A STUDY ON THE KNOWLEDGE AND PRACTICES OF CHILDHOOD DIARRHOEAL DISEASES MANAGEMENT AMONG MOTHERS IN THE WA DISTRICT, UPPER WEST REGION. GHANA

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A DISSERTATION SUBMITTED TO THE UNIVERSITY OF GHANA, LEGON (SCHOOL OF PUBLIC HEALTH) IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE AWARD OF THE MASTERS OF PUBLIC HEALTH DEGREE (MPH)

JUNE 1997

CERTIFICATION 1

This is to certify that this dissertation entitled " **A Study on the Knowledge and Management practices of Childhood Diarrhoeal Diseases among Mothers of the Wa District, Upper West Region, Ghana"** submitted for the Masters in Public Health Degree of the School of Public Health, University of Ghana, is a bonafide research work carried out by Mr. Eric Owusu under my supervision and that no part of this dissertation has been submitted for any other degree.

The assistance received during the course of the research has been fully acknowledged.

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CERTIFICATION 2

This is to certify that this dissertation entitled " **A Study on the Knowledge and Management practices of Childhood Diarrhoeal Diseases among Mothers of the Wa District, Upper West Region, Ghana"** submitted for the Masters in Public Health Degree of the School of Public Health, University of Ghana, is a bonafide research work carried out by Mr. Eric Owusu under my supervision and that no part of this dissertation has been submitted for any other degree.

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.....

MR. ALFRED OBUOBI

ACADEMIC SUPERVISOR 2

DEDICATION:

This work is dedicated to my Loving Wife Christiana

Buruwaa Oduro, and to our children, Gloria, Irene and Eric Jnr.

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ABSTRACT

This study was undertaken in the Wa District of the Upper West region of Ghana during the period of 5th April to 15th May 1997 in six (6) sub-districts.
The study was to answer the following question:
" What level of knowledge do mothers in the Wa District have about diarrhoea, it's causes, effects, appropriate home treatment and prevention, and what they practice during episodes of diarrhoea among young children"

There have been concerns expressed at the district and regional level sectors of the Ministry of Health about the high prevalence and incidence of diarrhoeal diseases particularly among young children in the Wa district with high fatality rates despite efforts put in by the District Health Management Team to intensify health education activities in the district.

Though there had been previous attempt to carry out a study to answer this question, the study was linked up to a nutritional survey carried out by the Nutrition Unit of the Regional Health Administration and only concentrated on a few mothers who attended the nutrition rehabilitation center in the region

This study is therefore intended to provide further information on what mothers in the district know and practice about diarrhoeal diseases management for young children, with the view of using the findings of the study to assist the District Health Administration and other health -related agencies in the district and the region in programming appropriate health education and promotion strategies to reduce diarrhoeal- related diseases and improve promote the general health of young children in the district.

The study was conducted with the broad objective of finding out what women in the Wa district know about childhood diarrhoeal diseases and what they practice to manage the disease during episodes. The specific objectives of the study are:

1) To determine the level of information that mothers in the study area have about diarrhoeal diseases.
2) To identify any gap between what the mothers know and what they are expected to know about diarrhoeal diseases in young children.
3) To find out the management practices that mothers adopt during diarrhoea episodes in young children.
4) To recommend appropriate health intervention strategies and programmes for implementation to reduce the high prevalence of diarrhoeal diseases among young children in the district.

The sample size for the study was 210 mothers of the Wa district who have children up to two (2) years. A household survey was conducted to interview mothers who were selected by means of simple random sampling technique. A structured questionnaire was used as data collection tool to obtain information from the mothers on diarrhoeal diseases. The main variables of study were:

1). Knowledge about diarrhoeal diseases, causes, effects, treatment and prevention.

2). Diarrhoea Management practices concerning treatment, feeding, breast-feeding and prevention.

3). Sources of information on childhood diarrhoeal diseases.

The major findings of the study were as follows:

1) Mothers in the study area could adequately describe childhood diarrhoea but have limited knowledge about the causes, effects and dangers of diarrhoeal diseases on the child.

2) A significant proportion of mothers in the study area strongly believe that supernatural forces such as witches and evil spirits could cause childhood diarrhoea.

3) More than half of the mothers treat the child with diarrhoea at home. Among the various home treatment practices they adopt include enema administration, administration of various kinds of drugs obtained from the local market and the administration of herbal concoctions.

4) A greater number of mothers are aware of the value of continued feeding and breast-feeding the child and adopt the practice during diarrhoeal episode.

5) Though many mothers have ever heard of Oral Rehydration Salt (sachets) as an effective treatment of childhood diarrhoea, quite a number of the mothers have never used it to treat their children.

Based on the findings of the study, the following recommendations are suggested for implementation.

1) Health Education and Promotion activities on diarrhoeal diseases in the study area should emphasize on teaching mothers about the "germ theory" of disease causation, effects, dangers as well as appropriate home management practices and prevention of diarrhoeal diseases.

2) The value of the use of O.R.S should be emphasized for mothers to appreciate it's use for treating their children with diarrhoea at home even before taking the child to a health facility.

3) Outreach Health services should be extended to those communities or villages in the study area which are far away from the existing health facilities, and during each outreach session, a brief teaching on childhood diarrhoea should be given to mothers by the health team.

4) Misconceptions and beliefs about diarrhoeal diseases that are strongly held by mothers in the study area should be disabused with correct and adequate information about diarrhoeal diseases.

5) O.R.T corners or centres should be established in all health centres in the district which could be used as training or teaching centres for mothers who use the health facilities. Where possible some of the mothers could be used as resource persons in O.R.T training for mothers.

6) Health personnel particularly, Community and Public Health Nurses who do home visiting, should use the opportunity to teach mothers in their own homes about diarrhoea and it's appropriate home management.

7) Mothers' Clubs should be formed in all communities/villages so that mothers could share together information and experiences on diarrhoea management practices and other child survival activities.

CHAPTER 1

1.0 INTRODUCTION

1.1 BACKGROUND INFORMATION ON THE STUDY:

Diarrhoea remains a leading killer disease of the world's children claiming almost 4 million young lives each year. Most of the victims die of dehydration. Although all age groups are susceptible to the disease, it has the most serious consequences in children, annually causing over three million deaths in 1995, 80% of them among children under 5 (World Health Report 1996).

The typical African child under 5 has five episodes of diarrhoea per year, a 10% risk of suffering from diarrhoea on any given day, and 14% risk of dying from a severe episode (Better Health in Africa: A World Bank Publication 1994) Diarrhoea accounts for 25% of all illness in Childhood and 15% of admissions to health facilities (State of the World Children 1994).

The W.H.O. estimates that 37% of all cases of diarrhoea in the World occur in sub-Saharan Africa, where only 50% of children benefit from Oral Rehydration Therapy (ORT), compared with 70% in Asia and North Africa (W.H.O. 1990). Child health in Africa is therefore threatened particularly by diarrhoea (Better Health in Africa 1994). In addition the disease contributes greatly to malnutrition in children because their intake of food is reduced during an episode. This decreased food intake results from either loss of appetite or the often customary practice of withholding food from the child with diarrhoea from the believe that the feeding will induce continuous vomiting and worsen the child's condition. The body's ability to absorb nutrients during an episode of diarrhoea also decreases and this contributes to malnutrition during repeated episodes. Furthermore, diarrhoea places a tremendous economic burden on the health care systems of developing countries where there is increasingly limited health resources.

in many developing countries for example, more than one-third (1/3) of the beds in children hospitals or wards are occupied by patients suffering from diarrhoea. So world-wide is the diarrhoea problem that the World Health Organisation (W.H.O) in 1976, established a programme for the control of diarrhoeal diseases. This programme is directed primarily towards children under five years of age.

The W.H.O's formulation of Oral Rehydration Salt (ORS) is widely accepted as the most appropriate physiologically single formulation for universal use in the treatment of diarrhoea. The ORS solution, administered early in the course of diarrhoeal diseases, is capable of reducing death from dehydration among young children and the serious effects on the nutritional status of it's surviving victims. Other traditional sources of oral rehydration solutions such as Coconut water, rice water, porridge, kenkey water and other locally prepared substitutes for ORS which are inexpensive and effective are suitable for administration to the child during diarrhoeal episode. Mothers are taught at postnatal and child welfare clinics to prepare and administer these solutions to their children at home. Oral rehydration therapy does not prevent the diarrhoea, but it counteracts the dehydration which is the most serious cause of death in diarrhoea.

Many countries have traditions and cultural health practices which may have adverse effects on child health. In some parts of the world such as India, ritual purification is practised when a child with diarrhoea becomes dehydrated. The treatment usually consists of chants and other ceremonies which, though not harmful in themselves, may delay the necessary rehydration therapy.

In certain parts of Ghana, research has shown that, mothers literally 'sit' their children with diarrhoea on hot stones and water with the belief that the 'evil spirit' that are suspected to be the cause of the child's diarrhoea will be burnt by the heat from the hot stone or water.

In yet other cultures in Ghana, mothers tend to administer all sorts of herbal preparations and concoctions, suppositories or enema to their children during diarrhoea episodes.

This researcher gathered from his working experience while on the National Control of Diarrhoeal Diseases programme in Ghana, that many mothers (particularly those in the rural areas where health care facilities are non-existent) do not only lack the basic knowledge about the causes and appropriate treatment of diarrhoea but also practise various methods of diarrhoea management.

This study attempts to find out the knowledge and practices regarding childhood diarrhoea and it's management among women in the Wa District of the Upper West Region of Ghana.

