SCHOOL OF PUBLIC HEALTH, COLLEGE OF HEALTH SCIENCES,

UNIVERSITY OF GHANA

ASSESSMENT OF KNOWLEDGE, ATTITUDE AND PRACTICE OF CAREGIVERS ON HOME MANAGEMENT OF DIARRHOEA IN CHILDREN UNDER FIVE YEARS IN COMMUNITY ONE, TEMA.

BY:

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DEDICATION

I dedicate this work to the one and only Almighty God –the giver of wisdom and knowledge.

I also dedicate it to my late father, Mr. Njindal Onyah (of blessed memory) for supporting me up to this far in my education.

DECLARATION

I do hereby declare that the original work that has been done by me (except specific quotations and ideas attributed to specific sources) and that no part of this work has been submitted for award of any other degree in this university or any other institute

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ABSTRACT

Among some of the diseases of public health importance in the Tema metropolis, diarrhoea has consistently been one of the five most prevalent diseases (DHMT report 2006). Though there had been some work done on hospital based surveillance for severe diarrhoea to assess the burden of disease due to rotavirus, it did not extend beyond the hospital setting. However, home management is usually the initial approach adopted by caregivers of children with acute diarrhoea. This study therefore sought to assess the knowledge, attitudes and practices of home management of diarrhoea by caregivers in community one, Tema, so as to improve on home management practices for children under five years of age. The study was a cross-sectional descriptive one using both qualitative and quantitative methods. The quantitative data was captured using a semi-structured questionnaire to interview 250 caregivers of children under five years. The qualitative aspect involved in- depth interviews with two herbalists, four chemical sellers and three pharmacists to determine how each of them went about the management of diarrhoea. Cluster sampling method was used to select the study units. Majority (53.6%) of the caregivers responded they had heard of diarrhoea whilst less than half 116(46.4%) could correctly define what diarrhoea is. Some of the perceived causes of diarrhoea by respondents were contaminated food and water, germs and sugary foods. Most caregivers responded that they will first give ORS 163(65.2%) as a first line of action whilst 35(14.0%) said they will first consider a health facility. The study revealed that 94.4% of the respondents could correctly identify ORS whilst 79.2% of them had used it in the management of childhood diarrhoea. However, only 23.6% of caregivers knew the functions

of ORS to the child with diarrhoea. The findings also showed that 19(7.6%) of the respondents thought it was beneficial to give enema to the child with diarrhoea.

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LIST OF ABBREVIATIONS

CDD Control of Diarrhoeal Disease

CHPS Community Help Planning Services

CWC's Child Welfare Clinics

DDNS District Director of Nursing Services

DHMT District Health Management Team

GDHS Ghana Demographic Health Survey

ORS Oral Rehydration Salt

ORT Oral Rehydration Therapy

RHF Recommended Home Fluids

SSS Salt Sugar Solution

UNICEF United Nations Children's Educational Fund

W.H.O World Health Organization

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background Information

Most childhood diseases occur at home and the initial management as well as the decision to seek outside healthcare is primarily undertaken by mothers or other home caregivers (Green 1985). This is particularly true for the children with acute diarrhoea. Thus caregivers establish their own conceptual framework of what causes diarrhoea and learn to recognize symptoms and signs that prompt their choice of particular health seeking behaviour. Over the years, caregivers have developed numerous home remedies to treat sick children. This cultural domain is often rich in indigenous societies although not all such remedies are efficacious in treating the diseases they were meant to and in some cases they may be harmful.

In the 1980's, diarrhoea was the leading cause of childhood mortality, accounting for 4.6 million deaths annually. Oral rehydration therapy (ORT) was introduced in 1979 and became the cornerstone of programmes for the control of diarrhoeal diseases (CDD), consisting of oral administration of sodium, carbohydrate and water .ORT was potentially the most significant medical advance of the 20th century (W.H.O, 2000).

At the World Summit for children in 1990, over 150 countries undertook to attain 80% ORT coverage by 1995 with a view to achieving a reduction of diarrhoea by 2000(W.H.O,2008).With the inception of this concept to control the diarrhoeal episodes, Ghana made some concerted efforts by training personnel to implement the Control of Diarrhoeal Diseases (CDD) programme together with other interventions such as promotion of exclusive breastfeeding, improved supplementary feeding and female education.

Diarrhoeal diseases claim nearly two million lives every year among children under five years worldwide. The disease imposes a heavy burden on developing countries-accounting for 1.5 billion bouts of illness a year in children under five(Mensa et al 1999). The WHO Child Health Epidemiology estimates that about 16% of deaths in African children younger than five are directly attributable to diarrhoeal diseases.

In Sub-Saharan Africa, diarrhoeal disease is one of the most prevalent causes of childhood mortality. Of all illnesses in Africa diarrhoeal disease has been estimated to be responsible for between 25% to 75%.(Kirkook, 1991; Hutly, et al1987, Frey and Wall, 1979).

The burden is usually highest in deprived areas where there is poor sanitation, inadequate hygiene and unsafe drinking water. In certain developing countries, epidemics of diarrhoeal diseases such as cholera and dysentery strike down adults and children alike. Although the most serious consequences occurs in children.

It has been estimated that, it is common for children in developing countries to have between 3 and 11 episodes of Diarhoea per year. Dehydration caused by severe diarrhoea is a major cause of morbidity and mortality among young children in Ghana according to the Ghana Demographic Health Survey of 2003.

During Diarrhoea the body losses water and electrolytes like sodium, potassium and sometimes carbohydrates in the form of liquid stool. Dehydration occurs when these losses are not replaced adequately. Diarrhoea may result in a decrease in food intake or nutrient absorption. This leads to a deficiency in nutrient requirement which often combine to cause weight loss and retarded growth. When a child's nutritional status declines, any pre-existing malnutrition becomes worse

leading to a vicious cycle. In turn, a child with malnutrition can experience diarrhoea that is more severe, more prolonged and more frequent than a non malnourished child.

Diarrhoea can be dramatically reduced through strategies or methods such as prevention and treatment of dehydration with ORS and fluids available in the home. Also continuous feeding including breastfeeding, selective use of antibiotics and zinc supplementation for 10 to 14 days could also be used.

It was against this background that, the WHO launched the Control for Diarrhoeal Disease Programme. During the period, WHO in collaboration with UNICEF made recommendation on Oral Rehydration Therapy (ORT). Recommendations on the appropriate use of ORT have evolved since the late 1970,s when ORS and ORT were successfully used in managing diarrhoea among children. Today however, there are indications that knowledge and use of appropriate home therapies to successfully manage diarrhoea is declining (UNICEF).

Based on research findings, WHO/UNICEF in line with global grants initiated programmes so as to reduce by half deaths due to diarrhoea among children under five by 2010.Mothers and other care givers were to adopt the development of an improved formula for ORS solution with reduced levels of glucose and salt which shortens the duration of diarrhoea and the need for unscheduled intravenous fluids. They were also taught to continue feeding including breastfeeding after the episode.

It is also recommended by the WHO/UNICEF that home treatment is essential since diarrhoea episodes usually begin and even if seen at a health facility, the child may continue to have diarrhoea after returning home. Hence children must receive proper treatment at home if dehydration and nutritional damage are to be prevented (Chen, 1978).

Fluids for home management of diarrhoea includes gruels made by boiling ground or powdered cereals, rice porridge and homemade soup and salt sugar solution(SSS).

WHO doesn't recommend the use of antidiarrhoeal drugs such as antimotility drugs like loperamide and codeine. Antibiotics should not also be given routinely to children under five with diarrhoea except when it is due to dysentery (W.H.O/CDD/ser/81.5).

1.2 The Ghanaian Situation

Diarrhoea is the third major cause of morbidity in children aged less than five years in Ghana, it accounts for 15% of outpatients' visits to health centres. The proportional rate of mortality due to diarrhoea is 10% in children aged less than one year and 8% in children aged 1-5 years (Biritwum et al). Mortality from diarrhoea is often due to dehydration, which needs to be properly managed to reduce high mortality rates. Thus education on the use of oral rehydration salt (ORS) for the treatment of diarrhoea in the home should highly be encouraged.

The etiological factors associated with diarrhoeal disease in children include microbial agents which are usually transmitted through food and water contaminated with human faeces (kungnet al,2002).Studies indicate that factors such as age of child, quality and quantity of water, availability of toilet facilities housing conditions, low level of maternal education, household economic status, place of residence, feeding practices and the general level of hygiene in the home affects the exposure to diarrhoea pathogens (Tetran,1991.Diame et al 1990,timeus and Lush,1995).

Effective interventions, including correct case management, Oral Rehydration Therapy (ORT), continuous feeding and appropriate antibiotics in cases of dysentery, promotion of exclusive

breastfeeding and better weaning practices have the potential to reduce the burden of diarrhoeal disease substantially in the future.

In Ghana, statistics from the Ministry of Health indicate that diarrhoea accounts for 84,000 deaths annually with 25% being children under five. (Ghana News Agency, 2003).

Oral rehydration therapy(ORT) was introduced in 1979 and rapidly became the cornerstone of programmes for the control of diarrhoeal diseases (CDD).As a result the Ministry of Health, Ghana in response to this strategy had its clinical staff trained to adopt the WHO clinical management of diarrhoeal diseases.(Owusu,1997).

