1.6%)	2(1.6%)		
Who decides to get treatment outside the house for a child when Such childe has diarrhea?	Mother	297(98.3%)	5(1.7%)	0(0%)	17.209	0.028*
	Father	130(97%)	2(1.5%)	2(1.5%)		
	Grandfather	7(100%)	0(0%)	0(0%)		
	Grandmother	8(88.9%)	1(11.1%)	0(0%)		
	Others	14(93.3%)	0(0%)	1(6.7%)		
The age of the child who has diarrhea	Less than a month	23(95.8%)	1(4.2%)	0(0%)	16.084	0.041*
	1-6 months	136(98.6%)	0(0%)	2(1.4%)		
	More than6 months to1 year	102(100%)	0(0%)	0(0%)		
	More than 1 year to 3 years	115(95%)	6(5%)	0(0%)		
	3-6 years	80(97.6%)	1(1.2%)	1(1.2%)		
Child‘s sex	Male	248(97.6%)	4(1.6%)	2(0.8%)	.244	0.885
	Female	208(97.7%)	4(1.9%)	1(0.5%)		
How often do the mother get any help from family or friends when her child is sick	Always	127(97.7%)	2(1.5%)	1(0.8%)	2.943	0.567
	Sometimes	197(98%)	4(2%)	0(0%)		
	Never	132(97.1%)	2(1.5%)	2(1.5%)		

Appendix Table (5): Counts and Percentages of Cross tabulation with chi-Square test for False Knowledge about Inappropriate Food and Liquids which must not be given to a child who has diarrhea according to Demographic variables

		False Knowledge(Inappropriate Food and Liquids which must not be given to a child who has diarrhea)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	6(85.7%)	0(0%)	1(14.3%)	8.257	0.041*
	20-29	213(78.6%)	0(0%)	58(21.4%)		
	30-39	116(78.9%)	0(0%)	31(21.1%)		
	40 or More	25(59.5%)	0(0%)	17(40.5%)		
Children under five	1	149(75.3%)	0(0%)	49(24.7%)	1.320	0.517
	2	172(77.5%)	0(0%)	50(22.5%)		
	3 or more	39(83%)	0(0%)	8(17%)		
Mothers' age when married	Less than 18	46(74.2%)	0(0%)	16(25.8%)	7.342	0.062
	18-20	154(82.4%)	0(0%)	33(17.6%)		
	21-25	142(75.1%)	0(0%)	47(24.9%)		
	More than 25	18(62.1%)	0(0%)	11(37.9%)		
Mother's Age when had first baby	Less than 18	16(66.7%)	0(0%)	8(33.3%)	9.583	0.022*
	18-20	110(82.7%)	0(0%)	23(17.3%)		
	21-25	194(78.2%)	0(0%)	54(21.8%)		
	More than 25	40(64.5%)	0(0%)	22(35.5%)		
Crowding Index	<1	23(71.9%)	0(0%)	9(28.1%)	1.658	0.437
	1-2	216(79.1%)	0(0%)	57(20.9%)		
	>2	121(74.7%)	0(0%)	41(25.3%)		
City	Ramallah	110(73.8%)	0(0%)	39(26.2%)	1.320	0.517
	Hebron	133(78.7%)	0(0%)	36(21.3%)		
	Nablus	117(78.5%)	0(0%)	32(21.5%)		
Place of Residence	City	118(81.9%)	0(0%)	26(18.1%)	3.802	0.284
	Town	50(71.4%)	0(0%)	20(28.6%)		
	Village	155(76.7%)	0(0%)	47(23.3%)		
	Refugee camp	37(72.5%)	0(0%)	14(27.5%)		
Religion	Islam	358(77.2%)	0(0%)	106(22.8%)	1.129	0.569
	Christianity	1(50%)	0(0%)	1(50%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have-not received any education	1(20%)	0(0%)	4(80%)	12.721	0.013*
	Elementary education	26(72.2%)	0(0%)	10(27.8%)		
	Secondary education	163(75.1%)	0(0%)	54(24.9%)		

	BA degree	131(80.4%)	0(0%)	32(19.6%)		
	Other	39(84.8%)	0(0%)	7(15.2%)		
Having Job	Yes	62(76.5%)	0(0%)	19(23.5%)	.016	0.898
	No	298(77.2%)	0(0%)	88(22.8%)		
Husband‘s job status	Unemployed	23(74.2%)	0(0%)	8(25.8%)	.157	0.691
	Employed	337(77.3%)	0(0%)	99(22.7%)		
Household‘s monthly income	Less than 1500 shekels	33(76.7%)	0(0%)	10(23.3%)	2.494	0.646
	1500-2000 shekels	78(78%)	0(0%)	22(22%)		
	2001-2500 shekels	89(73.6%)	0(0%)	32(26.4%)		
	2501-3000 shekels	79(82.3%)	0(0%)	17(17.7%)		
	More than 3000 shekels	81(75.7%)	0(0%)	26(24.3%)		
Child‘s number in the family	First	100(80.6%)	0(0%)	24(19.4%)	3.258	0.354
	Second	98(74.2%)	0(0%)	34(25.8%)		
	Third	70(81.4%)	0(0%)	16(18.6%)		
	Fourth or more	92(73.6%)	0(0%)	33(26.4%)		
Who decides to get treatment outside the house for a child when Such childe has diarrhea?	Mother	239(79.1%)	0(0%)	63(20.9%)	2.812	0.59
	Father	97(72.4%)	0(0%)	37(27.6%)		
	Grandfather	6(85.7%)	0(0%)	1(14.3%)		
	Grandmother	7(77.8%)	0(0%)	2(22.2%)		
	Others	11(73.3%)	0(0%)	4(26.7%)		
The age of the child who has diarrhea	Less than a month	16(66.7%)	0(0%)	8(33.3%)	2.257	0.689
	1-6 months	108(78.3%)	0(0%)	30(21.7%)		
	More than6 months to1 year	81(79.4%)	0(0%)	21(20.6%)		
	More than 1 year to 3 years	94(77.7%)	0(0%)	27(22.3%)		
	3-6 years	61(74.4%)	0(0%)	21(25.6%)		
Child‘s sex	Male	190(74.8%)	0(0%)	64(25.2%)	1.646	0.2
	Female	170(79.8%)	0(0%)	43(20.2%)		
How often do the mother get any help from family or friends when her child is sick	Always	95(73.1%)	0(0%)	35(26.9%)	1.703	0.427
	Sometimes	159(79.1%)	0(0%)	42(20.9%)		
	Never	106(77.9%)	0(0%)	30(22.1%)		

Appendix Table (6): Counts and Percentages of Cross tabulation with chi-Square test for False Practices about treating child who has diarrhea at home according to Demographic variables