In the study area of the Upper West Region of Ghana where the research was conducted, there is strong traditional belief system about the causes of diseases and ill-health as well as traditional health practices. This is coupled with poor health facilities which results in low accessibility of health services to majority of the people. There is also high illiteracy rate among the people particularly among the female population. There is high prevalence and incidence of diarrhoeal diseases particularly among infants and young children with unacceptably high mortality rates from diarrhoeal diseases in the study area. (1994, 1995, 1996 Annual Reports UWR).

For these and other reasons, the researcher was particularly interested in carrying out this study to find out what mothers in the study area know about childhood diarrhoea and what they practice as treatment at home when their children are affected by diarrhoea. The findings of this study would be used to adopt new and effective health intervention strategies by the District Health Service and other health-related agencies in the district. The outcome of the study would also be used as tools for training health service providers on appropriate health education programmes in the control of diarrhoeal diseases particularly among young children.

1.2 PROBLEM STATEMENT:

Despite the intensive health education intervention carried out by the district health services, there is still high prevalence of diarrhoeal diseases in the study district . (UWR Annual Report 1995,1996). Diarrhoea ranks second among the top five causes of morbidity among young infants and children in most of the health facilities. (Wa DHMT Annual Report 1995, 1996).

1.3 JUSTIFICATION OF THE STUDY:

Available statistics indicate that the Upper West region recorded the highest infant and child mortality rates in Ghana over the past two years. (I.M.R - 118 per 1000 live births, C.M.R - 199 per 1000 live births) {UWR Annual report 1995}.

Diarrhoea disease constitutes a major cause of ill-health and death among young children in the study area and causes about 30% of all deaths in infants and children in the region.

1.4 LITERATURE REVIEW

The focus on the study of diarrhoeal diseases as a world-wide health problem, has raised questions about it's contributory social factors, such as maternal knowledge, beliefs, attitudes and the action taken in response to an episode of diarrhoea in the child. Studies have been conducted to find out the knowledge, beliefs as well as practices adopted by mothers to the management of diarrhoea. In the rural or peri-urban North Indian States of Jammu and Kashmir, illiterate mothers were used as subjects by a doctor in an effort to study maternal beliefs and attitudes concerning childhood diarrhoea. It was found out that half of the mothers blamed diarrhoea on teething. Others blamed heat, cold, rain, worm infestation, curse of the devil and faulty feeding practices of the child by the mother (Gupte, Suraji, Sasan, Avtar Singh 1983). In addition, Escobar et al (1983) found that beliefs about childhood diarrhoea were based on the hot and cold weather dichotomy which is prevalent in Latin

America. Diarrhoea was thought to be caused by exposure to cold conditions or by ingestion of foods designated as cold.

A survey of people's perception of illness in Punjah, India (1972) revealed that 72% of respondents attributed diarrhoea to physical causes such as the ingestion of incompatible combinations of food, and 28% attributed it to supernatural causes such as "evil eye".

On diarrhoea management practices, Escobar et al (1983) found out that many mothers recognised that children can die from diarrhoea, yet many did not know what dehydration was and how to treat it. Many had heard about oral rehydration solution (ORS) packets being advertised and distributed but only a few had clear understanding of their use. Among the Hulis in Papua New Guinea, the management of diarrhoea, until 1979, involved the administration of sulfadimidine syrup and Kaolin mixture. The health authorities introduced a programme of Oral Rehydration Therapy. It was found however, that most mothers did not embrace the concept of rehydration because of their own views of the causes and effects of diarrhoea. The soft stools and dry skin of a child suffering from severe dehydration due to diarrhoea, were interpreted as manifestations of an underlying disease process and that the cure involved a strengthening ritual, a prayer or some other "healing energy" (Frankel and Lehmana 1985).

In the North Indian States of Jammu and Kashmiri, a researher, found that mothers were of the view that milk, routine foods and fluids aggravated a child's diarrhoea. Over half the mothers restricted food and/ or fluid intake before taking the child with diarrhoea to the hospital. Breast feeding was stopped and herbs, brandy, opium, mint and egg were used as home remedies by 30% of the mothers. The mothers who were aware of the oral rehydration salts were not convinced of its value, and only a few knew how to prepare the solution (Gupte, Suraj, sansan, Avtar Singh 1983) .

Zoyza et al (1984) in their research in rural Zimbabwe, reported that, maternal action in response to childhood diarrhoea varied. Six percent of the mothers did not take any remedial action at all, while 53% took the child to a health facility only later in the course of the illness. Home management was common and comprised of the administration of indigenous herbal remedies, enemas and prepared sugar and salt solution. These remedies were administered alone or alongside the treatment prescribed by a health worker. Others visited both herbalists and formal health services, while the rest visited health workers first, then to the herbalists when the child's condition did not improve, and others did the reverse.

Other measures reported were the administration of 'over the counter' drugs, exclusion of food believed to have caused the diarrhoea and prayer by the apologetics who shun all forms of drugs and remedies. In a study of beliefs and practices relating to childhood diarrhoea and relying primarily on traditional healers as informants, Green (1985) found in Swaziland that enemas were used as treatment for diarrhoea which was regarded as due to natural cause. The study revealed that most children with diarrhoea were taken to clinics only after home herbal treatment and those of traditional healers had failed, by which time the child may be severely dehydrated. However, Mahalanabi, Merson and Barnua (1981) discovered that dehydration in cases of acute diarrhoea of any aetiology and in all age groups, can be treated with a simple glucose - electrolyte solution. Chen (1975) in addition, drew attention to other possible interventions so as to develop a multifaceted approach in which oral rehydration would be one of several anti-diarrhoeal measures being implemented. Thus far, much has been done to highlight maternal knowledge, beliefs and measures taken in any response to an episode of diarrhoea in children. However, most of these studies were conducted in different socio - economic and cultural settings which are quite different from that of Ghana.

The literature review does not tell us much of any such research done on maternal knowledge, beliefs and practices on diarrhoeal management in Ghana particularly in the study area. In this study, mothers of the Wa district in the Upper West region will constitute the subjects of the study.

It is hoped that the findings of this study, will help focus the attention of the District Health Administration, the District Assembly, NGO's , researchers as well as other health related agencies, on a few interventions of known or potential effectiveness which if implemented along with oral rehydration therapy, could significantly reduce the morbidity and mortality rates due to diarrhoeal diseases among young children in the district.

1.5 OBJECTIVES:

The objective of this study is to determine the knowledge that mothers have regarding diarrhoea, it's causes, effects and how they manage episodes of the disease in young children.

1.6 SPECIFIC OBJECTIVES

1. To find out the knowledge mothers in the Wa district possess about causes, effects and appropriate treatment of diarrhoeal diseases in young children.
2. To identify the various traditional practices adopted by mothers in the treatment of childhood diarrhoea.
3. To identify any limiting factors that discourage women in the district from adopting desirable practices in the management of diarrhoeal diseases in young children.
4. To determine any gap that exist between what the mothers know and what they practice in managing a diarrhoeal episode.
5. To provide appropriate health interventions that will enable the DHMT promote and encourage effective diarrhoea management practices among mothers.

The findings from this study will be communicated to the District Health Management Team (DHMT), the Regional Health Administration, the District Assembly and other health-related agencies operating in the district and the region, for any appropriate health intervention to be implemented.

CHAPTER 2

2.0 THE STUDY AREA:

The study was undertaken in the Wa district of the Upper west region of Ghana., This district is located at the north western part of the country bordering Burkina Faso to the West, (separated by the black volta) Tumu district to the East, Nadowli district to the North and the Northern Region to the South. The district has a land area of 5889.5 sq. Km which forms about 32% of the total land area of the region. The 1997 population of the district projected from 1984 with a growth rate of 3.1 is 246,751, with a population density of 39 per square kilometre. There are 4 main ethnic groups in the district namely, the Dagaaba, Wala, Sissala and the Loobi. Akan, Hausa and English languages are widely spoken in the district particularly in the district capital and the major towns. The major religions in the district are Islam (70%), Christianity (15%) and traditional African religion. There is one rainy season from May to October followed by dry season from November to March where there is the cold and dusty harmattan.

The district is under-served in terms of social amenities and infrastructural development such as schools, potable water, telecommunication, roads, health facilities and human resources. There is poor sanitation and nutrition as well as high level of poverty and illiteracy. It is estimated that only 15% of the population in the district are literate. (2-Year Report by the Wa District Assembly) .

2.1 EDUCATIONAL INFRASTRUCTURE & ENROLLMENT:

The district has 125 primary schools (comprising 2 private and 123 public) with an enrollment of 19,366 as at March 1997.

There are 80 junior secondary schools with an enrolment of 6089, 5 senior secondary schools with an enrolment of about 2350, 1 Technical school, 1 vocational school and 1 Teacher Training school with a total enrolment of about 2400. There is one tertiary educational institution (institute of adult education). There is a school drop out rate of about 17% at the primary school level and 23% at the secondary school level (Min. of Education, UWR Annual report. Wa, 1995) . Within the health sector, transport situation has improved significantly since the establishment of the DANIDA health sector support programme (HSSP) in the district. The district health administration has two (2) vehicles and twenty four (24) motorcycles for it's health activities. As at the end of 1996, all the vehicles and motorbikes available to the district were in good working conditions.

The average availability and utilization of transport in the district have been as follows:

TYPE OF TRANSPORT	% AVAILABILITY	% UTILIZATION
PICK-UP	77	70
MOTORBIKES	93	60

The low utilization of motorbikes in relation to it's high availability is due to the fact that a greater number of newly posted staff to the district have not been trained to ride the motorbikes.

2.2 HEALTH DELIVERY SYSTEM:

2.2.1 HEALTH INFRASTRUCTURAL FACILITIES:

There are a total of twenty (20) health facilities (including one regional hospital) in the district as follows:

Type of Health Facility	Hospital	Health Centre	Clinic	Maternity Home	Total
Government	1	11	0	0	**12**
Mission	0	3	0	0	**3**
Private	0	0	2	3	**5**
Total	**1**	**14**	**2**	**3**	**20**

The spacial distribution of health facilities in the district, to a large extent, determines the effective utilization of the health services and subsequently the health status of children in particular. These health facilities are located in fourteen (14) health sub-districts which are served by the following catchment area populations.

