

**HOUSEHOLD CARE GIVING AND TREATMENT  
SEEKING BEHAVIOUR FOR DIARRHEA IN  
CHILDREN UNDER FIVE YEARS IN KASSENANANKANA  
DISTRICT, GHANA.**

*DR GYANG DALYOP DANTONG*

**A dissertation submitted to the School of Public Health in partial  
fulfillment of the requirements for the award of Master of Public  
Health (M.P.H.) Degree**

**SCHOOL OF PUBLIC HEALTH  
UNIVERSITY OF GHANA**

**AUGUST 2002**

G368151

RJ456.D5 D23

Theater Room

**DECLARATION.**


I, Dr. GYANG DALYOP DANTONG, do here declare that this work was done by me through my own research while a resident of the school of Public Health, University of Ghana, Legon, and that the same work has not been submitted any where for the same purpose.

Signed.....

DR GYANG DALYOP DANTONG.

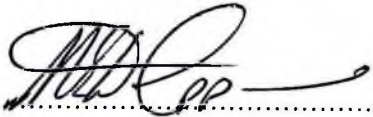
(M.P.H. Resident, 2001/2002)

**ACADEMIC SUPERVISORS:**

1. Signed.....

DR. IRENE AKUA AGYEPONG

(Lecturer, SPH, University of Ghana).

2. Signed.....

DR MATILDA PAPPOE.

(Lecturer, SPH, University of Ghana).

## **DEDICATION**

THIS RESEARCH WORK IS DEDICATED TO:

1. My loving wife Hanatu Gyem Dantong, and our children Kaweng, Dang, Keziah and Kim for their sacrifices and support over this one year.
2. All Ghanaian children who we talk about.

## ACKNOWLEDGEMENT

The World Council of Churches made this study possible through the provision of funds needed for the study. I wish to acknowledge with gratitude the immense contribution and support received from many people who in diverse ways helped to make this work possible:

- First of all, I want to thank my Teachers at the School of Public Health for equipping me adequately to carry out this study.
- I wish to express my sincere gratitude for the invaluable support received from my academic supervisors, Dr Irene A. Agyepong and Dr Matilda Pappoe.
- My special thanks to the field supervisor Dr Samuel K. Enos (DDHS, Kassena-Nankana) for his resourceful support.
- My gratitude goes to the staff and Management of the Kassena-Nankana District health management (DHMT) for their support in this research work, especially Mary Atigre and Hadiza Moro.
- To the staff and management of Navrongo Health Research Centre (NHRC), I say thank you for your advice and support, especially Dr. John Williams, Evelyn Sakeah, and Dr. Christine Clark.
- I am indebted to my research assistants Dalinjong A. Philip, Atim Samuel, Doragia Kennedy and Kambilige Fidelis for their hard work and commitment during data collection and entry of this work.

- I appreciate the co-operation accorded the study team by the various communities, opinion leaders, Chiefs, Sub-district management team, and especially the mothers in the North sub-district of the Kassena-Nankana District of the Upper East Region.

I cannot end this acknowledgement without mentioning my family and friends who were a source of hope and encouragement and whose constant prayers sustained me throughout the MPH course. I say thank you and God Bless!

## **ABBREVIATIONS**

- NDSS** – ----Navrongo Demographic Surveillance System
- NHRC** – ---Navrongo Health Research Center
- SDHMT** – -Sub – District Health Management Team
- DHMT** - ---District Health Management Team
- SSS** – -----Senior Secondary School
- JSS** – -----Junior Secondary School
- UDS** – ----University Of Development Studies
- ICOUR** – -Irrigation Company Of The Upper Region
- KND** – ----Kassena - Nankana District
- GOG** – ----Government of Ghana
- MOH** – ----Ministry of Health
- U5MR** – --Under Five Mortality Rate
- RAS** – ----Research Assistants
- FGD** – ----Focus Group Discussion
- KII** – -----Key Informant Interview
- ORT** – ----Oral Rehydration Therapy
- T.Z.** – -----Tuwon Zafi (local food)
- ORS** – ----Oral Rehydration Solution

## TABLE OF CONTENTS

<u>ITEM</u>	<u>PAGE</u>
Declaration	i
Dedication.	ii
Acknowledgment.	iii
Abbreviations.	v
Table of Contents	vi
List of Tables.	viii
List of Figures.	viii
Abstract.	ix
<b><u>CHAPTER ONE</u></b>	
1.0 INTRODUCTION:	1
1.1 Background Information	1
1.2 Problem Statement and Rationale for the Study.	3
1.3 Conceptual frame Work	4
1.4 Literature Review.	6
1.5.0 Objectives of the Study	9
<b><u>CHAPTER TWO</u></b>	
2.0 THE STUDY AREA	10
2.1 Physical Environment	10
2.2 Demographic Environment	10
2.3 Educational Facilities	11
2.4 Socio-Economic Environment	12
2.5 Health Care Facilities	13

### **CHAPTER THREE.**

3.0 METHODOLOGY.	16
3.1.0 Study Design	16
3.1.1 Variables	16
3.1.2 Study Population	19
3.2 Sample Size and Sampling Procedure	19
3.3.0 Data Collection and Tools	20
3.4.0 Data Handling, processing and Analysis	20
3.5 Ethical Considerations	23
3.6.0 Limitations of the Study	24

### **CHAPTER FOUR**

4.0 RESULTS	26
4.1.0 Background of Respondents	26
4.2.0 Definitions and Recognition of diarrhea	30
4.3.0 Options for the Treatment of Diarrhea.	33
4.4.0 Choices For the Mode of Treatment of Diarrhea	37

### **CHAPTER FIVE**

5.0 DISCUSSION, CONCLUSIONS AND RECOMMENDATIONS	40
5.1 DISCUSSION	40
5.2 CONCLUSIONS	45
5.3 RECOMMENDATIONS	46
REFERENCES	49
APPENDICES: Data Collection Instruments.	51

## **LIST OF TABLES**

Table 1: Educational Institutions by Area.

Table 2: Ten top causes of death in Kassena-Nankana District.

Table 3: Independent variables table showing their operational definitions and measures.

Table 4: Age Distribution Of Respondents.

Table 5: Relationship of Respondent to the child.

Table 6: Respondents marital status.

Table 7: Respondents' level of formal Education.

Table 8: Frequency and percentage of respondents' occupation

Table 9: Frequencies of symptoms as given by caregivers.

Table 10: Frequency and percentage of drug storage for home treatment.

Table 11: Frequency and percentage of use of drugs kept at home.

Table 12: Comparing keeping drugs at home with educational level of caregivers

Table 13: Frequency and percentage of herbs storage for home treatment.

Table 14: Frequency and percentage of first choice treatment given by caregivers.

Table 15: Frequency and percentage of second choice treatment given by caregivers

## **LIST OF FIGURES.**

Figure 1: A map of Kassena-Nankana District showing Health facilities.

## **ABSTRACT**

Children under five years of age constitute about 50% of all deaths in Ghana every year therefore any attempt to reduce mortality rate significantly should aim at the under five years. In order to have an effective child survival strategy, the understanding of where, when and why caregivers seek for health care for their under five year is very important. This is what is called the treatment seeking behavior. How communities manage these diseases amidst poor social amenities like transportation, health facilities and low or non-existent income to cater for costs involved is crucial.

Key informant interviews, Focus group discussions, and a cross-sectional survey were conducted on carefully selected members of one of the sub-districts with high under five mortality rates in Ghana, the North Sub-district of the Kassena-Nankana District. This study aimed at describing the household care giving and treatment seeking behavior of the community for the sick under five children with diarrhea. The caregivers' ability to define and recognize diarrhea, treatment options available to caregivers, and the choices people make from the options and why, have been documented.

The respondents perceived diarrhea as a common disease, which the mothers are able to define and recognize in their children. The signs and symptoms associated with diarrhea among caregivers include: frequent watery stools which could vary in color, high temperature, loss of appetite for food, thirst, noise and pain in the belly, stools with mucus, vomiting, sleeping a lot, crying a lot and sunken eyes.

Home treatment with drugs like ORS is commonly the first line of action. Some may treat at home with herbs or with home remedies like 'fermented flour fluid'. When the child fails to respond to home treatment, health facility is then sought as the second line of action. It was interesting to note that people do not go to drug store sellers for treatment, but rather to buy drugs prescribed from the health facility. Even when caregivers go first to the drug store, they are asked to go to the health facility first for prescription. Most people who go to the traditional herbalist for treatment, do so when the diarrhea becomes chronic and does not respond to medication from a health facility or when a cultural belief is attached to the diarrhea.

The process of decision-making to seek for health care could be complicated. Usually the father takes the decision on when and where to go for treatment and when he is not around, the child's grandmother takes the decision. However, in a situation where the father and grandmother are not around, the mother takes the decision only after consultations with the friends and neighbors.

In conclusion, the decision-making to seek treatment for a child with diarrhea, is usually made by the father and the first line of action is usually home management with drugs like ORS. Therefore, strategic child survival and educational programs should be targeted on the fathers. ORS should be made available to households for the treatment of diarrhea. This will ultimately reduce the under 5-mortality rate.