		False practice(Treating child who has diarrhea at home)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	7(100%)	0(0%)	0(0%)	5.844	0.441
	20-29	222(81.9%)	46(17%)	3(1.1%)		
	30-39	114(77.6%)	30(20.4%)	3(2%)		
	40 or More	34(81%)	6(14.3%)	2(4.8%)		
Children under five	1	163(82.3%)	31(15.7%)	4(2%)	1.378	0.848
	2	178(80.2%)	41(18.5%)	3(1.4%)		
	3 or more	36(76.6%)	10(21.3%)	1(2.1%)		
Mothers' age when married	Less than 18	50(80.6%)	11(17.7%)	1(1.6%)	2.429	0.876
	18-20	151(80.7%)	32(17.1%)	4(2.1%)		
	21-25	151(79.9%)	36(19%)	2(1.1%)		
	More than 25	25(86.2%)	3(10.3%)	1(3.4%)		
Mother's Age when had first baby	Less than 18	19(79.2%)	4(16.7%)	1(4.2%)	6.837	0.336
	18-20	103(77.4%)	26(19.5%)	4(3%)		
	21-25	203(81.9%)	44(17.7%)	1(0.4%)		
	More than 25	52(83.9%)	8(12.9%)	2(3.2%)		
Crowding Index	<1	25(78.1%)	7(21.9%)	0(0%)	2.113	0.715
	1-2	225(82.4%)	43(15.8%)	5(1.8%)		
	>2	127(78.4%)	32(19.8%)	3(1.9%)		
City	Ramallah	109(73.2%)	37(24.8%)	3(2%)	10.670	0.031*
	Hebron	137(81.1%)	29(17.2%)	3(1.8%)		
	Nablus	131(87.9%)	16(10.7%)	2(1.3%)		
Place of Residence	City	116(80.6%)	24(16.7%)	4(2.8%)	3.360	0.763
	Town	58(82.9%)	12(17.1%)	0(0%)		
	Village	162(80.2%)	36(17.8%)	4(2%)		
	Refugee camp	41(80.4%)	10(19.6%)	0(0%)		
Religion	Islam	375(80.8%)	81(17.5%)	8(1.7%)	1.709	0.789
	Christianity	1(50%)	1(50%)	0(0%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have not received any education	2(40%)	3(60%)	0(0%)	22.355	0.004*
	Elementary education	31(86.1%)	2(5.6%)	3(8.3%)		
	Secondary education	173(79.7%)	40(18.4%)	4(1.8%)		
	BA degree	132(81%)	31(19%)	0(0%)		

	Other	39(84.8%)	6(13%)	1(2.2%)		
Having Job	Yes	65(80.2%)	16(19.8%)	0(0%)	1.950	0.377
	No	312(80.8%)	66(17.1%)	8(2.1%)		
Husband‘s job status	Unemployed	24(77.4%)	6(19.4%)	1(3.2%)	.550	0.76
	Employed	353(81%)	76(17.4%)	7(1.6%)		
Household‘s monthly income	Less than 1500 shekels	31(72.1%)	9(20.9%)	3(7%)	14.884	0.061
	1500-2000 shekels	82(82%)	15(15%)	3(3%)		
	2001-2500 shekels	99(81.8%)	20(16.5%)	2(1.7%)		
	2501-3000 shekels	82(85.4%)	14(14.6%)	0(0%)		
	More than 3000 shekels	83(77.6%)	24(22.4%)	0(0%)		
Child‘s number in the family	First	101(81.5%)	22(17.7%)	1(0.8%)	10.434	0.108
	Second	109(82.6%)	23(17.4%)	0(0%)		
	Third	71(82.6%)	14(16.3%)	1(1.2%)		
	Fourth or more	96(76.8%)	23(18.4%)	6(4.8%)		
Who decides to get treatment outside the house for a child when Such childe has diarrhea?	Mother	248(82.1%)	50(16.6%)	4(1.3%)	8.310	0.404
	Father	106(79.1%)	26(19.4%)	2(1.5%)		
	Grandfather	6(85.7%)	1(14.3%)	0(0%)		
	Grandmother	6(66.7%)	2(22.2%)	1(11.1%)		
	Others	11(73.3%)	3(20%)	1(6.7%)		
The age of the child who has diarrhea	Less than a month	17(70.8%)	6(25%)	1(4.2%)	5.395	0.715
	1-6 months	115(83.3%)	21(15.2%)	2(1.4%)		
	More than 6 months to 1 year	86(84.3%)	15(14.7%)	1(1%)		
	More than 1 year to 3 years	92(76%)	26(21.5%)	3(2.5%)		
	3-6 years	67(81.7%)	14(17.1%)	1(1.2%)		
Child‘s sex	Male	212(83.5%)	41(16.1%)	1(0.4%)	6.812	0.033*
	Female	165(77.5%)	41(19.2%)	7(3.3%)		
How often do the mother get any help from family or friends when her child is sick	Always	102(78.5%)	26(20%)	2(1.5%)	5.817	0.213
	Sometimes	172(85.6%)	26(12.9%)	3(1.5%)		
	Never	103(75.7%)	30(22.1%)	3(2.2%)		

Appendix Table (7): Counts and Percentages of Cross tabulation with chi-Square test for lack of Knowledge about The steps of preparing ORS according to Demographic variables

		(lack of knowledge) The steps of preparing ORS)		
		N (%)	Chi-square	P-value
Mothers' Age	Less than 20	2(28.6%)	10.404	0.015*
	20-29	23(8.5%)		
	30-39	7(4.8%)		
	40 or More	0(0%)		
Children under five	1	14(7.1%)	.034	0.983
	2	15(6.8%)		
	3 or more	3(6.4%)		
Mothers' age when married	Less than 18	3(4.8%)	3.378	0.337
	18-20	16(8.6%)		
	21-25	13(6.9%)		
	More than 25	0(0%)		
Mother's Age when had first baby	Less than 18	2(8.3%)	1.616	0.656
	18-20	9(6.8%)		
	21-25	19(7.7%)		
	More than 25	2(3.2%)		
Crowding Index	<1	4(12.5%)	2.098	0.35
	1-2	16(5.9%)		
	>2	12(7.4%)		
City	Ramallah	8(5.4%)	1.752	0.417
	Hebron	15(8.9%)		
	Nablus	9(6%)		
Place of Residence	City	6(4.2%)	3.412	0.332
	Town	7(10%)		
	Village	14(6.9%)		
	Refugee camp	5(9.8%)		
Religion	Islam	32(6.9%)	.222	0.895
	Christianity	0(0%)		
	Other	0(0%)		
level of education	I have not received any education	0(0%)	.828	0.935
	Elementary education	2(5.6%)		
	Secondary education	14(6.5%)		
	BA degree	12(7.4%)		
	Other	4(8.7%)		
Having Job	Yes	7(8.6%)	.492	0.483