Oral rehydration therapy (ORT) has been a major strategy that has saved many lives from acute diarrhoea. It provides very clear and practical methods for replacement of fluids and electrolyte losses during diarrhoea. The Oral Rehydration Therapy (ORT) may include the use of a solution prepared from commercially produced packets of oral rehydration salt (ORS) or a homemade mixture usually prepared from sugar, salt and water; Sugar Salt Solution (SSS) which is a Recommended Homemade Fluid (RHF).

Coconut water or milk and kenkey water (a maize gruel) which are traditionally used for the treatment of diarrhoea in Ghana were analyzed to ascertain their sustainability for use in rehydration. The PH, carbohydrate and electrolyte levels of the fluids were compared to the PH, carbohydrates and electrolyte recommended by UNICEF/WHO's ORS to ascertain if these are within physiologically acceptable ranges for the treatment and prevention of rehydration in children with diarrhoea. The carbohydrate and electrolyte levels of kenkey water were found to be compatible to the recommended UNICEF/WHO'S ORS and are suitable for use in rehydration. Coconut milk has the advantages of being fresh sterile and readily available in most

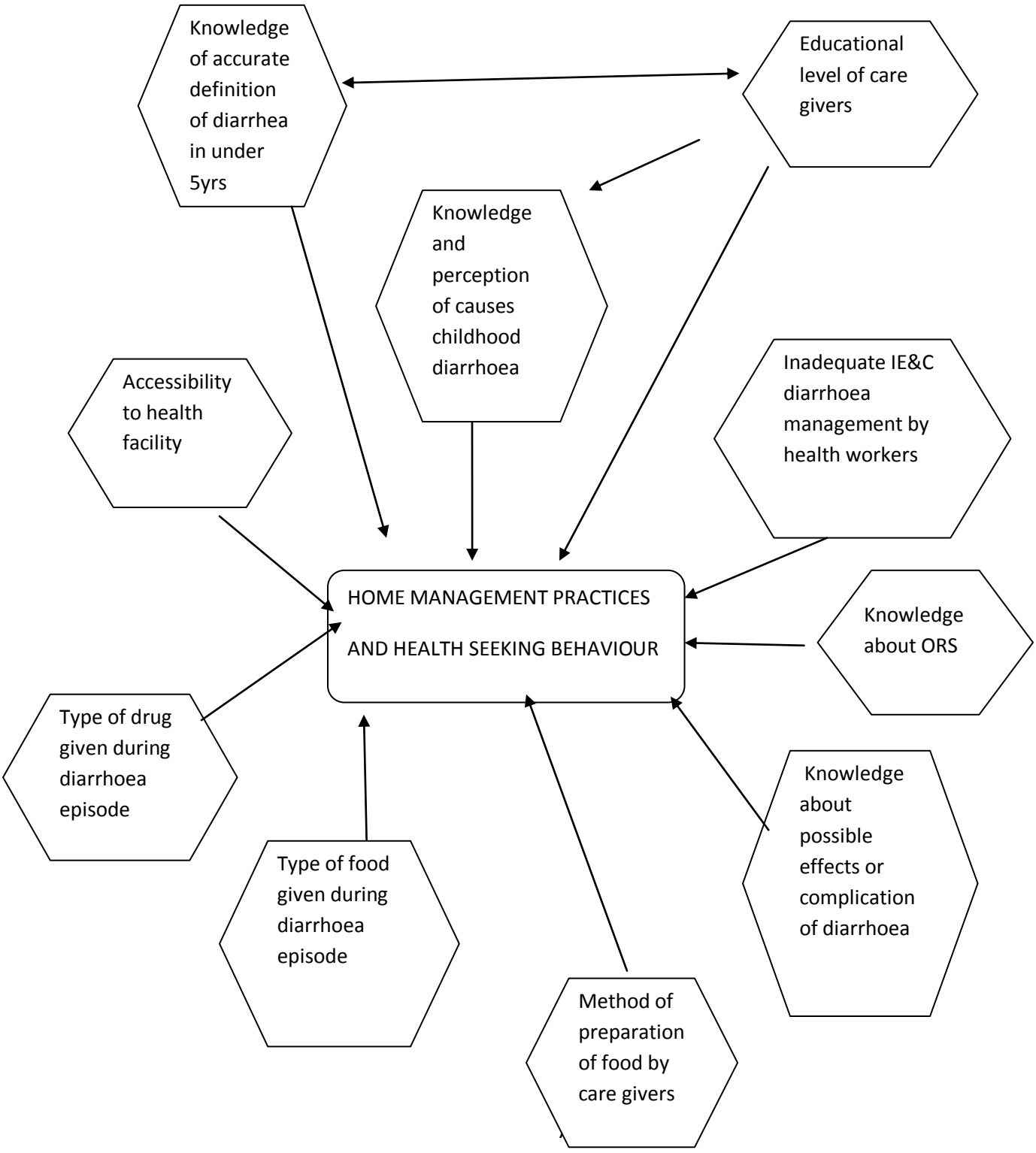
Ghanaian communities. However use of coconut milk for rehydration cannot be recommended on the basis of its glucose and electrolyte composition.

1.3 STATEMENT OF THE PROBLEM

Among some of the diseases of public health importance in Tema Metropolis, diarrhoea has consistently been recorded as one of the 5 most prevalent diseases seen in children at the health facilities in the sub-district. (MOH – DHMT, 2002).

Although Tema is largely an urban district endowed with both Government and Private Health facilities where intensive health education is carried out by health workers on how to identify the danger signs/symptoms of diarrhoea by caregivers and how to manage diarrhoea at home, there is evidence that, knowledge, attitudes and practices of appropriate home management of diarrhoea is lacking and not much information is available to ascertain the reasons for this trend and hence a call for this study to obtain information and possibly suggest solutions to curb this problem.

FIGURE 1: PROBLEM ANALYSIS



1.4 JUSTIFICATION FOR THE STUDY

Morbidity and mortality from childhood diarrhoea could significantly be reduced if the appropriate home management practices and care seeking at health facilities are adopted for children under five years.

Though the District Health Management Team (DHMT) has been playing its role, by teaching caregivers the appropriate home management practices at child welfare clinics, diarrhoeal diseases in children under five years still ranks among the five top diseases in the Tema Metropolis.

The knowledge, Perceptions and Practices of caregivers of children under five years with diarrhoeal disease may to a large extent affect their morbidity and mortality.

The rationale for this study is also to attempt to provide a more appropriate frame work for explaining why caregivers prefer what they practice or do.

Thus the findings from the study are aimed at making a compelling case for the urgent implementation of intervention to reduce their consequences as well as the DHMT adopting other intervention strategies to bring the situation under control.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Perceptions on Causes of Childhood Diarrhoea

Cultural beliefs and attitudes especially affect how a family perceives a child's illness as well the healthcare and treatments options available to them. It also affects what they decide about, where and when to seek help.

Many societies have their own beliefs and classification for illnesses. Diarrhoea for example, may not always be described as a single disease. Different types of diarrhoea can have local names and there may be local beliefs about symptoms, causes and treatment. Families may seek treatment for some types of childhood diarrhoea depending on how they think the illness is. When a child becomes ill, a family may seek advice from several sources and try a variety of treatments. The first is usually home medication based on local beliefs about illness and the advice from family friends and neighbours. Only later will they visit a traditional healer, a pharmacist or a physician.

Over 3000 years ago, practitioners of Ayurvedic system of traditional medicine (especially in India) have had their beliefs about the causes of diarrhoea episodes especially in children. They have thus had their own recommendation of how such episodes should be handled ranging from dissolving rock salts and molasses in tepid water (Enrique et al 2002).

In a survey conducted among rural mothers in Haryana, India, it was realized that most mothers described the multiple causes for the occurrence of diarrhoea to factors such as excessive heat and cold, overeating, teething, side effects of medication among others (Owusu1997). In a similar

vein, an anthropological research conducted in Guatemala about causes of diarrhoea in children especially on health beliefs, it was abundantly clear that they held beliefs not quite different from other parts of the world. Diarrhoea known in Guatemala as *asientos*, though sometimes known to be symptom of other illnesses, is widely believed to be caused by an imbalance of hot and cold, a belief which is common in Latin America, Asia and Europe. (Weissa, 1988).It was also held that, diarrhoea may also be related to teething, fallen fontanelle, fallen stomach or evil eye.

The evil eye is another common folk illness held in Africa. It is held that adults who may be jealous of the unborn child or its mother may give the child the evil eye.

Similar studies in Ghana also came out with such revelations as causes of diarrhoea attributed to witches or evil spirits while others also alluded diarrhoea to suckling of hot breast among others (Owusu, 1997).

One may argue these seemingly non biomedical responses to perhaps the rural inhabitation of these dwellers hence the need to ascertain what paradox or otherwise similarity among city dwellers such as community one in Tema.

2.2 Level of Knowledge and Perception of Caregivers about Symptoms of Severe Diarrhoea in Children.

Recognizing and responding to cases of diarrhoea that should be evaluated and treated by a trained health care provider is very important to averting death. Dehydration occurs when children loose more fluid through diarrhoea than they are able to take in. It is more likely to occur when stools are very watery, frequent or large and may be accompanied by vomiting.

