

**LOCAL PERCEPTIONS OF BURULI ULCER
IN THE GA DISTRICT,
GREATER ACCRA REGION**

BY

MERCY ACKUMEY

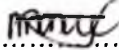
**A DISSERTATION SUBMITTED IN PARTIAL FULFILLMENT
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DECLARATION

This dissertation is the result of independent investigation. Where my work is indebted to the work of others, I have duly acknowledged.

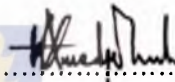
I declare that this work has neither been presented in any form for any other degree nor concurrently being submitted in candidature for any other degree.

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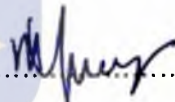
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Signed



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(Dr. K. Senah)

Signed:



.....
(Dr. M Gyapong)



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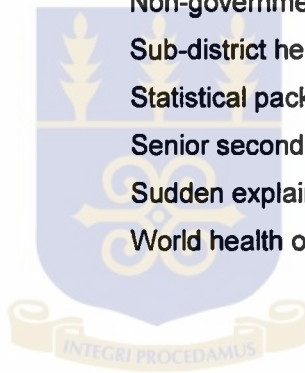
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LIST OF ABBREVIATIONS

AIDS	-	Acquired immune deficiency syndrome
CWIQ	-	Core welfare indicators questionnaire
DANIDA	-	Danish international development agency
DDHS	-	District director of health services
DHMT	-	District health management team
FGD	-	Focus group discussion
GSS	-	Ghana Statistical Service
JSS	-	Junior Secondary School
KVIP	-	Kumasi ventilated improved pit
MOH	-	Ministry of health
NGO	-	Non-governmental agency
SHMT	-	Sub-district health management team
SPSS	-	Statistical package for the social sciences
SSS	-	Senior secondary school
SUNDS	-	Sudden explained nocturnal deaths
WHO	-	World health organization



ABSTRACT

The Buruli ulcer disease is assuming public health importance in many countries apart from Ghana, prompting the establishment of a Global Buruli Ulcer Initiative by the World Health Organization (WHO) in early 1998. The disease caused by *Mycobacterium ulcerans* infection has been reported throughout the tropical and sub-tropical regions of the world. In Africa, several countries particularly in western, eastern and central parts of the continent have reported cases of the disease. One characteristic of the disease is its apparent association with bodies of water worldwide. To date the exact mode of transmission is unknown and there is no scientific evidence to suggest person- to- person transmission. This study sought to study the local perceptions of buruli ulcer, etiology of the disease from the community's point of view, treatment seeking behaviour of the people and community reaction towards patients. The study employed both qualitative and quantitative data collection techniques employing a structured questionnaire a Focus Group Discussion Guide (FGD) and documented case studies. Statistical analysis was done employing SPSS.

The study found out that endemic communities are situated along the river Densu and depend on unwholesome sources of water such as ponds, shallow hand dug wells and the river Densu for all domestic purposes. *Mycobacterium ulcerans*, the main causative agent is spongy-like in nature. This spongy-like substance has also been identified by the people as the main causative agent and forms the basis for the various names given to it by the local people. Hence, in Ga the name is "*odontihela*" and "*detsifudor*", in Ewe.

Causes of buruli ulcer are attributed to three main factors: casting of a spell through witchcraft, poor personal hygiene/wading in ponds dirty surroundings and drinking water from the river/pond. There is the perceived possibility of contagion or person-to-person transmission through the ingestion of pus from the

infected wound which could get lodged under finger nails or on any part of the hand. Children (69.4 %) both male and female are known to be the most affected by the disease. Most buruli ulcer patients seek treatment from the herbalist (46%) as compared to the hospital (38%). To understand the etiology of buruli ulcer fully, consideration must be given to the interplay of political, economic, social, epidemiological and cultural factors. There is the need for further epidemiological research on the role played by animals in disease transmission and also the possibility of person-to-person transmission by ingestion of infected pus.

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CHAPTER ONE

1.0 INTRODUCTION

One of the landmarks of development of any nation is the health status of its people. Since the 1980s the health situation in Ghana has been characterised by inadequate access to quality care, potable water and modern facilities for waste disposal and management. These inadequacies contribute significantly to the high incidence of preventable diseases such as malaria, malnutrition, respiratory infections, diarrhoea, measles and other chronic parasitic diseases which are the main causes of morbidity and mortality. One of such diseases that is gradually becoming a scourge is *Mycobacterium ulcerans*, other wise known as buruli ulcer.