	No	25(6.5%)		
Husband‘s job status	Unemployed	3(9.7%)	.415	0.519
	Employed	29(6.7%)		
Household‘s monthly income	Less than 1500 shekels	4(9.3%)	5.068	0.28
	1500-2000 shekels	8(8%)		
	2001-2500 shekels	5(4.1%)		
	2501-3000 shekels	4(4.2%)		
	More than 3000 shekels	11(10.3%)		
Child‘s number in the family	First	14(11.3%)	7.962	0.047*
	Second	10(7.6%)		
	Third	5(5.8%)		
	Fourth or more	3(2.4%)		
Who decides to get treatment outside the house for a child when Such childe has diarrhea?	Mother	21(7%)	1.261	0.868
	Father	10(7.5%)		
	Grandfather	0(0%)		
	Grandmother	0(0%)		
	Others	1(6.7%)		
The age of the child who has diarrhea	Less than a month	2(8.3%)	1.831	0.767
	1-6 months	11(8%)		
	More than 6 months to 1 year	8(7.8%)		
	More than 1 year to 3 years	8(6.6%)		
	3-6 years	3(3.7%)		
Child‘s sex	Male	17(6.7%)	.022	0.882
	Female	15(7%)		
How often do the mother get any help from family or friends when her child is sick	Always	11(8.5%)	.774	0.679
	Sometimes	13(6.5%)		
	Never	8(5.9%)		

Appendix Table (8): Counts and Percentages of Cross tabulation with chi-Square test for False Knowledge about The steps of preparing rehydration solution of sugar and salt at home according to Demographic variables

		False Knowledge(The steps of preparing rehydration solution of sugar and salt at home)				
		Low	Medium	High		
		N (%)	N (%)	N (%)	Chi-square	P-value
Mothers' Age	Less than 20	7(100%)	0(0%)	0(0%)	6.242	0.397
	20-29	211(77.9%)	16(5.9%)	44(16.2%)		
	30-39	105(71.4%)	7(4.8%)	35(23.8%)		
	40 or More	32(76.2%)	3(7.1%)	7(16.7%)		
Children under five	1	166(83.8%)	10(5.1%)	22(11.1%)	13.038	0.011*
	2	157(70.7%)	13(5.9%)	52(23.4%)		
	3 or more	32(68.1%)	3(6.4%)	12(25.5%)		
Mothers' age when married	Less than 18	52(83.9%)	2(3.2%)	8(12.9%)	9.170	0.164
	18-20	142(75.9%)	10(5.3%)	35(18.7%)		
	21-25	138(73%)	10(5.3%)	41(21.7%)		
	More than 25	23(79.3%)	4(13.8%)	2(6.9%)		
Mother's Age when had first baby	Less than 18	22(91.7%)	0(0%)	2(8.3%)	8.094	0.231
	18-20	100(75.2%)	10(7.5%)	23(17.3%)		
	21-25	184(74.2%)	11(4.4%)	53(21.4%)		
	More than 25	49(79%)	5(8.1%)	8(12.9%)		
Crowding Index	<1	28(87.5%)	2(6.3%)	2(6.3%)	10.548	0.032*
	1-2	212(77.7%)	18(6.6%)	43(15.8%)		
	>2	115(71%)	6(3.7%)	41(25.3%)		
City	Ramallah	128(85.9%)	7(4.7%)	14(9.4%)	60.190	0.000*
	Hebron	99(58.6%)	8(4.7%)	62(36.7%)		
	Nablus	128(85.9%)	11(7.4%)	10(6.7%)		
Place of Residence	City	110(76.4%)	7(4.9%)	27(18.8%)	5.401	0.494
	Town	51(72.9%)	3(4.3%)	16(22.9%)		
	Village	151(74.8%)	12(5.9%)	39(19.3%)		
	Refugee camp	43(84.3%)	4(7.8%)	4(7.8%)		
Religion	Islam	352(75.9%)	26(5.6%)	86(18.5%)	.953	0.917
	Christianity	2(100%)	0(0%)	0(0%)		
	Other	1(100%)	0(0%)	0(0%)		
level of education	I have-not received any education	4(80%)	0(0%)	1(20%)	7.691	0.464
	Elementary education	27(75%)	2(5.6%)	7(19.4%)		
	Secondary education	168(77.4%)	12(5.5%)	37(17.1%)		

	BA degree	119(73%)	7(4.3%)	37(22.7%)		
	Other	37(80.4%)	5(10.9%)	4(8.7%)		
Having Job	Yes	52(64.2%)	7(8.6%)	22(27.2%)	7.535	0.023*
	No	303(78.5%)	19(4.9%)	64(16.6%)		
Husband‘s job status	Unemployed	25(80.6%)	2(6.5%)	4(12.9%)	.688	0.709
	Employed	330(75.7%)	24(5.5%)	82(18.8%)		
Household‘s monthly income	Less than 1500 shekels	35(81.4%)	2(4.7%)	6(14%)	4.783	0.781
	1500-2000 shekels	80(80%)	4(4%)	16(16%)		
	2001-2500 shekels	89(73.6%)	7(5.8%)	25(20.7%)		
	2501-3000 shekels	76(79.2%)	5(5.2%)	15(15.6%)		
	More than 3000 shekels	75(70.1%)	8(7.5%)	24(22.4%)		
Child‘s number in the family	First	104(83.9%)	8(6.5%)	12(9.7%)	10.414	0.108
	Second	100(75.8%)	5(3.8%)	27(20.5%)		
	Third	63(73.3%)	4(4.7%)	19(22.1%)		
	Fourth or more	88(70.4%)	9(7.2%)	28(22.4%)		
Who decides to get treatment outside the house for a child when Such childe has diarrhea?	Mother	233(77.2%)	17(5.6%)	52(17.2%)	14.636	0.067
	Father	94(70.1%)	7(5.2%)	33(24.6%)		
	Grandfather	7(100%)	0(0%)	0(0%)		
	Grandmother	7(77.8%)	2(22.2%)	0(0%)		
	Others	14(93.3%)	0(0%)	1(6.7%)		
The age of the child who has diarrhea	Less than a month	19(79.2%)	1(4.2%)	4(16.7%)	3.791	0.875
	1-6 months	102(73.9%)	6(4.3%)	30(21.7%)		
	More than6 months to1 year	76(74.5%)	8(7.8%)	18(17.6%)		
	More than 1 year to 3 years	94(77.7%)	8(6.6%)	19(15.7%)		
	3-6 years	64(78%)	3(3.7%)	15(18.3%)		
Child‘s sex	Male	198(78%)	14(5.5%)	42(16.5%)	1.346	0.51
	Female	157(73.7%)	12(5.6%)	44(20.7%)		
How often do the mother get any help from family or friends when her child is sick	Always	113(86.9%)	9(6.9%)	8(6.2%)	20.687	0.000*
	Sometimes	150(74.6%)	10(5%)	41(20.4%)		
	Never	92(67.6%)	7(5.1%)	37(27.2%)		