Care givers should recognize when children are becoming dehydrated or displaying other signs of severe disease. Care givers in different cultures may see, interpret and respond to the same

signs and symptoms in different ways. In a study among a group of mothers about how they decided on the severity of diarrhoea and as to whether their child was getting better or worse, different answers were given (Bentleg, 1988). Most of them saw the child's behavior which interfered with household activities such as crying or restlessness. Only a few that took notice about signs associated with eyes and changes in the appearance of stools as some of the vital signs.

Care givers in South Sumatra identify three main diarrhoea types; regular diarrhoea, diarrhoea with vomiting and diarrhoea with blood (Green, 1985). The perceived cause included dirty or unclean water, dirty food, certain types of food (cucumbers and peanuts), excess heat or fever, hot weather, spoiled breast milk, trauma, worms and a "*fight"* between hot and cool air inside the body. This revealed action taken during diarrhoea episode is influenced by the type of diarrhoea than by its perceived cause and characteristics of the child (Green, 1985). Hence care givers are likely to treat even bloody diarrhoea with specific kind of traditional herbal preparations.

In view of these culturally defined actions in response to diarrhoea, there are often times delayed in action. Care givers will often wait and see if the diarrhoea continues and if the child's condition gets worse.

Appreciating what care givers really know and practice particularly in the study will help intensify the efforts of health workers or personnel to care givers at the child welfare clinics or the outreach programmes.

2.3 Factors Influencing the Seeking of Medical Care for Children under five with diarrhoea.

Understanding the reasons why families seek or do not seek help for children with diarrhoea, what is seen as its cause and the availability of a health care facility is very crucial to proper management of diarrhoea episode. Several answers came up when a group of mothers were asked how they decided about the severity of diarrhoea before taking the initiative to seek care at health facilities. For them, the most important signs were changes in the child's behavior such as crying and restlessness which interfered with household activities though they also took notice of signs associated with the eyes and changes in the appearance and frequency of stools. (Choprapawo et al, 1992).

In Peru, families sought help outside the home when a child had signs and symptoms thought to be serious and based on folk beliefs about the different types of diarrhoea. Symptoms which caused the family to seek help, from a modern practitioner or a traditional healer included vomiting, listlessness or loss of appetite (Pare-Solari et al 1992).

However the duration of diarrhoea was the most important factor. The longer the diarrhoea continued, the more likely it was that the family took the child to a doctor. Children with blood in the stool or who passed many stools were more likely to be taken to a modern health facility.

A specific symptom such as vomiting, persistent diarrhoea or bloody diarrhoea often prompts families to seek care at the health facilities. But often time's doctors however are presumably thought to be loaded with work and spend little time with the care giver. Consequently most mothers or care givers who went to a physician continued to use home remedies along with the medicines prescribed.

A study in Thailand for example indicated that people use both modern drugs and traditional remedies to treat childhood diarrhoea (Kaur et al1994).

2.4 Home Management Practices

Home treatment is an essential part of the correct management of acute diarrhoea. This is because diarrhoea begins at home and children seen at a health facility may continue to have diarrhoea after returning home.

Care seeking behavior and treatment for children with diarrhoeal illnesses vary considerably between countries. In 1985, when the Mozambiquan Government realized that the standard WHO/UNICEF approach of the Oral Rehydration Therapy (ORT) was not working adequately, they sought other alternatives. When findings from their mortality data indicated that diarrhoeal related deaths from the village of Inhambane was low, they investigated only to find out from the village mothers that, the magic was cereal based Oral Rehydration Therapy (ORT) (WHO/UNICEF, 2002).

In some parts of the world such as India, ritual purification is practiced when a child with diarrhoea becomes dehydrated. The treatments usually consist of charms and chants and other ceremonies which though, not harmful in themselves may delay the necessary rehydration therapy.

In Ghana, some research works have revealed that some caregivers still resort to use of traditional herbal preparations, orthodox medicines which the mothers administer to their sick children. These include Ampicillin, Amoxicillin, Flagyl and Kaolin. More recent ones includes Metrolex –F and antimotility ones such as Diaform.These drugs usually form the first line of

action in terms of management of child hood diarrhoea that mothers usually take before considering alternatives like ORS.

The usage of ORS still remains low among caregivers even though majority of them are aware of its benefits. According to the Ghana Demographic Health Survey (GDHS) reports of 1993, only 29% of study children with diarrhoea had been given prepared solutions of ORS within the two weeks preceding the study with 38% in 2003.Though there was an appreciable increment; there is more room for improvement.

On the issue of increased fluids, the Ghana Demographic Health Survey (GDHS) reports that, the number of study children reported to have received the fluids were 22% in 1993, 58% in 1998 and 63.3% in 2003.

It was in this light that the researcher was motivated to find out what mothers knew about childhood diarrhoea and what they actually practice as home treatment.

Notwithstanding the intensive promotion of the Oral Rehydration Therapy (ORT) and other hygienic practices such as hand washing and proper handling or otherwise disposal of the child's faecal matter, the expectation of decline of diarrhoeal conditions wasn't up to 29% of children under five years. With referenced to children who suffered diarrhoea within the two weeks preceding the survey, records show that those given solutions prepared with ORS packets in 1998 and 2003 recorded 38.6% and 29% respectively. Studies done in preceding years indicated same low patronage.

With these low outcomes and impact, it is imperative that more work should be done in Ghana to come out with the relevant information to fill this gap on the knowledge and practice in order to reverse the situation. Though more emphasis should be placed on the role of Oral Rehydration

Therapy (ORT) it is imperative that the District Health Management Team (DHMT) in consultation with stakeholders who matter should improve socio-economic status, safe water supply and safe faecal disposal.

2.5 Home Management Practices and Relationship with Socio-Demographic Variables.

Maternal Age and Education

Since Government health facilities remain the commonest source of information on diarrhoea, health workers need to be equipped with the skills for advising mothers on management of diarrhea in them.

According to the 1993 Ghana Demographic Health Survey (GDHS), prevalence of diarrhoea is lowest among children who live in households that have piped water and households that are in the wealthiest quintiles. A research by Ruth Owusu in 2004 showed that mothers in (15-19 and 35+) age bracket were least likely to use Oral Rehydration Salt (ORS). Also it revealed that it was more common for young mothers to believe that a child with diarrhoea should receive less to drink and eat.

Therefore appropriate educational and training materials need to be prepared to transmit priority message on the preparation and administration of the solution, the importance of feeding and the referral of the child if the need be.

According to report by the Zimbabwean Ministry of Health, home management of childhood illnesses, the majority of parents or care takers (71.6%) were comfortable treating their children at home. The knowledge of the correct danger signs of diarrhoeal diseases was relatively high

and young mothers less than 15years and older (above 30 years) of age appeared to be less knowledgeable of the specific precursor signs of the imminent danger threatening the life of the sick child.

2.6 OBJECTIVES

General Objective:

To determine the knowledge, perceptions and practices and health seeking behaviour of care givers in the home management of diarrhoea in children under five years old.

Specific Objectives

The specific objectives are to:

1. Assess the knowledge of care givers about the signs, symptoms and appropriate treatment of diarrhoea in children under five years old.
2. Determine the various attitudes and practices adopted by mothers in the home management of diarrhoea in children under five years old.
3. Find out any knowledge gap that exists between what caregivers know and what they practice in managing diarrhoea episodes.
4. Determine the health seeking behaviour and factors prompting caregivers to seek care at formal health facilities.
5. Determine the effects of socio-demographic characteristics of caregivers on health seeking behavior.

CHAPTER THREE

3.0 METHODOLOGY

3.1 The Study Area

Tema is one of the six districts in the Greater Accra Region. It is bounded in the north by Eastern Region, east by Ga East and the south by Gulf of Guinea. Tema covers a total land area of 519 square kilometers. The Metropolis is further sub-divided into sites. Community one, the study area has 21 sites in all.

According to the 2000 National census, the population of the Metropolis was 655,688. The natives of the Metropolis are the Gas. The Metropolis serves as the industrial nerve of the country; hence most of the residents are migrant industrial workers, thus the Metropolis now consists of various ethnic groups. Other occupations of the residents include civil servants, artisans, fishing, farming and petty trading.

The Metropolis is well planned with good sources of drinking water connected from Kpong water works. However, because the Metropolis hosts the industrial nerve of the country, its recipient of the large number of migrant population has brought with it the attendant environmental and sanitation problems and challenges. Nearly half of the population lives in slums, which are characterized by unhygienic living conditions, overcrowding, poor housing and lack of basic amenities.

It is therefore not surprising that diarrhoea is one of the 5 most prevalent diseases reported in the health facilities in the sub-district especially in children less than five years of age.

The Metropolis is endowed with quite a number of health facilities. Some of the health facilities in the Metropolis include Tema General Hospital, Tema Polyclinic, Ashiaman Health Centre,

Manhean Health centre, Kpone Health centre and Port Clinic. Their pharmaceutical needs are catered for by Pharmacies, Chemical sellers and Herbalists in the Metropolis

3.2 Study Design

A cross-sectional study was conducted using both qualitative and quantitative methods. The quantitative data was captured using a pretested semi-structured questionnaire. Two hundred and fifty (250) questionnaires were administered to caregivers of children with diarrhoea or ever suffered from diarrhoea. Caregivers or respondents here included; mothers, grandmothers, aunties or caretakers of children under five years of age. The caregivers were interviewed using the semi-structured questionnaires by trained research assistants. Direct questions were put to the mothers regarding their knowledge of standard case management of diarrhoea .They were asked questions regarding the source of knowledge and attitude regarding diarrhoea, reasons for worry and their first line of action when the child develops diarrhoea.