## CHAPTER ONE

### **1.0 INTRODUCTION:**

#### **1.1 Background Information on the Study.**

Children under five years of age constitute less than 20% of Ghana population, yet they account for more than 50% of the estimated 192,000 deaths (all deaths) in Ghana each year. The under five-mortality rate (U5MR) is generally regarded as a good overall indicator of the health of a population. According to the Ghana Demographic Health Survey of 2001, the Upper East Region U5MR in 1998 was 155 per 1000 live births, which is one of the highest in the country (1), as compared to the national average level of 110 per 1000 live births. This is the Region where the Kassena-Nankana District is located. Prompt, appropriate and adequate management of morbidity at household levels improves child survival (2,3,4,5,6) and is one of the strategies for effective control of common tropical diseases like diarrhea and malaria.

Such a strategy drastically reduces morbidity and mortality. In order to address under-5 childhood morbidity through prompt, appropriate and adequate home management of under five-childhood diseases, households should be able to define and recognize these diseases very well. Diarrhea for example is defined as the passage of watery stools, usually at least three times in a 24-hour period (7). However it is the consistency of the stools rather than the number that is most important. Frequent passing of formed stools is not diarrhea. Also babies fed only with breast milk often pass loose 'pasty' stools, this is not diarrhea. Nevertheless mothers usually know when their children have diarrhea and may provide useful working definitions in local situations (7). Diarrhea as a disease may have the

following symptoms: frequent uncontrollable bowels movements, watery stool, little or dark urine, sunken or dry eyes, skin that does not spring back when pinched and abnormal thirst and dry mouth (8)

The problem is, how to provide this Prompt, appropriate and adequate management in situations in which networks of Primary Health Care services are poor especially for the under 5 year children. The process through which families decide on when and where to seek help for their sick members is referred to as their 'health seeking behavior'. The options available to caregivers in most communities for the treatment of their under five children may include:

- . Home care without drugs;
- . Home care after asking the advice of a relative or neighbor;
- . Home medication with purchased drugs;
- . Home treatment using traditional remedies;
- . Visiting a traditional healer;
- . Seeking advice and/or prescribed treatment from a pharmacist/drug seller;
- . Seeking advice and/or prescribed treatment from a health worker in government or private practice.

In most cases, to improve health, programs often try to increase access to modern medical care. However, the fact that a clinic or hospital is there does not necessarily mean that people will use it or accept it. Many may prefer to use traditional healers and remedies (9). The choice of approach depends on the beliefs of the community, the type of illness, what is seen as its cause, and the availability of health care (9). The first choice in some communities is usually home remedy

and when this does not work for some time then they move to the second choice, which could be visiting the traditional healer. For most people, the third choice is seeking help from a health facility.

In attempt to reduce the mortality rate in the district, the Kassena-Nankana District Health Administration has in plan a program of distribution of “emergency-packed” drugs against some of the 5 top childhood killer diseases to caregivers. The targeted diseases are malaria, diarrhea, acute respiratory infection and anemia. The drugs they want to distribute include- chloroquine, paracetamol, oral re-hydration therapy sachets, cough syrup, and multivitamins syrup. The caregivers will be taught what dose regimens they will use before they are given these medicines. They will keep these drugs with them and give to the under 5 children whenever they fall sick with any of the targeted diseases.

## **1.2 Problem Statement and Rationale for the Study.**

Age specific mortality rates are not readily available in Ghana, however the Navrongo Demographic surveillance system (NDSS) shows that the highest annual risk of death are at the extremes of life (under five years and the Elderly), while the lowest is from age 5 - 39 years (1). Children under five years of age alone account for 50% of the estimated 192000 all deaths in Ghana each year (1). Therefore, any attempts or interventions to reduce mortality rate significantly, should aim at children under five.

The high under five-year mortality rate in Kassena-Nankana district certainly needs to be improved. The question is how to improve this mortality rate. (Is the distribution of emergency-packed drugs to caregivers against some of the killer diseases the right intervention to address the problem of increasing child survival in

the district?) To design an appropriate intervention, it is important to understand first, the household health care giving and treatment seeking behavior for children under five in the district. This is why the rationale of this study is that until a clear understanding of household care giving and treatment seeking behavior for under five is gathered, taking steps to improve child survival by distributing emergency packed drugs would be done in the blind.

When we know what households do, what they prefer and why, when a child under five is sick then we would be able to design a program that is community based and acceptable to the community. One explanation could be that the drugs distribution to caregivers may be a waste and not used by the caregivers because they prefer to go to the clinic or see the community health officer first. Kassena-Nankana district is a region where community health officers and the community health volunteers are readily available. In this situation it may be best to stock the clinics, community health officers and community health volunteers with these drugs rather than distribution to the caregivers. This is also a region where traditional healers are common and readily available to the people.

### **1.3 Conceptual Frame Work.**

Household care giving and treatment seeking behavior for the under five children can be defined as when, where, and why a house hold seeks for help when their under five child is sick. Factors that affect the choice of when and where families seek for healthcare, and why they may not use modern health services are numerous (9). These include:

- **Geographical Access** - Here, distance from a health facility or times health workers are on duty are important. Especially in the rural areas where

vehicles are difficult to come by and the closest place for help is the traditional healer, certainly any mother with a sick child may go to the traditional healer first.

- **Financial Access** - the cost of consultation, drugs, or 'cost' of time required to travel to a health facility may not be there, especially where they may be doing something else. The higher the educational qualification of a person, the better his/her job and the higher the salaries. So such a person may better afford the hospital bills than the uneducated. A mother who earns for her living may have her money in her pocket and this builds her capacity to afford hospital bills for her under five children.
- **Acceptability** - the level of confidence of a family or community in a health worker's diagnosis or advice. This is seen in the fact that the higher the educational qualification a person attains the more likely he/she will have confidence in modern healthcare service.
- **Beliefs** cultural beliefs and attitudes affect how a family perceives a child's illness, the health care and treatment options available to them, and what they decide about where and when to seek help. In some communities, females cannot take decision on what to do with a sick child; also mothers cannot make such decisions either. They have to wait for the fathers who will decide for them. Younger mothers may not have the experience of identifying and recognizing a disease condition in a child early as the older mothers. Those who believe exclusively in supernatural healing may end up in delaying to get modern health care as seen in some religious worshippers.

#### **1.4 Literature Review.**

As in many other countries of Sub-Saharan Africa, Ghana has a decentralization policy allowing districts to decide how to organize their health services. Vertical programs in principle no longer exist and districts are required to provide integrated health care. District health management teams are expected to plan and implement health services on the basis of perceived needs and to explore financing mechanisms with a view to supplementing the resources received from central government. Districts also have to explore innovative strategies and carry out operational research in order to ensure that the services are acceptable and affordable to the people (10). The understanding of when, where and why a typical District community seek medical help for their sick under 5 children will go along way to help in designing a relevant and culturally sensitive child survival strategic program.

In a study ‘using Ethnographic Research to improve malaria management in young children’, conducted in Kassena-Nankana District, it was found that most caregivers try treating ‘pua’ with home herbal remedies first. A few buy and give the full course of chloroquine. All homes surveyed had some medicines including-chloroquine, aspirin, multivitamins syrup, cough syrups, and herbal remedies. Traditional healers treat convulsions. Husbands and soothsayer are usually consulted if there is no improvement in the condition of the sick child before seeking treatment elsewhere, and the private clinics are preferred options rather than the Government clinic because they are closer (11). However, to what extent does this type of treatment and care seeking behavior pattern apply to all other diseases?

Martinez, et al 1991 found that most caregivers in Mexico treated diarrhea with a combination of home remedies and modern medicine. The home remedies included rice water and herbal teas while modern drugs used were an antibiotic, aspirin, or a mixture of kaolin and pectin bought from a local drug store or pharmacy. Five percent (5%) of the caregivers said they visited a traditional healer, while a third would take the child to a doctor because of vomiting or persistent diarrhea. (12)

Choprapawon, et al 1991 in Thailand also found that people used both traditional remedies and modern drugs to treat childhood diarrhea. Modern drugs were widely and inappropriately used for the treatment of diarrhea, whereas oral rehydration therapy was only used in about half of the cases. (13).

Levine, N. E. (1992) in Peru discovered that families sought help outside the home when the child had signs and symptoms thought to be serious and based on folk beliefs regarding different types of diarrhea. More than half of the 168 children in the study were given traditional fluids on the first day of diarrhea. Modern drugs were the second most common treatment used. She also found that children who are taken to modern health facility for treatment are those with blood in stools or those who passed many stools in 24 hours, however those with fever were more likely to be taken to a traditional healer. Cases thought to be due to some mystical cause were treated with a traditional healing method. (14).

Nations M. K. in Brazil, in one study, found that 83% of rural mothers first seek help from traditional healers when their children have diarrhea. Diarrhea is perceived by many parents as a variety of folk maladies – evil eye, fright disease, spiritual intrusion, intestinal heat, or sunken fontanelle – and traditional healers are believed to have the spiritual power to cure a sick child. (15).