Appendix Table (9): Counts and Percentages of Cross tabulation with chi-Square test for Un-Knowledge about The steps of preparing rehydration solution of sugar and salt at home according to Demographic variables

		acknowledge(The steps of preparing rehydration solution of sugar and salt at home)		
		N (%)	Chi-square	P-value
Mothers' Age	Less than 20	1(14.3%)	1.963	0.58
	20-29	77(28.4%)		
	30-39	49(33.3%)		
	40 or More	12(28.6%)		
Children under five	1	68(34.3%)	3.468	0.177
	2	59(26.6%)		
	3 or more	12(25.5%)		
Mothers' age when married	Less than 18	19(30.6%)	.093	0.993
	18-20	56(29.9%)		
	21-25	56(29.6%)		
	More than 25	8(27.6%)		
Mother's Age when had first baby	Less than 18	10(41.7%)	2.115	0.549
	18-20	37(27.8%)		
	21-25	72(29%)		
	More than 25	20(32.3%)		
Crowding Index	<1	12(37.5%)	3.098	0.213
	1-2	73(26.7%)		
	>2	54(33.3%)		
City	Ramallah	56(37.6%)	7.977	0.019*
	Hebron	39(23.1%)		
	Nablus	44(29.5%)		
Place of Residence	City	35(24.3%)	3.363	0.339
	Town	21(30%)		
	Village	65(32.2%)		
	Refugee camp	18(35.3%)		
Religion	Islam	138(29.7%)	.816	0.665
	Christianity	1(50%)		
	Other	0(0%)		
level of education	I have not received any education	1(20%)	1.340	0.855
	Elementary education	13(36.1%)		
	Secondary education	63(29%)		
	BA degree	50(30.7%)		
	Other	12(26.1%)		
Having Job	Yes	21(25.9%)	.691	0.406

	No	118(30.6%)		
Husband‘s job status	Unemployed	7(22.6%)	.820	0.365
	Employed	132(30.3%)		
Household‘s monthly income	Less than 1500 shekels	13(30.2%)	2.803	0.591
	1500-2000 shekels	33(33%)		
	2001-2500 shekels	29(24%)		
	2501-3000 shekels	31(32.3%)		
	More than 3000 shekels	33(30.8%)		
Child‘s number in the family	First	36(29%)	.868	0.833
	Second	36(27.3%)		
	Third	28(32.6%)		
	Fourth or more	39(31.2%)		
Who decides to get treatment outside the house for a child when such childe has diarrhea?	Mother	89(29.5%)	.491	0.974
	Father	42(31.3%)		
	Grandfather	2(28.6%)		
	Grandmother	2(22.2%)		
	Others	4(26.7%)		
The age of the child who has diarrhea	Less than a month	5(20.8%)	2.409	0.661
	1-6 months	37(26.8%)		
	More than 6 months to 1 year	32(31.4%)		
	More than 1 year to 3 years	37(30.6%)		
	3-6 years	28(34.1%)		
Child‘s sex	Male	84(33.1%)	2.912	0.088
	Female	55(25.8%)		
How often do the mother get any help from family or friends when her child is sick	Always	48(36.9%)	11.914	0.003*
	Sometimes	43(21.4%)		
	Never	48(35.3%)		

Appendix (10): استبيان حول معرفة الأمهات وسلوكهن وممارساتهن اتجاه اسهال الأطفال وكيفية التعامل معه في الضفة الغربية

اسمي أميرة حاتم رشيد معروف، انا طالبة ماجستير في جامعة القدس وأدرس ماجستير تمريض الأطفال. أُجري دراسة كمتطلب لانهاء رسالتي الماجستير تحت عنوان (معرفة الأمهات وسلوكهن وممارساتهن تجاه اسهال الاطفال وكيفية التعامل معه في محافظات(رام الله ونابلس والخليل).

يرجى تعبئة الاستبيان التالي مع الأخذ بعين الاعتبار أن كل المعلومات ستكون سرية وستستخدم فقط لغرض هذا البحث. سيتم ترميز المعلومات فيما بعد ولن يتم ذكر الأسماء. أرجو أن تتعاوني معي وتقضي 30 دقيقة من وقتك الثمين في الاجابة على الاسئلة التالية.

لكِ الحق في الرفض أو القبول، ولكن في حال اخترتي ألا تشاركي الرجاء توضيح السبب لأنه ذو أهمية لبحثي.

أوافق على المشاركة.....

للمزيد من المعلومات الرجاء الاتصال على رقم الجوال الخاص بي 0597051705

شكراً لتعاونكِ وتفهمكِ.

التاريخ: /2017

القسم الأول

معلومات اجتماعية واقتصادية

1. ما هو عمرك (عمر الام).....

2. تسكن في:

أ–مدينة ب– بلدة ت– قرية ث– مخيم

3. الديانة:

أ–الاسلام ب– المسيحية ت– أخرى

4. أعلى مستوى تعليم حصلت عليه:

أ–لم أتلقى أي تعليم ب– ابتدائي ت–ثانوي

ث – بكالوريس ج– أخرى (حدد) .....

5. هل تعملين او لديك وظيفة ؟

أ–نعم ب– لا

6. الوضع الوظيفي للزوج:

أ–عاطل عن العمل ب– يعمل

7. دخل العائلة الشهري:

أ–أقل من 1500 شيقل ب– 1500–2000 شيقل ت– 2001–2500 شيقل ث–2501–3000 ج– أكثر من 3000 شيقل

8. عدد الغرف بالبيت ما عدا المطبخ والحمام.....

9. عدد أفراد العائلة بما في ذلك جميع سكان بيتك .....

10.عدد الأطفال دون سن الخامسة .....

11. ما هو ترتيب طفلك /او طفلتك في العائلة

أ–الاول ب– الثاني ج– الثالث ح – الرابع فأكثر

12.عمرك(الام) عند الزواج .....

13. من يقرر الحصول على علاج خارج البيت عندما يصاب طفلك بالاسهال؟

أ–الأم ب– الأب ت– الأجداد ث – الجدات ج– آخرون، (حدد) .....

14. عمر طفلك/او طفلتك المصاب بالاسهال:

أ–أقل من شهر ب– 1–6 شهور ت–اكثر من 6 شهور – سنة

ث–اكثر من سنه1–3 سنوات ج– اكثر من3 سنوات–5سنوات.

15. جنس طفلك:

أ–ذكر ب– أنثى

16. عمرك (الام) عند انجاب الطفل الأول.....

17. هل تتلقين المساعدة من العائلة أو الأصدقاء عندما يمرض أحد أطفالك؟

أ–دائماً ب– أحيانا ت– أبداً

إذا كانت اجابتك ايجابية، الرجاء حدد ممن .....

