

**CENTRAL UNIVERSITY**

**SCHOOL OF MEDICINE AND HEALTH SCIENCES**

**DEPARTMENT OF NURSING**



**ASSESSING PRE-HOSPITAL MANAGEMENT OF DIARRHOEA BY MOTHERS  
WITH CHILDREN UNDER FIVE (5) YEARS AT MAMOBI COMMUNITY**

**BY**

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## DECLARATION

We, the under-signed do hereby declare that except for other people's investigations which have been duly acknowledged, this work is the result of our own original research and that this research study, either in whole or part has not been presented elsewhere for another degree.

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## **DEDICATION**

This work is dedicated to the Almighty God. We also dedicate this work to our families who had so much confidence in us and whose teachings and encouragement have brought us this far.

## **ACKNOWLEDGEMENT**

Our sincere thanks go to the Almighty God for his grace and protections. We would like to express our deepest gratitude to our supervisor Dr Mary Opare, for his excellent guidance, caring and patience. We would like to thank the all mothers who availed themselves to partake in the study. Our research would not have been possible without their helps. We would also like to thank our parents and our friends. They were always supporting us and encouraging us with their best wishes.

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## ABSTRACT

This study examined “The Pre-hospital Management of Diarrhoea by Mothers of Children Under Five Years at the Mamobi Community”. A quantitative cross-sectional study design was used for the study by selecting 100 mothers of children under five years. A convenience sampling method was adopted to collect the data using a structured questionnaire. Data was processed by Statistical Package for Social Scientist (SPSS, version 20.0). The results showed many participants (55%) conceived diarrhoea as increase in loose stool. On the causes of diarrhoea, many (56%) indicated contaminated food, 27.5% teething, 9.5% not breastfeeding up to six (6) months and 7% infection. On the sources of information on diarrhoea management, 66% stated media. Regarding preventive practices, almost all (96%) indicated that they use soap and water in hand washing. Again, all the respondents (100%) confirmed that they wash their hands after defecation. On home management of diarrhea, 30.5% indicated that they used ORS, 22.2% gave water, 21.6% used herbal medication, 14.3% give enema and 11.4% use breastfeeding. From the findings it could be said that majority of the respondents had adequate knowledge on the causes, preventive practices and emergency home management of diarrhoea before reporting at the health facility. However, it is recommended that health workers should intensify health education on diarrhoea management to promote knowledge and good practice to reduce morbidity and mortality of childhood diarrhoea.

## **CHAPTER ONE**

### **BACKGROUND AND LITERATURE REVIEW**

#### **1.0 Introduction**

This chapter provides the general setting for the study. It provides further explication on the research topic and to serve as a guide to reading the subsequent chapters of this research. The background of the study, problem statement, research objectives, significant of the study, operational definition of terms and literature review are presented in this chapter.

#### **1.1 Background of Study**

Diarrhoea is a global problem and is defined as having loose or watery stools at least three times a day or more frequently than normal for an individual (WHO, 2017). Rehydration is a cornerstone of treatment of diarrhoea to prevent dehydration. Diarrhoea is usually a symptom of an infection in the intestinal tract, which can be caused by a variety of bacterial, viral and parasitic organisms (Merga & Alemayehu, 2015) and this infection is spread through contaminated food or drinking-water, or from person-to-person as a result of poor hygiene. Diarrhoea can last several days, and can leave the body without water and salts that are necessary for survival (WHO, 2017). In the past, for most people, severe dehydration and fluid loss were the main causes of diarrhoeal deaths.

Globally, diarrhoeal infections with Salmonella species (including invasive infections), enteropathogenic and enterotoxigenic Escherichia coli, norovirus and Campylobacter species were responsible for the greatest burden of foodborne diseases (Binka, Vermund, & Armah,

2011). Children who die from diarrhoea often suffer from underlying malnutrition, which makes them more vulnerable to diarrhea (Binka et al., 2011). Each diarrhoeal episode, in turn, makes their malnutrition even worse. Diarrhoea is a leading cause of malnutrition in children under five years old (WHO, 2017).

Diarrhoeal disease is a leading cause of child morbidity and mortality in the world, and mostly results from contaminated food and water sources (Gebru, Taha, & Kassahun, 2014). Worldwide, 780 million individuals lack access to improved drinking-water and 2.5 billion lack improved sanitation and children are the most vulnerable in this population making the situation very alarming (WHO, 2017).

Regionally, Africa has the greatest burden of diarrhoeal disease from contaminated food among all age groups with 687 cases per 100 000 population compared with 229 per 100 000 globally and 23 per 100 000 in North America (Kirk, Angulo, Havelaar, & Black, 2017). These differences suggest that implementation of preventive measures in low- and middle-income countries could prevent substantial foodborne disease. In many developing countries, most diarrhoeal episodes are treated at home, and mothers are the key caregivers to under-five children (Merga & Alemayehu, 2015). They are the ones who decide about the type of food given to the child and the overall management of the disease. Therefore, their knowledge about this common disease is critically important. Awareness of and perception towards diarrhoea, and individual as well as household actions to prevent and/or manage the disease, have paramount importance to reduce diarrhoea-related morbidities and mortalities (Merga & Alemayehu, 2015).

In Ghana, diarrhoeal diseases are the fourth leading cause of child mortality accounting for an estimated 9% of all mortality among children under 5 years of age (Ghana Demographic and Health Survey (GDHS), 2014). The GDHS (2014) report further revealed that prevalence of

diarrhoea among children under 5 in the 2 weeks preceding the survey was 12%. The survey report again showed that 43% of caregivers who seek diarrhoea treatment for their child do so in the private sector, while 53% seek care in the public sector and the remaining 4% go to other sources such as traditional practitioners.

Some of these treatments may not appropriately be given and has long term negative effects. The knowledge of caregivers about the appropriate home management of diarrhoea can results in the use of safe and standard treatment which would in the final analysis reduce paediatric emergencies resulting from diarrhoea.

## **1.2 Problem Statement**

In Ghana, many people prefer to manage diarrhoea at home. As mothers play major role in care of children, which include breast feeding and hygienic care, their knowledge on prevention and management of the disease is critical to reduce child morbidity and mortality.

In 2011, the Ghana Health Service (the service delivery arm of the Ghana Ministry of Health) created the policies and protocols needed to adopt the recommendations outlined in the joint WHO/UNICEF statement on diarrhea management and, with UNICEF funding. This was prepared to train public-sector staff and procure dispersible zinc tablets for public-sector facilities.

Despite all these efforts however, in 2016, diarrhoea cases ranked third (3rd) among top ten causes of admission and OPD morbidity cases with about 1,100 reported cases (Mamobi Polyclinic Medical Records Department, December, 2017). Similar situation was observed in 2017 where the number of diarrhoea cases rose to about 2, 700 (Mamobi Polyclinic Medical Records Department, December, 2017). Anecdotal evidence from the researchers' has shown

that most diarrhoea cases, which are presented for treatment at the hospital, are poorly managed at home. The general perception is that most of the mothers lack knowledge in the causes and the associated dangers signs of diarrhoea as well as diarrhoeal management practices such as correct use of ORS (Kanoa & Hindi, 2009; Boadi & Kuitenen, 2005). Another important concern is that some of the caregivers do not take their children early to the hospital for treatment due to financial constraint. In this context, a study of the knowledge of pre-hospital management of diarrhoea among mothers of children under five is critical to ascertain and understand what mothers do at home when their children started having diarrhea before reporting to any health facility.

### **1.3 Purpose of Study**

The purpose of this study is to assess the pre-hospital management of diarrhoea by mothers of children under five years at the Mamobi community.