In the Cameroon, Flavien N. found that 65% of traditional healers gave purging remedies for the treatment of diarrhea, but only 26% began with something to drink. (16). While in Uganda, Anokbonggo W. et al (1992) found that traditional healers used a great variety of herbs and plants, given with varying amounts of water to treat diarrhea. These traditional healers provide the first source of health advice and treatment to most people in rural areas. (17)

The available literature does not give specific information on the care giving and treatment seeking behaviors for the under 5 children sick with in the Kassena-Nankana District, Ghana. This study aims at describing the care giving and treatment seeking behaviors for sick under 5 children with diarrhea by the caregivers in Kassena-Nankana District, Ghana. It is hoped that the findings of this study, will help to focus the attention of the District Health administration, the District Assembly, NGOs, researchers as well as other health related agencies, on a few interventions potentially effective, which if implemented along with their programs, could significantly reduce the under five child morbidity and mortality rates in the district.

### **1.5.0 Broad Objective of the Study.**

Broadly, the study is to describe household care giving and treatment seeking behavior for sick under five year children with diarrhea and reasons for the pattern observed. This will provide empirical information which would enable the District health Administration to design and implement interventions for the over all improvement of under five child survival. In view of the time constrains, cost and the fact that a similar information has been collected on malaria, this study will concentrate on diarrhea.

### **1.5.1 Specific Objectives**

- To describe how diarrhea in a child under 5 is defined and recognized.
- To describe treatment options available to caregivers with sick under five children who have diarrhea
- To describe the choices people make from these options when they have a child with diarrhea and why.
- To find out if people have any ideas and suggestions about alternative options that are currently not available but which they would like in the treatment of diarrhea.

## **CHAPTER TWO**

### **2.0 THE STUDY AREA**

#### **2.1 Physical Environment:**

This study was designed to take place in Kassena-Nankana District, which, is in the Upper East Region and lies within the Guinea Savannah woodland of Ghana. The District has two main climatic seasons: a short rainy season, with an average rainfall between 850-1000 mm, which lasts generally from June to September, and a longer dry season which lasts from October to May, with the harmattan winds peaking in February and March. The general district temperature ranges from 20<sup>0</sup>C to 40<sup>0</sup>C (18). This seasonality is relevant to the transmission of diseases like diarrhea and malaria, which have high transmission rates during the rainfall, and this study is carefully programmed during the rainfall season.

#### **2.2 Demographic Environment:**

The population of the district is mostly rural, apart from those living in Central Navrongo. The population of the Kassena-Nankana District is estimated to be 141,940 residents (NDSS), however the 2000 census quotes 151,000. Children 0-4 years form 20% (28,388) of the population. The population continues to experience high rates of mortality, even though this is generally on the decline nationally. The crude death rate for 1999 is estimated to be 14 per 1000 person years (1). For those below age five, the mortality rate is 152 per 1000 live births while the infant mortality is 93 per 1000 live births. (1).

The district is divided into six zones or sub-districts to facilitate adequate delivery of health services. These sub-districts include: - Central, North, South, East, North East and West Sub-districts

The nature of the settlements in Kassena-Nankana, as in most of the Upper Region, is dispersed with close knit extended families living in the same compounds. The number of residents in a compound can range from ten to thirty and in some cases, well over one hundred. The compounds are made up of several small-connected huts surrounded by the compound's farming land (18). The dispersed settlement pattern, lacking the 'compact village' feature, makes health service delivery often difficult.

There are two main ethnic groups – the Kassenas who constitute 49% and speak Kassim and the Nankanis, who constitute 46% and speak Nankam. Other minor ethnic groups living in the district are primarily Builsas and Mampruis (18).

### **2.3 Educational Facilities.**

In principle education is mandatory, as a means for development. However majority of the population (55.6% of men and 75% of the women) (NDSS) has had no formal education. The district has 72 functional primary schools scattered all over the district. There are 34 Junior Secondary Schools, 5 Senior Secondary Schools and 2 Vocational Training Institutions concentrated in the urban area of central Navrongo. There is also a recently established University of Development Studies (UDS) located in the central sub-district.

Table 1: Educational Institutions by Area.

Area	Day care	Nursery/KG	Primary	JSS	SSS	Tertiary Institution
Central	4	6	29	16	4	1
North	0	2	12	4	0	0
South	1	0	6	3	0	0
East & North-East	1	1	15	7	0	0
West	1	0	10	4	1	0
Total	7	9	72	34	5	1

KG = Kindergarten.

(Source: Kassena-Nankana District profile 2000)

#### 2.4 Socio-Economic Environment.

The Kassena-Nankana District has a large irrigation project (ICOUR), which irrigates an area of 36 square miles as well as several small dugout dams, which provide water to the people and their livestock especially during the dry season when most of the riverbeds have dried up. The irrigation project produces mainly rice, tomatoes and onions. There is also a big market in Navrongo the District capital, which has market days on every 3rd day, while the sub- districts have their market days once a week. Kassena-Nankana has a boundary with Burkina-Faso to the North and provides business opportunity to the people living at the North sub-district, where the border is.

## **2.5 Health Care Facilities:**

The mission of the Government of Ghana, implemented through the Ministry of Health, is to provide health care services to the population of Ghana, both to prevent disease and to promote healthy life styles. Since the adoption of the Primary Health Care Strategy in 1978, the Ministry of Health, as one of the key components of the strategy, has advocated the decentralization of health care management, to the district level to bring quality health care closer to the people.

The District is equipped with 5 Biomedical public sector health facilities. The Navrongo War Memorial Hospital, a District Level C health facility sited at Navrongo and three (3) other Level B health centers located at Paga, Chiana and Kandiga. The Maternal and Child health/Family Planning Clinic, a Level A institution also located in the Central zone, provides both preventive and curative services, such as child welfare clinics, immunization, consultations, and treatment of minor ailments. In the private sector, there are three other clinics built by the Catholic Church in Sirigu, Nakolo and Biu, two of which are manned by MOH staff. There is also one private maternity home operating in Navrongo Central. (See figure 1.).

The number of pharmacy and chemical shops in the district are not known but most are scattered around the district capital.

Traditional and herbal remedies constitute the first line and commonly the only source of treatment for most families in the district. However the number of traditional practitioners and spiritual houses, though widely patronized are not available.

Figure 1: A map of Kassena-Nankana showing the distribution of Health facilities.

Table 2 presents the ten top hospital causes of death in the district.

Table 2: Ten top causes of death in Kassena-Nankana District Hospital.

	Diseases	No. Of Deaths.	(%)
1	Malaria	20	31.74
2	Pneumonia	9	14.29
3	Anemia	6	9.52
4	Cardiac Disorders	5	7.94
5	Gastro Enteritis	5	7.94
6	Acute Colic	4	6.35
7	Cirrhosis of Liver	4	6.35
8	Snake Bite	4	6.35
9	Meningitis	3	4.76
10	Cerebro-vascular Accidents	3	4.76
	Total	63	100.00

(Source: Biostatistics Unit, War Memorial Hospital Navrongo, 1999)

## **CHAPTER THREE.**

### **3.0 METHODOLOGY**

#### **3.1.0 Study Design.**

The study was a cross sectional descriptive study in which, both qualitative and quantitative methods of data collection were used.

#### **3.1.1 Variables.**

Variables identified from the literature review were:

. Dependent variables:

Household care giving and treatment seeking behavior

. Independent variables:

These include; age, sex, education, marital status, religion, employment status, distance from health facility, type of facility, and type of illness.

Table 3 shows variable table, with variable operational definitions and measurements.

Table 3: Variables table showing their operational definitions and measures.

VARIABLE NAME	VARIABLE DEFINITION	VARIABLE MEASURE
Care giving and treatment seeking behavior.	When, where and why household seek help for illness.	Using the independent variables.
Age	Age in completed years and months (continuous variable)	Years with months expressed as decimal e.g. 6 months=0.5 year
Sex	Discrete variable	Male ---- 1 Female -- 2
Education - 1	Years of completed schooling	Years
Education - 2	Highest educational level attained	Primary---- 1 Secondary- 2 Tertiary --- 3
Marital status	Any form of union recognized by the community	Single ----- 1 Separated --2 Divorced -- 3 Widowed -- 4 Married ---- 5
Religion	Any form of worship	Christianity -----1 Islam ----- 2 Traditional Rel. - 3

		Others ----- 4
Employment Status	Main pre-occupational work for self or organization, which supports the family	Farmer ----- 1 Trader ----- 2 Civil Servant ----- 3 Craft-Woman ----- 4
Distance from Health facility	Distance in terms of hours of walk to the nearest health facility	Up to 1 hour ----- 1 2 hours ----- 2 3 hours ----- 3 4 hours ----- 4 > 4 hours -----5

The Respondents were asked questions on:

1. Care giving:
  - a. Who takes care of a sick child with diarrhea?
  - b. Definition and recognition of diarrhea.
  - c. Whether drugs are kept at home for when the child gets sick with diarrhea.
  - d. Knowledge of the use of these drugs they keep at home.
2. Treatment seeking behavior:
  - a. Options available to care givers for treating their under five children who have diarrhea.
  - b. Choices made from these options and why?
  - c. Who makes the choice?
  - d. Distance from health facility.