القسم الثاني:

أسئلة تتعلق بمعرفة الأم حول مرض الاسهال:

1- تعتقدين بأن طفلك مصابا بالاسهال عندما تكون عدد مرات الاخراج لديه من..... إلى في اليوم:

أ- 0–2 مرات ب– 3–4 مرات ت– 5–6 مرات ث 7 مرات وأكثر

2- برأيك هل يعتبر الاسهال مرض خطير؟

أ- دائماً ب– أحياناً ج– أبداً ح– لا اعلم

3- برأيك أي من التالية هي من أسباب اصابة طفلك بالاسهال (بامكانك اختيار اكثر من اجابة) :

أ–سوء التغذية ب– العدوى الفيروسية او البكتيرية والديدان ت–المياه الملوثة بالبراز

ث– قلة النظافة الشخصية ج– تحضير الحليب الصناعي بطريقة خاطئة

ح– شح المياه النقية للشرب والطهي والتنظيف خ– الادوية هـ– التسمم الغذائي و–الحسد والسحر

4- برأيك، هل تعتقدين أن التسنين يسبب الاسهال؟

أ- نعم ب– لا

5- برأيك، أي نوع من الاسهال هو الأخطر (اختر اجابة واحدة فقط):

أ–البراز السائل ب– البراز مع دم ت– البراز الأخضر ث–البراز مع مخاط ج– لا أعلم

6- برأيك، ما هي الأعراض الخطيرة التي تتطلب أخذ طفلك المصاب بالاسهال الى مركز العناية الصحية؟ (بإمكانك اختيار أكثر من اجابة):

أ–الحمى ب– عيون غائرة ت– بطئ عودة لون الجلد الطبيعي

ث– عدم تحسن الطفل بعد مرور 3 أيام ج– فقدان الشهيةح– تنفس سريع

خ– دم في البراز د– البراز السائل ذ– القيء المتكرر

ر– النعاس ز– التهيج س–ضربات قلب سريعة

ش– كسل الطفل ص– عدم وجود دموع عند البكاء ض – عدم نومه وبكاءه بشكل مستمر

7- برأيك، أي من الخيارات التالية من شأنها أن تمنع طفلك من الاصابة بالاسهال؟ (بإمكانك اختيار أكثر من اجابة):

أ- الرضاعة الطبيعية ب– غسل اليدين ت– المحافظة على النظافة

ث – استخدام مياه نظيفة ج– الرضاعة الصناعية ح– أكل طعام طازج

خ– المراحيض والتخلص الآمن من البراز د– أخرى، (حدد) .....

8- برأيك، أي أطعمة أو سوائل تعد مناسبة ويجب اعطائها للطفل المصاب بالاسهال (بإمكانك اختيار أكثر من اجابة):

أ- مياه معقمة ب– أملاح معالجة الجفاف عن طريق الفم ت– شوربة مع الملح

ث– شوربة بدون ملح ج– مياه الأرز المالحة ح– الخضروات

خ– الفواكه د– اطعمة تحتوي على السكريات والموالح ذ– الأطعمة الطازجة

ر –المشروبات الغازية مثل السفن اب ز–البطاطا المسلوقة فقط س– محلول السكر والملح

ز– الزبادي ش– عصائر جاهزة ض– الأطعمة المحلاة

ظ– أخرى، (حدد).....

9- برأيك، أي أطعمة أو سوائل تعد غير مناسبة ولا يجب اعطائها للطفل المصاب بالاسهال (بإمكانك اختيار أكثر من اجابة):

أ- المشروبات الغازية ب- الأطعمة الدهنية والغنية بالتوابل ت- مشروبات الفواكه المحلاة

ث- الشاي المحلى ج- الأطعمة الصلبةح- القهوة

خ- أخرى، (حدد) .....

10-هل تعلمين متى يجب ان تبدأي باعطاء طفلك محلول معالجة الجفاف؟

أ-نعم ب-لا

11-برأيك، ماذا يفعل محلول املاح معالجة الجفاف(الجاهز) عن طريق الفم ؟ (اختر اجابة واحدة فقط):

أ- منع الطفل من الاصابة بالجفاف ب- يقلل من عدد مرات الاخراج

ت -يزيد من عدد مرات الاخراج ث-يقتل الجرثومه المسببة للاسهال

ج- يعوض الطفل بالاملاح والسوائل التي خسرها ح- لا اعلم

12- هل تعرفين كيفية اعداد محلول معالجة الجفاف

أ- نعم ب- لا

اذا كانت الاجابة نعم أجيبي الاسئلة (13و 14)

13-ما هي خطوات اعداد محلول معالجة الجفاف الجاهز عن طريق الفم (بإمكانك اختيار أكثر من اجابة):

أ- غسل اليدين والأواني التي ستسخدميها بالماء والصابون

ب- قياس 1 ليتر من الماء النظيف ووضعه في وعاء نظيف

ت- اضافة محتوى علبة محول أملاح معالجة الجفاف عن طريق الفم في وعاء وقم بالتحريك باستخدام ملعقة نظيفة

ث- يجب اعطاء المحلول للطفل خلال 24 ساعة

ج- لا اعلم

14-ما هي خطوات اعداد محلول الجفاف بالمنزل المكون من السكر والملح (بإمكانك اختيار أكثر من اجابة):

أ- غسل اليدين والوعاء بالماء والصابون

ب- تحضير نصف لتر من الماء النظيف

ت- تحضير حفنة من السكر

ث- خلط المكونات جميعا باستخدام الملعقة

ج- لا أعلم

15-ما هي الكمية التي يجب اعطاءها للطفل من محلول املاح معالجة الجفاف عن طريق الفم بعد كل عملية اخراج وفيما بينها ؟

أ-حسب وزن الطفل ب-حسب عمر الطفل ت--حسب درجة الجفاف ث- لا اعلم

16-ما هي الكمية التي يجب اعطائها للطفل (في عمر ست شهور حتى اقل من سنه) من محلول أملاح معالجة الجفاف عن طريق الفم بعد كل عملية اخراج وفيما بينها:

أ- 80سم-100 سم (3/2 الكوب -1 كوب)

ب- 100-200 سم (كوب-كوبين)

ت- 10سم لكل كيلو منوزن الطفل

ث- أخرى (حدد).....

ج- لا أعلم

17-ما هي الكمية التي يجب اعطائها للطفل (في عمر سنه واحده الى 3 سنوات) من محلول أملاح معالجة الجفاف عن طريق الفم بعد كل عملية اخراج وفيما بينها:

أ- 100سم-140 سم (1 كوب-1,5 كوب)

ب- 8 سم لكل كيلو من وزن الطفل

ت- 2 كوب

ث- رضاعه طبيعيه تكفي

ج- أخرى (حدد).....

ح- لا أعلم

18-ما هي الكمية التي يجب اعطائها للطفل (في عمر ما بعد ال3 سنوات) من محلول أملاح معالجة الجفاف عن طريق الفم بعد كل عملية اخراج وفيما بينها:

أ- 150سم -180سم (1.5كوب -2 كوب)

ب- حسب وزن الطفل

ت- 2كوب-3 كوب

ث- أخرى(حدد).....