### **1.4 Research objectives**

1. To examine the knowledge of mothers on diarrhoea.
2. To examine the preventive practices adopted by mothers to prevent diarrhoea in their children.
3. To determine how mothers manage diarrhoea among children under five years at home.

## **1.5 Research Questions**

1. What knowledge do the mothers have on diarrhoea?
2. What preventive practices do mothers adopt when their children under five have diarrhoea?
3. What home management practices do mothers engage in during diarrhea among children under five?

## **1.6 Significance of the Study**

The study will provide information to Public Health Nurses, Community Health Nurses, the Municipal Health Directorate and Non-Governmental Organisations to develop strategies to improve their educational campaigns to mothers on causes, effect and home-based management of gastroenteritis among children under five years.

It will also help in policy change towards involvement of mothers in the management of diarrhoea at home. The current policy by the Ministry of Health only focuses on community health workers without active involvement of caregivers. This study can help shift the focus and involve caregivers in the training and education on home management of diarrhoea.

In addition to the above, the study will add to the body of literature on diarrhoea which can be used by researchers and those in academia. This study can also serve as a baseline study for future research on diarrhoea.

## **1.7 Operational Definition of Terms**

**Knowledge:** Any written and (or) verbal information of which mothers know about diarrhoeal disease and its management for young children.

**Diarrhoea:** The passage of three or more frequent loose stools than usual to the child.

**Practices:** The verbal or demonstrable account of what mothers do for their young children during diarrhoeal episodes.

**Management:** The measures mothers are taking when their children have diarrhoea.

**Young Children:** This study defines young children as those aged 0-5 years. These include both males and females.

**Mother:** Any biological or non-biological woman who has a child or children aged 0-5 years under her care even if they are not her own children.



## **1.8 LITERATURE REVIEW**

This section discusses empirical studies relative to the following headings:

- Knowledge of mothers on diarrhoea.
- Preventive practices adopted by mothers to prevent diarrhoea.
- How mothers manage diarrhoea of children under five years at home.

### **Knowledge of mothers on diarrhoea**

Ghasemi, Talebian, Alavi and Mousa (2013) conducted a cross-sectional study among 430 mothers with children under five on their knowledge in management of diarrhoea. Their analysis revealed that 28.8% of mothers had a good knowledge of diarrhea on the signs and causes of diarrhoea, while the 46.5% had medium and 24.7% had low knowledge on diarrhea. The findings further revealed that knowledge of the mothers had significant relation with their age, education of the father, number of children, occupation of the mother, and the source of the knowledge. The authors therefore called for the institution of educational programs which is an essential part of the health centers programs.

Another study in Iran on the knowledge and performance of 956 mothers of diarrheic children by Abdinia (2014) revealed that the knowledge of 37.23%, 44.24%, and 18.53% of the mothers was poor, medium and good, respectively. This indicates low level of knowledge on diarrhoea among the participants.

Padhy, Sethi and Behera (2017) conducted a cross-sectional study on knowledge and practice of mothers with children under five regarding management of diarrhea in India. Their findings revealed that of more than half of the participants (52%) knew about the aetiology of

diarrhoea and 58% knew about risk factors of diarrhoea. Regarding role of breastfeeding in diarrhea, a little under half (48%) mothers had good knowledge. In this study, only 34% of mothers were aware of assessment of danger signs and dehydration and 27% about treatment of dehydration. Furthermore, 33% mothers had good knowledge on hygienic use of latrine and safe drinking water uses in prevention and treatment of diarrhoea. Regarding preparation of ORS only, 19% mothers had good knowledge, 65% mothers had average knowledge. The authors in conclusion stated that health education should be used as a tool to promote knowledge and good practice and reduce morbidity & mortality.

In Africa, Merga and Alemayehu (2015) conducted a community-based comparative cross-sectional study on the knowledge, perception, and management skills of mothers with under-five children about diarrhoeal disease in indigenous and resettlement communities in Western Ethiopia. Their analysis revealed that of 232 randomly-selected mothers, knowledge on causes, transmission, and prevention of diarrhoea was found to be 37.5% on the average. This was evident when 39.5% of the respondents described that passage of three or more loose stools with blood in 24 hours is the immediate danger sign and symptom of diarrhoea. These outcomes indicate inadequate knowledge level of the participants when it comes to diarrhoea. The authors in conclusion stated that information, education and communication strategy may help increase the knowledge and create positive attitude among mothers regarding the cause, prevention, and management of diarrhoea.

Olaniyi and Oyerinde (2016) also their study on the knowledge of causes, management and prevention of childhood diarrhoea among nursing mothers in two selected primary health centers in Oyo State, Nigeria. They found that majority (89.4%) of participants have heard of diarrhoea before, many of them (45%) had it from health centers and (10.6%) from past experience of diarrhoea occurrence. Majority (78.1%) of participants had knowledge of

diarrhoea, having been able to define what diarrhoea in their own perspective. Over half (63.8%) of them claimed their index child had diarrhoea out of which less than half (38.8%) of them managed it with ORS. Less than half of them (34.4%) managed the occurrence at home while (25.5%) took their children to health center. The study therefore recommended that health education of mothers on prevention should be intensified while mass media should assist in disseminating health information on diarrhoea prevention.

Ogbeyi, Onyemocho and Ogbonna (2016) in a cross-sectional study on mothers' knowledge of diarrhea and practice of home management of diarrhoea diseases in under- two children in Benue State, Nigeria stated that, out of the 295 participants, (42.7%) could define diarrhoea correctly. Also (68.1%) identified teething as the cause of diarrhoea, while (10.9%) opined germs to be the cause of diarrhoea among under two children. More than halve (61.1%) of the participants s had correct knowledge of hand washing after using the toilet. The authors therefore recommended that caregivers in rural communities need to be educated and trained on home management of diarrhoea diseases in order to reduce the mortality and morbidity.

In Ghana, as stated earlier Escribano-Ferrer et al. (2017) investigated the effectiveness of two community-based strategies on disease knowledge and health behaviour regarding malaria, diarrhoea and pneumonia. A household survey was conducted two and eight years after implementation of community case management in the Volta and Northern Regions of Ghana respectively. Their analysis revealed that only 36% and 53% of carers in the Volta and the Northern Regions could identify at least 2 practices that can cause diarrhoea.

Akabanda Hlortsi and Owusu-Kwarteng (2017) in their a descriptive, cross-sectional survey of 29 institutions by evaluating their food safety knowledge, attitudes, and practices found that majority (76.2%) of the food- handlers did not know that Salmonella is a food borne pathogens and 87.7% agreed that bloody diarrhoea is transmitted by food. They

recommended for continuous food safety education and motivation for food-handlers of various demographic backgrounds

### **Preventive practices adopted by mothers to manage diarrhoea**

According to UNICEF (2013), improved nutrition with a focus on breast-feeding and safe weaning foods, better personal and domestic hygiene, and the provision of safe water supplies are essential to prevent diarrhoea. As pathogens causing diarrheal diseases are mostly transmitted through the oro - faecal route, hand washing is proposed as an important prevention strategy.

Khanal, Sauer and Zhao (2013) investigated the determinants of complementary feeding practices among Nepalese children aged 6–23 months using data from the Nepal Demographic and Health Survey (NDHS) 2011. Their analysis revealed that of the 698 children aged 6–23 months, only 26.5% received an acceptable diet to prevent diseases such as diarrhoea and dysentery in children of older mothers (>35 years); educated mothers were more likely to have been provided with the recommended hygienic dietary practices and diversity. Furthermore, children of mothers who had attended  $\geq 4$  antenatal visits were more likely to provide their child with the best dietary practices. The study recommended an appropriate mix of health education and food supplements could be a feasible option to improve the number of children who meet the recommended infant feeding guidelines, reduce under nutrition and improve the survival rates of young children.