SUB DISTRICT	POPULATION	NO OF COMM'TIES SERVED	NO. OF OUTREACH CENTRES
1. Wa	69685	50	16
2. Busa	17163	44	20
3. Bulenga	15116	18	16
4. Holomuni	3749	7	7
5. Dorimon	19507	62	22
6. Wechau	20635	40	9
7. Bayiri	6621	24	12
8. Yaala	8584	9	9
9. Gurungu	10963	22	12
10.Poyentanga	18169	39	19
11.Lasia Tuolu	18270	37	20
12.Funsi	6340	7	7
13.Charia	14990	28	10
14.Loggu	16959	26	14
Total	**246,751**	**411**	**200**

Under the DANIDA Health Sector Support Programme (HSSP), seven (7) new health centres with staff quarters building and bore-hole water facilities have been constructed in the district., DHMT offices have also been constructed.

Similarly, under the Saudi Fund, two new health centres with staff quarters accommodation have been provided in the district. The health facilities in the district are distributed geographically in such a way that only about 20% of the district total population has easy access to health care within 8 kilometres.

2.2.2 STAFFING:

The staff strength in the district is woefully inadequate with a human resource capacity of 104 as at March 1997. The skilled staff are made up of the following categories of staff mix:

STAFF CATEGORY	Number	Establishment	% Shortfall
Doctors	1	1	-
Medical. Assistants	1	14	92.9
Midwives	15	28	46.4
Public Health Nurses	5	14	64.3
Comm'ty Psy. Nurses	1	14	92.9
Comm'ty Health Nurses	16	28	42.9
Lab. Technician	0	14	100
Tech. Officers (disease control)	4	14	71.4
Field Technicians (dis. control)	16	14	-
Dispensary Technician	0	14	100
TOTAL	**59**	**155**	**61.9**

The actual staffing situation falls short of established requirements particularly for medical assistants, nurses, midwives and Disease control technical officers. This situation is partly due to the fact that accepting transfers and postings to the district have always been difficult for several reasons prominently among which is lack of accommodation and lack of staff motivation.

2.2.3 FINANCE:

The main sources of funding health activities in the district are Government of Ghana (salaries and items 2-5 of the F.Es), and Danida under the Health sector support programme (HSSP).

2.3 HEALTH PROBLEMS:

It is more difficult to provide health services in the district due to the scattered population and the sparse human settlement pattern as well as the general lack of adequate health infrastructure in the districts. Few patients attend the existing health facilities partly because of the lack of health personnel, cost of health services and the peoples' general strong beliefs in traditional medical care. The major health problems in the district include high infant, child and maternal deaths.

The Upper West region in general has had the highest infant, child and maternal mortality rates in the country since 1994. (Source: M.O.H/UWR Annual report 1995)

* Infant Mortality Rate - 118 per 1000 livebirths
* Child Mortality Rate - 199 per 1000 livebirths
- Maternal Mortality Rate - 452 per 100,000 births

(Source: G.O.G/UNICEF Survey Report 1993 UWR)

The major causes of deaths in the general population of the district are malaria, diarrhoea, upper respiratory tract infections, pneumonia, malnutrition and meningitis. The district has an annual malaria incidence of 173 per 1000 population and Diarrhoea annual incidence of 162 per 1000 population (Source: M.O.H Annual Report 1994).

The major health problems of public health concern include:-

- poor environmental sanitation
- high incidence of diarrhoeal diseases among under 5 children
- high incidence of malaria
- low family planning coverage and acceptance rate
- low immunization coverage.

Other issues of public health concern include:-

1. Inadequate health infrastructure
2. Poor accessibility and utilization of health services
3. Inadequate manpower to deliver health services (both quality and number)

2.4 CHILD HEALTH SERVICES:

The major child health services include Immunization, child welfare services health education and school health services. Childhood immunization coverages have improved significantly for all antigens such as BCG, OPV, measles and T.T over the past three years though target levels have not been achieved.

TABLE SHOWING CHILD HEALTH INDICATORS 1994-1996:

	1994		1995		1996	
INDICATOR	**Target**	**Coverage**	**Target**	**Coverage**	**Target**	**Coverage**
C.W.C Attendance	60	35	60	38	60	31
IMMUNIZATION						
B.C.G	70	58	80	58	80	45
O.P.V	60	45	60	31	65	34
D.P.T3	60	37	60	31	65	34
MEASLES	50	34	50	34	55	30

CHAPTER 3:

3.0 METHODS:

3.1 Study Design:

This was a descriptive and cross-sectional quantitative study to obtain information from mothers on diarrhoea in young children. This chapter describes the variables studied, how the study was designed and carried out to obtain answers to the study questions and also the constraints and limitations that were encountered.

3.1.1 VARIABLES:

The main variables for the study are:

VARIABLE	INDICATORS
1. KNOWLEDGE * Causes of Diarrhoea * Effects of diarrhoea * Treatment of diarrhoea * Prevention of diarrhoea	Accurate information about childhood diarrhoea that mothers could describe such as food-related or water-related, or germs-related causes of diarrhoea. Dehydration and death as effects and dangers of diarrhoea,
2. MANAGEMENT PRACTICES * Home & clinical management * Traditional feeding practices * Preventive practices	Administration of appropriate treatment and traditional feeding practices to the child during diarrhoeal episode by the mother, eg. Sending child to hospital/health centre, Administration of O.R.S and food-bases fluids and continued feeding and breast-feeding as home management practices.
3. SOURCES OF INFORMATION	Reliable persons or places where accurate information on diarrhoea could be obtained by the mother. eg. Hospital/Health centre, Health personnel or Pharmacy shop.

The specific variables were:

a) Respondents' background information such as age, marital status, educational level and occupation.

b) Mothers' knowledge and beliefs about the causes, effects treatment and prevention of diarrhoea.

c) Practices adopted by mothers in the treatment, feeding and prevention of childhood diarrhoea.

d) Sources of information on diarrhoea.

Respondents were asked questions on:

* Causes of childhood diarrhoea
* Effects of diarrhoea on the child
* Treatment of childhood diarrhoea
* Home management practices of diarrhoea
* Feeding practices during diarrhoeal episode
* Prevention
* Sources of information on diarrhoea

3.1.2 THE STUDY POPULATION:

Although child care is usually the responsibility of both parents, in most African societies and Ghanaian cultures in particular, it is the mothers who are the real caretakers of children's health needs. The study population was therefore mothers of children under two years of age as at the period of this study. This population was chosen because of the assumption that most mothers of children at that age would still be breast-feeding their children or weaning them and the weaning period has the highest incidence of diarrhoeal diseases among young children. Also between this age period, most mothers would not easily forget the last time their children had diarrhoeal episode and what they did to manage the disease.

3.2 SAMPLE SIZE:

The sample size for the study was 210 mothers from the study area who have children up to twenty-four (24) months of age.

The sample size of 210 mothers was obtained from the statistical formula

$N = z^2 . p . q / d^2$

Where N = sample size

Z = z score on normal distribution table at 5% confidence level = 1.96

p = Annual Diarrhoea prevalence rate for the study district = 162 per 1000 population (UWR Annual Report 1995, 1996) .

q = 1-p =1- 0.162 = 0.84

d = confidence level = 0.05

$N = (1.96)^2 * 0.162 * 0.84 /(0.05)^2 =$ **210**

3.3 SAMPLING METHOD:

3.3.1 Sub-districts:

The study was conducted through a household survey in six (6) of the fourteen (14) health sub-districts of the Wa district. These sub-districts were selected by simple random sampling method. In the first stage of the selection process, the list of all the 14 sub-districts were written on pieces of paper and folded. They were kept in a box and mixed together. The selection of the sub-districts was done by picking one piece folded paper from the box without replacement The procedure was repeated until six papers were randomly selected from the box. The sub-districts selected for the study were: Wa, Holomuni, Busa, Gurungu, Loggu and Dorimon with a total population of 138,026.

3.3.2 Communities:

Similarly, for the selection of the communities, a compilation of the list of communities within each of the six selected sub-districts was done.

Three communities were randomly selected out of the list in addition to the sub-district capital towns. Thus in each sub-district, four (4) communities were selected making a total of twenty four (24) communities selected for the study. The sub-district capital towns were purposefully selected due to their heterogeneous population characteristics so that they are representative of all the various ethnic groups in the district.

3.3.3 Mothers: Two hundred and ten (210) mothers with children up to twenty four months were interviewed through a household survey. Using Systematic random sampling, at least eight (8) mothers were interviewed from eighteen out of the 24 communities and at least ten (10) mothers were interviewed from each of the sub-district capital town. This method was used due to the difference in population size between the six sub-district capital towns selected and the rest of the eighteen communities. In each of the communities selected, households for the respondents (mothers) were determined by getting to the centre of the communities. A pen was spun and the direction of the tip of the pen was followed by the researcher. The first house reached became a reference point in the location of other houses/compounds of entry. The nearest houses to this first house were entered and the questionnaire administered until at least 8 or 10 mothers with children up to 24 months were interviewed per community. Where there were more than one eligible mother in a compound, simple random sampling technique was used to select one eligible mother for the study.

3.4 DATA COLLECTION:

Data was collected over a period of 14 working days from 24th April to 12th May 1997 using one (1) research assistant.