ج- لا أعلم

19- برايك ما هي الكمية المطلوبة لمنع حدوث الجفاف لطفل يزن 10 كيلوجرام بعد كل عملية اخراج؟

أ -كوب ب-كوبين ت-3 كوب ث-لا اعلم

20- برايك متى يمكن البدء باعطاء الطفل محلول الجفاف (اي عمر)؟

أ- يوم ب- شهر ت-6 شهور ث-لا اعلم

القسم 3: *أسئلة تتعلق بالسلوك*

السؤال	نعم	لا
21-برأيك، هل يعد قياس 1 لتر من الماء النظيف أثناء عملية تحضير محلول أملاح معالجة الجفاف عن طريق الفم الزاميا؟		
22-هل تعتقدين أنه يجب اعطاء محلول أملاح معالجة الجفاف عن طريق الفم للطفل بعد كل عملية اخراج؟		
23--برأيك، هل تعتقدين أن زيادة عدد مرات الرضاعة الطبيعية ومدتها أثناء الاسهال من شأنها أن تقلل عدد مرات الاخراج وشدته؟		
24-برأيك، إذا لم يتم السيطرة على الاسهال خلال 3 أيام هل تشعرين أنه من الضروري أخذ الطفل إلى مركز العناية الصحية على الفور؟		
25-برأيك، هل اعطاء الطفل المصاب بالاسهال كميات كبيرة من الماء والسوائل مفيدا؟		
26-برأيك، هل تعتقدين أن الرضاعة الصناعية من الممكن أن تسبب اسهال الأطفال؟		

27-برأيك، هل تعتقدين أن الاسهال هو حالة تُحل ذاتيا ولا تتطلب تدخلا طبيا؟		
28-برأيك اعطاء كميات كبيرة جدا من الماء لطفل مصاب بالجفاف نتيجة الاسهال تمنع موته؟		
29-برأيك، لا يجب تجويع طفل مصاب بالاسهال لأنه من الممكن أي يصاب بسوء التغذية؟		
30-برأيك أن حدوث الاسهال يكون نتيجة للسحر والحسد ؟		

القسم الرابع: ***أسئلة تتعلق بالممارسات***

31-متى تأخذين طفلك المصاب بالاسهال الى المستشفى:

أ- بعد اليوم الأول ب-اذا لم يتحسن خلال 3 ايام ت- بعد مرور 7 أيام

ج-بعد ظهور علامات التعب عليه ح- لا اخذه الى المستشفى (أعالجه بالبيت)خ- انخفاض في اليقظه والوعي د- عندما يكون لديه ارتفاع في درجة الحراره ذ- عندما يكون لديه استفراغ

32-كيف تعاملتاتتعاملين مع طفلك المصاب بالاسهال في البيت (بإمكانك اختيار اكثر من اجابة):

أ- أُبقي على نفس الأطعمة المعتادة

ب- التخلص الآمن من البراز

ت- استخدام مياه شرب نظيفة

ث- اعطاءه محلول السكر والملح

ج- المحافظة على النظافة

ح- الاكثار من اللبن

خ- اعطاءه الارز المسلوق اللين

د- زيادة عدد مرات الرضاعة الطبيعية

ذ- زيادة عدد وجبات

ر- شراء دواء لوقف الاسهال واعطاءه للطفل حسب الارشادات

ز- اعطاءه سفن أب

س- اعطاءه شاي

ش- اعطاءه البطاطا المسلوقه

ص- اعطاءه ماء الارز

ض- أخرى، (حدد).....

33-كيف تقدمين الماء الى طفلك المصاب بالاسهال (اختر اجابة واحدة فقط):

أ- ماء مغلية ومبردة ومغطاة جيدا

ب- ماء مغلية وغير مغطاة جيدا

ت- ماء الصنبور (الحنفية) مغطاة جيدا

ث- ماء الصنبور (الحنفية) غير مغطاة جيدا

ج- أخرى، (حدد).....

34- كيف تتخلصين من براز طفلك؟ (اختر اجابة واحدة فقط):

أ- المرحاض ب- خارج البيت ت- أخرى، (حدد) .....

35-ماذا فعلت في آخر مرة أُصيب طفلك بالاسهال؟

أ- عالجته في البيت

ب- عالجته خارج البيت

ت- لم أفعل شيء

36-هل أرضعتاترضعين طفلك أثناء اصابته بالاسهال؟

أ- نعم ب- لا

إذا كانت اجابتك بنعم، الرجاء الاجابة على السؤال التالي

37- كم عدد المرات التي ترضعين فيها طفلك (اختار اجابة واحدة فقط)

أ- أكثر من المعتاد

ب- كالمعتاد

ت- أقل من المعتاد

ث- ليس بالضرورة

38-هل سبق وأعطيت طفلك المصاب بالاسهال محلول أملاح معالجة الجفاف الجاهز عن طريق الفم؟

أ- نعم ب-لا

39-إذا كانت اجابتك بنعم، كم عدد المرات التي أعطيته المحلول؟ (اختار اجابة واحدة فقط):

أ- بعد كل عملية اخراج ب- بعدد المرات التي يطلبها طفلي ت- لا اعلم

40-هل سبق وأعطيت طفلك المصاب بالاسهال محلول السكر والملح المحضر بالمنزل ؟

أ- نعم ب. لا

إذا كانت اجابتك بنعم، كم عدد المرات؟ (اختر اجابة واحدة فقط):

أ- بعد كل عملية اخراج

ب- بعدد المرات التي يطلبها طفلي

ت- ليس بالضرورة

ث- أخرى، (حدد) .....

41- هل أثرت أي خبرات سابقة لك مع الاسهال أو محلول أملاح معالجة الجفاف عن طريق الفم على قرارك؟

أ – نعم ب. لا

42-- هل دخل أحد اطفالك سابقا المستشفى بسبب الاسهال؟

أ- نعم ب. لا

إذا كانت اجابتك بنعم، كم مرة؟ ..... وكم كان عمر طفلك حينها؟ .....

43- هل نصحك أحد باستخدام محلول أملاح معالجة الجفاف عن طريق الفم أو محلول السكر والملح لطفلك؟

أ- نعم ب. لا

44 - ما هي درجة صعوبة اعطاء طفلك محلول أملاح معالجة الجفاف عن طريق الفم؟

أ-صعب جدا ب- معتدل ت- سهل جدا

45- ماذا تفعلين اذا بدأ طفلك بالاستفراغ ؟

أ- اتوقف عن اعطاء محلول معالجه الجفاف واحضره الى المشفى مباشره

ب- استمر باعطاء محلول معالجه الجفافالموصى بها وابقي عليه بالبيت

ت- استمر باعطاءه محلول معالجه الجفاف ولكن بكميات قليله

ث- استمر باعطاءه محلول معالجه الجفاف واحضره الى المشفى

ج- اتوقف عن اعطاءه محلول معالجه الجفاف وأبقي عليه بالبيت

ح- لا اعلم

شكرا لك على المشاركة وتكريس وقتك الثمين للاجابة على هذا الاستبيان .يرجى اضافه اي اقتراحات او معلومات قد تفيد البحث وتعود بالفائده على الامهات في اثناء رعايتهم للطفل المصاب بالاسهال .