The Buruli ulcer disease is assuming public health importance in many countries apart from Ghana, prompting the establishment of a Global Buruli Ulcer Initiative by the World Health Organization (WHO) in early 1998. The disease caused by *Mycobacterium ulcerans* infection was first described by Sir. Alfred Cook in 1897 in the Buruli area in Uganda (WHO: 2000a). Half a century later in 1948, the first case of the disease was published in Australia (MacCallum et al: 1948). In Australia, the disease is commonly referred to as Bairnsdale ulcer.

At present cases of buruli ulcer have been reported throughout the tropical and sub-tropical regions of the world. In Africa, several countries particularly in western, eastern and central parts of the continent have reported cases of the disease (WHO, 2000b). In recent years, cases of the disease have also been reported in Benin, Togo and La Cote d'Ivoire (Josse et al.: 1995)

One characteristic of the disease is its apparent association with bodies of water worldwide. The recent identification of *M. ulcerans* in certain water insects has raised

the possibility of mechanical transmission of the infection (Oluwasanmi et al: 1976; Portaels et al:1999).

Even though to date the exact mode of transmission is unknown, skin contamination is universally believed to be the route of infection. Any minor penetrating injury serves as a gateway. There is no evidence to date to suggest person to person transmission. What starts as a painless swelling in the skin often develops into grossly deforming ulcers.

It has been estimated that nearly 70 percent of cases are in children under 15 years of age, even though cases are reported in all age groups. Oluwasanmi et al. (1976) and van der Werf (1989) did not find any sex difference in their series, but Barker (1973) reported prevalence to be higher among women than men and among boys than girls.

The first case of Buruli ulcer in Ghana was reported in the Ga district, Greater Accra Region in 1971 among communities that lived along the tributaries of the Densu River. In the Asante Akim North District of Ashanti Region 96 cases were identified.

1.1 STATEMENT OF THE PROBLEM

Even though a lot of epidemiological studies on the disease have been undertaken in endemic countries, Ghana inclusive, very little has been done on the local perceptions of the disease although it is believed that the disease can have untold implications for the welfare of the individual and the family and the nation as a whole (Asiedu:1998). In Ghana, majority of buruli ulcer patients do not report early for treatment. This could be due to the inaccessibility of health facilities (WHO: op.cit). Traditional therapy is often resorted to in the management of the disease (Mensah-Quainoo: unpublished). Therefore majority of cases are reported to hospitals during the latent part of the disease by which time complications may have set in and therefore patients would require surgery and long periods of hospitalization.

Local perceptions of the cause and consequently the appropriate measure to remedy an ailment determine to whom people turn for advice, help, information and treatment when bogged down with a disease. This individual could be a general practitioner, priest, traditional healer or family member (Helman :1989). The role that cultural factors play in the aetiology, explanation, prognosis and treatment seeking behaviour cannot be underscored (Furnham: 1994), because they provide in-depth information on the burden of the disease, the local understanding of the causes of the disease and therefore its management.

The improper management of a disease could contribute immensely to its spread. Disease control programmes in developing countries are often unsuccessful or inappropriate because they fail to take into account local etiology, perceptions, belief systems which are all interwoven into the socio-cultural milieu of people. These factors aid in the local prognosis, treatment seeking behaviour and any taboo or stigma associated with the disease. For public health to make a sustainable inroad into disease control and to design meaningful health programmes, a conscious effort should be made to understudy the social, economic and cultural aspects of diseases.

In the Ga district, among the 5 major OPD diseases reported consecutively for 1999, 2000 and 2001, skin infections which include buruli ulcer ranked third on the list. Even though the total number of reported buruli ulcer cases (at the Amasaman District Health Center) in various stages of the disease dropped considerably for the period 2001, cases in the ulcer and pre-ulcerative stage increased considerably by 13 percent.

The table below indicates that even though Ga district ranks fifth in terms of disease prevalence among the 10 selected most endemic districts, the burden of care in terms of the number of case loads is very high. In addition Even though Buruli ulcer is endemic in 90 out of the 110 districts in this country, with Ga district emerging as the fifth most endemic, the mode of transmission of the disease from person-to-person is not yet known (Amofah et al: 2000).

Table 1. Prevalence of Buruli ulcer in 10 districts with the highest caseloads, Ghana, 1999

District	Region	No. of active cases	No. of active and healed lesions	Prevalence (rate of active cases per 100,000)
Ga	Greater Accra	467	1,113	87.7
Amansie West	Ashanti	159	474	150.8
Assin	Central	159	173	83.7
Gomoa	Central	158	161	81.9
Asante Akim N	Ashanti	138	265	131.5
Wassa Amenfi	Western	136	167	61.1
Kwawu South	Eastern	122	132	57.0
Upper Denkyira	Central	121	306	114.7
Afigya Sekyere	Ashanti	118	149	107.1
North Tongu	Volta	107	129	85.7

Source: George Amofah et al: 2002

This study therefore seeks to study the local perceptions of buruli ulcer, etiology of the disease from the community's point of view, treatment seeking behaviour of the people. The Ga district, could benefit immensely from such a study.