3.4.1 DATA COLLECTION TOOLS:

A structured questionnaire was administered by interview. Data was collected from mothers on:

1. Mothers' background variables such as age, marital status, educational level, occupation , the ages of their youngest child and whether the child has ever had diarrhoea.
2. Knowledge of respondents on causes, effects, treatment and prevention of diarrhoea.
3. Practices on traditional feeding and treatment during diarrhoeal episode
4. Sources of information on diarrhoea to respondents

3.4.2 THE RESEARCH ASSISTANT:

A young and hard working nutrition officer who has been very conversant with field research work was recruited to assist in the study as an interpreter of the Sissali, Wali and the Dagaare languages of the study area to facilitate communication between the researcher and respondents. The research assistant was thoroughly briefed on the details and purpose of the study and was taken through the data collection tool and technique for her understanding and interpretation. She participated in the designing of the final protocol, and also assisted throughout the study period from the pre-testing of the questionnaire, through to the data collection, storage and initial analysis.

3.4.3 PRE-TESTING AND REVIEW OF QUESTIONNAIRE:

The questionnaire for the study was pre-tested in the "Charia" sub-district which was not part of the selected subdistricts for the study. Samples of thirty five mothers who have children under two years were interviewed from four communities in the sub-district. This was done to determine the respondents' understanding of the questions and also to determine the efficiency of the interpreter. The pre-testing was also used to estimate the average time needed to interview respondents and complete a questionnaire.

This was necessary in determining the number of respondents that could conveniently be handled by the research team in a day and within the duration of the study. After the pre-testing, a few questions were rephrased and the sequence modified for the final questionnaire to be produced.

3.4.4 DATA COLLECTION TECHNIQUES:

The time table for the data collection was adhered to. Before the households were visited, permission was sought from the chiefs and opinion leaders and the purpose of the study explained to them. This community entry approach enabled the research team enjoy the co-operation and participation of the respondents. The researcher and his assistant had the support of the assemblymen and the community health volunteers from each community in locating the households within the communities with mothers who have children under two years. At each interview point, the researcher and his assistant were introduced to the respondents and the purpose of the study was explained to the respondent. Respondents were assured by the research team of the confidentiality of their identity in the study and they were also assured of getting feedback through the sub-district health team on relevant issues raised in the study that needed action. Measures were put in place to ensure that the assemblyman or the health volunteer did not influence responses of the respondents.

They usually left the research team after the initial introduction. The questionnaire was then administered to the mothers.

3.4.5 DATA QUALITY CHECKS:

The researcher and his assistant made sure that data collected were complete and accurate by checking through the questionnaires after each day's field work. They also ensured that all completed questionnaire were enveloped and secured.

3.4.6 DATA STORAGE AND ANALYSIS:

The data collected on each day was summarised by the use of tally sheets according to the headings and sub-headings of the main variables of the study. Responses to open-ended questions were categorised and quantified and were also entered into master sheets with tables created. Data was further analysed into percentages and graphs created using EPI Info and Harvard graphics computer softwares. Data was stored on hard disc of the computer.

3.5 LIMITATIONS OF THE STUDY

The following limitations presented are considered to have had some effect on the study, however they do not underscore the outcome of the study.

3.5.1 COMMUNICATION:

There was the likelihood of interpreter bias and response errors in the interpretations given by the community health volunteers who were recruited as interpreters by the researcher, which the researcher could not take note of.

3.5. 2 RESPONDENT BIAS:

Some respondents could have answered questions on the feeding practices and the treatment practices of their children during diarrhoeal episodes to satisfy the research team (some of which members were strangers to the respondents), instead of telling the truth of what they actually practise. Even though checks were made on some samples of completed questionnaire, this limitation could have been overcome by validating responses from respondents over sometime, but time was a limiting resource.

3.5.3 RECALL BIAS:

This could have occurred among respondents when questions were asked about their experiences with management practices with questionable accuracy of responses.

This limitation could be minimised by relying on information of their recent experiences of about four weeks duration.

3.5.4 TIME AND MOBILITY CONSTRAINTS:

This study was conducted during the rainy season. It was therefore not possible to assess communities which were very far distant from the sub-district capital due to poor road network and acute shortage of fuel in the district at the time the study was done making mobility very difficult. This problem was overcome by making use of motorbike to reach those selected communities where vehicles could not go due to their bad nature of roads.

It was likely too that in a hurry to get to their farms, some respondents could have given responses just to be free to get away early. It is hoped that this as a limitation, was overcome by visiting respondents at their times of convenience mostly very early in the morning before getting ready to go to their farms and in the afternoons after they had returned from their farms for the interviews.

CHAPTER 4

4.0 ANALYSIS OF DATA

4.1 RESULTS:

Data collected was initially analysed manually on tally sheets and further analysed using an EPI INFO computer software programme. Responses on open-ended multiple response questions, were grouped into categories and the responses given by respondents were assigned into the appropriate category, and these were tallied.

4.1.1 KNOWLEDGE:

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.

4.1.2 DIARRHOEAL MANAGEMENT PRACTICES:

This variable entails appropriate home treatment of childhood diarrhoea and feeding practices. Respondents who either sent the child to hospital/health centre or gave the child Oral Rehydration Salt (sachet) at home before taking the child to a health facility, as well as giving the child any locally prepared food-based fluids or breast-fed the child were considered as having adopted appropriate childhood diarrhoeal management practices. Those who had no idea at all about any of these methods of diarrhoea management at home or those who gave inappropriate or wrong responses were considered as having no knowledge at all about diarrhoea management for young children. Such inappropriate or wrong responses include:

a) Administration of locally herbal concoction to the child

b) Self medication with drugs particularly antibiotics and other perceived antidiarrhoeal preparations obtained from the local market.

c) Giving of enema to the child during diarrhoeal episode

d) Withholding feeding the child during diarrhoeal episode

e) Delaying for a long time before sending the child to hospital after treating the child at home but his/her condition was not improving.

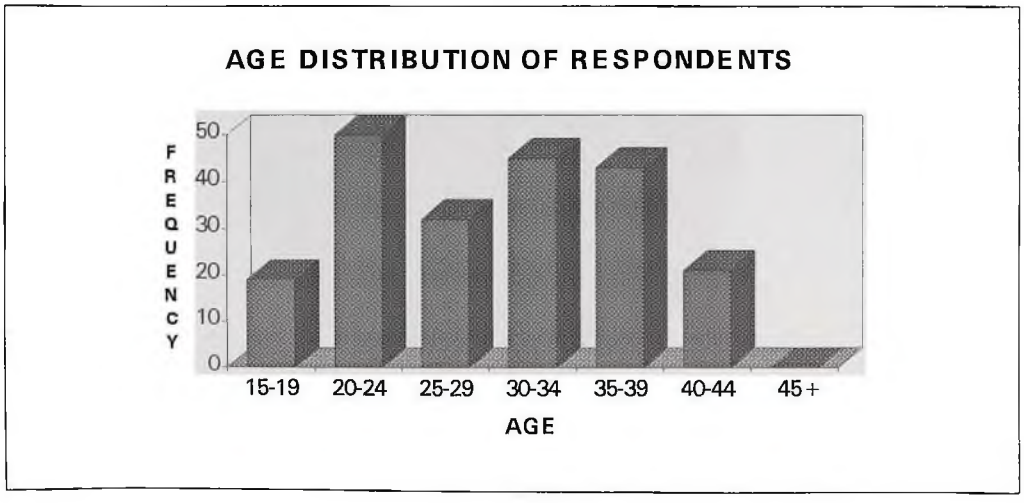
4.2 CHARACTERISTICS OF RESPONDENTS

4.2.1 AGE DISTRIBUTION OF RESPONDENTS

The correct ages of respondents were not easy to determine as almost all the respondents (95%) could not recall their actual date of birth. Nevertheless, major local and national events were used to estimate the ages of the respondents. Nine percent (9%) of the respondents were below 20 years. Majority of the women (80.9%) were between the ages of 20 - 39 years. Only 10 % of the women were 40 - 44 years. None of them was 45 years and above.

TABLE 1. AGE DISTRIBUTION OF RESPONDENTS

AGE GROUP	FREQ	%
15 -19 years	19	9.0
20 - 24 years	50	23.8
25 - 29 years	32	15.2
30 - 34 years	45	21.4
35 - 39 years	43	20.5
40 -44 years	21	10.0
45 & above	0	0
Total	**210**	**100.0%**



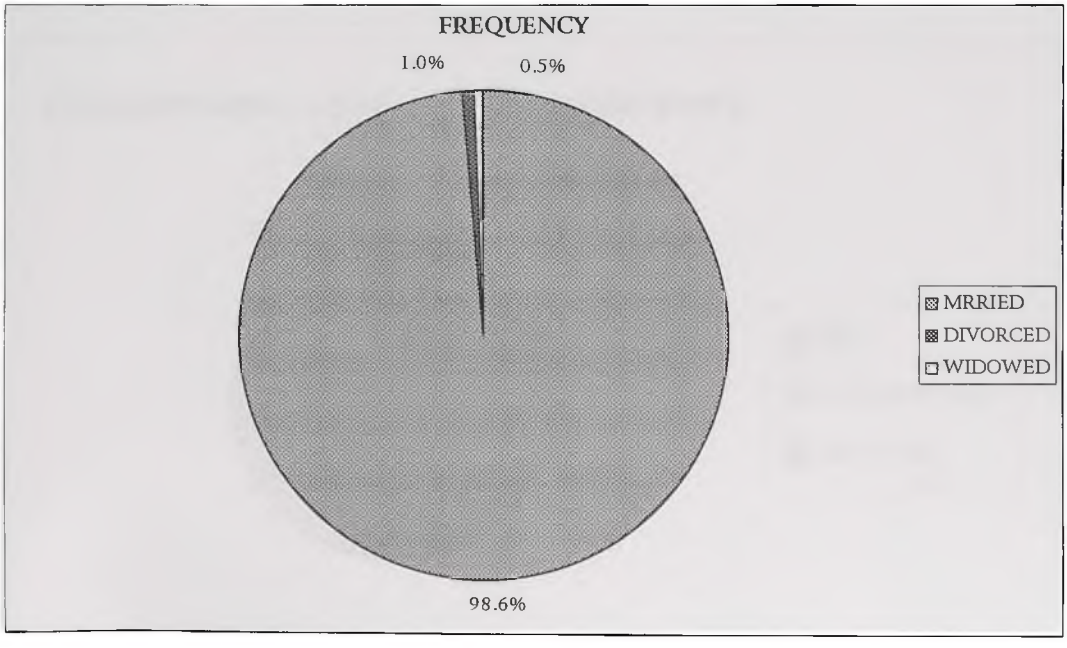
4.2.2 RESPONDENTS' MARITAL STATUS

The distribution of respondents' marital status by percentages showed that 98.6% of the women were married, 1.0% were divorced, and 0.5% were widowed. All the respondents were either married or have ever married .