### **3.1.2 Study Population.**

Although childcare is usually the responsibility of both parents, in most African societies and Ghana in particular, it is the mothers who are the real caregivers of children health needs. Mothers, with children under 5 years of age in Kassena-Nankana District formed this study's population as at the period of this study. However mothers (Caregivers) with under five children, whose children were sick or have been sick with diarrhea in the past two weeks (from the date of interview) were used for questionnaire administration. This population was chosen because of the assumption that most mothers would not easily forget the last time their children had diarrhea episode and what they did to manage the disease. Also people are generally more exact and correct after an experience than out of theoretical knowledge. In a situation where the mother was absent or where the mother is dead, the person who took over the responsibility of the mother in caring for the child was chosen as the caregiver.

### **3.2 Sample Size and Sampling procedure.**

Based on feasibility in terms of time, manpower, transport and money involved; and also the desirability of an adequate sample size (19) a convenient sample size of 100 caregivers who had children under five years old and who had diarrhea during the study period or have had diarrhea two weeks before the study period were used in this study.

Kassena-Nankana district has 6 sub-districts, out of which the North Sub-District was chosen by simple random sampling. The compounds that were used in the selected sub-district have at least a child under five years of age who was sick or at least had been sick with diarrhea in at most the past two weeks before the

interview. Each of these compounds were served with a questionnaire. If there was more than one mother with sick under 5 children, then the one with the youngest child was chosen. Where the mother is dead or absent, the person who took the responsibility of the mother was interviewed.

A list of compounds with under five children was collected from the Navrongo demographic surveillance system (NDSS) of the NHRC. All together 1998 compound names with their numbers were received. Out of these, 200 compounds were selected by systematic random sampling using a sample fraction of 10. And out of the 200, 100 mothers were interviewed in 100 compounds.

### **3.3.0 Data Collection and Tools**

Data was collected over a period of two weeks, from 21<sup>st</sup> June to 5<sup>th</sup> July 2002 using four research assistants.

The data collection tools used in this study include:

1. Focus Group Discussion guide
2. In-depth Interview Guide
3. Structured Questionnaire

### **3.4.0 Data Handling, Processing and Analysis**

Research Assistants (RAS).

Four University of Ghana students were enrolled as my research assistants. All of them were field supervisors with the Navrongo Health Research Center (NHRC) before their admission to the University of Ghana, Legon, but continued to serve any time they are on holidays as field supervisors. The research assistants are very conversant with the field research work and could speak Kasim, the language of the

study area. However the research assistants received training on the details and purpose of the study and were taken through the data collection tools, to enhance better understanding and interpretation. The RAS participated in the pre-testing of the questionnaire, design of the final protocol, data collection, storage and initial analysis.

### **Pre-Testing And Review of Questionnaire.**

Pre-testing of the questionnaire was carried out in the Navrongo central Sub-district, which was not part of the study area. Altogether 16 mothers who had under five year children with diarrhea or had had diarrhea two weeks prior to interview were interviewed. The pre-testing helped to determine respondent's understanding and the efficiency of the interviewer. The pre testing was also used to close most of the open-ended questions. After the pre-testing, a few questions were rephrased and the sequence modified for the final questionnaire to be produced. The pre-testing also provided an estimate of 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. There were no culturally or politically unacceptable questions.

### **Data Collection Technique.**

Both qualitative and quantitative methods of data collection were used. In the qualitative method, 3 focus group discussions and 2 key informant interviews were organized. The three focus group discussions were held with the mothers, the fathers and the other with the grandmothers. Each focus group discussion was

made up of 8 - 10 participants. A research assistant contacted each participant and his/her consent sought. On acceptance to participate in the discussion group, an appointment was made with him/her on when and where to meet. The mothers, fathers, and grandmothers were selected if they have children or grandchildren (in the case of grandmothers) under five years of age and also due to their influence over the decision of how, when and where to treat sick under five children. The key informant interviews were held with one traditional healer, and one chemical drug seller. Their consent was also sought and appointments made at their convenience on the venue and time of the interview.

The timetable for 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 was explained to them. This community entry approach enabled the research team enjoy the co-operation and participation of the respondents. The researcher and his assistants had the support of the Assemblymen and the community. At each interview point, or focus group discussion, the consent of the participants was sought before data collection. The purpose of the study was explained to the participants and they were assured by the research team of the confidentiality of their identity in the study. Assurance was also given to the participants on getting a feed back through the sub-district health management team on relevant issues raised in the study that needed action. With the consent of the participants the interviews or the focus group discussion were then held.

### **Data Quality Control.**

The researcher and the supervisor made sure that data collected were complete and accurate by checking through the questionnaires after each day's field work. They

made sure that all completed questionnaire were enveloped and secured. The researcher also paid unscheduled visits to households to check the field assistants at work to ensure quality control. The researcher wants to assure all readers of this study that the data collected is reliable, hence will produce valid conclusions that can be used by the district health administration.

### **Data Processing and Analysis.**

A file was opened for the sub-district for the purpose of data collection. The principal investigator examined the daily batch of questionnaire at the end of each day, for completeness and consistency. The batching of questionnaire was the responsibility of each research assistant.

A daily analysis of data was done after which the data was categorized by variables. When all data was collected, focused synthesis was carried out, and using EPI Info version 6, the data was analyzed. Simple percentages, tables and frequencies for any relationships between the independent and dependent variables were measured. The data collected by qualitative method was recorded, transcribed, and analyzed manually by the team.

### **3.5 Ethical Considerations.**

Consent of all participants in this study was sought. Equipment like tape recorders, and cameras were used with the consent and knowledge of the respondents. Maximum confidentiality was kept throughout the study and after. Out comes of the study would be made available to the District and the participating community.

### **3.6.0 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.

#### **3.6.1 Communication.**

There was the likelihood of interpreter bias and response errors in the interpretations given by the field assistants which the researcher could not take note of.

#### **3.6.2 Response Bias.**

Some respondents could have answered questions to satisfy the research teams instead of telling the truth of what they actually practice. Though checks were made on all questionnaires, this limitation could have been overcome by validating responses from respondents over sometime, but time was a limiting factor.

#### **3.6.3 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 must have been minimized by relying on information of their recent experiences of about two weeks duration.

#### **3.6.4 Time and Mobility Constraints.**

This study was conducted during the rainy season. It was therefore not possible to access all communities with vehicles, which were very far away from the sub-

district capital and with poor road network. This problem was overcome by making use of motorbike to reach those selected communities where vehicles could not reach.

It is likely too that in a hurry to get to their farms, some respondents could have given responses just to be free and get away early. It is hoped that this 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 afternoon after they had returned from their farms for the interviews.

### **3.6.5 Research Fatigue.**

The study area is well known about research work that has been going on for some time now. It is possible that the respondents may give answers that they think the researcher wants to hear as a result of past experience because to them research has become a routine exercise. It is hoped that this problem was overcome by careful introduction of the study to the respondents and emphasis on the need for them to think and give correct answers to the best of their knowledge.

## **CHAPTER FOUR.**

### **4.0 RESULTS.**

After the presentation of the background variables, the rest of the data will be presented by objectives of the study.

#### **4.1 Background Of Respondents (Caregivers) to the structured questionnaire.**

Background variables described in this chapter are as follows:

Ages of caregivers

Caregivers relationship to the under five children,

Marital status of caregivers,

Educational levels of caregivers and

Occupations of caregivers.

##### **4.1.1 Age.**

The correct ages of the respondents were not easy to determine, as most of them could not recall their date of birth. Nevertheless major local and national events were used to estimate the ages of the respondents. The age distribution of the respondents ranged from 17 to 45 years. The majority of the respondents (57%) fall between the ages of 25 to 34 years of age. Only 2% were 45 years and above. Table 4 and Figure 2 below show the age distribution of respondents.

Table 4: Age Distribution of Respondents.

AGE GROUP	FREQUENCY	PERCENTAGES (%)
15 - 19	3	3
20 - 24	17	17
25 - 29	26	26
30 - 34	31	31
35 - 39	13	13
40 - 44	8	8
45 +	2	2
TOTAL	100	100

#### **4.1.2 Respondents Relationship to the child.**

The relationship of respondents to the under five children showed that 96% of the respondents were the actual mothers of the children. Only 1% were grandmothers (Table 6).

Table 5: Relationship of Respondent to the sick child.

Relationship	Frequency	Percentage (%)
Mother	96	96
Sister	1	1
Aunt	2	2
Grandmother	1	1
TOTAL	100	100

#### 4.1.3 Marital Status.

Percentage distribution of respondents' marital status by percentages shows that 93% were married, 2% each were either single, separated or widowed. Only one respondent was divorced.