The qualitative aspect involved in- depth interviews with two herbalists, four chemical seller and three pharmacists to determine how each of them went about the management of diarrhoea in the study group and what advice they usually give to the caregivers.

3.2.1 Variables

Independent variable

The independent variable is: *Home Management Practice*

Background variables

These include the following:

- Age of caregiver
- Marital status
- Educational level and occupation
- Number and sex of children of care giver
- Number of children who are less than five years
- Caregivers' knowledge and beliefs about causes, effects, treatment and prevention of diarrhoea.
- Signs and symptoms used in recognition of dehydration.
- Knowledge of care givers about Oral Rehydration Therapy (ORT)
- Home management practices of diarrhoea in under five years.
- Sources of information on diarrhoea management, e.g. education from health workers and etc.
- Factors that prompt care givers to seek care from alternative sources.
- Members of households who take decision on home management practices.

3.2.2 Study Population

In Ghana, like most African societies the responsibility of catering for the sick child usually lies on the mother. They mostly influence the major decisions regarding which medication to give at home, who to consult and which facility to visit. In the light of these, mothers of children under five years of age were chosen to be the study population. However, other caregivers such as grandmothers and aunties were included in the study population. The study population for the qualitative study included three pharmacists, four chemical sellers and two herbalists within community one

3.2.3 Study unit

For the quantitative study, the study unit was caregivers (Mothers, Grandmothers, Aunties and caretakers) of children less than five years of age.

3.2.4 Data Collection tools

An in- depth interview guide was used for the in-depth interviews. A micro Sony tape recorder was used to record proceedings of in- depth interviews with the pharmacists, chemical sellers and the herbalists. The qualitative study was carried out using semi-structured questionnaires containing closed and open ended questions.

3.2.5 Pre-testing and review of questionnaires

The researcher selected a community other than those communities used for the study for pre-testing of the questionnaires. It was done to determine the respondent's understanding of the questions and also to estimate the average time needed to interview and to complete a questionnaire.

3.2.6 Data Collection Technique

The researcher and his assistants from the Metropolitan Health Directorate used semi-structured questionnaires to conduct personal interviews with the caregivers for the quantitative data. In the qualitative study, in- depth interviews were conducted with three pharmacists, four chemical seller and two herbalists.

3.3 Sample Size Calculation

At a 95% confidence interval, 5% margin of error and prevalence of diarrhoea disease of 15% in children under- five years (GDHS 2003), the sample size could be calculated as follows:

$$n = \frac{z^2pq}{d^2}$$

Where CI = 95%, d = margin of error, p = prevalence of diarrhea in under fives

q = 85%

Hence

$$n = \frac{(1.96)^2 (0.15) (0.85)}{(0.05)^2}$$

n = 196

Therefore I used an approximate sample size of **250.**

3.3.1 Sampling

Tema community one has 21 sites or zones. The 21 sites were subdivided into 5 clusters with an average of 4 sites in each cluster. Fifty (50) households were then selected from each cluster by simple random sampling method to ensure representativeness because of the heterogeneous nature of the community .The researcher ensured that sites which were closer to each other were grouped together into clusters with 4 sites in a cluster. Caregivers of children under five years were searched for in each household and where there was more than one child; one of them was chosen by ballot.

3.3.2 Sample size

The sample size from the statistical calculation was 196 caregivers. This meets the criteria for reliability as the survey was done with a level of confidence of 95%. However, 250 caregivers were interviewed in all in order to increase the level of accuracy.

3.4 IMPLEMENTATION OF STUDY.

The rationale of the study was explicitly explained to the DHMT from whom permission to undertake the study was sought. Permission was also sought from the DDNS to use her personnel who were Public Health Nurses as research assistants. As a result of their outreach programmes in the communities as well as their experience in data collection, they served as the right choice for the study. One day training session was organized for the data collectors in the following areas:

1. Rationale of the study and objectives of the study.

2. Explanation of unfamiliar terms in the questionnaire to them.

3. How to identify and select respondents for the study.

4. Thorough explanation of what each question meant and sought to achieve.

The questionnaires were then administered to caregivers of children less than five years after they had been pretested at community four, which was different from the study area. The researcher himself conducted in-depth interviews with pharmacists, chemical sellers and herbalists.

3.5 DATA PROCESSING AND ANALYSIS

Quantitative data from the questionnaires were examined daily for completeness and consistency. The questionnaires were coded and data entered using Epi Info and later exported to SPSS version 13 computer programme for analysis. Responses to open-ended questions were categorized and quantified. A Sony tape recorder was used for the proceedings of the in-depth interviews. This was then transcribed verbatim and analyzed by grouping them into themes.

3.6 QUALITY CONTROL CHECKS

1. The researcher and the field assistants made sure that, as a result of the training, data collected was complete and accurate.

2. Daily batches of the questionnaires were examined to ensure consistency and accuracy by the researcher

3.7 ETHICAL CONSIDERATION

Data collected on each day were thoroughly cross-checked and sealed in an A4 size brown envelope by the researcher to ensure its safety. Data entered on daily basis was stored on the lap top computer of the researcher for the sake of confidentiality. The objectives and rationale for the study was explained to prospective respondents and room was made for anyone who wanted to opt out of the study. Before the commencement of the actual study ethical clearance was sought from the following:

- Ghana Health Service Ethical Committee
- Tema Municipal Health Directorate
- Informed consent forms were given to respondents to sign before data was collected

3.8 LIMITATIONS

1. The field assistants were Public Health Nurses in the community and so caregivers were thus likely to give responses pleasing to the interviewers. To reduce this limitation the field assistants were advised not to wear their uniforms to avoid being readily identified.

2. In order to avoid recall bias, questions were asked about the most recent episode of diarrhoea managed. Most of these were within the three months prior to the study.

3. Due to time constraints, data on the practices of caregivers was only obtained from the responses caregivers gave. It would have however, been more accurate if the researcher were to observe the practices over a period.

CHAPTER FOUR

4.0 RESULTS

In the quantitative study, a total of 250 caregivers were interviewed using a structured questionnaire. Majority(93.6%) of the caregivers were concentrated in the ages of between 20-44 years with the lowest caregiver's age being 17 years and the highest being 73years. A large proportion of the caregivers were married 165 (66%) with some level of education. Only 27(10.8%) had no formal education. The predominant occupation of the caretakers was trading 116(46.4%), whilst 35(14.0%) were unemployed.

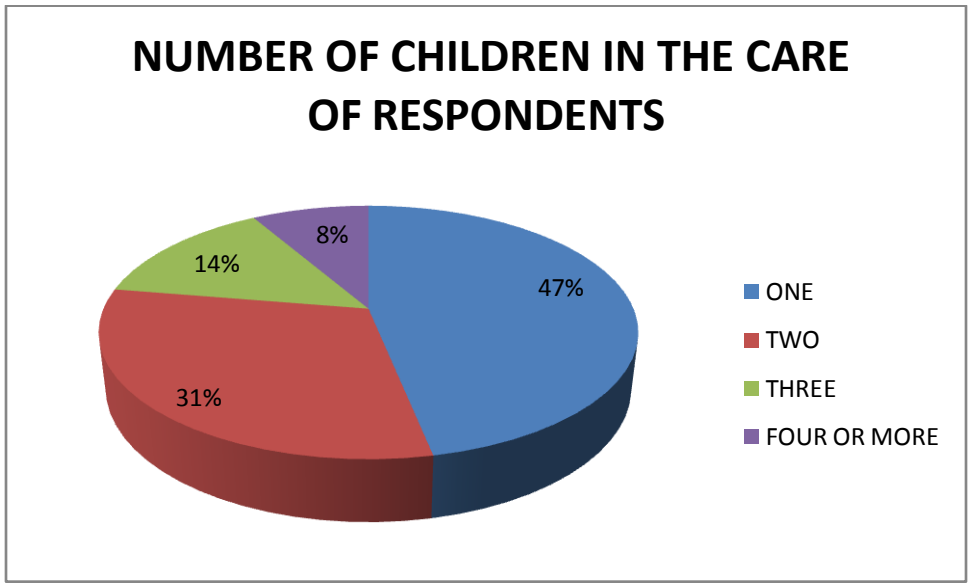
Table 1: Socio-Demographic data of Caregivers

Categories	**Number**	**Percentage (%)**
Age range of caregivers (years)		
<20	7	2.8
20-24	47	18.8
25-29	67	26.8
30-34	49	19.6
35-39	35	14.0
40-44	36	14.4
45-49	4	1.6
50-55	3	1.2
>55	2	0.8

Total	**250**	**100**
Marital Status		
Single	56	22.4
Married	165	66.0
Divorced/separated	16	6.4
Widowed	3	1.2
Cohabiting	10	4.0
Total	**250**	**100**
Educational Level		
None	27	10.8
Primary	39	15.6
JSS/Middle school	92	36.8
SSS/Vocational/Technical	57	22.8
Tertiary	35	14.0
Total	**250**	**100**
Occupation		
Farmers	2	.8
Teacher	20	8.0
Artisan	36	14.4
Trader	116	46.4
Fisherman	2	0.8
Unemployed	35	14.0

Civil Servant	34	13.6
Others	5	2.0
Total	**250**	**100**

Figure 2:



The number of children who were under five years of age varied among the respondents. One hundred and seventeen respondents (46.8%) had only a child in their care whilst 77(30.8%) had two children. The least was 21(8.4%) who had four or more children

4.1 Knowledge of Caregivers on Causes Effects and Danger Signs of diarrhoea

A respondent was considered knowledgeable if she could correctly describe diarrhoea; describe two or more causes of diarrhoea, effects of diarrhoea on the child, appropriate home management and methods of preventing childhood diarrhoea.