TABLE 2 RESPONDENTS' MARITAL STATUS

MARITAL STATUS	FREQ	%
MARRIED	207	98.6%
DIVORCED	2	1.0%
WIDOWED	1	0.5%
TOTAL	**210**	**100.0%**

MARITAL STATUS OF RESPONDENTS

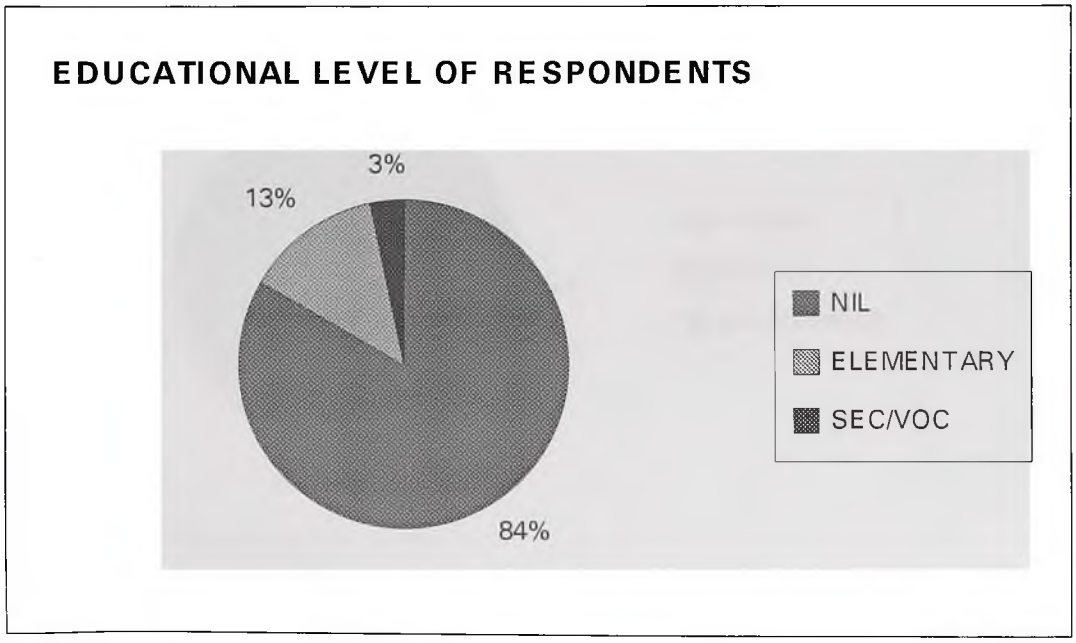


4.2.3 EDUCATIONAL LEVEL:

Eighty three percent (83.3 %) of the mothers had no formal education. Thirteen percent (13.3%) had formal education up to primary school level whilst 3.3 % had formal education up to secondary or vocational level.

TABLE 3: RESPONDENTS' LEVEL OF FORMAL EDUCATION

EDUCATIONAL LEVEL	FREQ	%
NO EDUCATION	175	83.3
PRIMARY	28	13.3
SECONDARY/VOCATIONAL	7	3.3
TOTAL	210	100.0 %

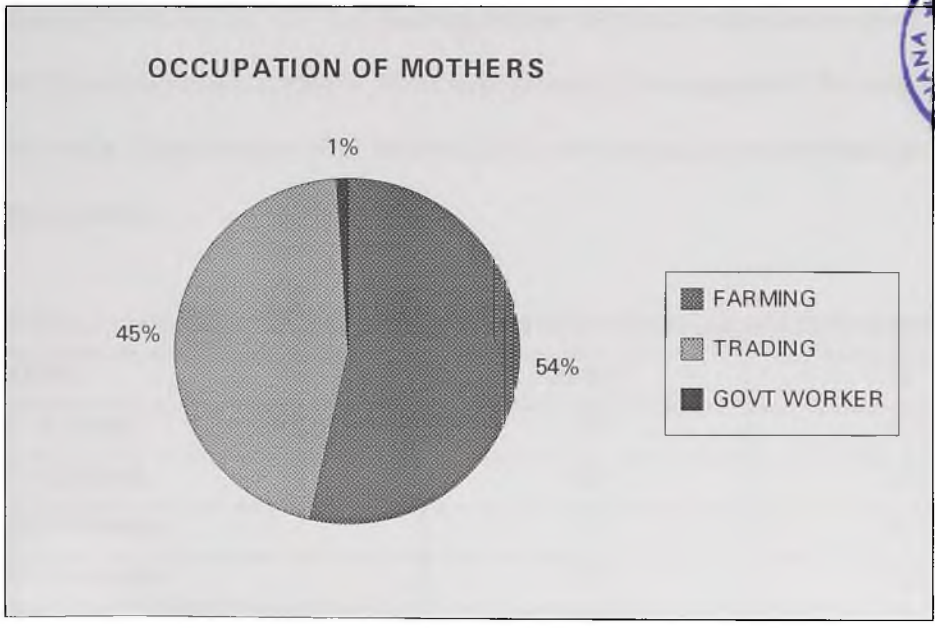


4.2.4 OCCUPATION OF RESPONDENTS:

The predominant occupations of the mothers were farming (53.9%) trading (45.2 %) and 0.9 % were government employees.

TABLE 4. DISTRIBUTION OF RESPONDENTS' OCCUPATION

OCCUPATION	FREQ	%
FARMER	113	53.9
TRADER	95	45.2
GOVERNMENT EMPLOYEE	2	0.9
TOTAL	**210**	**100.0 %**



4.2.5 AGES OF CHILDREN IN THE STUDY

Twenty Six percent (26.0 %) of the children were 0 - 6 months, 28.3 % were 7- 12 months, 21.3 % were 13 - 18 months and 24.4 % were between 19 - 24 years.

TABLE 5. AGE DISTRIBUTION OF CHILDREN IN THE STUDY

ACTUAL AGE OF CHILD	FREQ	%
0 - 6 months	55	26.0
7 - 12 months	59	28.3
13 - 18 months	45	21.3
19 - 24 months	51	24.4
TOTAL	**210**	**100.0 %**

4.2.6 DIARRHOEAL EPISODE EXPERIENCE OF CHILDREN:

Eighty percent (80.0 %) of the children have had at least one diarrhoeal episode whilst 19.2 % of them have never had diarrhoea episode.

Among the children who have had diarrhoeal episode, 38.1% were within the age group 0 - 6 months, 34.5% were between 7-12 months, 18.5% were between 13-18 months and 8.9% were between 19 - 24 months. Greater number of the children (72.6%) have had at least one diarrhoeal episode by the age of one year.

TABLE 6. AGES AT WHICH CHILDREN EXPERIENCED DIARRHOEAL EPISODE

AGES	FREQ	%
0 - 6 months	64	38.1
7 - 12 months	58	34.5
13 - 18 months	31	18.5
19 - 24 months	15	8.9
TOTAL	**168**	**100.0 %**

4.3. MOTHERS KNOWLEDGE ABOUT DIARRHOEA:

4.3.1 CAUSES OF DIARRHOEA

A total of 34.8 % of the respondents mentioned that teething, eating of contaminated food, food poisoning, or drinking of dirty water could cause diarrhoea. Twenty one percent (21.4 %) of the respondents mentioned that heat from the sun, sucking of hot breast or dirty stomach could cause diarrhoea in children.

A significant number of the mothers (24.8%) believed that witches and evil spirits could cause childhood diarrhoea. Nineteen percent (19.0%) of the respondents did not know any cause of diarrhoea. A total of 170 mothers (80.9%) could mention at least one cause of childhood diarrhoea out of which only 27 (12.9 %) of them could mention more than one acceptable cause of childhood diarrhoea.

TABLE 7. MOTHERS RESPONSES ON CAUSES OF CHILDHOOD DIARRHOEA

CAUSES OF DIARRHOEA	FREQ	%
Teething	39	18.6
Eating contaminated food	13	6.2
Food poisoning	12	5.7
Drinking dirty water	9	4.3
Witches and evil spirits	52	24.8
Sucking hot breast	21	10.0
Heat from the sun	7	3.3
Dirty stomach	17	8.1
I don't know	40	19.0
TOTAL	**210**	**100.0 %**

TABLE 8. NUMBER OF CAUSES OF CHILDHOOD DIARRHOEA KNOWN BY MOTHERS

Number of causes	FREQ	%
1	143	84.1
2	13	7.6
3	4	2.4
4	9	5.3
More than 4	1	0.6
TOTAL	**170**	**100.0%**

4.3.2 Mothers knowledge about Diarrhoea and it's effects on the child:

One hundred and eighty one (181) out of the 210 mothers interviewed representing 86.2% % could correctly describe diarrhoea as the passage of frequent watery stool.