Table 6: Respondents marital status.

Marital Status	Frequency	Percentage (%)
Single	2	2
Married	93	93
Divorced	1	1
Separated	2	2
Widowed	2	2
TOTAL	100	100

#### 4.1.4 Educational Level of Respondent.

Fifty four percent (54%) of the respondents have had no formal education, 26% attended elementary school, 19% went to secondary school and only 1% has had a tertiary level education.

Table 7: Respondents' level of formal Education.

Education	Frequency	Percentage (%)
Nil	54	54
Elementary	26	26
Secondary/Vocational	19	19
Tertiary	1	1
TOTAL	100	100

#### 4.1.5 Occupation of Respondents.

The predominant occupations of the respondents were trading (53%) and farming (25%). 15% were housewives and only 1% were civil servants.

Table 8: Frequency and percentage of respondents' occupation

Occupation	Frequency	Percentage (%)
Farmer	25	25
Trader	53	53
Civil Servant	1	1
Craft Man	6	6
House wife	15	15
TOTAL	100	100

#### 4.2.0 Objective 1. Definitions and Recognition of Diarrhea.

In the focus group discussions, it was not difficult for the groups to define and recognize diarrhea. The groups defined diarrhea as frequent watery stools, which could be yellow, blackish, whitish, greenish or pale in color.

##### 4.2.1 Definition and Recognition by the Caregivers.

The Caregivers said even if you force the child who has 'strong' diarrhea to breast-feed, he/she will not take it. Vomiting seems to be a common symptom of diarrhea. When the mothers were asked how they knew that their children were sick with diarrhea? They gave the symptoms indicated in table 9 as their indicators of diarrhea. Frequent watery stools (69%) was the commonest indicator (symptom) of

diarrhea among caregivers, while the list of unpopular symptoms among caregivers are sunken eyes, cough and change in facial appearance (1% each).

Table 9: Frequencies of symptoms as given by caregivers.

INDICATOR	FREQUENCY	PERCENTAGE (%)
Frequent watery stools	72	69
High temperature	21	20
Loss of appetite, Stomach pain and noise.	5	5
Vomiting, Crying a lot, Stools with mucus Clinic diagnosis, Told by others	3	3
Frequent sleeping, Red eyes, Body weakness	2	2
Sunken eyes, Cough, Change in facial appearance	1	1.0
TOTAL	104	100

#### 4.2.2 Definition and Recognition by Grandmothers.

The grandmothers in the focus group discussion said that the main sign of diarrhea is the watery stools, which could be of any color. They added that diarrhea is a common disease in that every mother who has been carrying a baby will certainly know when the baby develops diarrhea.

#### **4.2.3 Definition and Recognition by Fathers.**

Surprised they could be asked the question, because to them any one would recognize common diarrhea, the Fathers asked how would one not know common diarrhea? They added that if you see a diarrhea stool that has been passed by a child you would know it is diarrhea stools. That diarrhea starts as ‘bempupolo’(muddy like stools). Then after some time it becomes very watery. So that if the child is not treated on time the water can finish from the child’s body. This can lead to death. A child with diarrhea is weak and all the child takes in is water, but immediately after the water, he gets up to pass stools. He passes all that he has drunk.

#### **4.2.4 Definition and Recognition by drug Seller.**

Diarrhea is watery stools, which come as a result of dirty environment. When people are dirty flies come to their food and this gives them diarrhea. She added that diarrhea could be very dangerous especially when not treated with fluids immediately. It can even kill. However, the drug Seller does not make the diagnosis, rather the mother brings the prescription from the clinic to buy the medicine for the diarrhea.

#### **4.2.5 Definition and Recognition by Traditional healer.**

The traditional healer said that diarrhea is frequent watery stools. However he said the cause is ‘punishment’ from the gods or as a result of ‘bad mouth’ (when one has been saying negative things about other people), or as a result of an attack by your enemy who poisons you to make sure that all that you eat does not stay in the stomach.

### 4.3. Objective 2. Options for the Treatment of Diarrhea.

#### 4.3.1 Home treatment With Drugs (ORS).

In the focus group discussion, the mothers said some times they buy drugs to keep for treatment at home if they have the money. However this is very seldom. They do this because some of them live very far away from the clinics. Secondly, the sickness may start at night when no one can get to clinic.

When the caregivers were asked about home treatment with drugs the responses in the structured questionnaire were as follows: 68% said they keep drugs (like ORT) at home for diarrhea while 32% said they don't keep drugs at home.

Table 10: Frequency and percentage of drug storage for home treatment.

	Frequency	Percentage (%)
Keep drugs at home	69	69
Do not keep drugs at home.	31	31
TOTAL	100	100

It was also interesting to note the response to whether they use the drugs they keep at home.

Table 11: Frequency and percentage of use of drugs kept at home.

	Frequency.	Percentage. (%)
Do not use at all	1	1.4
Use some times	52	72.2
Use always	19	26.4
TOTAL	72	100

Table 12: Showing the relationship between age group and keeping of drugs at home by caregivers.

Keep drugs at home.	< 24 yr.	25 – 29yrs	30 – 34 yrs.	> 35 yrs.	TOTAL
Yes.	9 (45%)	19 (73%)	23 (74%)	18 (78%)	69
No.	11(55%)	7 (27%)	8 (26%)	5 (22%)	31
TOTAL	20	26	31	23	100

Table 13: Showing relationship between Educational level of caregivers and keeping drugs at home.

Keep drugs at home.	Had Education.	No Education.	TOTAL
Yes.	34 (76%)	35 (64%)	69
No.	11 (24%)	20 (36%)	31
TOTAL	45	55	100

Table 14: Showing relationship between occupation of caregivers and keeping of drugs at home.

Keep drugs at home.	Income Earners	No Income	TOTAL
Yes.	44 (71%)	25 (66%)	69
No.	18 (29%)	13 (34%)	31
TOTAL	62	38	100

**4.3.2 Home treatment with Herbal Remedies.**

Herbs like ‘glansuah’ are usually used at home for the treatment of diarrhea. The herbs are brought from the bush fresh and are boiled. The children with diarrhea are given the fluid to drink. Some use the fluid to prepare food for the children or to bath the children with. Some of the herbs such as from the shear tree is boiled and the strands are used to sponge the anus of the child who has diarrhea.

When the caregivers were asked if they keep herbs at home to treat diarrhea? Their responses showed that 75% did not keep herbs at home (table 11).

Table 15: Frequency and percentage of herbs storage for home treatment.

	Frequency	Percentage
Keep herbs at home	25	25
No herbs at home.	75	75
TOTAL	100	100.

#### **4.3.3 Health Facility Treatment.**

Those who are close to the hospital \ clinic go for treatment there when they have money. Most people know that hospital treatment is the best when it comes to diarrhea treatment.

#### **4.3.4 Treatment at Drug Store \ Pharmacy.**

People go to the drug Seller or pharmacy only after going to the hospital and the drugs are out of stock. Sometimes after attempting herbs at home they now go to the drug seller if they have money. In an interview with the drug seller, she confirmed that people do not buy drugs to keep for when their children get sick. Most people do not have that money but rather they come with prescriptions to buy the drugs. She accepts that only a few go to the drug seller straight for the treatment of diarrhea, and these are people who have money.

#### **4.3.5 Treatment by the Traditional Herbalist.**

The Traditional healer has herbs for the treatment of diarrhea. People always come to him for the treatment of diarrhea. He said that he encourages the use of oral rehydration therapy, and that most of the cases of diarrhea he treats are those that have failed to respond to hospital treatment. He however does not give people herbs to keep at home for when their children fall sick with diarrhea.

#### **4.4. Objective 3. Choices For the Mode of Treatment of Diarrhea.**

In the questionnaire, the mother takes the responsibility of taking care of the sick child. From the focus group discussion, the father takes the decision on the line of action to be taken by the family. In the focus group discussion with the mothers, they said any mother who makes the decision without the permission of the husband is considered a woman with a 'sharp tongue' (being disrespectful to her husband). When the father is not around then the mother In-law makes the decision. In the absence of the father and mother in-law, then the mother could take a decision with the advise of neighbors the mothers added.

In the focus group discussion with the fathers, the fathers usually decide in favor of home treatment. This can be home treatment with herbs, or with drugs or with home remedies like 'flour-fermented water', liquid 'T. Z'. etc. The decision usually depends on what is available. The father may go to the bush to get some herbs because they believe in the herbs. "*Kasena wonu*" (*we believe in herbs*).

The fathers also said, when the home treatment does not work, the child is then taken to the hospital for treatment or we go to the drug store/ pharmacy to buy medicine for the child when there is money. When the father does not immediately recognize the condition then, they also take the child to the hospital for proper diagnosis and treatment.

Some times diarrhea prolongs for some time even in the hospital, in such situations the child is taken to the traditional healer for treatment.

The above line of action depends on several factors. For example in the night the easily accessible mode of remedy is tried until the morning when the desired mode of remedy is chosen. The other factor is availability of money.