Table 2: Definition of Diarrhoea

Categories	Number	Percentage(%)
1.Passage of more than three watery stools in a day	116	46.4
2.Passage of three watery stools in a day	36	14.4
3.Passage of watery stools	97	38.8
4.Others	1	0.4
Total	**250**	**100**

Majority116 (46.4%) of the respondents had knowledge of the appropriate description of diarrhoea.

Table 3: Perceived Causes of Acute watery Diarrhoea

Causes	Number	Percentage
1. Sore in stomach	22	8.8
2. Sugary foods	26	10.4
3. Germs	59	23.6

4. Contaminated Water and Food	139	55.6
5. Others	4	1.6
Total	**250**	**100**

Of the 250 respondents, a total of 107 of them representing 42.8% mentioned that sugary foods, germs and sore in the stomach were causes of diarrhoea in children under five years. On the contrary unlike in other studies (Owusu, 2004), only 22 (8.8%) respondents mentioned "sore in the stomach'' as one of the causes. None of them alluded to spiritual causes. Not even the herbalist interviewed in the in-depth interviews. However, a significant number 139(55.6%) of respondents said contaminated water and food. In one of the in-depth interviews one herbalist put it this way "*breastfeeding from the mother as well as using feeding bottles could cause diarrhoea. Flies settle on uncovered feeding bottles which are later used in feeding the child. All this can result in diarrhoea. Sometimes left over porridge which are not covered are mixed with even newly prepared one and given to the child in unclean feeding bottles. I advise them against all these. I also advise leaving crawling children to wander around. They can just pick anything into their mouth which may include faecal matter of animals."*

Signs and Symptoms Perceived to Indicate Serious Diarrhoea

Respondents were allowed to choose multiple responses of the signs and symptoms they knew indicated seriousness of diarrhoea. Twenty six (26) of the respondents representing 10.4% said

that, bloody stool indicates severe diarrhoea, 91(36.4%) said fever. However, majority of the respondents 191(76.4%) attributed loss of appetite and vomiting as the signs of severe diarrhoea.

Table 4: Signs and Symptoms Perceived to Indicate Serious Diarrhoea

Symptoms/Signs	Number	Percentage
1. Bloody stool	26	10.4
2. Fever	91	36.4
3.Loss of appetite	75	30
3. Vomiting	116	46.4
4. Others	6	2.4

Signs used symptoms and to Recognize Dehydration

Respondents were allowed to indicate more than one answer.

Lethargy/weakness and sunken eyes were the paramount indicators of dehydration.71.2% of the respondents said lethargy/weakness whilst 70.0% attributed it to sunken eyes of the child.

Table 5: Signs used symptoms and to Recognize Dehydration

Signs/Symptoms	Number	Percentage
1.Sunken eyes	175	70.0
2.Dry mouth/Tongue	91	36.4
3.Excessive thirst	63	25.2

4.Lethary/Weakness	178	71.2
5.Sunken fontanelle in babies	35	14.0

4.2 Diarrhoea Management Practices

Table 6: Perceived appropriate first-line management for acute watery diarrhoea

Management Practice	**Number**	**Percentage**
1.Do nothing	3	1.2
2.Increase fluid intake	13	5.2
3.Give ORS	163	65.2
4.Take child to health facility	35	14.0
5.Give sugar/salt solution or other home fluid	21	8.4
6.Continue feeding/increase breastfeeding	4	1.6
7.Give herbalist preparation to drink	7	2.8
8.others	4	1.6
Total	**250**	**100**

Out of the 250 respondents who were asked what first line of action that they took when their children got acute watery diarrhoea, 163(65.2%) responded that they gave ORS first. About one third of them responded that, they took the child to a health facility. Those who responded that,

they treated the child at home explained that they bought medicines from pharmacies or chemical shops. Seven respondents representing 2.8% admitted that they treated their children at home using herbal preparations.

Figure 3:

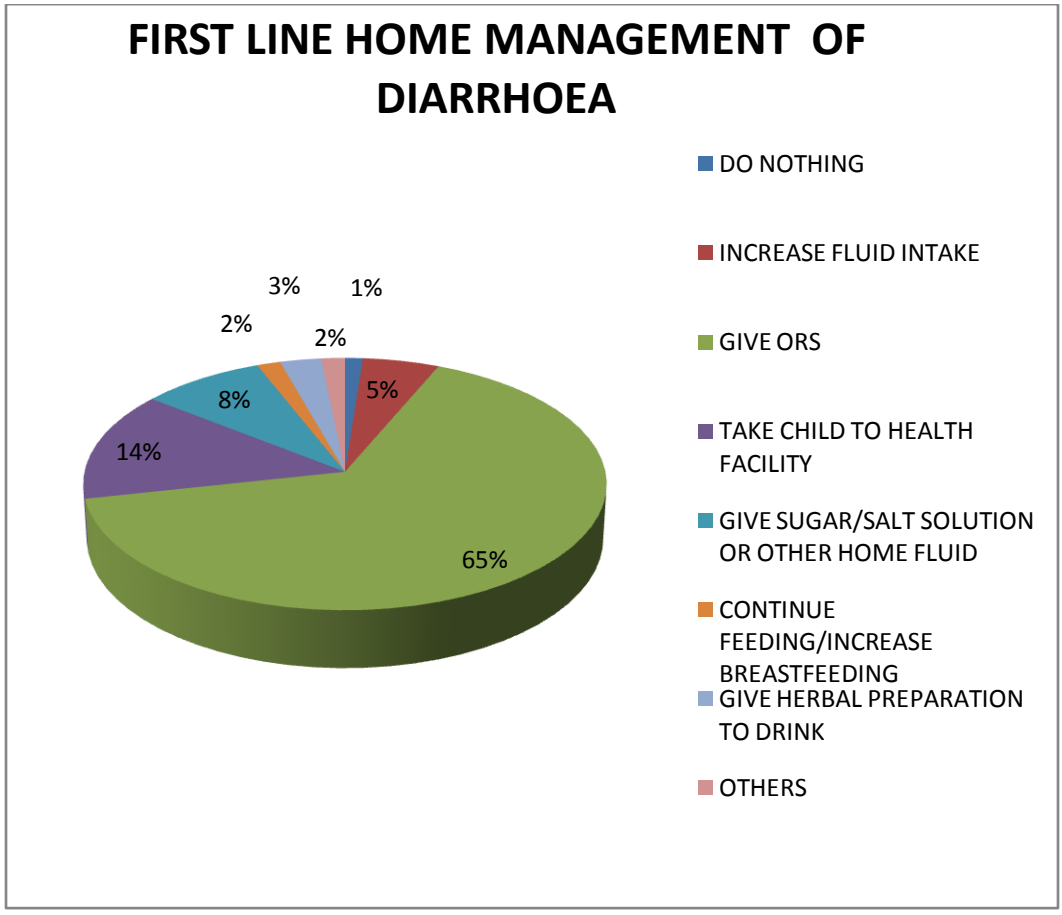


Table 7: Perception of appropriate Time to send children with diarrhoea to the health facility

Signs/symptoms	Number	Percentage
1.When the child looks weak	174	69.6
2.Bloody stool	30	12.0
3.When the child is vomiting	81	32.4
4.Loss of appetite	89	35.6
5.Others	1	0.4
Total	**250**	**100**

Majority of caregivers 174(69.6%) responded they will consider taking their children to a health facility when the child looks weak, whilst 81(32.4%) said when the child is vomiting. It was only one person who responded that she will consider visiting a health facility when the child cries non-stop and cannot feed or when a child's diarrhoea lasts more than a week, In furtherance to this, when a herbalist was asked what he will do when a mother brings a child with diarrhoea of more than one week to him, interestingly he had this to say, "*for diarrhoea lasting more than a week, I advise the mother to take the child to the hospital to let him/her go through laboratory investigation. "I am a herbalist myself, but it is not everything that I can claim to do. It is not because of the little fee that I will be given that should make me jeopardize somebody's life".*

Table 8: Perceptions on breastfeeding during an episode of diarrhoea

Perception	Number	Percentage

1.Stop breastfeeding	9	3.6
2.Decrease frequency of breastfeeding	22	8.8
3.Breastfeed as normal	127	50.8
4.Increase frequency of breastfeeding	92	36.8
Total	**250**	**100**

A greater number of mothers or caregivers 127(50.8%) responded in the affirmative that they will breastfeed their children as normal during diarrhoea episode. Among other reasons they gave was that, the breast milk was considered to be good for the child during such times as it helped to replace the lost fluids and prevent dehydration in the child. Whilst 92(36.8%) of caregivers said they will increase frequency of breastfeeding the child, 22(8.8%) responded that, they will decrease frequency of breastfeeding those who said they will stop breastfeeding were 9(36%).