About 5.0% of the respondents described diarrhoea as the passage of mucoid stool, whilst 9.0 % did not know how to describe diarrhoea. With regard to the effects of diarrhoea on the child, varied responses were given by respondents. Almost forty two percent (42.4%) of the respondents mentioned loss of weight due to malnutrition, as an effect of diarrhoea on the child. About thirteen percent (12.8%) of the mothers believed that diarrhoea can cause the death of the child. About twenty two percent (21.9 %) considered growth failure in the child as the effect of diarrhoea, whilst 22.9 % of them did not know any effects of diarrhoea on the child.

TABLE 9. MOTHERS RESPONSES ON EFFECTS OF DIARRHOEA ON THE CHILD

EFFECTS OF DIARRHOEA ON THE CHILD	FREQ	%
Loss of Weight due to malnutrition	89	42.4
Death of the child	27	12.8
Growth failure in the child	46	21.9
Don't know	48	22.9
TOTAL	**210**	**100.0 %**

One hundred and eighty four (184) respondents (87.6 %) considered diarrhoea as a dangerous disease in children, whilst 12.4 % considered that diarrhoea is not a dangerous disease in children. Almost fifteen percent (14.7 %) out of those who considered diarrhoea as a dangerous disease, explained that diarrhoea makes the child grow lean. About nine percent (8.7 %) explained that diarrhoea makes the child become malnourished and dehydrated, whilst 5.9 stated that diarrhoea causes financial drain to parents. Among those who did not consider diarrhoea as a dangerous disease, 42..3 % explained that the disease can easily be treated and prevented with medicines, whilst 57.7 % did not know any dangerous effects of diarrhoea on the child.

4 .4 DIARRHOEA MANAGEMENT PRACTICES:

4.4.1 TREATMENT:

With regard to what mothers do when their children suffer from diarrhoea, 98 of the respondents (46.7 %) mentioned that they send the child to hospital/health centre because diarrhoea cannot be treated easily at home. About half of the mothers (50.5 %) responded that they treat the child at home whilst 6 (2.9%) do not take any action at all to treat the child during diarrhoeal episode.

TABLE 10. ACTION TAKEN BY MOTHERS TO TREAT CHILDHOOD DIARRHOEA

ACTION TAKEN	FREQ	%
Send child to hospital/ health centre	98	46.7
Treat the child at home	106	50.5
I don't do anything	6	2.9
TOTAL	**210**	**100.0 %**

For those who treat the child at home, 65 (61.3 %) explained that they buy medicines from the local market and administer to the child, whilst 41 (38.7 %) give local herbal preparations to the child. Ninety four percent (94.3 %) of those who treat the child at home further explained that the child's condition improves for a short period of time but the condition later becomes worse than before. Only (5.7 %) admitted that the child gets better when they treat at home with herbal preparations.

TABLE 11. SPECIFIC TREATMENT GIVEN BY MOTHERS TO THE CHILD

SPECIFIC TREATMENT	FREQ	%
Give enema	51	48.1
Give child medicine obtained from the local market	27	25.5
Give local herbal preparations (concoctions)	28	26.4
TOTAL	**106**	**100.0 %**

4.4.2 Enema administration:

Almost half of the mothers interviewed (48.1%) give enema to the child during diarrhoeal episode, while 109 (51.9%) responded that they don't give enema.

For those who give enema to the child, 76.2% explained that they do so to clear dirt from the child's stomach, 22.8% said they do so to stop the diarrhoea whilst 1.0% of the women do so to make the child's stool less offensive.

TABLE 12. MOTHERS REASONS FOR GIVING ENEMA DURING DIARRHOEAL EPISODE

REASONS FOR GIVING ENEMA	FREQ	%
To clear dirt from child's stomach	81	76.4
To stop the diarrhoea	24	22.6
To make child's stool less offensive	1	1.0
TOTAL	**106**	**100.0 %**

For those who give medicines to the child, the common drugs usually given are Ampicillin, Flagyl, Kaolin, Septrin and sulfadimidine which are usually obtained from the local market.

4.4.3 O.R.S. Management

Greater proportion of the rspondents (78.6%) have ever heard of Oral Rehydration Salt (O.R.S) while a few (21.4%) have never heard of it. Out of those who have ever heard of O.R.S, 103 (62.4%) have ever used it to treat childhood diarrhoea while 37.6% have never used it to treat the child during an episode of diarrhoea.

4.4.4 Feeding Practices

Majority of the mothers (88.6%) feed their children during diarrhoeal episode. However, their reasons for feeding the child varied. Fifty percent (53.2%) of the mothers do so to enable the child regain strength while 22.8% feed the child to stop the diarrhoea. A few of them (2.7%) responded that they feed the child to prevent dehydration. About 13% (12.9) of the mothers who feed their children during an episode of diarrhoea, could not assign reasons for their action.

TABLE 13. MOTHERS' REASONS FOR FEEDING THE CHILD DURING DIARRHOEAL EPISODE

REASONS	FREQ.	%
To enable child regain strength	99	53.2
To stop the diarrhoea.	41	22.0
To prevent dehydration	5	2.7
To replace loss of fluid & electrolyte from the child's body	17	9.1
I don't know	24	12.9
TOTAL	**186**	**100.0%**

The commonest traditional food usually given to the child by those mothers who feed the child during diarrhoea episode include, T.Z (a locally prepared food made of maize or rice) , porridge, mashed yam and soup as well as kenkey water. Eighty six percent of the women (86.1) give T.Z and/or Porridge as food to the child during diarrhoeal episode.

TABLE 14. TYPE OF FOODS GIVEN TO CHILD DURING DIARRHOEAL EPISODE

TYPE OF FOOD	FREQ.	%
T.Z	52	28.0
Porridge	108	58.1
Mashed yam + Soup	2	1.1
Kenkey Water	4	2.1
Breastmilk	11	5.9
Rice and Soup	9	4.8
TOTAL	**186**	**100.0%**

4.4.5 Breast-feeding practices during Diarrhoea

Greater number of the mothers (88.6%) breast-feed their children during diarrhoeal episode. Only 11.4% of the mothers do not breast-feed their children during diarrhoeal episode. However, their reasons for breast-feeding the child varied. About 45% of the mothers who breast-feed their children, do so because breastmilk is considered to be good for the child while (4.3%) breast-feed to replace lost fluids and prevent dehydration in the child.

Only (9.7%) of them explained that they breast-feed the child to stop the diarrhoea. A little over 7% of the mothers do breast-feed to prevent the child from growing lean, (22.6%) breast-feed so that the child will gain energy whilst 11.3% of the mothers could not give any reasons for breast-feeding the child. Thirty five percent of the children in this study were breast-feeding at the time of the study.

TABLE 15: MOTHERS REASONS FOR BREAST-FEEDING THE CHILD DURING AN EPISODE

REASONS	FREQ.	%
Breastmilk is good as food for the child	83	44.6
To replace loss fluids & Prevent dehydration	8	4.3
To stop the diarrhoeal	18	9.7
For the child to gain energy	42	22.6
To prevent child from growing lean	14	7.5.
I don't know	21	11.3
TOTAL	**186**	**100.0%**

4.5 MOTHERS KNOWLEDGE ON CHILDHOOD DIARRHOEA PREVENTION

Only (31.9%) of the mothers believe that childhood diarrhoea can be prevented, (52.4%) stated that they do not think so whilst (15.7%) of them had no idea as to whether childhood diarrhoea can be prevented. Among those who think the disease can be prevented, 34.3% explained that only health personnel can prevent childhood diarrhoea, 23.9% responded that only God can prevent diarrhoea, 25.4% believe that childhood diarrhoea can be prevented by the use of medicines, whilst 16.4% had no knowledge at all concerning measures for childhood diarrhoea prevention.

TABLE 16. MOTHERS RESPONSES ON MEASURES TO PREVENT CHILDHOOD DIARRHOEA

PREVENTIVE MEASURES	FREQ	%
Only God can prevent childhood diarrhoea	16	23.9
Only health personnel can prevent diarrhoea	23	34.3
Use of Medicines	17	25.4
I don't know any measures	11	16.4
TOTAL	**67**	**100.0%**

4.6 MOTHERS SOURCES OF INFORMATION ON DIARRHOEA

Majority of the mothers (65.2%) obtained information about diarrhoea from either hospital or health centre, 7.1% obtained information from friends and family members, 1.9% of them had information about diarrhoea from local pharmacy shop, 1.0 % obtained information from traditional birth attendants, 2.4 % had it from radio and television whilst 20.5% had no source of information at all on childhood diarrhoea.

TABLE 17. MOTHERS SOURCES OF INFORMATION ON CHILDHOOD DIARRHOEA

SOURCE OF INFORMATION	FREQ	%
Hospital/Health centre	137	65.2
Local Pharmacy shop	4	1.9
Traditional Birth Attendants	2	1.0
Friends & Family members	15	7.1
Radio & T.V	5	2.4
Newspapers	4	1.9
No source of information	43	20.5
TOTAL	**210**	**100.0 %**

CHAPTER 5

5.0 DISCUSSIONS AND CONCLUSION

5.1 DISCUSSIONS:

An interview schedule was used to assess diarrhoeal knowledge and practices among two hundred and ten (210) mothers in the Wa district who have children under two years. The main objective of the research study was to assess the knowledge of the mothers about causes, effects and management of diarrhoeal ddiseases among children, as well as identifying the various practices they adopt at home in the management of diarrhoea.