Olatona, Odozi and Amu (2014) conducted a descriptive cross-sectional complementary feeding practice among mothers of children under five years of age in Satellite Town, Lagos, Nigeria. Their analysis showed that of the 358 mothers, less than half of them (48.4%)

introduced drinks or foods at age 6 months. Even though majority (91.9%) continued breast feeding after introducing other foods, more than half (57.1%) discontinued breast feeding before 12 months due to diarrhoea. Most of the respondents fed the child responsively (70.3%) and prepared foods hygienically (75.1%) to prevent diarrhoea. They recommended that complementary feeding education using various media especially health facilities is very important for mothers of infants and hence should be promoted.

Trivedi, Vyas, Dave and Desai (2015) conducted a cross-sectional study on the knowledge, attitude, and practices pertaining to complementary feeding among the 250 mothers of Waghodia Taluka of Vadodara, Gujarat in India. Their analysis revealed that around 75% mothers fed their children by themselves in order to maintain hygiene condition to prevent diseases such as diarrhoea. The study further showed that most common illnesses associated with those that practice poor feeding were diarrhea (30%) and vomiting (22%). Literate mothers were observed to feed their children 2.4 times more if they had developed diarrhea. The study concluded that improper feeding practices were associated with educational status of mothers and inadequate knowledge about hygiene practices and illnesses related to poor feeding.

Rokkappanavar, Nigudgi and Ghooli (2016) assessed knowledge and practice of 204 mothers of under-five children regarding management of diarrhea in India. Their findings revealed that only 44.11% of mothers were using latrine rooms for disposing the child's faeces to prevent diarrhoea whereas majority (55.88%) of mothers disposed child's faeces in open air. Though all the mothers said they would wash hands after disposing child's faeces, only 43.62% demonstrated proper technique of hand washing. Regarding personal hygiene, more than half (51.47%) of mothers were not seen to be maintaining it. Also, 26.96% mothers regularly dewormed their children using Albendazole tablet/syrup to prevent diarrhoea. Many

of the participants (56.37%) used tap water directly for drinking purpose, whereas rest of them followed at least one of the recommended household methods of purifying drinking water. Regarding the method of storage of drinking water, majority (70.58%) of them closed the lids whereas 29.41% kept the water container open and used directly for collecting water. Regarding immunization, majority (71.56%) of the children have received age appropriate vaccine. In conclusion, the author's indicated that health education should be used as a tool to promote knowledge and good practice and reduce morbidity & mortality.

A cross-sectional study was conducted to assess mothers' knowledge, attitudes and practices (KAP) on how to prevent diarrhoea among under-five year old children at the United Nation's Mission in South Sudan by Kier and Dai (2018). They reported that of the 410 participants, majority (80.5%) wash their hands before preparing food and eating. Also, majority (82.7%) use soap and (55.9%) treat their water before using it. Others (74.2%) add, chlorine and (92%) cover their water containers to prevent diarrhoea. The study called for the need to increase education and schooling of women and girls.

Ogbeyi et al. (2016) in their study on care givers knowledge of diarrhea and practice of home management of diarrhoea diseases in under- two children in Nigeria reported that majority (93.2%) of the participants did not wash their hands with soap and water when child's faeces were disposed of. It was observed that only (6.8%) of the caregivers washed their hands with soap and water the last time the child defecated. Thirty-two (10.8%) washed hands with soap and water before cooking. The authors therefore recommended that caregivers in rural communities need to be educated and trained on home management of diarrhoea.

In Ghana, Egyir and Ramsay (2015) investigated Ghanaian mothers' complementary feeding practices and perception on children's health using separate focus group discussions among 99 mothers. They found that respondents reported inappropriate complementary feeding

practices: early introduction of solids, early cessation of breastfeeding, inappropriate cues of introducing solids and poor hygienic practices leading to diarrhoea. The study concluded that the mothers identified challenges and misconceptions in complementary feeding, indicating the need for nutrition education and support.

Benti, Steiner-Asiedu and Lartey (2016) compared complementary feeding practices between 50 mothers with twins and 50 mothers with singletons where dietary information on the infants was collected using 24 hour recall. They reported that the minimum dietary diversity was met by only 32% of the twins and 40% of the singletons, and 28% of the twins and 38% of the singletons met the requirement for minimum acceptable diet (minimum dietary diversity and the minimum meal frequency). Minimum meal frequency was met by 78% of the twins and 76% of the singletons. Importantly, the study reported that there were no significant differences between the two groups of infants. Prevalence of undernutrition was not significantly different among the two groups (twins versus singletons: underweight-26% versus 24%, stunting-20% versus 24% and wasting-14% versus 10%). They therefore recommended educating mothers on the appropriate complementary feeding practices will help improve the number of infants who meet the recommended infant feeding guidelines.

### **How mothers manage diarrhoea among children under five years at home**

Akhtaruzzaman et al. (2015) also investigated the knowledge and practices of mothers on childhood diarrhoea and its management attended at a tertiary hospital in Bangladesh. Four hundred children under-five years of age having acute diarrhoea were included in the study by systematic random sampling. Their analysis revealed that 35.83% of the mothers used less amount of water, while 11.11% of the mothers used much amount of water to prepare ORS.

Also, 24.72% mixed part of the content of ORS sachet at a time. Only 15.28% offered correct amount of ORS after each purging. Zinc was offered in 35.50% of the children. Furthermore, only 17.50% of the mothers offered increased amount of fluid to their child. Among drugs, other than zinc and ORS, antibiotics was used in 44.13% of the cases, whereas antiprotozoal in 97(39.27%) cases. Amount of food given was same as usual in 14.75% of the children, while less than usual in 85.25% of the children. The authors therefore called for great emphasis that is needed to educate mothers about preparation and quantity of ORS to be given to children with diarrhoeal diseases.

Verma, Kumar and Singh (2016) undertook a cross-sectional study to examine the prevalence of diarrhoea among the children (0–5 years) and the practices followed by their mothers to control diarrhoea at home in India. The study sampled 14,532. Their results showed that over half (54.76%) of the mothers give ORS to their children when they get diarrhoea. However, 43.43% mothers use salt and sugar solution for the treatment of childhood diarrhoea at their homes. Despite a great deal of efforts being expanded worldwide to promote breastfeeding, only 19.9% mothers continue breastfeeding when their child suffers from diarrhoea. The study recommended the continuous education on diarrhoea and its management at home.

Desta, Assimamaw and Ashenafi (2017) assessed the knowledge, practice, and associated factors of home-based management of diarrhea among 378 caregivers of children attending the under-five clinic using a cross-sectional study in Ethiopia. The outcome revealed that has revealed that only 37.6% of the caregivers had the good practice while majority (62.4%) caregivers had a poor practice regarding home management of diarrhea. This was evident when 20.3% of caregivers did not take any measure at home to care for child and 5.1% of caregivers gave homemade fluids during the episode of diarrhea in their children. On the contrary, about 0.5% and 1.9% of caregivers had given traditional herbs and



decreased/stopped feeding pattern during the episode of diarrhea, respectively. Regarding the preparation of homemade fluid, only 9.5% of the caregivers used to prepare it, of which only 8.4% of the caregivers had been preparing homemade fluids correctly. Majority (73.2%) of the caregivers had given ORS to their children during the episode of diarrhea of which about 85.4% prepared ORS powder correctly with the recommended amount of water. Regarding methods of ORS giving, about 88.9% of the caregivers used cup while 11.1% of them used the spoon. Concerning frequency, only 16.2% of the caregivers administered ORS after each episode of diarrhea while majority (61.1%) of the caregivers gave it only whenever the child wants to drink.