Perception on Type of food to be given to a child during diarrhoea episode

As many as 80(32.0%) of the respondents said the child should be given rice porridge whilst 78(31.2%) said they will opt for *"kooko*". Only 18(7.2%) responded that they will give light soup. Food cited by others 17(6.8%) included: "*kafa"*, heavy foods like *fufu* and *banku* with palm-nut soup.

Table 9: Perception on Type of food to be given to a child during diarrhoea episode

Type of Food	Number	Percentage
1.Rice water	80	32.0
2.*Kooko*	78	31.2
3.*Mashed kenkey*	37	14.8
4. Light soup.	18	7.2
5.Regular diet of the child	20	8.0
6.Others	17	6.8
Total	**250**	**100**

4.3 Foods to be avoided during diarrhoea episode in children under five years of age

When respondents were asked which kind of food they thought was not suitable for children with diarrhoea, 84% of the respondents were of the view that certain food should not be given to children with diarrhoea, as such foods could aggravate or worsen diarrhoea episodes. Some of the foods mentioned included sugary foods, minerals like coke and fanta as well as food which contained much pepper. As a result some said "*light soup"* was not good for such children.

4.4 Knowledge of Oral Rehydration Salt (ORS) and its proper usage

A greater proportion of the respondents 236(94.4%) were able to correctly identify the packet of ORS which was shown to them. Out of these number of respondents, 198 of them representing 79.2% said they had ever used it in the management of diarrhoeal episodes in children whilst 52(20.8%) said they had never used it to manage childhood diarrhoeal episode.

Perception of water quantity required for a pack of ORS for a child with diarrhoea

W hen the respondents who had ever used ORS were asked how much water should be added to a sachet of ORS, 178(72.1%) out of the number of respondents said one beer bottle and

50(20.2%) said two mineral bottles of water whilst 19(7.7%) gave incorrect answers. Some of the incorrect answers included one big voltic bottle and two cups of water.

Table 10: Perception of water quantity required for a pack of ORS for a child with diarrhoea

Perception	Number	Percentage
1. One beer bottle	178	72.1
2. Two mineral bottles	50	20.2
3. Others	19	7.7

4.5 Knowledge of function of Oral Rehydration Salt (ORS) in diarrhoeal management in children under five years

The results obtained indicates that one in every five respondents 54 (21.6%) that could correctly say what ORS does to the child with diarrhoea while the majority of the respondents 191(76.4%) could not say correctly what ORS does to the child with diarrhoea. five persons representing 2.0% said they did not know at all what ORS does.

Table 11: Perception of action of Oral Rehydration Salt (ORS)

Perceived Action	Number	Percentage
1. Helps to stop or cure the diarrhoea	68	27.2

2. Replaces the fluid lost but does not stop diarrhoea	77	30.8
3. Replaces the fluid lost but does not stop diarrhoea	54	21.6
4. Improves appetite of the child	6	2.4
5. Helps regain strength	40	16.0
6. Don't know	5	2.0
Total	**250**	**100**

4.6 Perception on the Usage of Orthodox medicine in managing diarrhoea episodes in children under five years.

When respondents were asked whether they considered it appropriate to use orthodox (the Whiteman's) medicine in managing diarrhoea in children under five ,201(80.4%) of them said yes while 49(19.6%) said no. The drugs mentioned were mostly antibiotics.

Table 12: Names of Medicines used for the treatment of diarrhoea

Name of medicine	Number	Percentage
1.Flagyl	25	10.0
2.Septrin	18	7.2
3.Amoxycillin	22	8.8

4.Name not known	62	24.8
5.Others	74	29.6
Total	201	80.4

4.7 Perceived effects of diarrhoea in children under five years of age

Out of the 250 respondents interviewed, 91(36.4%) of them said diarrhoea can cause immense weakness in the child. Seventy six of them representing 30.4% said the child could suffer excessive loss of fluid leading to dehydration whilst only 7(2.8%) said there will be no effect on the child.

Table 13: Effects of diarrhoea on the child under five years

Effects	**Number**	**Percentage (%)**
1.No Effect	7	2.8
2. Excessive loss of fluid leading to dehydration	76	30.4
3. Loss of weight due to malnutrition	75	30.0
4. Weakness	91	36.4
Total	**250**	**100**

4.8 Perceptions on Enema administration during diarrhoea episode

The results obtained showed that 19(7.6%) of respondents thought that it was beneficial to give enema to the child with diarrhoea. Majority of the respondents 73(29.2%) however said it was not beneficial to give the child enema. They explained that it was going to lead to further

dehydration of the child. Those who however said it was beneficial gave a series of reasons such as helping to stop the toilet/diarrhoea and wash dirt from the stomach. A herbalist summed the benefits of enema during an in-depth interview this way;

"You see, enema has been used by our parents in the olden days. For instance when you grind the thorny creeping plant we call "Ngmeengmee'', together with white clay or "Ayilor'' and ginger and give it as enema to the child, he/she will ease out all that is in the waist region and it will heal all the wounds there".

4.9 Caregiver's sources of Information on diarrhoea management

When posed the question as to whether they had ever had any education on how to manage diarrhoea in children at home, majority of the caregivers 186(74.4%) out of the 250 respondents answered yes whilst 64(25.6%) answered no. Those who said they had information mentioned places like hospitals or health centres, chemical shops and pharmacies. Only a few (4.2%) mentioned their source of information as from the herbalist.

CHAPTER FIVE

5.0 DISCUSSIONS

The treatment of diarrhoea at home is an essential part of the correct management of acute diarrhoea. This is because most acute diarrhoea cases in children under five years are of viral origin and tend to resolve after a few days. Some may be caused by bacteria and parasites through the faeco-oral route as a result of poor environmental and personal hygiene. It is in this light that the objective of this study was to assess the knowledge ,perceptions or attitudes on the causes, effects and management practices of caregivers at home on diarrhoea in children under five years of age in community one of the Tema metropolis.

5.1 Knowledge of diarrhoea, its causes and effects

Majority of the caregivers (94.8%) had heard of diarrhoea which was quite satisfying. However, when they were asked for what diarrhoea meant, 116(46.4%) could correctly define what diarrhoea was, according to the right definition. A total of 134 respondents representing 53.6% could however not tell how many watery stools in day constituted diarrhoea. This is a set back to the caregivers ability to detect early the onset of the episode for appropriate action to be taken. Thus the caregiver may not be able to rehydrate the child early enough which could lead to fatality. The knowledge of caregivers in the study area as to the causes of diarrhoea in children was satisfactory. The predominant perceived cause was through contaminated food and water. One hundred and thirty nine respondents representing 55.6% attributed the cause to contaminated food and water whilst 59(23.6%) said it was as a result of germs. It is an undisputable fact that, adequate knowledge to the underlying cause of a disease serves as a giant step to taking the appropriate action against the situation. The proportion of caregivers who had knowledge of the cause of childhood diarrhoea was quite significant and encouraging. This confirms the gradual fall of in the prevalence rate of childhood diarrhoea in the Metropolis from

15 %(GDHS 2003) to 13.6 %(Biritwum et al 2004) though diarrhoea was still one of the top 5 childhood diseases in the Metropolis (DHMT report 2006). The study did not support findings that super natural forces such as witches and evil spirits are perceived to be causes of childhood diarrhoea as was found in the studies carried out in the rural peri-urban North Indian States of Jammu and Kashmire (Gupte et al).

5.2 Signs, Symptoms and Effects of diarrhoea on children under five years of age

Dehydration and malnutrition have been identified as the principal effects of childhood diarrhoea and precursors of morbidity and mortality. Caregivers' knowledge of these effects is very crucial in the appropriate management of childhood diarrhoea and when to take prompt action. A large proportion of caregivers held the view that children can die from diarrhoea episodes. Out of the 250 respondents 91(36.4%) explained that the death of the child could be caused by weakness whilst 75(30.0%) and 76(30.4%) said loss of weight due to malnutrition and excessive loss of fluid leading dehydration respectively. Only seven of them representing 2.8% said there will be no effect. It was quite encouraging that many of the caregivers knew at least one major effect of diarrhoea on the sick child. What was disturbing was that, the majority mentioned weakness but not dehydration itself which suggests that they may not know the connection between weakness and dehydration. The end result of this knowledge gap may result in caregivers not acting swiftly or early enough to rehydrate the children. It was also disheartening to know that 2.8% of the respondents said there will be no effect on the child. This pre-supposes that this group may to some extent consider diarrhoea of whatever sort to be normal and the urgency of early management will be of less concern to them. Thus during outreach programmes and child welfare clinics, the DHMT through its health workers must give clear instruction on how to carry out home treatment to such group of people. A significant number of the respondents 75(30.0%)

stated loss of weight due to malnutrition as one of the effects of diarrhoea. However, when asked which type of food they will give to a child with diarrhoea, 32 %(refer to table 4.10) said rice porridge and 31.2% said *"kooko"*. Though these foods are not bad in themselves in diarrhoea management, as they can restore lost fluids in the child, caregivers must therefore be well educated on continuous feeding with regular food to offset the under nutritional effect of diarrhoea.