5.1.1 KNOWLEDGE ON CAUSES OF DIARRHOEA:

The knowledge of mothers in the study area regarding causes of childhood diarrhoea was not satisfactory. The fact that only 15.9% of the mothers could mention more than one acceptable cause of diarrhoea (Refer to Table 8) and 19.0 % did not know of any cause of diarrhoea (refer to Table 7), implies that significant proportion of the mothers lack knowledge or have little knowledge about the causes of diarrhoea. Adequate knowledge of diarrhoea is an important factor for taking appropriate action to manage the disease during an episode. Also the fact that about 25 % (24.8%) of the mothers consider witches and evil spirits as well as 21.4 % of the mothers believing that sucking of hot breast and heat from the sun could cause diarrhoea, indicate the lack of adequate information the women have on childhood diarrhoea. Almost all the mothers interviewed (86.2%) knew the appropriate description of childhood diarrhoea. This is encouraging in that, it offers mothers the opportunity to identify early, the onset of the disease so that appropriate measures could be taken by her to manage the disease without delaying unnecessarily till the child's condition becomes worse.

5.1.2 KNOWLEDGE OF THE EFFECTS AND DANGERS ASSOCIATED WITH DIARRHOEA IN CHILDREN

It is encouraging that a large proportion of the mothers (77.1%) knew at least one major effect of diarrhoea on the child.

This is important in that the decision of a mother to take prompt and appropriate action in the management of childhood diarrhoea is mostly determined by the mother's knowledge about the serious effects and the outcome of untreated diarrhoea on the child. If the mother knows that failure to take prompt and appropriate action to treat the child could result in the child's death or severe dehydration, the mother is likely to act without delay to safe the child's life. However, the fact that 22.9% of the mothers had no knowledge about the causes of childhood diarrhoea has serious diarrhoea management implications. It would not motivate the mother enough to take immediate action to seek treatment for the child and any delay in seeking treatment may aggravate the child's condition. Majority of the mothers who knew that diarrhoea is a dangerous disease could give correct reasons for thinking so. They knew that diarrhoea can easily kill the child fast due to dehydration. It is equally disheartening that, among those who did not know any dangerous effects of diarrhoea on the child, a significant number of them (42.3%) think that the disease can easily be treated and prevented with medicines. This misconception can threaten the life of the child as the mother with such a belief, may not take any prompt action to treat the child appropriately during an episode.

5.1.3 KNOWLEDGE ABOUT DIARRHOEA MANAGEMENT

The mothers' knowledge of appropriate diarrhoea management for young children was not encouraging. This is because although many of the mothers had the opportunity of obtaining information on diarrhoea from health institutions or health personnel, quite a sizeable number (50.5%) of the mothers mentioned inappropriate or wrong methods of diarrhoea management.

These inappropriate methods of management include the administration of enema, administration of local herbal preparations of unknown efficacy, withholding of food and the administration of various kinds of medicines obtained from the local market. Moreover, among those who had the opportunity of obtaining information on diarrhoea management from health personnel, none of them was able to mention three or more of the appropriate methods of diarrhoea management taught by health personnel.

Thus the mothers' general knowledge about diarrhoea management for children was limited. This is unfortunate because the mother caring for a young child must know as many of the methods of managing diarrhoea at home, so that at any period of a diarrhoea episode, she can draw on her knowledge, and use the method that is most convenient and appropriate to her at that particular time or she could even change methods if one proves ineffective. Although it is not necessary to know many methods, especially if the mother is aware of only one effective method such as fluids replacement, it is still better for a mother to know more than one method of diarrhoea management. The inappropriate or wrong treatment measures mentioned by mothers were, the administration of enema, the administration of self medication obtained from the local market, and the administration of locally prepared herbal concoctions. Diarrhoea causes rapid loss of fluids and electrolytes from the body cells causing dehydration which is the main cause of death in children. This can be prevented by replacing what is lost as early as possible. If delayed, the child is predisposed to dehydration. It is therefore necessary to emphasise that early and adequate management of diarrhoea, especially fluid replacement, is essential to prevent deaths due to dehydration. These interventions belong first and foremost to the home environment.

It is necessary that mothers caring for young children know more about these methods of diarrhoea management practices at home. The danger with kaolin and other anti-diarrhoeal drugs is that acute diarrhoea is self terminating within three to five days, therefore attempts at using anti-diarrhoeal drugs, especially kaolin and antibiotics are wasteful and only diverts the mother's attention from taking a more appropriate action to manage the child's condition.

These drugs only give false impression of management (Adjei 1985). In addition, the organisms that cause diarrhoea in children are mostly viruses and they are not affected by antibiotics. Therefore the routine use of antibiotics is also wasteful. However, antibiotics are administered in a few cases of proven bacterial infections such as shigellosis and dysentery.

Concerning diarrhoea management practices, it was found that 46.7 % of the mothers would send their children with diarrhoea to the hospital or clinic without doing anything for the child at home. More than half (50.5 %) of the mothers said they would initially manage the diarrhoea at home by various methods which were found by the study to be inappropriate. This is not satisfactory enough in that, it is essentially necessary for mothers to know how to manage childhood diarrhoea at home and when to send the child to a health facility when his/her condition does not get better after the home management. The fact that a greater proportion of the mothers (50.5%) manage the diarrhoea at home by the use of herbs and various kinds of medicines of doubtful efficacy, indicates that either mothers do not have adequate knowledge on diarrhoea management probably because they have not been exposed to knowledge of modern methods of diarrhoea management , or health services are not easily accessible to them.

On the whole, it was realized that most of the mothers failed to apply the method of management they had heard from health personnel. Although 70.0 % of the mothers obtained information on diarrhoea from appropriate sources, 46.7 % of these mothers would send their children to hospital or health centre for treatment without doing anything at home. It is however encouraging to note that many of the mothers (88.6 %) would continue to feed their children during diarrhoeal episode. Continued feeding during diarrhoeal episode, is essentially important because depriving the child with diarrhoea of food, aggravates the malnourished state of the child, causing more severe dehydration and reduces the child's resistance to other infections.

The commonest types of food given by mothers to the child during diarrhoeal episode are porridge and "Tuo Zaafi" (T.Z). These are locally traditional cereal-based foods that are easily obtained and readily available in many homes.

5.2 HOME MANAGEMENT PRACTICES

5.2.1 Breast-feeding practices:

It is impressive to note that majority of the mothers (88.6%) breast-feed their children during diarrhoeal episode. Though the reasons given for doing so varied, most of the reasons were appropriate. This is an indication that the mothers are aware of the importance and value of breast-feeding to the child in diarrhoea management. Though some of the mothers admitted that in severe cases of the infection, the child refuses to breast-feed, they did not rule out the value of breastmilk and other foods to the child in such circumstances.

5.2.2 Enema Administration:

Almost half of the mothers interviewed practise enema administration to the child during diarrhoeal episode. This is a dangerous practice in that during diarrhoea, there is increasing loss of body fluids . Therefore the administration of enema aggravates the child's condition by increasing bowel irritating and increasing bowel movement. More so, some of the herbal preparations used as enema could be dangerous and of doubtful efficacy and therefore could worsen the child's diarrhoea condition.

5.2.3 O.R.S Administration:

Remarkable enough 78.6 % of the mothers have ever heard of O.R.S however, the fact that 62.4 % have ever used it to treat their children with diarrhoea implies that either some of the mothers underrate the value of O.R.S as an effective treatment for diarrhoea or that it is not easily available to them as and when they need it.

The administration of Oral Rehydration Solution (O.R.S) at the onset of diarrhoea is essential to prevent dehydration which is the main cause of death in diarrhoea. Therefore the need for mothers to know and practise the administration of O.R.S to the child at home even before sending the child to a health facility cannot be over-emphasised.

This study supported the findings that supernatural 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 or peri-urban North India States of Jammu and Kashmire (Gupte et al) and the survey of people's perception done in India (Kakar et al 1972) . This is an important factor in designing health education messages and interventions to diarrhoeal diseases control. Unlike the findings from the studies of Escobar et al (1983) and Kakar et al (1972), in which majority of the mothers in both studies mentioned dietary causes as underlying factors of childhood diarrhoea, only (31.5%) of the mothers in this study associated dietary causes as underlying factors of childhood diarrhoeal diseases. Also, unlike the study in rural Zimbabwe in which Zoyza et al reported that 6.0 % of the mothers took no remedial action whatsoever in cases of childhood diarrhoea, this study found that many of the mothers (97.1%) took an initial action in response to childhood diarrhoea, though the methods taken by many of them were inappropriate or wrong in some cases. On diarrhoea management practices, the findings in this study revealed no ritual purification or chants and other ceremonies. Neither did the management practices involve a prayer meeting nor the administration of purgatives.

In the research done at Jammu and Kashmire, Gupte et al reported that over half of the mothers restricted food and fluids intake in a child with diarrhoea before sending the child to a health facility. In this study however, continued feeding and fluid intake were practised by majority of the mothers. Even though generally, the knowledge about diarrhoea management in young children was limited among the women in this study, most of them were knowledgeable about the need for continued feeding of the child with diarrhoea and their reasons for doing so quite appropriate. This appropriate practice of feeding during diarrhoea episode should be reinforced in health education messages.

5.3 CONCLUSION:

The findings of this study have revealed that diarrhoea was common among children in the study area, with 168 out of 210 children having had diarrhoea within four weeks preceding this study.

It is also clear from this study that mothers in the study area of the Upper West region, have limited knowledge about causes, effects and dangers of childhood diarrhoea as well as appropriate methods of treatment and prevention.

On diarrhoea management practices, the study has revealed that mothers in the study area adopt various kinds of diarrhoea management practices. These include administration of enema to the child during an episode, administration of herbal concoctions and various kinds of drugs which are obtained from the local market. These methods are considered inappropriate or wrong practices because they tend to aggravate the child's diarrhoea condition as some of these methods cause worsening of fluids and electrolytes loss from the child's body and in some cases lead to death.