El-Khoury, Banke and Sloanea (2016) evaluated a pre-post evaluation of a comprehensive private-sector program in order to assess improved childhood diarrhea treatment practices in Ghana. They assessed the effect of this program using a baseline survey of 754 caregivers of children under 5 with diarrhea at the start of the intervention in 2012 and a follow-up survey of 751 caregivers in 2014. The program included (1) partnering with local pharmaceutical firms to introduce and market locally produced zinc products, (2) collaborating with the Ghanaian Pharmacy Council to provide training and supportive supervision of private-sector providers on diarrhea management, and (3) conducting mass media campaigns to raise caregiver awareness. Their analysis revealed that majority (93%) of the caregivers who used zinc at follow-up used it in combination with ORS, as recommended. Regression analysis showed that use of ORS with zinc increased from 0.8% in 2012 to 29.2% in 2014, and antibiotic use declined from 66.2% to 38.2% during the same period. Importantly, they found that inappropriate antibiotic use remained high at follow-up. The authors therefore concluded that similar programs applied in other settings have the potential to rapidly scale up use of ORS and zinc.

## **CHAPTER TWO**

### **RESEARCH METHOD**

#### **2.0 Introduction**

This chapter focuses on the research design and methodology paying particular attention to design choice, study population, sampling procedures, the research instrument, data collection methods and analysis. The chapter also looks at ethical issues covered in the study as well issues of reliability and validity.

#### **2.1 Research Design**

Research design refers to the plan which a researcher follows to obtain research respondents, whether individuals or groups and collect relevant data from them with a view of reaching conclusions about the research problem (Welman, Kruger & Mitchell, 2005). The current study adopted a quantitative approach using a cross-sectional study design.

#### **2.2 Research Setting**

This study was undertaken at the Mamobi community in the Accra Metropolitan Assembly. Mamobi is often described as one of Accra's largest slum. A community within Accra with the largest concentration of poor and illiterates. Mamobi is characterized by being poorly planned and densely populated. There are no proper systems in these areas. Most of the households don't have running water. Consequently, children have to fetch water every morning and every night needed by the family for their daily consumption. The walk and the

carrying of these buckets on their heads are just one of their numerous chores. The population of Mamobi is 88,080 (Reproductive Child Health Clinic- Mamobi General Hospital). Mamobi is predominantly a Muslim community; some have described it as one of the largest “Zongo” community in the country. Mamobi’s population comes from all over Ghana and from outside of Ghana. Illiteracy is a major setback for the development of the community.

### **2.3 Target Population**

Welman et al. (2005) define a population as a well-defined set that has specified characteristics or special attributes that a researcher is interested in studying and may consist of events, places, objects, animals, or individuals while a sample is a set of elements which make up the population. The target population of this study was mothers with children five in the community.

#### **Inclusion Criteria**

- Mothers with children under 5 years were included in the study.
- Guardians of children under 5 years were included in the study.

#### **Exclusion Criteria**

- A mother or guardian with children more than 5 years were excluded from this study.

### **2.4 Sampling Method and Sample Size**

Convenience sampling method was used for mothers of children under five years in the community who were available and willing to participate in the study as at the time of data

collection were sampled. A total of 100 mothers with children under five in the community were selected to participate in the study.

## **2.5 Data Collection Tool**

A questionnaire with close ended questions was used for the study. The various sections within the questionnaires included;

Section A: Demographic data.

Section B: The knowledge of mothers on diarrhoea.

Section C: Preventive practices adopted by mothers to prevent diarrhea.

Section D: How mothers manage diarrhoea among children under five years at home.

## **2.6 Data Collection Technique**

An approval letter from the Nursing Department of Central University was taken and given to opinion leaders in the community including the Zongo Chief, Assembly Members and other significant figures who played direct and indirect role in the study. Participants consent was sought before questionnaires given to them. For clarity, the researchers made the purpose of the study known to avoid any misunderstanding in order to obtain accurate information. The researchers explained the technical terms to the participants and to those who could not read, the researchers read, translated and explained to them. They were assured of highest level of confidentiality to any information that were given.

## **2.7 Validity and Reliability of the Study**

Reliability refers to how consistent a measurement is when performed by different observers under the same conditions or by the same observer under different conditions whereas, validity refers to the extent to which a measurement approaches what it is designed to measure (Welman et al., 2005). Reliability and validity was ensured by pretesting the questionnaire.

### **➤ Pretesting of tool**

The questionnaire was pretested using ten (10) mothers with children under five (5) at Fadama, a suburb of Accra. The pre-testing was done to identify those challenges with the respondents' understanding of the questions. Through the pre-testing errors or ambiguities were corrected in the questionnaire before the final data collection.

## **2.8 Ethical Considerations**

A proposal was submitted to the Department of Nursing of the Central University for approval. A letter of introduction from the Department of Nursing of Central University was sent to the Accra Metropolitan Assembly for permission for data collection. To conform to research ethics, confidentiality and privacy was provided to the participants. To ensure that privacy and confidentiality is adhered to, completed questionnaires did not contain names or reference numbers. No one could link any specific completed questionnaire with any specific respondents because code numbers was used. The respondents were not forced to take part in the study and the questions were administered on individual basis in a relaxed and conducive atmosphere.

## **2.9 Limitations to the Study**

The main limitation was time constraint in conducting this study since the study was combined with other academic commitments and work. Another limitation was that, this study was conducted at a section at Mamobi and not the entire community. The results are therefore limited to those who participated in the study. Also, the sample size of 100 was small hence the results could not be generalised to all mothers in the community.

## **CHAPTER THREE**

### **STUDY FINDINGS AND DISCUSSIONS**

#### **3.0 Introduction**

This chapter presents the analysis and findings on the data obtained on the “Pre-hospital Management of Diarrhoea by Mothers of Children Under Five Years at the Mamobi community”. The responses were analyzed using appropriate statistical models such as tables and figures based on the questionnaire completed by respondents.

#### **3.1 Approach to Data Analysis**

Data collected from the study was analyzed using Statistical Package for Service Social Scientist (SPSS, version 20.0) Descriptive statistical tools such as bar chart and pie charts were employed in presenting the results.

#### **3. 2 Socio-Demographic Characteristics**

Table 1 below depicts the analysis on the socio-demographic characteristics of respondents. The analysis revealed that 42% of the respondents were aged 25-34 years, 30% were aged 35-45 years, 22% were aged 18-24 years and 6% were aged 46-55 years. In terms of education, 38% were educated up to senior high school level, 28% were educated up to the junior high school level, 16 had no formal education, 10% were of tertiary level and 8% had primary education. This implies that majority of the respondents could read and write. The analysis further showed that the majority (74%) of the respondents were Moslems whereas 18% were Christians. In terms of employment, more than half (66%) were in the informal sector, 18% were formal employment, 10% were unemployed and 6% were students.

**Table 1: Socio-demographic characteristics of Respondents**

<b>Characteristics</b>	<b>Frequency</b>	<b>Percentage</b>
<b>AGE(years)</b>		
18-24	22	22%
25-34	42	42%
35-45	30	30%
46-55	6	6%
56 years and above	-	-
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>EDUCATIONAL LEVEL</b>		
Tertiary/Post-secondary	10	10%
Senior high/SSS/Secondary	38	38%
Junior high/JSS	28	28%
Primary level	8	8%
No formal education	16	16%
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>RELIGION</b>		
Christian	18	18%
Islam	74	74%
Traditional	-	-
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>EMPLOYMENT STATUS</b>		
Unemployed	6	6%
Formal employment	10	10%
Informal Employment	66	66%
Student	18	18%
<b>Total</b>	<b>100</b>	<b>100%</b>

**Field work, 2019**

### **Knowledge of Mothers on Diarrhoea**

When the respondents were asked if they were aware of diarrhoea, all of them (100%) answered in the affirmative.