5.3 Knowledge about diarrhoea management

Home treatment is an essential part of the correct management of acute diarrhoea. This is because diarrhoea episodes usually begin in the home environment and children seen at a health facility may usually continue to have diarrhoea after returning home. Based on this, caregivers were asked what they will first do when their children develop diarrhoea at home. A large proportion of them 163(65.2%) responded that they will give the sick child ORS, whilst 35(14.0%) said they will first take the child to a health facility. The rest of the 20.8% gave other answers as doing nothing, increasing fluid intake and buying medicine from the drugstore. It was noteworthy that the message of ORS has sunk well, but it would have been more encouraging if they practiced oral rehydration therapy (ORT) which was the cornerstone of the control for diarrhoeal diseases programme. Under the programme caregivers were encouraged as a WHO recommendation to give other homemade fluids such as cereal gruel or sugar-salt solution (SSS). This is an area which needs to be stressed in the health education campaigns. When the awareness is created among caregivers using demonstrations and practical examples, there will be no need for caregivers to rush their children to health facilities as a first line if action. The findings further indicated that only13 respondents representing 5.2% gave increase continuous feeding and increased breastfeeding. However, the survey revealed that 186 out of the 250

respondents representing 74.4% said they had had education on home management of childhood diarrhoea. The question that then emanates from this is that, how well are the caregivers taught by the health workers? It is therefore, incumbent on the health workers to communicate well to the caregivers in an atmosphere of patience, encouragement and understanding in order for them to improve their practices.

It was intriguing to learn that, out of the 250 respondents, 236(94.4%) could correctly identify ORS with 14(5.6%) not knowing what it was. Out of those who rightly identified it, 79.2% of them had ever used it in the management of childhood diarrhoea. It was therefore not surprising that 65.2% said earlier on that, they would consider that for a first-line treatment in childhood diarrhoeal episode. However, it was only 21.6 % of the respondents that were able to correctly state the function of Oral Rehydration Salt (ORS) to the child with diarrhoea. One study has it that Oral Rehydration Salt (ORS) reduces nausea and vomiting and restores appetite (Owusu unpublished, 2004). This should be incorporated in health education programmes such that more caregivers would be encouraged to use them. On the issue of which kinds of food should not to be given to children with diarrhoea, respondents mentioned foods such as sugary foods, beans and oily foods among others. Others include food which contains much pepper such as "*light soup"* and cow milk. However, WHO recommends that, for infants under 6 months of age who normally take formula or cow's milk (and are not yet taking soft foods), milk should be given at half strength. The study also brought out how well respondents were mixing the ORS with the right quantity of water. Majority of them cited one beer bottle whilst others stated they use two "fanta or coca cola" bottles to measure the water. However, the proper usage of the ORS would have been complete if the research had found how much of the ORS was given to the sick child within 24 hours time interval and whether unused mixed ORS solutions were discarded and

new preparations made? The study revealed that 127(50.8%) of the respondents said they will breastfeed their children as normal, whilst 92(36.8%) responded that they will increase breastfeeding .This is in line with WHO recommendation of continuous breastfeeding without interruption. This points out to the fact that the mothers are aware of the importance and contribution of breast milk in diarrhoea management. However, quite worrying was the fact that 22(8.8%) of caregivers responded that they will stop breastfeeding. Thus the issue is clear that, the DHMT should intensify its education at child welfare clinics on the importance of exclusive breastfeeding particularly during episodes of diarrhoea in children.

A large proportion of respondents 201(80.4%) said it was appropriate in using orthodox medicine in the management of diarrhoea in children under five years of age. There have been other studies[29] in other parts of Africa that have shown a high rate of use of medicines during childhood diarrhoea. A wide variety of drugs or combinations of drugs are sold for the treatment of acute diarrhoea and vomiting. These are mostly antibiotics and other "antidiarrhoeal" drugs which include antimotility agents (eg loperamide, diphenoxylate and codeine). Adsorbents drug like kaolin was also found to be widely used. Reliance on some of these orthodox medications without medical advice from physicians is quite disturbing. It promotes bacterial resistance and also does not encourage caregivers to adopt the appropriate practice of rehydrating the children during episodes of diarrhoea. During the in-depth interviews it was observed that chemical sellers were equally guilty of selling certain medications to caregivers whom they are not permitted by law to sell. The DHMT in collaboration with the Pharmacy Council should periodically organize workshops on the rational drug use for the chemical sellers.

CHAPTER SIX

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Conclusions

The study showed that caregivers in community one of Tema Metropolis had a fair knowledge of diarrhoea in children under five years of age. However, the perceptions and practices of some the respondents are not satisfactory enough. The study elicited the fact that, though most caregivers could prepare and use ORS well, they were oblivious of the need to give increased fluids and practice of continuous feeding. Thus knowledge of the use of other home-made replacement fluids which will only not rehydrate the child but prevent under nutrition was not prominent. There was also not a clear distinction between dehydration and weakness among caregivers which sometimes delayed rehydration. This reiterates the need for adequate health education on childhood diarrhoea and its management. It was also evident in the study that drugstores or chemical shops for that matter have been ignored in interventions of such childhood diarrhoea management. This explains why some of them sell out antibiotics and some antidiarrhoeal drugs which are contraindicated in children under five years old to caregivers without physicians' approval. It was also evident that, though majority of respondents said they had received education from health workers there was more room for improvement in the community.

6.2 RECOMMENDATIONS

1. Caregivers should be educated to seek prompt medical attention at health facilities when they notice early signs of excessive dehydration such a fever, vomiting loss of appetite and bloody stools.
2. Public Health promotion programmes should be intensified to increase the level of utilization of Oral Rehydration Therapy (ORT) with emphasis on continuous feeding with regular diet and breastfeeding as well.
3. Health Promotion programmes should stress the role of poor personal and environmental hygiene in causing diarrhoea in children under five years to caregivers.
4. The DHMT in collaboration with the Pharmacy Council should periodically organize workshops on the rational use of drugs for chemical sellers as they play a major role in making available unprescribed antibiotics to caregivers in managing diarrhoea in children.
5. Caregivers should be educated against the usage of enema in the management of child hood diarrhoea as this facilitates the loss of fluids and electrolytes leading to severe dehydration instead of stopping the diarrhoea.
6. Healthcare providers should promote the strategy of Integrated Management of Childhood Illnesses (IMCI) as it also teaches caregivers home management of other illnesses such as malaria and pneumonia.

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APPENDICES

APPENDIX 1: QUESTIONNAIRE

SCHOOL OF PUBLIC HEALTH (SPH) UNIVERSITY OF GHANA – LEGON.

QUESTIONNAIRE ON HOME MANAGEMENT PRACTICES OF DIARRHOEA IN CHILDREN UNDER FIVE YEARS IN COMMMUNITY ONE,

TEMA METROPOLIS.

Self -Introduction: Good Morning/Afternoon/Evening. My name is **Basoh Onyah.** I am from the School of Public Health, University of Ghana-Legon. I am conducting this study on behalf of the Tema Municipal Health Directorate and the School of Public Health, University of Ghana-Legon. Our objective is aimed at improving the health status of children in the Municipality especially in children under -five years of age on the above topic.

We kindly request you to assist us in conducting this study by answering this few questions. We assure you that your identity and responses will be treated confidentially. Thank you for your co-operation and participation.

Name of Respondent……..

Study ID number | | | |

Name of Interviewer……

Town/Village……**House ID**

NO	QUESTION	VARIABLE

	SECTION A: BACKGROUND INFORMATION OF CAREGIVERS	
1	Age of Respondent: …… ☐	Q1AGE
2	Are you Insured with the National Health Insurance Scheme? A. Yes B. No ☐	Q2INSURE
3	Marital Status A. Single B. Married C. Divorced/Separated ☐ D. Widowed E. Co-habiting	Q3MARSTA
4	Highest Educational Level A. None B. Primary C. JSS/Middle School ☐ D. SSS/Vocational/Technical E. Tertiary	Q4EDU
5	Occupation A. Farmer B. Teacher C. Artisan ☐ D. Trader E. Fisherman F. Unemployed G. Civil Servant H. Others (Specify)……..	Q5OCCU
6	Number of Children under 5 years in the care of respondent A. One ☐	Q6NOCHILD

	B. Two C. Three D.Four or more	
	SECTION B: KNOWLEDGE OF CAREGIVERS ON CAUSES, EFFECTS AND SIGNS AND SYPMTOMS OF CHILDHOOD DIARRHOEA.	
7	Have you heard about diarrhoea? A. Yes ☐ B. No	Q7HEARD
8	What is diarrhoea? A. Passage of more than 3 watery stools in a day B. Passage of 3 watery stools in a day ☐ C. Passage of watery stools D. Others (specify)……	Q8WHAT
9	What do you think are the causes of diarrhoea in children under 5 years? A. Sore in stomach B. Sugary foods ☐ C. Germs D. Contaminated Water and food E. Others (Specify)……	Q9CAUDIA
10	Do you think a child can die from diarrhoea? A. Yes B. No ☐	Q1OCANDI
11	If yes, what do you think causes death in children with diarrhoea?	Q11CDEA

	A. Inability to report at health facility B. Extreme weakness ☐ C. Dehydration D. Don't know E. Other…….	
12	What other effects do you think diarrhoea can have on a child?(Do not prompt) A. No effect ☐ B. Excessive loss of fluid leading to dehydration C. Loss of weight due to Malnutrition D. Weakness E. Others (Specify)……	Q12OEFEC
13	Do you think that sometimes diarrhoea in children is normal and we should not worry about it? A. Yes ☐ B. No	Q13NORMA
14	If yes, in what situations or instances is it considered normal? (Do not prompt) A. If a child is teething B. Diarrhoea without fever ☐ C. Diarrhoea of short duration D.Other (Specify)……	Q14INSTA
15	What are the signs and symptoms of diarrhoea in children under five years (Multiple answers possible but do not give options) A. Weakness/Lethargy	Q15WORRY