1.2 GENERAL OBJECTIVE

To assess the socio-cultural perceptions of the disease and how these perceptions affect the management of the disease.

1.2.1 Specific Objectives

The specific objectives of this study are as follows:

1. To understand the etiology of the disease from the perspectives of the various ethnic groups.
2. To understand the various health seeking behaviour of these ethnic groups
3. To understand the beliefs and practices governing buruli ulcer.
4. To determine the communities reaction towards buruli ulcer patients.

1.3 CONCEPTUAL FRAMEWORK

Figure 2 below, describes the relationship between background variables, independent variables and the main dependent variable - local perceptions of buruli ulcer. From the diagram, it can be deduced that some of the variables are interrelated. For example, the culture of an individual is instrumental in shaping his/her thoughts and interpretation given to certain phenomenon. Therefore cultural beliefs influence the local interpretation given to the etiology of buruli ulcer. Similarly, ones level of education determines the level of exposure and definitely has an influence on one's belief system. In a similar vein, local names given to buruli ulcer have their root in the culture of the people and define their paths for health seeking.

1.3.1 VARIABLES

Background variables

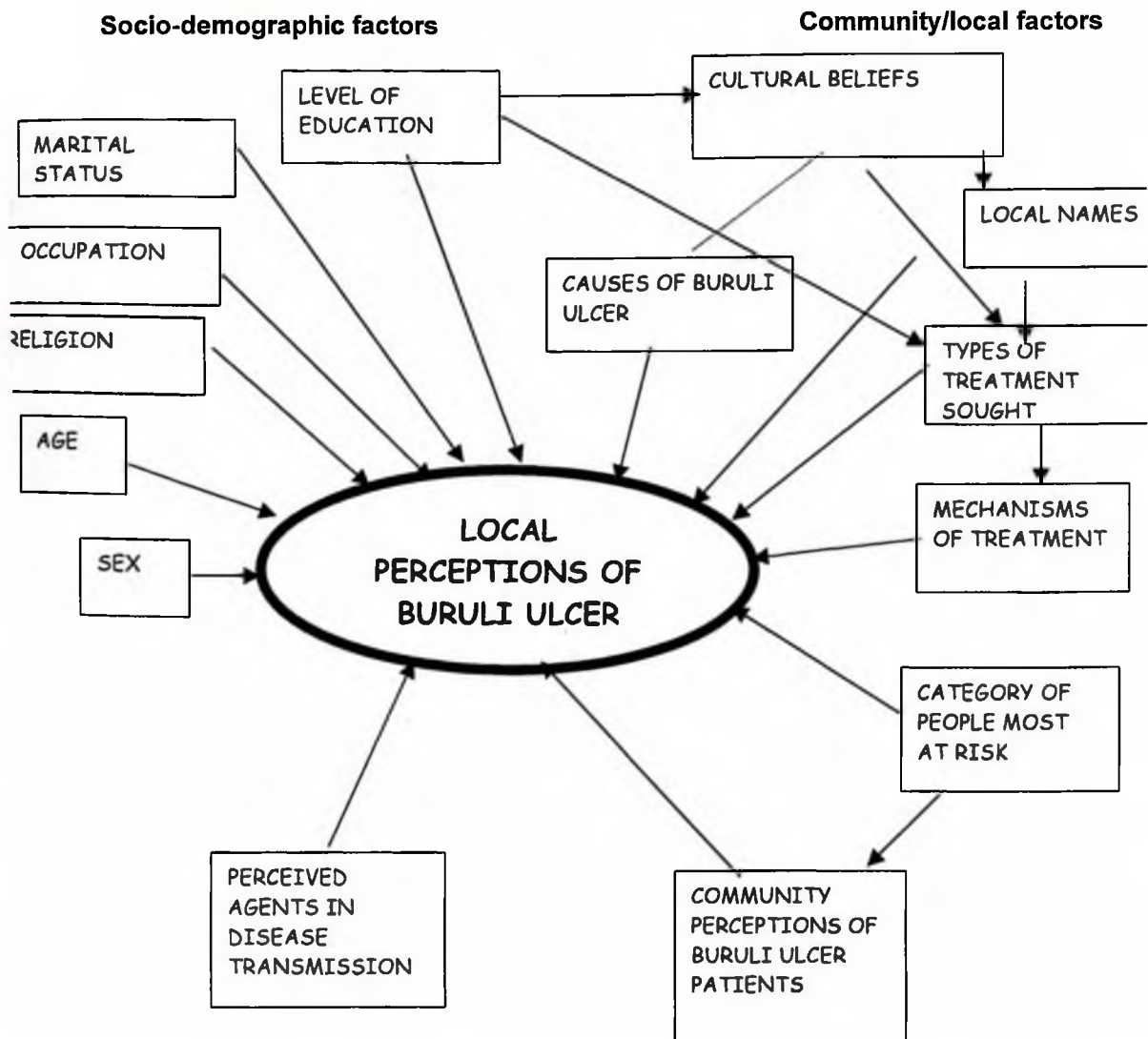
- ❖ Age of respondent
- ❖ Sex of respondent
- ❖ Marital status of respondent
- ❖ Religion of respondent
- ❖ Occupation of respondent
- ❖ Educational status of respondent