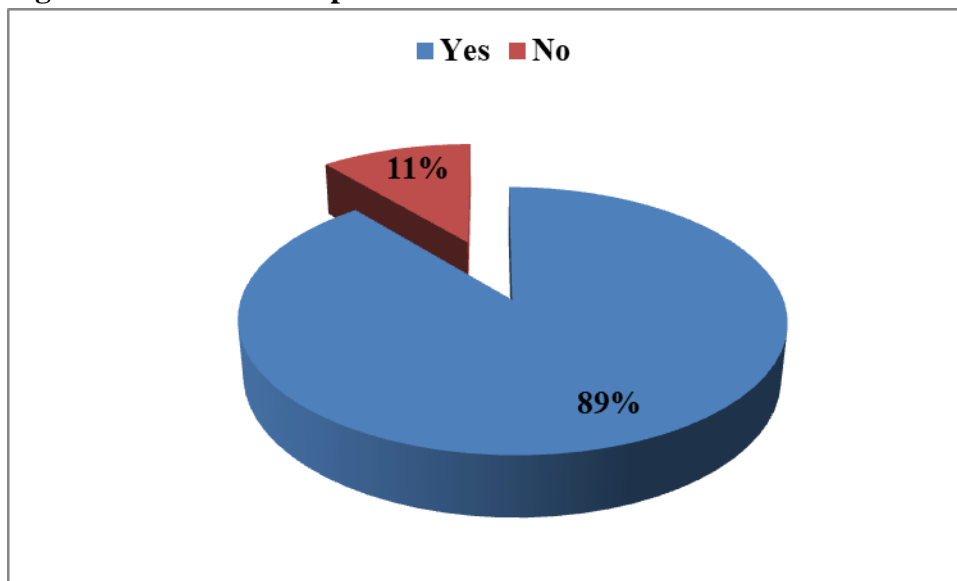
**Table 2: Knowledge on the meaning of diarrhoea**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Blood in stool	11	11%
Increase in stool	33	33%
Increase in loose stool	55	55%
<b>Total</b>	<b>100</b>	<b>100%</b>

**Field work, 2019**

Table 2 above depicts respondents' knowledge on the meaning of diarrhoea. Many (55%) indicated that diarrhoea means increase in loose stool, 33% indicated increase in stool and 11% indicated blood in stool.

**Figure 1: Awareness of prevention of diarrhoea**



**Field work, 2019**

Analysis as shown in figure 1 indicates that more than two-third (89%) of the respondents were of the view that diarrhea has causes whereas 11% indicated diarrhoea do not have any cause.

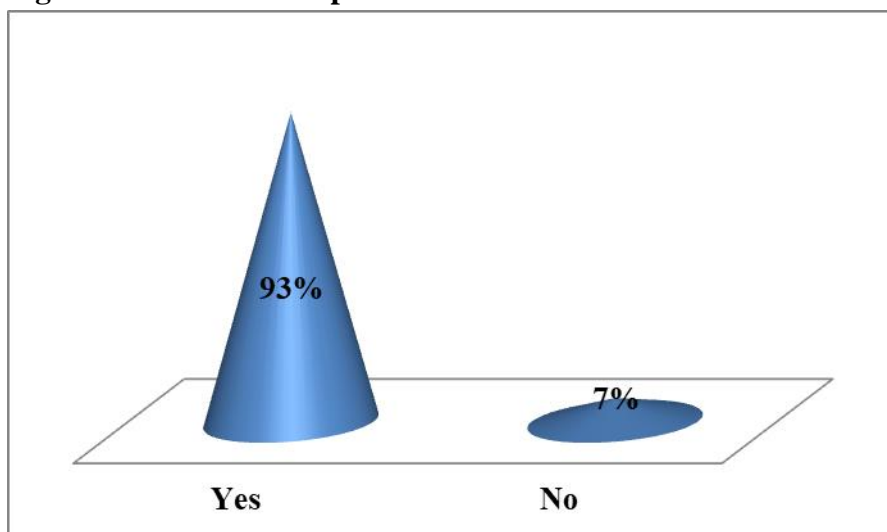
**Table 3: Causes of diarrhea among children under five (n=89)**

Variable	Frequency	Percentage
<b>Infection</b>		
<i>Yes</i>	11	12.4%
<i>No</i>	78	86.6%
<b>Total</b>	<b>89</b>	<b>100%</b>
<b>Teething</b>		
<i>Yes</i>	44	49%
<i>No</i>	45	51%
<b>Total</b>	<b>89</b>	<b>100%</b>
<b>Not breastfeeding up to 6 month</b>		
<i>Yes</i>	15	17%
<i>No</i>	74	83%
<b>Total</b>	<b>89</b>	<b>100%</b>
<b>Contaminated food</b>		
<i>Yes</i>	89	100%
<i>No</i>	-	-
<b>Total</b>	<b>89</b>	<b>100%</b>

**Field work, 2019**

Table 3 above depicts respondents' causes of diarrhea among children under five. Of the 89 respondents who said there are causes of diarrhoea among children under five, all of them (100%) indicated contaminated food. 49% indicated teething and 35% indicated infection. The least indicated cause was infection (12.4%).

**Figure 2: Awareness of prevention of diarrhoea**



**Field work, 2019**

As shown in Figure 2 above, more than two-third (93%) of the respondents indicated that diarrhoea can be prevented whereas 7% indicated that it cannot be prevented.

**Table 4: Knowledge about prevention of diarrhea (n=93)**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Handwashing</b>		
<i>Yes</i>	55	59%
<i>No</i>	38	41%
<b>Total</b>	<b>93</b>	<b>100%</b>
<b>Personal Hygiene</b>		
<i>Yes</i>	91	98%
<i>No</i>	2	2%
<b>Total</b>	<b>93</b>	<b>100%</b>
<b>Use of herbs</b>		
<i>Yes</i>	7	8%
<i>No</i>	86	92%
<b>Total</b>	<b>93</b>	<b>100%</b>
<b>Exclusive breastfeeding</b>		
<i>Yes</i>	33	35%
<i>No</i>	60	65%
<b>Total</b>	<b>93</b>	<b>100%</b>
<b>Avoid complementary feed during teething</b>		
<i>Yes</i>	14	15%
<i>No</i>	79	85%
<b>Total</b>	<b>93</b>	<b>100%</b>

**Field work, 2019**

Table 4 above illustrates respondents' knowledge about the prevention of diarrhea. Of the 93 respondents aware about the prevention of diarrhoea among children under five, almost all (98%) indicated personal hygiene as means of preventing diarrhoea among children under five. Many (59%) also indicated handwashing as means of preventing diarrhoea among children under five. The least indicated means of preventing diarrhoea was use of herbs (8%).