	B. blood in the child's stools ☐ C. Fever ☐ D. Vomiting ☐ E. Child cannot feed or drink G. Child passes 3 or more watery stools in a day H) Other (Specify)…….	
16a	Do you think it is dangerous for a child to lose a lot of fluid/water from the body through the stools? A. Yes B. No ☐	Q16DAWAT
16b	If yes why is it dangerous? ……	
17	How will you know that a child /baby with diarrhoea has lost a lot of fluid?(Multiple answers possible but do not read out options) A. Sunken eyes B. Dry mouth/dry tongue ☐ C. Eexcessive thirst ☐ D. Lethargy/weakness ☐ E. Sunken fontanelle in babies	Q17DIAFLU
	SECTON C:KNOWLEDGE AND PERCEPTIONS ABOUT	

	APPROPRIATE HOME MANAGEMENT PRACTICES AND HEALTH SEEKING BEHAVIOUR	
18	If a child has acute watery diarrhoea what do you do first at home for the child (Single answer) A. Do nothing B. Increase fluid intake C. Give ORS D. Take child to health facility E. Give sugar salt solution or other home fluid F. Continue feeding / Increase breastfeeding G. Give herbal preparation to drink	Q18NOBLD
19	When do you send a child with diarrhoea to a health facility? (Multiple answers are acceptable but do not read options to the respondent) A. If the child looks weak B. If there is blood in the child's stools C. If the child has a fever D. If the child is vomiting E. If the child cannot feed or drink F. If the diarrhoea has lasted for several days without stopping G. If there is excessive loss of fluid or child is dehydrated H. Other……	Q19WHEFA
20	If a child who is still breastfeeding develops diarrhoea which of the following will you do? (Read out options to respondent and let her choose one.) A. Stop breastfeeding B. Decrease frequency of breastfeeding C. Breastfeed as normal D. Increase frequency of breastfeeding.	Q20BRDIA
21	If a child has been weaned and develops Diarrhoea which of the following will you do?(Read options out to respondents and let her choose one)	Q21WEDIA

	A. Stop giving food until diarrhoea subsides. B. Continue giving regular diet during episodes of diarrhoea D. Continue feeding but with light diet only	
22	What kinds of food will you feed children with diarrhoea? A. Rice water B. Kooko C. Mashed Kenkey ☐ D. Light Soup E. Regular diet of child F. Others (Specify)……	Q22FOOD
23	Why will you give these foods during an episode of diarrhoea? A) To restore lost energy B) To replace lost fluid ☐ C) To prevent child from losing weight D) Others (Specify)……	Q23WHYFD
24	Show respondent a packet of the type of ORS obtained from drugstores/health facilities in the district. Do you know what this is? A. Yes B. No ☐	Q24ORS
25	If yes, what is it? ☐ A. ORS B. Medicine which can be used to treat diarrhoea C. Others (Specify)…….	Q25WHIST
26	How much water should be added to this packet if it is to be given to a child with diarrhoea A. One beer bottle ☐	Q26QWTER

	B. Two mineral bottles C. Others (Specify)……	
27	If ORS is given to a child with diarrhoea what does it do for the child? A. Helps to stop/cure the diarrhoea B. Replaces the fluid lost and stops diarrhoea C. Replaces the fluid lost but does not stop diarrhoea D. Helps regain strength E. Improves appetite of the child F. Don't knows G. Others (specify)……	Q27ORSBE
28	Are there any orthodox medicines you think should be used for children with diarrhoea? A. Yes B. No	Q28ORTHO
29	If yes, what medicines?(multiple answers allowed) A. Flagyl B. Septrin C. Amoxycillin D. Name not known E Other (Specify)……	Q29TYPOTHO
30	Is it beneficial to give enema to a child with diarrhoea? A. Yes B. No	Q30ENEMA

31	If yes, of what benefit is the enema to a child with diarrhea? ……	Q31ENEBEN
32	Was your child breastfeeding during his/her last episode of diarrhoea? ☐ A. Yes B. No	Q33BREAS
33	If yes, which of the following did you do during your child's last episode of diarrhoea? A. Stopped breastfeeding B. Decreased frequency of breastfeeding ☐ C. Breastfed as normal D .Increased frequency of breastfeeding.	Q33WDONE
34	Did you give the child any ORS during the last episode? A. Yes B. NO ☐	Q34GORS
35	If NO, why did you not give ORS? ……	Q35WNORS
36	What other fluid did you give the child to help in managing the diarrhoea and its complication? A. Sugar Salt Solution B. Kooko (maize gruel) ☐ C. Mineral (Coke, Fanta etc) E. None F. Other ……..	Q36OHFLUD
37	Did you give any medicine during the last episode of diarrhea? A. Yes B. No ☐	Q37ANMED
38	If yes, what medicine?	Q38TYMED

	A. Orthodox medicine B. Herbal medicine only ☐ C. Both herbal and Orthodox medicine	
39	If orthodox medicine what is the name of the medicine? A. Amoxicillin B. Flagyl C. Septrin ☐ D. Don't know E. Others (Specify)……	Q39TOMED
40	Have you ever had education /advice on how to manage diarrhoea in children by a health worker before the last episode of diarrhoea? A. Yes B. No ☐	Q40HDEDU

APPENDIX 2: key in-depth interviews guide for chemical sellers/pharmacists

HOME MANAGEMENT OF CHILDHOOD DIARRHOEA IN COMMUNITY 1(TEMA): KNOWLEDGE, PERCEPTIONS AND PRACTICES OF CAREGIVERS

1. A mother comes complaining that her child who is under five years started passing watery stools this morning. There is no blood or mucus in the stools and the child passes about 4 watery stools in the morning alone. What will you suspect? If diarrrhoea, which kind? What treatment would you give such a child?

What advice would you give the mother as to what to do at home for the child?

2. A child has been passing watery stools more than three times in a day for the past two weeks. There is no blood in the stool. What kind of treatment would you give such a child? What advice would you give the mother the mother as to what to do at home for the child?

3. If a child with diarrhoea and also vomiting with high body temperature in addition to the diarrhoea, would you give any special treatment? What symptoms require treatment and what treatment do you give for each symptom?

4. What other medications do you sometimes give to children having diarrhoea?

5. When caregivers come with the complaint of their children having diarrhoea, what medications do they usually ask for?

6. Any other comments you would like to make concerning the subject:

APPENDIX 3: In-depth Interview Guide for herbalists and Traditional Healers

HOME MANAGEMENT OF CHILDHOOD DIARRHOEA IN COMMUNITY 1 (TEMA): KNOWLEDGE, PERCERPTIONS AND PRACTICES OF CAREGIVERS

1. A mother comes complaining that her child who is under five years started passing watery stools this morning. There is no blood or mucus in the stools and the child passes about 4 watery stools in the morning alone. What will you suspect? What treatment would you give such a child? What advice would you give the mother as to what to do at home for the child?

2. A child has been passing watery stools more than three times in a day for the past two weeks. There is no blood in the stool. What kind of treatment would you give such a child? What advice would you give the mother the mother as to what to do at home for the child?

3. If a child with diarrhoea has other symptoms in addition to the diarrhoea would you give any special treatment? What symptoms require special treatment and what treatment do you give for each symptom?

4. What other treatments do you give or advice mothers to give for diarrhoea children?

5. What do you tell mothers about the causes of diarrhoea in children?

6. What advice do you give mothers about feeding during episodes of diarrhoea?

7. How can you tell if a child with diarrhoea who has been brought to you should be referred to a health facility?8. Are there any other comments you want to make on this subject?

PARTICIPANT INFORMED CONSENT FORM

Interviewer no: Interviewee no:

Investigator: BASOH ONYAH

Institution: School of Public Health, University of Ghana, Legon

Dear Participant,

ASSESSMENTOF HOME MANAGEMENT OF DIARHOEA IN CHILDREN UNDER FIVE IN COMMUNITY ONE,TEMA:KNOWLEDGE ,ATTITUDES AND PRACTICES:

I am a student pursuing a Master of Public Health degree at the School of Public Health, University of Ghana, and Legon. I am conducting a research into home management of diarrhoea in children under five years and would need your views on the topic. I would explain my objectives to your full understanding before you make a choice to participate.

Your participation in this study is voluntary. You have the option to refuse participation. Likewise, if you agree to take part, you may decide to opt out at any point in time without explanation. This action will not attract any penalty or make you lose any benefits due you.

The study aims at exploring your views about the home management practices of diarrhoea in children under five years. The findings would help the health sector to put in place, strategies to address the problem and improve upon their education of mothers on home management practices. The questionnaire would take about 20 minutes to complete. An interviewer would ask the questions and record according to your responses. The information would remain confidential and you will remain anonymous. It would be difficult to identify your responses

after this study because it would be combined with the views of other respondents for analysis of the bigger picture.

Permission has already been sought from the Ghana Health Service Ethical Review Committee. By signing or thumb printing this form it will be assumed that you have given your consent. All information during the course of this study will be strictly confidential. Agreeing to be part of the study assures us of your consent. Thank you for your time.

Do you want to participate in the study? Yes ☐ No ☐

……

Signature / Thumbprint