It is however encouraging to learn from this study that mothers in the study area are aware and knowledgeable about the importance of continued feeding and breast-feeding in diarrhoea management and therefore continue to feed the child even when he/she refuses to eat or drink. This practice is commendable due to the fact that it helps to prevent the child from becoming dehydrated and thus reduces the severity of child's diarrhoea condition. The usual foods and fluids given to the child during diarrhoeal episode are appropriate as they contain most of the food nutrients essentially needed by the child for rapid recovery and energy.

This study also shows that mothers have strong beliefs in supernatural forces such as witches and evil spirits as causes of childhood diarrhoea. This could influence the mothers' knowledge of preventive measures. It is therefore important that mothers are given adequate information about appropriate actions for diarrhoea prevention so that they could make use of such information to take the necessary actions to protect the child from diarrhoeal infections. The study could however, not establish any significant difference between what the few educated mothers know and practice about diarrhoeal management and what the uneducated mothers know and practice.

5.4 RECOMMENDATIONS:

This study has shown that there is high prevalence of diarrhoeal diseases among young children in the study area. This is attributed to the fact that mothers caring for these young children have little or no knowledge about the causes, effects, dangers, home management and prevention of diarrhoeal diseases and therefore adopt wrong or inappropriate methods to manage the disease during episodes. Based on the findings of this study, the following recommendations are suggested for implementation:

1. Health Education on Diarrhoeal diseases should emphasise on teaching mothers about the "germ" theory of disease causation, effects and dangers as well as appropriate home management and prevention of diarrhoeal diseases.

2. The value of the use of Oral Rehydration Solution (O.R.S) should be emphasised for mothers to appreciate the need for it's use to treat their children with diarrhoea at home even before sending the child to a health facility.

* 3. Oal Rehydration Solution salt (Sachets) should be easily available so that mothers could obtain it as and when they need it to treat their children with diarrhoea. This could be done by ensuring that all Traditional Birth Attendants (TBAs) and local Pharmacy shops in the communities and villages are supplied with O.R.S sachets for sale to mothers at affordable cost.

* 4. Outreach health services should be extended to those communities in the study area which are far away from the existing health facilities, and that at each health service session, a brief teaching on childhood diarrhoeal diseases should be given to mothers by the health team for mothers.

* 5. Any misconceptions or beliefs about diarrhoeal diseases that mothers strongly hold should be disabused with correct and adequate information.

* 6. Oral Rehydration Therapy corners or centres should be established in all health facilities which could be used as training or teaching centres for all mothers who use the health facilities. Where possible, some of the mothers should be used as resource persons in Oral Rehydration Therapy teachings.

* 7. Health personnel particularly Community and public health Nurses who do home visiting, should use such opportunity to teach mothers in their own homes about diarrhoeal diseases and their appropriate home management.

* 8. Mothers' clubs should be formed at all communities so that they could share together information and experiences on diarrhoea management practices and other child survival skills.

It is hoped and anticipated that when these recommendations are implemented by the health services administration and other health-related agencies in the district, the prevalence of childhood diarrhoeal diseases with it's high mortality rate could be reduced.

APPENDIX A: QUESTIONNAIRE

ID # .....

SUB DISTRICT .....

VILLAGE/COMMUNITY .....

DATE: .....

SCHOOL OF PUBLIC HEALTH (SPH)

UNIVERSITY OF GHANA - LEGON.

QUESTIONNAIRE ON THE KNOWLEDGE AND PRACTICES OF DIARRHOEA MANAGEMENT FOR YOUNG CHILDREN, AMONG MOTHERS OF THE WA DISTRICT.- UPPER WEST REGION.

.....

Self introduction: *I am Eric Owusu, a student of the University of Ghana, School of Public Health who is conducting a study on Diarrhoeal Diseases of young children and it's management among women of the Wa District.*

You are kindly requested to assist in the study of the above topic by answering some questions relating to the study.

You will not be identified as an individual and your responses will be treated as confidential.

Thank you for your co-operation and participation.

.....

A BACKGROUND INFORMATION OF RESPONDENTS:

1. Mother's Age
a) 15-19 years [ ]
b) 20-24 years [ ]
c) 25-29 years [ ]
d) 30-34 years [ ]
e) 35-39 years [ ]
f) 40-44 years [ ]
g) 45 yrs and above [ ]

2. Marital Status:
a) Never married [ ]
b) Married [ ]
c) Divorced [ ]
d) Separated [ ]
e) Widowed [ ]

3. Educational Level of Mother
a) Nil [ ]
b) Elementary [ ]
c) Secondary/Vocational [ ]
d) University/Diploma [ ]

4. Occupation of Mother.
a) Farmer [ ]
b) Trader [ ]
c) Government Worker [ ]
d) Other Specify .....

5. Do you have a child up to 2 years of age ?
a) Yes [ ]
b) No [ ]

6. What is the actual age of the child ?
a) 0 - 6 months [ ]
b) 7 - 12 months [ ]
c) 13 -18 months [ ]
d) 19 - 24 months [ ]

7. Has he/she ever had diarrhoea ?
a) Yes [ ]
b) No [ ]

8. If yes, when was the last episode of the diarrhoea ?
a) 0 - 2 weeks [ ]
b) 2 - 4 weeks [ ]
c) 2 -4 weeks [ ]
d) More than 4 weeks [ ]

B. INFORMATION ON KNOWLEDGE ON DIARRHOEA

CAUSES:

9. What do you think can cause diarrhoea in a child ?
a) Teething [ ]
b) Eating contaminated food [ ]
c) Witches and Evil spirits [ ]
d) Drinking dirty water [ ]
e) Food poisoning [ ]
f) I don't know [ ]

g) Other Specify .....

EFFECTS:

10. How do you know your child has diarrhoea ? .....

11. What do you think are the effects of diarrhoea on a child ?.....

.....

12 (a) . Do you consider diarrhoea as a dangerous disease of children ?

a) Yes [ ]
b) No [ ]

12 (b) Give reasons for your answer .....

C: INFORMATION ON DIARRHOEA MANAGEMENT PRACTICES:

13. When your child has diarrhoea, what do you do to him/her ?

a) Send child to Hospital/Health centre [ ]
b) Treat him/her at home [ ]

c) Other Specify .....

14. If you treat at home , what do you give to the child ? .....

15. (a) Does the child get better ?

a) Yes [ ]
b) No [ ]

15 (b) If No, what else do you do ? .....

16.(a) Have you ever given enema to any of your children who had diarrhoea ?

a) Yes [ ]
b) No [ ]

16. (b) If Yes, what were your reasons ?.....

17. Have you ever heard of O.R.S ?

a) Yes [ ]
b) No [ ]

18. If yes, have you ever used it to treat your child with diarrhoea ?

a) Yes [ ]
b) No [ ]

D. INFORMATION ON FEEDING PRACTICES:

19. (a) Do you feed your child during an episode of diarrhoea?
a) Yes [ ]
b) No [ ]

19. (b) Give reasons for your answer .....

20. If yes, what types of food do you give to the child ?
a) Breastmilk [ ]
b) T.Z [ ]
c) Porridge [ ]
d) Mashed yam and soup [ ]
e) Rice water [ ]
f) Kenkey water [ ]
Other Specify .....

21.(a) Do you breast-feed your child during the episode of diarrhoea ?
a) Yes [ ]
b) No [ ]

21. (b) Give reasons for your answer .....

E. INFORMATION ON DIARRHOEA PREVENTION:

22. Do you think diarrhoea in children is preventable ?
a) Yes [ ]
b) No [ ]
c) I don't know [ ]

23. If yes, how can it be prevented ? [ ]
a) Proper washing of hands before feeding the child [ ]
b) Preparing the child's meals in a clean environment [ ]
c) Sanitary disposal of child's waste products [ ]
d) Adequate and proper feeding of the child [ ]

e) Other, Specify .....

F. SOURCES OF INFORMATION ON DIARRHOEA:

24. What have been your sources of information on diarrhoea ?
a) Hospital/Health centre [ ]
b) Local Pharmacy shop [ ]
c) Friends and Family members [ ]
d) Radio and Television [ ]
e) Traditional Birth Attendant [ ]
f) No source of information [ ]

OPERATIONAL DEFINITION OF TERMS

For the purpose of this research, the operational definition of the terms used are as follows:

1. **Knowledge**:

   Any written and (or) verbal information of what mothers know about diarrhoeal disease and it's management for young children.

2. **Practices and Management**:

   The verbal or demonstrable account of what mothers do for their young children during diarrhoeal episodes or the measures the researcher will observe mothers taking when their children have diarrhoea.

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

4. **Young Children**: This study defines young children as those aged 0-2 years. These include both males and females.

5. **Mother**: Any woman or caretaker who has one or more children aged 0-2 years under her care even if they are not her own children.

APPENDIX B: LIST OF ABBREVIATIONS

1. W.H.O ..... World Health Organization
2. O.R.T ..... Oral Rehydration Therapy
3. O.R.S ..... Oral Rehydration Salt
4. T.Z ..... "Tuo Zaafi"(local cereal-based food)
5. DHMT ..... District Health Management Team
6. SDHMT..... Sub-District Health Management Team
7. I.M.R ..... Infant Mortality Rate
8. C.M.R ..... Child Mortality Rate
9. M.M.R ..... Maternal Mortality Rate
10. N.G.O ..... Non Governmental Organization
11. HSSP ..... DANIDA Health Sector Support Programme
12. GPRTU ..... Ghana Private Road Transport Union
13. S.T.C ..... State Transport Corporation
14. O.S.A ..... Omnibus Services Authority
15. G.O.G ..... Government of Ghana
16. UNICEF..... United Nations Children's Fund
17. M.O.H ..... Ministry of Health
18. TBA ..... Traditional Birth Attendant
19. E.P.I ..... Expanded Programme on Immunization
20. M.C.H ..... Maternal and Child Health

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