**Table 5: Major source of information on diarrhoea**

<b>Response</b>	<b>Frequency</b>	<b>Percentage</b>
Friends/ Family	14	14%
Media	64	66%
Health worker	19	19%
Past experience	3	3%
<b>Total</b>	<b>100</b>	<b>100%</b>

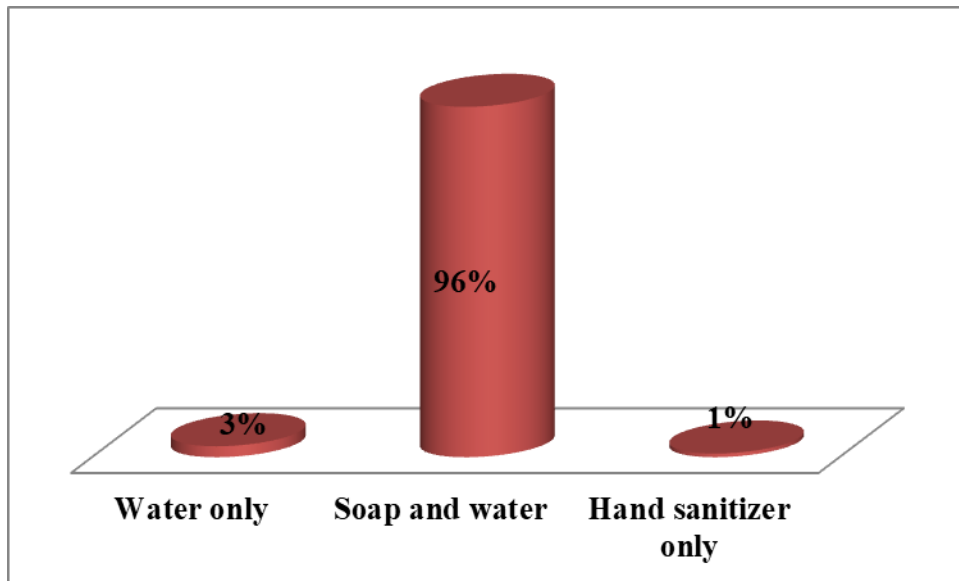
**Field work, 2019**

Table 5 above depicts respondents' major source of information on diarrhoea. Many (66%) indicated that the major source of information on diarrhea is from the media, 19% indicated they had their information from health worker, 14% indicated friends and (or) family and 3% indicated past experience.

**Preventive Practices Adopted by Mothers of Children Under Five**

When the respondents were asked if they practiced hand washing, all of them (100%) answered in the affirmative.

**Figure 3: Hand washing method**



**Field work, 2019**

Figure 3 above depicts ways by which respondents wash their hand. From the findings, almost all (96%) of the respondents indicated that they use soap and water, 3% indicated that they use water only and 1% indicated that they use hand sanitizer only.

**Table 6: Occasions for hand washing**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>After child' faeces was disposed</b>		
<i>Yes</i>	65	65%
<i>No</i>	35	35%
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>After defecation</b>		
<i>Yes</i>	100	100%
<i>No</i>	-	-
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>After urinating</b>		
<i>Yes</i>	58	58%
<i>No</i>	42	42%
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>Before cooking</b>		
<i>Yes</i>	47	47%
<i>No</i>	53	53%
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>Before feeding my child</b>		
<i>Yes</i>	56	56%
<i>No</i>	44	44%
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>After eating</b>		
<i>Yes</i>	97	97%
<i>No</i>	3	3%
<b>Total</b>	<b>100</b>	<b>100%</b>

**Field work, 2019**

Table 6 above depicts occasions where respondents' wash their hands. All the respondents (100%) indicated that they wash their hands after defecation. 97% also indicated that they wash their hands after eating. Again, (65%), (58%) and (56%) indicated that they wash their hands after child' faeces was disposed, after urinating and before feeding their child respectively. Less than half (47%) wash their hands before cooking.

**Table 7: Care for feeding utensils**

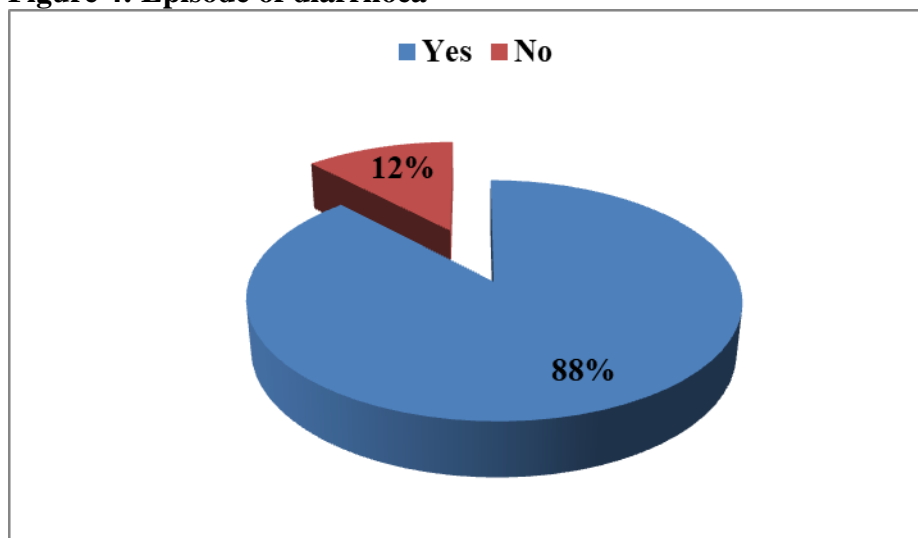
<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Nothing</b>		
<i>Yes</i>	-	-
<i>No</i>	100	100%
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>Put them in hot water</b>		
<i>Yes</i>	37	37%
<i>No</i>	63	63%
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>Use napkin to clean them</b>		
<i>Yes</i>	4	4%
<i>No</i>	96	96%
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>Use normal water to rinse them</b>		
<i>Yes</i>	51	51%
<i>No</i>	49	49%
<b>Total</b>	<b>100</b>	<b>100%</b>
<b>Bring them to boiling</b>		
<i>Yes</i>	23	23%
<i>No</i>	77	77%
<b>Total</b>	<b>100</b>	<b>100%</b>

**Field work, 2019**

Table 7 above highlights how respondents treat bowls and cups of their child before using them. (51%) indicated they rinse them in normal water. (23%) actually bring to boiling and (37%) rinse them in hot water. The least indicated way of treating the bowls and cups was using napkin to clean them.

## Management of diarrhoea prior to reporting to the Health Facility

Figure 4: Episode of diarrhoea



Field work, 2019

When respondents were asked if their child have had diarrhoea before, majority (88%) answered in the affirmative whereas 12% answered in the negative.

Table 8: Causes of diarrhoea among the child(ren) of respondents (n=88)

Variable	Frequency	Percentage
<b>Contaminated food</b>		
<i>Yes</i>	11	12%
<i>No</i>	77	88%
<b>Total</b>	<b>88</b>	<b>100%</b>
<b>Don't know</b>		
<i>Yes</i>	47	53%
<i>No</i>	41	47%
<b>Total</b>	<b>88</b>	<b>100%</b>
<b>Poor hygiene</b>		
<i>Yes</i>	7	8%
<i>No</i>	81	92%
<b>Total</b>	<b>88</b>	<b>100%</b>
<b>Sickness</b>		
<i>Yes</i>	30	34%
<i>No</i>	58	66%
<b>Total</b>	<b>88</b>	<b>100%</b>
<b>Teething</b>		
<i>Yes</i>	23	26%
<i>No</i>	65	74%
<b>Total</b>	<b>88</b>	<b>100%</b>

Field work, 2019



Table 8 above illustrates what respondents view as the causes of the diarrhoea among the child(ren). Of the 88 respondents whose child(ren) has had diarrhoea before, more than half (53%) indicated the they did not know the cause. Less than half were able to indicate sickness (34%) and teething (26%) as the cause. The least indicated poor hygiene (8%).