The mothers desired that Hospital should be the first place of call when it comes to the treatment of diarrhea, but the fathers usually choose home treatment especially with herbs.

The drug seller said people only go to buy drugs from the drug store with prescription from the hospital. However the few that go directly to her store do that because it is cheaper than the hospital.

The traditional healer said that people go to the hospital first before coming to him with children with diarrhea. When it has failed in the hospital then he is asked to solve the problem.

In the questionnaire, when the caregivers were asked what was the first thing they did when their children had diarrhea, the responses showed that 41.4% preferred home treatment with drugs, 23.2% preferred home treatment with herbs, 33% preferred hospital or clinic treatment while only 1% preferred the Traditional herbalist (table 14).

Table 16: Frequency and percentage of first choice treatment given by caregivers.

	Frequency	Percentage. (%)
Hospital/Clinic treatment	33	33.3
Home treatment with drugs(ORS)	41	41.4
Home treatment with herbs	23	23.2
Traditional herbalist	1	1.0
Friends/Neighbors to treat	1	1.0
TOTAL	99	100

The responses of caregivers on the choice of second line of action indicates that 65% preferred hospital as a second choice of treatment while only 2% preferred traditional healers.

Table 17: Frequency and percentage of second choice treatment given by caregivers

Types Of Treatment.	Frequency	Percentage (%)
Hospital treatment.	65	65.0
Traditional Healer	2	2.0
Home treatment	5	5.0
Not applicable	28	28.0
Total	100	100.0

## CHAPTER FIVE.

### **5.0 DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS**

This study was carried out with the aim of describing household care giving and treatment seeking behavior for sick under five year old children in Kassena-Nankana district. The out come of the study will be used to advise the District Health Management Team on child survival programs. This chapter discusses the results and makes inferred conclusions and recommendations.

#### **5.1 DISCUSSION:**

##### **Definitions and Recognition of Diarrhea.**

The study found that it is easy for respondents (caregivers) to define and recognize diarrhea. Diarrhea is defined by the study as frequent watery stools, which could be in various colors- whitish, yellow, black, or green. Diarrhea stool could contain blood, mucus or undigested food. All respondents agreed to this definition. 96% of these respondents were mothers. Therefore mothers can easily define or diagnose diarrhea.

It was interesting to note that 83% of respondents said that mothers take care of children when they are sick and even when the mother was away, 29% of respondents said she would take the child away. This means that the mother is the only person who stays with the child most of the time. This is important because mothers can recognize diarrhea and therefore, this will lead to early diagnosis, early decision-making and early management. In the long run this will reduce morbidity and mortality rates. Though fathers make the decision on what line of action to take for the management of a sick under five child, when the mother is able to recognize the sickness early enough, it will help in early management with it's good benefits.

### **Options Available for the Treatment of Diarrhea.**

The study has shown that there are different options available to treat diarrhea in the community. These options could be:

#### 1. Home treatment with drugs.

The study showed that people buy drugs to keep for when the child falls sick with diarrhea, especially when they have the money. The reasons they give for this is that, most of the time they are far from the clinics and it takes long trekking to reach the clinic. Secondly the need for the drugs may arise at times that transportation to the clinic may be difficult to get, because the need may be in the night when there is no transport or the transport comes only on market days. Some times there is just no money to take transport. In the study most (69%) of caregivers keep drugs at home for when the child falls sick with diarrhea. This therefore proves the point that most people would like to buy drugs and keep for when their children get sick with diarrhea.

The main constrain is the availability of money to buy the drugs. This is proven in the fact that the study has shown some statistical difference (p – value 0.6) in the keeping of drugs at home between income earning caregivers and no income earning caregivers. More income earning caregivers keep drugs at home more than no income earning caregivers. Secondly an educated caregiver is more likely to keep drugs at home more than a non-educated caregiver (p – value 0.2) because an educated caregiver is more likely to have an income earning than a non-educated caregiver. A caregiver with her money in her purse is more likely to keep drugs for her under five children. This will certainly lead to better care to the children.

The study has also shown that the older the caregiver the more likely she will keep drugs at home for her under five child. Reasons for this could be a subject for another study.

Keeping drugs at home has the implication of wrong usage, which can lead to resistance of microorganisms to these drugs. Therefore the DHMT has to embark on active health education, teaching the households how to use these drugs like ORT. ORT should be available to all households.

## 2. Home Treatment with herbal Remedies.

This study has shown that herbs are also used for the treatment of diarrhea at home. These herbs are boiled and the water is given to the children to drink. In some cases the water is used to bath the children with and in other cases the strands of the herbs are used to scrub the child's anus. It is with interest to note that 75% of the caregivers do not keep herbs at home for when the child gets sick despite its wide usage. This is because most of the herbs used are around the house. This therefore means that in most cases when a family wants to use herbs for the treatment of diarrhea they go just behind the house for them. Despite this proximity and cheapness, most households prefer home treatment with medicine first, than with herbs. This was explained better in the focus group discussion with the grandmothers, they said '*the diarrhea of nowadays is such that we can not treat it with herbs alone, it only responds when treated with modern medicine*'. It can be inferred here that households are getting to accept modern medicine and also believing that it is more efficacious than herbal medicine when it comes to the treatment of diarrhea. It is important to use this opportunity to educate the

households and make ORT available to households to save more children from dying from diarrhea.

### 3. Treatment at the Health Facility.

The study has shown that a lot of people go to the health facilities for the treatment of diarrhea. They may start with home treatment but when this fails they go to the hospital/clinic as second choice (65%) (Table 15). And a good number of people go straight to the hospital. In the study 33% of caregivers with children who had diarrhea went to the hospital first as first choice (table 14). There is low first choice health facility patronage probably because there is high home treatment with medicine.

### 4. Treatment at the Drug store \ Pharmacy.

The study has demonstrated that only very few people go to the drug store for treatment, and even when they reach the drug store they are advised to go to a health facility for prescription. So most of those that go to the drug store have been to the hospital first and when the drugs are out of stock in the hospital, they then go to the drug store to buy the drugs. The implication here is that those who go to buy the basic drugs like ORT to keep for when the child gets diarrhea may be turned down. The drug store seller needs to be educated on which drugs can be purchased without a prescription and which ones can be purchased only with a prescription sheet. Therefore, the inference here is that caregivers do not go to the drug store for treatment but rather to buy prescribed drugs.

### 5. Treatment by the traditional herbalist.

Though the traditional herbalist has herbs for the treatment of diarrhea, only few people go to him for the treatment of diarrhea. Most of the cases that are taken to the traditional herbalist are those that are believed to have spiritual causes and have

therefore failed to respond to health facility treatment. Unlike the case of malaria, where children with convulsions are taken to the traditional healer first, the traditional herbalist only treats chronic diarrhea that is assumed to have spiritual causes and not responding to modern medicine. In North Eastern Brazil, traditional healers give dehydrated infants 'strong tea', a safe and effective mixture of traditional herbal teas and ORS (9). This can be explored in our situation to encourage the traditional healers to use ORS.

### **Choices that family make for the Treatment of Diarrhea.**

The study has shown that the mother stays with the children much more than any other family member and she is the one that cares for the child when the child is sick, however the mother does not make the decision on how or where to treat the sick child. It is the father who takes that decision. If he is not around then the mother-in-law does that. When the father and the mother-in-law are not around then the mother can make the decision in consultation with friends and neighbors.

Table 14 shows us that the first choice of treatment is home management (64%). This means that when it comes to the treatment of diarrhea, most people want to treat at home. It could be with medicine like ORS (41%) or with herbs (23%).

When the first line of action fails then the second line of action is taken. Table 15 shows that 65% of people do go to the hospital after the home treatment has not resolve the problem. At this stage some may go to buy drugs in the drug store instead of the hospital.

When the diarrhea does not resolve or it becomes a chronic case then the case is taken to the traditional healer. It is interesting to note here that in the case of malaria, which is associated with convulsions, the first line of action is the

traditional healer (20) but in the case of diarrhea, it is a hospital case. Since in the treatment of diarrhea, home management is the first line of action, it could be inferred that when anti-diarrhea medicines are made available to the families, they will be used.

### **Alternative option in the treatment of diarrhea.**

There are some home remedies, which neither are not really herbal remedies nor are they home medicines. In the focus group discussion with the mothers, it was stressed that 'flour fermented water' could be used to treat diarrhea. The fathers also said that liquid 'T.Z.' could be stirred and given to children who have diarrhea. These are local foods, which can be effective in the treatment of diarrhea. Carol et al (21) in Jamaica advise mothers to use home remedies like coconut water, fruit juice and rice water, which have been found to prevent dehydration in children. In the same way we can encourage mothers to use these home remedies. Home remedies are familiar to mothers, cheap to prepare and the children like them

### **5.2 CONCLUSIONS:**

The findings in this study have revealed that the Kassena-Nankana District communities are able to define and recognize diarrhea without difficulty.