.....

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Appendix (11**): A questionnaire about mothers' knowledge, attitude, and practices concerning children diarrhea and how it is managed in the West Bank**

My name is Ameera Hatem Rasheed Ma'rouf. I am a student at Al-Quds University and I am doing a Master in Maternal and Child Health Nursing. I am conducting a study as a prerequisite to complete my master's thesis, which is titled –Mothers' Knowledge, Attitude, and Practices concerning Children Diarrhea and How to Treat It in the Districts of Ramallah, Nablus, and Hebron.‖

Please complete the following questionnaire. Please note that the information will be treated with confidentiality and will only be used for the purpose of this study. The information will later be coded and no names will be mentioned. Please cooperate with me by spending 30 minutes of your valuable time to answer the following questions.

You may accept or refuse to take part in this questionnaire. However, please give your reasons in the event of refusing to take part in the questionnaire.

This is important for my study.

I accept to take part in the study ……

For more information, please call me at my mobile number 0597 051 705 Thank you for your cooperation and understanding

Date: / / 2017

Section one

Social and economic information

1) How old are you (mother's age)?		……		
2) Do you live in a ….?				
a. City	b.Town	c. Village	d. Refugee camp	
3) **What is your religion?**				
a. Islam	b. Christianity	c. Other		
4) What is the highest level of education that you obtained?				
a. I have not received any education	b. Elementary education	c. Secondary education	d. BA degree	Other (please specify)……..
5) **Do you work or do you have a job?**				
a. Yes	b. No			
6) What is your husband's job status?				
a. Unemployed	employed			
7) What is the household's monthly income?				
a. 1500-2000 shekels	b.2001-2500 shekels	c. 2501-3000 shekels	d. More than 3000 shekels	e. Less than 1500 shekels
8) How many rooms are there in your house other than the kitchen and the Bathroom?	……..			
9) What is the number of the family members including everyone who lives In your house?	……..			
10) How many children under five?	……..			
11) What is your child's number in the family?				
a. First	Second	c. Third	d. Fourth or more	
12) How old were you when you got married?				
13) Who decides to get treatment outside the house for a child when such childe has diarrhea?				
a. Mother	Father	c. Grandfather	d. Grandmother	e. Others (please Specify) ……
14) How old is your child who has diarrhea?				
a. Less than a month	b.1-6 months	c. More than 6 months to1 year	d. More than 1 year to 3 years	e. more than 3-5years
15) What is your child's sex				
a. Male	female			
16) How old where you when you had your first baby? …				
17) How often do you get any help from family or friends when your child is sick?				
a. Always	Sometimes	c. Never		
18) **If your answer to 17 is (a) or (b), please specify the source of help** …				

Section tow

Questions about knowledge

1. How many times would your child have bowel movement a day, which would alert you that he/she has diarrhea?

a. 0-2 times	b. 3-4 times	c. 5-6 times	d. 7 or more times

2. How dangerous is diarrhea in your opinion?

a.Always dangerous	b. Sometimes dangerous	c.Never dangerous	d. I don‘tknow

3. Which of the following in your opinion is a cause of diarrhea among children? (You may have more than one option)

a.Malnutrition n	b Virus, bacteria, or parasites infection	c.Water that is polluted with stool	d. Lack of personal hygiene	e. Improper Preparation of formula
F Lack of clean water for drinking, cooking, and cleaning	g. Medication	h. Food poisoning	f. Envy and witchcraft	

4. Do you think that teething is a cause for diarrhea?

a. Yes	b. No

5. Which, in your opinion, is the most dangerous type of diarrhea? (Please give one answer only)

a. Loose stool	b. Blood in stool	c. Green stool	d. Mucus in stool	e. I don‘tknow

6. What, in your opinion, are the dangerous symptoms that require taking a child who has diarrhea to healthcare Center? (You may have more than one option)

a. Fever	b. Sunken eyes	c. Slow return of normal skin-color
d. The child does not get better after 3 days	e. Loss of appetite	f. Fast breathing
g. Blood in stool	h. Loose stool	i. Frequent vomiting
j. Drowsiness	k. Irritability	l. Fast heart beating
m. The child is lazy	n. No tears when crying	o. Lack of sleeping and nonstop crying

7. Which of the following options, in your opinion, may prevent diarrhea among children? (You may have more than one option)

a.Natural breastfeeding	b. Washing the hands	c.Observing hygiene
d. Using clean water	e.Artificial feeding	f. Eating fresh food
g. Using bathrooms and safe disposal of stool	h. Other (please specify)……	

8. Which, in your opinion, of the following food and liquids is appropriate and must be given to a child who has Diarrhea? (You may have more than one option)

a.Sterilized water	b. ORS	c.Soup with salt
d. Soup without salt	e.Salty rice water	f. Vegetables
g. Fruits	h. Foods containing sugar and salt	i. Fresh foods
j. Carbonated soft drinks such as 7UP	k. Boiled potatoes only	l. Sugar and salt solution
m. Yogurt	n. Ready-made juice	o. Sweetened foods
p. Other (please specify)		

9. **Which, in your opinion, of the following food and liquids is inappropriate and must not be given to a child who has diarrhea? (You may have more than one option)**

a.Carbonated drinks	b. Fatty and rich in spices food	c.Sweetened fruit drinks

d. Sweetened tea	e.Solid food	f. Coffee
g. Other (please specify) ……..		

10. Do you know when to start giving your child ORS?	
a.Yes	b. No
11. What does ORS, in your opinion, do? (Select one answer only)	
a.Prevents child's dehydration	b. Reduces the frequency of bowel movement
c.Increases the frequency of bowel movement	d. Kills the germ that causes diarrhea
e.Compensates for the child‘s loss of salts and liquids	f. I don‘tknow
12. Do you know how to prepare ORS?	
a. Yes	**b. No**