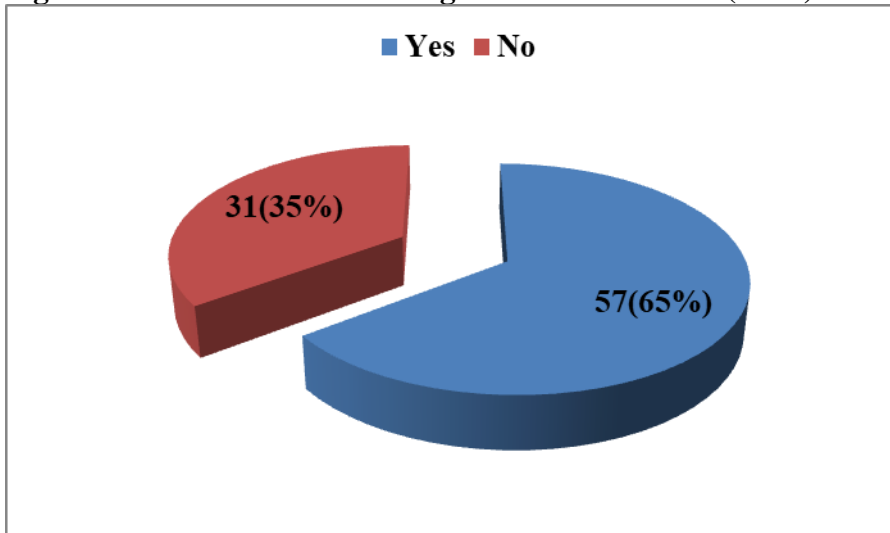
**Table 9: Management of diarrhoea at home**

<b>Variable</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Used herbal medication</b>		
<i>Yes</i>	32	36%
<i>No</i>	56	64%
<b>Total</b>	<b>88</b>	<b>100%</b>
<b>Use ORS</b>		
<i>Yes</i>	45	51%
<i>No</i>	43	49%
<b>Total</b>	<b>88</b>	<b>100%</b>
<b>Giving enema</b>		
<i>Yes</i>	21	24%
<i>No</i>	67	76%
<b>Total</b>	<b>88</b>	<b>100%</b>
<b>Giving water</b>		
<i>Yes</i>	33	37%
<i>No</i>	55	63%
<b>Total</b>	<b>88</b>	<b>100%</b>
<b>Breast feeding</b>		
<i>Yes</i>	17	19%
<i>No</i>	71	81%
<b>Total</b>	<b>88</b>	<b>100%</b>

**Field work, 2019**

Table 9 above depicts how the diarrhoea was managed among the child(ren). Of the 88 respondents whose child(ren) has had diarrhoea before, a little over half (51%) indicated the they use ORS. Less than half indicated giving water (37%), use of herbal medication (36%) and giving enema (24%). The least indicated breastfeeding as means of managing diarrhoea (19%).

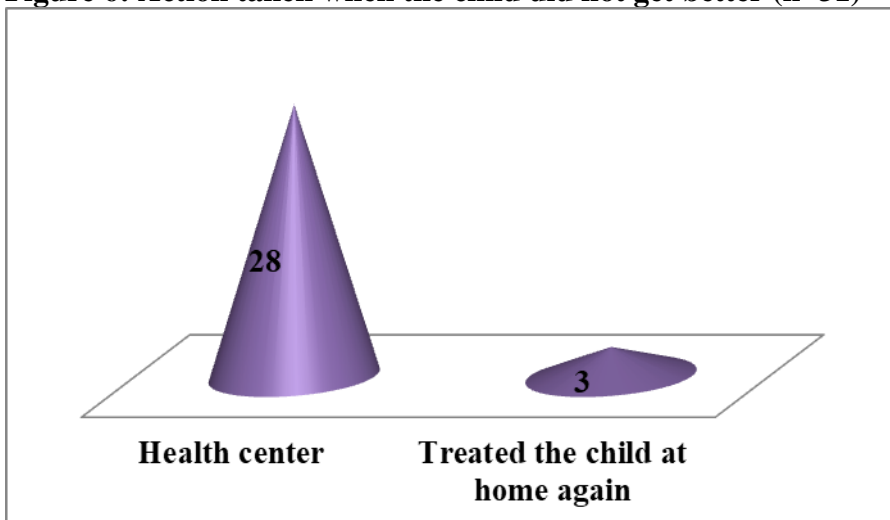
**Figure 5: Results of home management of diarrhoea (n=88)**



**Field work, 2019**

When respondents were asked if their child(ren) got better after using the treatment as indicated in table 8 above, many (65%) answered in the affirmative whereas 35% answered in the negative.

**Figure 6: Action taken when the child did not get better (n=31)**



**Field work, 2019**

Among the 31 respondents who indicated in figure 5 that their child(ren) did not get better, 28 of them indicated that they sent the child to a health centre and 3 of them indicated that they treated the child at home again.

### **3.3 Discussion**

#### **Knowledge of Mothers on Diarrhoea**

The knowledge of mothers on pre-hospital management of diarrhoea has the propensity to influence the home management of diarrhoea and its associated outcomes. The results from this study revealed that all the respondents were aware of diarrhoea. Additionally, majority of the respondents were able to correctly define diarrhoea as increase in loose stool. This outcome is consistent with finding by Olaniyi and Oyerinde (2016) who reported that majority (89.4%) of nursing mothers in two selected primary health centers in Nigeria have heard of diarrhoea before and were able to define it as loose stool.

The results of this study showed that majority of the respondents knew that contaminated food causes diarrhoea. However, less than half were able to correctly indicate that teething, infection, not breastfeeding up to 6 months are etiological factors. This implies generally good but not excellent knowledge about the causes of diarrhoea in children under five among the respondents. This outcome agrees with finding by Akabanda et al. (2017) who found that participants from 29 institutions in Ghana knew that diarrhoea is transmitted by food. Inconsistent finding was however reported by Ogbeyi et al. (2016) who found that majority (68.1%) of caregivers in Nigeria could identify teething as the cause of diarrhoea.

This study again found that majority of the respondents were aware that diarrhoea can be prevented. Majority of them knew that personal hygiene and handwashing are means of preventing diarrhoea among children under five. This finding is inconsistent with finding by Padhy et al. (2017) who reported that less than half (33%) of mothers with children under five in India had good knowledge on personal hygienic and safe drinking water uses in prevention of diarrhoea.

Majority of the respondents in this study had their major source of information on diarrhoea from the media. Surprisingly, less than one-third of the respondents had their source of information on diarrhoea from health workers. This is particularly problematic since those in the media who are the source of information on diarrhoea may not be qualified and competent to provide such information. Consequently, the information may not be inaccurate. This outcome is inconsistent with finding by Olaniyi and Oyerinde (2016) who reported that majority of participants have heard of diarrhoea from health centers.

### **Preventive Practices Adopted by Mothers of Children Under Five**

The results of this study revealed that all the respondents indicated that they practiced hand washing. Additionally, almost all of the respondents indicated that they use soap and water. Hand washing is an important component of personal hygiene. It was very refreshing to note that occasions where respondents' wash their hands were after defecation, after eating, after child' faeces was disposed, after urinating and before feeding their child. These occasions are important to prevent diarrhoea since according to UNICEF (2013) hand washing is proposed as an important diarrhoea prevention strategy because pathogens causing diarrheal diseases are mostly transmitted through the oro-faecal route. This outcome is consistent with finding by Kier and Dai (2018) who found that majority (80.5%) of caregivers in South Sudan wash their hands before preparing food and eating. Also, majority (82.7%) use soap and (55.9%) treat their water before using it.