The study also revealed that the options available to caregivers for the treatment of their under five children include:

1. Home treatment with either modern medicine, or home remedies, or herbs
2. Health facility treatment
3. Treatment at the drug store \ pharmacy

#### 4. Treatment by the traditional healer.

About 68% of caregivers keep drugs such as ORS at home for when the child gets sick with diarrhea, while 25% keep herbs at home for the treatment of diarrhea.

Fathers are usually the ones who make the decision on where and when to treat a child. The first choice for treatment of diarrhea is usually home treatment with drugs (41%), or with herbs (33%). When this fails, then the patient is taken to a health facility as the second choice of treatment. However medicine can be bought from the drug store if the home treatment was with herbs. A few people go to the traditional healer for the treatment of diarrhea. Most of those that go there they do so when the diarrhea has become chronic and not resolving as in the case of HIV, or when there is a cultural belief attached to the particular case.

### **5.3 RECOMMENDATIONS:**

This study has described the treatment seeking behavior of the Kassena-Nankana communities for their under five children sick with diarrhea. The study has shown that the caregivers are able to define and recognize diarrhea without difficulties, they have a wide variety of treatment options, however their first choice of treatment is home treatment with medicine or herbs. When the condition does not improve then health facility treatment is sought. Based on these findings, the following recommendations are suggested for implementation:

1. Programs aimed at home management of diseases should be intensified since people already know and practice home treatment of many conditions.
2. Health Education on common diseases in the District should be emphasized. Fathers, Grandmothers and Mothers should be taught about “germ” theory of disease causation, effects, prevention and appropriate home management of

diseases like diarrhea and malaria. Misconceptions or negative beliefs on common diseases that mothers hold should be disabused with correct and adequate information.

3. Medicines like Oral Rehydration solution sachets, chloroquine, multivitamins etc should be made available at household levels for proper home treatment by caregivers. The values of these medicines should be taught to caregivers and also the need to use them before taking the child to the health facility.
4. Outreach health services should be extended especially to those communities far from the health facilities. Health personnel particularly community and public health nurses who do home visitations, should use such opportunity to teach the mothers in their own homes about common diseases and their appropriate home management.
5. Fathers' clubs, Mothers' clubs and grandmothers' clubs should be formed in all communities so that they could share together information and experiences on common diseases management practices and other child survival skills.
6. Intervention programs should be targeted at the fathers since they are the key decision makers on treatment seeking behavior for the under five children.
7. Programs aimed at economic empowerment of women should be encouraged since a caregivers money in her purse will enable her to keep drugs at home for her under five child.
8. Girl child education should be encouraged because when a caregiver is educated, the more likely she will keep drugs at home for her under five child and therefore provide better care for her child. Also when a girl is educated, this will delay the onset of child bearing and it will be better for the health of

under five child. The older a caregiver is the more likely she will keep drugs at home for her under five children.

It is hoped and anticipated that when these recommendations are implemented by the health services administration and other health-related agencies in the district, under five years morbidity and mortality in the district will reduce.

## REFERENCES:

1. Ministry Of Health, Ghana: 2002, The Health of the Nation.
2. Anne Mills et al: Health Systems and Operational Research Focus Group Report: WHO
3. Baffoe-Bonnie, B. A, et al. (1998); Diarrhea Diseases in Hospital in Ghana. Croatian Medical Journal: 39, 3: <http://www.cmj.hr/1998/390318.htm>
4. Amadou B. D.; et al. (2001). Home care of malaria-infected children of less than 5years of age in rural area of the Republic of Guinea: Bulletin of World Health Organization, 79: 28-32.
5. Center for Disease Control: (1992). The management of Acute diarrhea in children: Oral Rehydration, Maintenance, and Nutritional Therapy. 41: (RR-16). Atlanta Geogia.  
<http://www.cdc.gov/mmwr/preview/mmwrhtml/00018677.htm>
6. Jane F. K. (2000) WHO. AFRO-NETS. Malaria Home management. Work Plan.
7. Rehydration Project. (2001). WHO: What is diarrhea and how to prevent it.  
<http://www.diarrhoea.org/diarrhoea/index.html>
8. Family Health (2001) Treatment of Fever, Diarrhea, and Dehydration: Benson Institute. <http://benson.byu.edu/Members/laurak/lessons/5.3/view>
9. Focus on diarrhea, (1992) de-hydration, and re-hydration: Dialogue on diarrhea; WHO 48 <http://www.diarrhoea.org/dd/dd48.htm>
10. Medium term health strategy towards vision 2020, Accra, Ministry of Health 1995.
11. Using Ethnographic Research to Improve Malaria Management in young children: SAID.

- [http://www.aed.org/publications/using\\_ethno\\_improve\\_malaria%20management.pdf](http://www.aed.org/publications/using_ethno_improve_malaria%20management.pdf)
12. Martinez, H. et al (1991). Mothers' perception about childhood diarrhoea in rural Mexico. *I. Diar: Dis. Res.* 9 no 3:235-243.
  13. Choprapawon, C. et al, (1991). Cultural study of diarrhoeal illness in central Thailand and its practical implications. *J. Diar. Dis. Res.* 9 no 3:204-212.
  14. Levine, N. E. et al (1992). WHO. Dialogue on Diarrhoea 48.  
<http://www.diarrhoea.org/dd/dd48.htm>
  15. Nations, M. K. (1992). The ORT 'Ritual'.  
<Http://www.diarrhoea.org/dd/dd48.htm>
  16. Flavien N. (1992). Interest in Oral Rehydration therapy.  
<Http://www.diarrhoea.org/dd/dd48.htm>
  17. Anokbonggo W. et al (1990). Traditional methods in management of diarrhoeal diseases in Uganda. *WHO Bull.* 68, 3: 359-363.
  18. Jeff A. K. (2000). Kassena-Nankana District Health profile 2000.
  19. Mugo F. W.: (2002). Sampling in Research.  
<http://trochim.human.cornell.edu/tutorial/mugo/tutorial.htm>
  20. Owusu-Agyei, S. et al (1999) Conceptualization, Treatment-Seeking Behavior, and Compliance with Treatment of Malaria in a Rural Community in Northern Ghana. *WHO/AFRO, MAL.* 38.
  21. MacCormack, C (1992) Dialogue on Diarrhea 48:3-5  
<http://www.diarrhoea.org/dd/dd48.htm>
  22. Kassena-Nankana District Health Management Team Annual Report 2001.

**APPENDICES**

**APPENDIX 1**

**ORAL INFORMED CONSENT FOR SURVEY/INTERVIEW.**

Household care giving and treatment seeking behavior for under five children in Kassena-Nankana district, Ghana.

This interview is for a research study, which is being done by the School of Public Health University of Ghana.

The research will gather information on the care given to sick under five children and the treatment options available to caregivers for their sick under five children.

We are talking to people who have children less than five years of age.

The interview will include questions on health-care for children under five. It will take most people about 20 to 30 minutes to answer the questions.

The names of people who agree to be interviewed will not be written without their permission. Your participation is voluntary and there is no penalty for refusing to take part. (If you do not take part it will not affect any health care services you would normally receive). You may refuse to answer any question in the interview or stop the interview at any time.

Contact:

You can contact us through the DHMT Navrongo.

Every aspect of the research out line above has been fully explained to the volunteer in her native language (kassim).

-----

-----

Signature of person obtaining consent.

Date.

**APPENDIX II**

**HOUSEHOLD QUESTIONNAIRE**

Record # -----

Household Head ----- Community-----

Interview date----- Rescheduled interview date-----

Interviewer name-----

Supervisor -----

All questions are to be addressed to the mother with a child who has diarrhea or a child who had diarrhea at least two weeks ago and is less than five years of age.

Background Information of Respondents.

1. Age of Caregiver: -----

2. Name / Age of the child----- / -----

3. Relationship to under five child/children:

- (a) Mother                    [ ]
- (b) Sister                    [ ]
- (c) Aunt                      [ ]
- (d) Grandmother            [ ]

4. Marital Status:

- (a) Single                    [ ]
- (b) Married                  [ ]
- (c) Divorced                [ ]
- (d) Separated                [ ]
- (e) Widowed                 [ ]

5. Educational level of Caregiver

- (a) Nil                        [ ]

- (b) Elementary [ ]
- (c) Secondary/vocational [ ]
- (d) University/diploma [ ]
- (e) Others (specify) -----

6. Occupation of mother

- (a) Farmer [ ]
- (b) Trader [ ]
- (c) Civil servant [ ]
- (d) Other (specify)-----

CARE GIVING

7. Who takes care of (name of child) while you are away from home

- (a) Mother takes child with her [ ]
- (b) Husband/partner [ ]
- (c) Older children [ ]
- (d) Relatives [ ]
- (e) Neighbors/friends [ ]
- (f) Maid [ ]

8. How did you know that (name of child) has/had diarrhea -----

9. When (name of the child) is sick who takes care of him/her

- (a) Mother [ ]
- (b) Farther [ ]
- (c) Grandmother [ ]
- (d) Other (specify)-----

10. Do you keep drugs at home for when the child is sick?

(a) Yes [ ]

(b) No [ ]