If the answer is yes, please answer questions 13 and 14

13. What are the steps for preparing ORS? (You may choose more than one step)
a.Wash hands and utensils to be used with soap and water
b. Measure 1 liter of clean water to be put in clean utensil
c.Add the ORS in the utensil and stir it using clean spoon
d. ORS must be given to the child within 24 hours
e.I don‘tknow
14. What are the steps of preparing the rehydration solution of sugar and salt at home? (You may choose more than one step)
a.Wash hands and utensil with soap and water
b. Measure half a liter of clean water
c.Use small amount (handful) of sugar
d. Mix the ingredients with a spoon
e.Add salt until the solution tastes like tears
f. I don‘tknow
15. What is the amount of ORS that needs to be given to the child after and between each bowel movement?
a.It depends on child‘s weight
b. It depends on child‘s age
c.It depends on degree of dehydration
d. I don't know
16. What is the amount of ORS that needs to be given to a child aged 6 months to less than a year after and between Each bowel movement?
a.80-100 cm (two-thirds of a cup - 1cup)
b. 100-200 cm (1-2cups)
c.10 cm for every kilogram of child's weight
d. Other (please specify) …….
e.I don't know
17. What is the amount of ORS that needs to be given to a child aged 1 to 3 years after and between each bowel Movement?
a.100-140 cm (1-1.5cups)
b. 8 cm for every kilogram of child's weight

c. 2 cups
d. Natural breastfeeding is sufficient
e. Other (please specify) …….
f. I don't know
18. What is the amount of ORS that needs to be given to a child aged more than 3 years after and between each Bowel movement?
a. 150-180 cm (1.5-2cups)
b. It depends on child's weight
c. 2-3 cups
d. Other (please specify) …….
e. I don't know
19. What, in your opinion, is the required amount of ORS to be given to a child who weighs 10 kilograms after each Bowel movement to prevent dehydration?
a. 1 cup
b. 2 cups
c. 3 cups
d. I don't know
20. When, in your opinion, is it possible to start giving a child ORS (at what age)?
a. 1day
b. 1 month
c. 6 months
d. I don‘tknow

Section three		
Questions about attitude		
Question	**Yes**	**No**
21. Is it, in your opinion, necessary to measure 1 liter of clean water while preparing ORS?		
22. Do you think it is necessary to give ORS to a child after each bowel movement?		
23. Do you think that increasing the frequency and duration of natural breastfeeding during diarrhea would reduce the frequency and intensity of bowel movement?		
24. Would you feel that it is necessary to take the child immediately to healthcare center if the Diarrhea is not treated within 3 days?		
25. Do you think that giving lots of water and liquids to a child who has diarrhea would help?		
26. Do you think that artificial feeding could cause child diarrhea?		
27. Do you think that diarrhea would eventually pass and does not require medical Intervention?		
28. Do you think that giving lots of water to a dehydrated child, where diarrhea is the cause of such dehydration would prevent the child's death?		
29. Do you think that a child with diarrhea must not be left without food since that would Cause malnutrition?		
30. Do you think that diarrhea could be caused by envy and witchcraft?		

Section four

Questions about practices

31. When do you take your child who has diarrhea to a hospital?

a. After one day	b. If he/she does not get better in3 days	c. If he/she does not get better in7 days
d. When the child shows signs of fatigue	e. I don't take my child to hospital because I treat him/her at home	f. Decrease in alertness and consciousness
g. When the child has high temperature	h. When he/she vomits	

32. How do you treat your child who has diarrhea at home? (You may select more than one answer)

a. Continue with feeding the child regular food
b. Safe disposal of stool
c. Use clean drinking water
d. Give sugar and salt solution to the child
e. Observe hygiene
f. Feed the child more yogurt
g. Feed the child boiled soft rice
h. Increase the frequency of natural breastfeeding
i. Increase the number of meals
j. Buy medicine that would stop diarrhea and give it to the child according to directions for use
k. Give the child 7UP to drink
l. Give the child tea to drink
m. Feed the child boiled potatoes
n. Give the child rice water to drink
o. Other (please specify) …….

33. What kind of water do you give to your child who has diarrhea? (Select one answer only)

a. Boiled water after it cools down. The water is well-covered
b. Boiled water after it cools down. The water is not well-covered
c. Tap water(well-covered)
d. Tap water (not well-covered)
e. Other (please specify) ……

34. How do you dispose of your child's stool? (Select one answer only)

a. In the bathroom	b. Outside the house	c. Other (please specify) ……

35. What did you do last time your child has diarrhea?

a. I treated him/he at home
b. I took him/her out for treatment
c. I did not do anything

36. Do you breastfeed you child when he/she has diarrhea?

a. Yes	b. No

If yes, answer the following question

37. How often do you breastfeed your child who has diarrhea? (Select one answer only)

a. More than usual
b. As usual
c. Less than usual

d. Not necessarily		
38. Have you ever given ORS to your child who had diarrhea?		
a.Yes		
b. No		
39. If yes, how often? (Select one answer only)		
a.After each bowel movement		
b. As often as the child asks for		
c.I don't know		
40. **Have you ever given home-prepared sugar and salt solution to your child who had diarrhea?**		
a.Yes	b. No	
41. **If yes, how often? (Select one answer only)**		
a.After each bowel movement		
b. As often as the child asks for		
c.Not necessarily		
d. Other (please specify) ……		
42. Does any previous experience with diarrhea or ORS influence you decision?		
a.Yes	b. No	
43. Has any of your children been admitted to hospital due to diarrhea?		
a.Yes	b. No	
If yes, how often? … How old was he/she?		
44. Has anyone advised you to give ORS or sugar and salt solution to your child?		
a.Yes	b. No	
45. How difficult is it to give ORS to your child?		
a.Very difficult	b. Moderate	c.Very easy
46. What do you do when your child starts vomiting?		
a.I stop administering ORS and I immediately take the child to hospital		
b. I continue administering the recommended ORS and keep the child at home		
c.I continue administering ORS but with lesser amounts		
d. I continue administering ORS and take the child to hospital		
e.I stop administering ORS and keep the child at home		
f. I don't know		

Thank you for taking part in this questionnaire and for spending valuable time on completing it. Please add any suggestions or information that may benefit the research and the mothers while caring for children with diarrhea.

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……

……

Appendix (12**): Facilitate the task of students**

State of Palestine
Ministry of Health - Nablus
General Directorate of Education in Health

دولة فلسطين
وزارة الصحة– نابلس
الإدارة العامة للتعليم الصحي

Ref.: .....
Date:.....

الرقم: ع ت/١٧٧٤/٢٠١٧
التاريخ: ١٨/١٠/٢٠١٧

الأخ مدير عام الادارة العامة للمستشفيات المحترم،،،

الأخ مدير مجمع فلسطين الطبي المحترم،،،

تحية واحترام،،،

الموضوع: تسهيل مهمة طلاب

يرجى تسهيل مهمة **الطالبة: أميرة معروف – ماجستير تمريض أطفال– جامعة القدس**، في عمل بحث الماجستير بعنوان: "**معرفة الأمهات وسلوكياتهن وممارساتهن اللواتي لديهن أطفال دون سن الخامسة ويعانون من الاسهال**"، لذا يرجى تسهيل مهمتها في امهات الاطفال عينة الدراسة (بعد اخذ موافقتهم على المشاركة في البحث) وذلك في أقسام الطوارئ والأطفال في:

- **مستشفى رفيديا الحكومي**
- **مستشفى عاليه/ الخليل**
- **مجمع فلسطين الطبي**

علما بأنه سيتم الالتزام بمعايير البحث العلمي والحفاظ على سرية المعلومات.

مع الاحترام،،،

دولة فلسطين وزارة الصحة
الإدارة العامة للتعليم الصحي
د. أمل أبو عوض

مدير عام التعليم الصحي

نسخة: منسقة برامج الدراسات العليا– دائرة التمريض المحترمة/ جامعة القدس

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