On how respondents treat bowls and cups of their child before using them, less than half actually rinse them in hot water and bring to boiling. Majority were just rinsing them in normal water. Treating bowls and cups of children by bringing them to boiling has means of killing pathogens in such containers. It is therefore a bad practice for the mothers not to adopt this basic practice of bringing bowls and cups to boiling before using them.

## **How Mothers Manage Diarrhoea before Reporting to the Health Facility**

In most African countries including Ghana, the beliefs system of parents greatly influence their health seeking behaviour for sick children. The study found that majority of the respondents had their child getting diarrhoea prior to data collection. Surprisingly, majority of the respondents indicated they did not know the cause of the diarrhoea. This may be due to lack of knowledge on the causes of diarrhoea which the findings earlier revealed. Less than half were able to indicate sickness and teething as the cause.

Regarding how the diarrhoea was managed at home, majority indicated the use ORS. Though, less than half indicate giving water, use of herbal medication and giving enema, these means are highly unacceptable and should not be used by any mother as means of diarrhoea at home. Additionally, despite a great deal of efforts being expanded worldwide to promote breastfeeding, only 19.9% mothers continue breastfeeding when their child suffers from diarrhoea. This outcome agrees with finding by Verma et al. (2016) who found that over half (54.76%) of the mothers gave ORS to their children when they get diarrhoea in India. Desta et al. (2017) in a similar outcome reported that majority (73.2%) of the caregivers in Ethiopia had given ORS to their children during the episode of diarrhoea though few of the caregivers had given traditional herbs and decreased/stopped feeding pattern during the episode of diarrhoea.

The results further revealed that majority affirmed that their children got better after using the treatment aforementioned. The few of those whose child did not get better sent them to a health centre. The use of the ORS may have had improved the health status of majority of the children.

### **3.4 Conclusion**

This study investigated pre-hospital management of diarrhoea by mothers of children under five years at the Mamobi community. This study found that majority of the mothers knew what constitute diarrhoea. Generally, majority also had good but not excellent knowledge about the causes of diarrhoea including prevention practices among children under five. The results revealed good hand washing practices among the respondents. However, majority were practicing poor handling of bowls and cups of their child before using them. Regarding how the respondents managed diarrhoea at home, majority indicated the use ORS though some used bad practices such as herbal medication and giving enema. From the study, it came out that knowledge of the mothers informed their decision regarding the type of remedy or treatment to be given to the child during diarrhoea episode.

### **3.5 Recommendations**

Based on the findings of the study, the following are recommended:

1. The Ministry of Health and the Ghana Health Service should develop strategies to educate women on the causes and appropriate home management of diarrhoea in children which is paramount in Ghana to reduce under five mortality. The mass media should be the medium to educate the general populace.
2. Mothers also need to be educated on when to consult health facilities should home management of fever fails or other presenting symptoms of infections.
3. Also, community and public health workers should educate mothers and care givers on the causes and associated causes of diarrhea and encourage them to take

their children to a health-care provider promptly for appropriate treatment, as well as familiarize themselves with other symptoms requiring medical treatment.

4. Leading women groups in churches and within the communities should be encouraged to promote healthy and helpful habit that will lead to the prevention of diarrhea as well as other diseases affecting children under five.

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## APPENDIX I

### CENTRAL UNIVERSITY SCHOOL OF APPLIED SCIENCES QUESTIONNAIRE FOR RESPONDENTS

We are final year students of Central University, School of Nursing. This questionnaire is about “**Pre-hospital management of diarrhoea by mothers of children under five years at the Mamobi community**”. Please take a few minutes to complete this questionnaire. Your answers will be completely anonymous, but your views, in combination with those of others, are extremely important and there is no right or wrong answer.

Thank you for your time and responses

**SECTION A: DEMOGRAPHIC INFORMATION**

**(Please tick the most appropriate)**

**1. Age of respondent.**

18-24 [ ]    25- 34 years [ ]    35-45 years [ ]    46-55years [ ]    56 years and above [ ]

**2. Religion**

Christian [ ]                      Islam [ ]                      Traditional [ ]

Other, specify.....

**3. Educational background**

No formal education [ ]                      Primary level [ ]                      Junior high/JSS [ ]

Senior high/SSS/Secondary [ ]                      Tertiary/Post-secondary [ ]

**4. Occupation?**

Formal employment [ ]    Informal Employment [ ]    Student [ ]    Unemployed [ ]

**SECTION B: KNOWLEDGE OF MOTHERS ON DIARRHOEA**

**(Please tick the most appropriate)**

**6. Have you heard about diarrhea before?**

Yes [ ]                      No [ ]

**7. If Yes to Q6, what do you understand by the word diarrhoea?**

Blood in stool [ ]

Increase in stool [ ]

Increase in loose stool [ ]

Don't know [ ]

Other (specify).....

**8. Do you think diarrhoea have any cause?**

Yes [ ]

No [ ]

**9. If Yes to Q8, what causes diarrhoea?**

**(Please tick as many as applicable)**

Infection [ ]

Teething [ ]

Not breastfeeding up to 6 month [ ]

Contaminated food [ ]

Don't know [ ]

Other (specify).....

**10. Is diarrhea in children preventable?**

Yes [ ]

No [ ]

**11. If Yes to Q10, what are the means of preventing diarrhoea?**

**(Please tick as many as applicable)**

Handwashing [ ]

Personal Hygiene [ ]

Use of herbs

Immunization

Exclusive breastfeeding

Avoid complementary feed during teething

Don't know [ ]

Other (specify).....

**12. What is your major source of information on diarrhea?**

Friends/ Family [ ]

Media [ ]

Health worker [ ]

Past experience [ ]

Other (specify).....

**SECTION C: PREVENTIVE PRACTICES ADOPTED BY MOTHERS OF CHILDREN UNDER FIVE**

**(Please tick most appropriate)**

**13. Do you practice hand washing?**

Yes [ ]

No [ ]

**14. If Yes to Q13, how do you wash your hands?**

Water only [ ]

Soap and water [ ]

Hand sanitizer only [ ]

Other (specify).....

**15. When do you wash your hands?**

**(Please tick as many as applicable)**

After child' faeces was disposed [ ]

After defecation [ ]

After urinating [ ]

Before cooking [ ]

Before feeding my child [ ]

After eating [ ]

Other (specify).....

**16. How do you treat bowls and cups of your child before using them?**

**(Please tick as many as applicable)**

Nothing [ ]

Put them in hot water [ ]

Use napkin to clean them [ ]

Use normal water to rinse them [ ]

Bring them to boiling [ ]

Other (specify).....

**SECTION D: HOW MOTHERS MANAGE DIARRHOEA BEFORE REPORTING TO THE HEALTH FACILITY**

**(Please tick most appropriate)**

**17. Has your child had diarrhea before?**

Yes [ ]

No [ ]

**18. What was the cause?**

**(Please tick as many as applicable)**

Contaminated food [ ]

Infection [ ]

Poor hygiene [ ]

Sickness [ ]

Teething [ ]

Don't know [ ]

Other (specify).....



**19. How did you manage diarrhoea?**

**(Please tick as many as applicable)**

Stopped feeding [ ]

Did nothing [ ]

Used herbal medication [ ]

Use ORS [ ]

Make child rest [ ]

Giving enema [ ]

Giving water [ ]

Giving rice water [ ]

Breast feeding [ ]

Other (specify).....

**20. Does the child get better with your best option in Question 19?**

**(Please tick the most appropriate)**

Yes [ ]

No [ ]

**21. If No to Question 20, what else do you do?**

**(Please tick as many as applicable)**

Send the child to a traditional home [ ]

Health center [ ]

Treated the child at home again [ ]

Other (specify).....