11. If yes to 10 above, which drugs do you keep at home-----  
-----

12. If no to Q 10 above, why no-----

13. Do you keep herbs at home for when the child gets sick?

(a) Yes [ ]

(b) No [ ]

14. If yes to Q 13 above which herbs do you keep at home? -----  
-----

15. If no to Q 13 above, why no? -----  
-----

16. Do you often use the drugs you keep at home for children under five?

(a) Not at all [ ]

(b) Often [ ]

(c) Always [ ]

(d) Others (specify)-----

17. Who taught you how to use the drugs you keep at home for your under five children? -----  
-----

#### TREATMENT SEEKING BEHAVIOR:

18. What are the options available to you for treating your child who has diarrhea--  
-----

19. Which of the options do you prefer to use when your child is sick with diarrhea.

(a) as first choice-----

(b) as second choice if 1st fails-----

(c) as third choice-----

20. Why do you prefer the chosen option

(a) as 1st choice-----

(b) as 2nd choice-----

(c) as 3rd choice-----

21. What was the first thing you did when (name of child) became sick

(a) go to hospital/clinic [ ]

(b) treat at home with medicine [ ]

(c) treat at home with herbal remedies [ ]

(d) go to traditional herbalist [ ]

(e) Others (specify) -----

22. At which point in the sickness cycle did you take the measure identified in question 21.

(a) immediately I know the child is sick [ ]

(b) later on [ ]

(c) only when prompted by others [ ]

(d) others (specify)-----

23. What is the reason for your answer in Q 22-----

-----

24. Did (name of child) get well with your first step?

(a) yes [ ]

(b) no, but better [ ]

(c) no at all

[ ]

25. How do you know that a child is getting worse-----  
-----

26. When (the child's name) did not get well, what next did you do

(a) go to hospital

[ ]

(b) go to traditional healer

[ ]

(c) treatment at home

[ ]

(d) Others (specify) -----

27. How far is the nearest clinic / hospital from your home-----

28. How far is the nearest traditional healer from your home-----

29. What don't you like about the nearest clinic / hospital.-----  
-----

Thank you very much for spending so much of your time with me.

### APPENDIX III

#### **ORAL INFORMED CONSENT FOR FOCUS GROUP DISCUSSION.**

Name of the study:

Household care giving and treatment seeking behavior for under five children in Kassena-Nankana District.

Principal investigator:

Dr Gyang D. Dantong.

Reason for research:

We will like to talk to you about participating in a discussion group conducted by the school of public health, University of Ghana, Legon, to discuss the health care given to children when they are sick and the options available to households for treating their under five children.

Your part in the research study:

There will be three discussion groups. The first comprise of the fathers, the second comprise of the mothers and the third comprise of the grandmothers. Each group will have about 8 – 10 people.

If you agree to participate in the research, you will be in the ----- group, lasting about one hour.

Your participation is voluntary and there is no penalty for refusing to participate (If you do not participate, it will not affect any health care you will normally receive).

Also you may quit been in the group at any time.

How you were identified:

We are asking you to participate because we are talking about care giving to under five children and you are a mother with an under five child.

Possible risks and benefits:

There is a small chance that what people talk about in the group will make you feel uncomfortable. There is also a small chance that others in the group may tell someone you were taking part or report what you said.

Confidentiality:

No one except the group leader and other group members will know that you took part in the research. The group will be tape-recorded with voices only. The audiotapes will be destroyed after been used for the focus group discussion. Note

takers will write opinions and what the group thinks during the session. We will not record your name or any other personal things about you during the group discussion. We ask that participants not reveal outside the group information they have heard during the group discussion. Even though we will ask people in the group not to reveal anything to others, we cannot guarantee this. We will protect information about you, and your taking part in this research to the best of our ability. If the results of this research are published, your name will not be shown.

Compensation:

You will be given some token gift per session of the discussion for taking part in this research.

Consent form to be signed by the moderator:

1. Read and review the oral consent for focus group discussion with each participant in a private setting.
2. Ask the following: Are you willing to be in a focus group discussion to talk about household care giving and treatment seeking behaviors for under five children?
3. Read the oral consent for focus group discussion to the focus group before the first session begins. Whenever possible it should be read before the group is tape-recorded.

I have reviewed the fact sheet with the participants, and they have fully agreed to be in the focus group research. I further agree to keep confidential anything that is said in the discussion group.

-----

Moderator's name.

-----

Moderator's signature

-----

Date

## APPENDIX IV

### **FOCUS GROUP DISCUSSION (FGD) GUIDE**

A. Introduction and background information.

1. Self-introduction.

2. Reason why we are here.

B. Care Giving.

3. Who cares for a sick under five child?

4. Who gives the child medicine given from the clinic?

5. Do you buy drugs and keep at home for when your under five child gets diarrhea?

6. Have you ever used the drugs you keep at home to treat your child sick with diarrhea?

7. How did you get to know how to use the drugs?

8. Suppose you are given drugs by the government to keep at home and only use for treating your under five children, will it be helpful to you?

9. How will it help you?

C. Treatment Seeking Behavior.

10. How do you know that a child under five is sick?

11. Who takes the decision on what to do when a child is sick?

12. What are the different options you have in treating a child under five years of age who is sick with diarrhea?

13. Which is the favored option to you?

14. What do you normally do when a child under five years is sick?

15. What don't you like about clinic/hospital nearest to you?

## APPENDIX V

### **KEY INFORMANT INTERVIEW (KII) GUIDE**

#### A. Introduction and background information.

1. Self introduction.
2. Reason why we are here.

#### B. Interview.

3. What causes diarrhea?
4. How do you diagnose diarrhea
5. Can diarrhea kill people?.
6. Do you have medicine\herbs that can cure diarrhea?
7. Do people come here to treat diarrhea?
8. Do people come to buy\receive medicine or herbs from you only when they have diarrhea?
9. Do people come to putchase medicine\herbs to keep at home for when their children get diarrhea?
10. Do you teach them how to use the medicine\herbs?
11. Do people usually come here first for treating diarrhea or go else where before coming here?
12. If they do not come here first, where do they go first before coming here?
13. If they come here first for treatment, why do you think they do that?
14. Who ussually brings a child who has diarrhea to you?
15. What are other ways of treating diarrhea apart from coming to you?
16. What medicine\herbs do you use for treating diarrhea?
17. How did you get to know how to treat diarrhea in the way you are treating it?

18. When a child with diarrhea is brought to you for treatment, does he always get well?
19. How do you know when a child with diarrhea is getting worse?
20. When a child with diarrhea does not get well, what do you do next?

## APPENDIX VI

### **TRAINING SCHEDULES FOR FIELD ASSISTANTS CONDUCTING FGDs IDIs AND KIIs**

In conducting interviews and discussions, there are some few things that both the moderator and the note-taker need to take into consideration. These include

Ensuring the groups are homogenous ie composed of people who are similar with respect to characteristics related to the topic.

The group should be of the same sex and age grouping.

Group should be between 8-10 persons.

Ensure that you will not select people who will dominate the discussions or inhibit the participation of others.

#### **The moderator/note-taker team.**

All discussions should be taped but do not over rely on the tapes as they can fail.

Take good notes and expand them after the interview regardless of whether the discussion has been taped.

Enrich the transcript with non-verbal messages that have bearing on the discussion.

Code the participants and the note-taker must identify participants with their codes

The moderator should encourage participation and guide the discussion.

He should seat the participants in a circle and the note-taker should be seated outside the circle to avoid distracting the group.

### **The moderator.**

You must welcome the group, introduce yourself and the note-taker.

You must explain the purpose of the purpose of the tape recorder( to capture ideas that emerge from the discussion and not to identify the speakers by name.)

Assure participants that written reports will not include names and tapes will not be shared outside the research team.

Administer informed consent.

Ensure that the participants accept the ground rules: ie.

speaking one at a time

not interrupting each other

speak clearly and slowly so that the tape can pick up the words

Encourage participants to speak freely and address questions anyway they want.

At the end...

Ask participants to summarize what they have said, adding any additional comments where possible.

Clarify issues and give the group the group a sense of work accomplished.

### **Debriefing.**

Invite feedback on the discussion experience.

Did they feel included?

Were they comfortable with the topics?

Do they think the questions were fully explored?

Were there topics or questions which could have been discussed but were not?

Can they think of how the discussions could have been conducted differently?

## Common errors in moderating FGDs.

Allowing 1 or 2 participants to dominate the discussion, or not enabling other participants to speak.

Remaining too long on a topic; continuing to repeat questions even after participants have nothing additional to say.

Using the same words to repeat a question instead of probing what has just been said or noticing new ideas and asking participants to elaborate.

Interrupting people who begin to express a different point of view by repeating the original questions as if the speaker were not addressing it.

Accepting comments on what people should do without probing what they actually do and why there is a difference.

Not probing the logical conclusions of ideas (“if that, then what”? or simply “why”?)

Not probing assumptions to see where they come from (“why do people say that”?)

Letting a good question drop off if it is not answered immediately.

Asking leading questions that might bias the answers.