Dependent

- ❖ Level of education
- ❖ Local names
- ❖ Causes of buruli ulcer
 - Natural causes
 - Supernatural/spiritual causes
 - Other causes
- ❖ Period of manifestation of disease
- ❖ Local knowledge of disease cycle
- ❖ Mechanisms of treatment

Independent

- ❖ Category of persons most at risk of buruli ulcer
- ❖ Period of manifestation of disease
- ❖ Community perception of buruli ulcer patients

FIGURE 2: CONCEPTUAL FRAMEWORK

1.4 METHODOLOGY

1.4.1 Study design

The study was descriptive and exploratory in nature and hence employed the use of both quantitative and qualitative data collection tools.

1.4.2 Study population

The study population was made up of adult males and females, eighteen (18) years and above and former and current buruli ulcer patients.

1.4.3 Sampling Technique

A multi-stage sampling technique was used along the following lines:

- ❖ Communities with high prevalence of the disease in the Obom sub-district were carefully selected with the assistance of the environmental officer of the sub-district.
- ❖ Names of these communities were written on separate sheets of paper of equal sizes, which were folded and placed in a plastic container with a lid.
- ❖ Seven communities were selected at random by the principal investigator, in the presence of the research team. After each selection, the container was shaken vigorously to ensure reshuffling of names. This procedure was repeated till five communities were selected. Two more communities were added employing the same procedure as applied to the five communities. This became necessary as it was realised that two communities, selected earlier had very small populations.

The following are the list of communities selected:

- Obakrowa (Ga community)
- Ashaladza, (Ga community)
- Krokowhe (Ga community)

- Kwame Anum (Ga community)
- Busiafise (Ewe community)
- Agunor (Ewe community)
- Hobor (both Ga and Ewe communities)

1.4.4 Sample Size

For purposes of time limitation and financial constraints, a sample size of 200 respondents was conveniently chosen for data collection using the questionnaire.

1.4.5 Data Collection Techniques

Three main data collection techniques were employed in this study:

- ❖ Structured questionnaire
- ❖ Focus Group Discussions (FGDs) with members of the community, some of which were caretakers/relatives of buruli ulcer patients.
- ❖ Six case studies of buruli ulcer patients in the community.

1.4.6 Training of research assistants

Five research assistants were recruited for the study with the help of the environmental officer of the Obom sub-district. A day convenient for all of them was selected for training. The training procedure entailed a detailed explanation of the aims and objectives of the study, ethics to be observed by the researcher (refraining from soliciting responses against the person's will, to respect the views of respondents, to assure them of utmost confidence etc.), selection of respondents, translation of the questionnaire into Ewe, Ga and Twi and back to English, to ensure consistency and avoid ambiguity and general discussions and clarifications on issues related to the study.

1.4.7 Pretest of survey instruments

The structured questionnaire was pretested at Kojo Ashong, an endemic community which was not among the communities selected for the survey. This exercise helped streamline the questionnaire – certain questions were closed and/or modified and others were added.

The FGD guide was also pretested and modified accordingly. So was the guide for case studies which was pretested at the Amasaman health centre.

1.4.8 Data Collection

Questionnaire

Two hundred respondents (200) made up of male and female adults eighteen (18) years and above were interviewed employing a structured questionnaire (see appendix A). The number of respondents from each community was estimated based on the population. Hence, large communities like Hobor and Ashaladza which were estimated (by health personnel) to have an average population of 2500 each were assigned forty (40) respondents each. Whilst the rest of the communities which had populations ranging from 200 to 300 were assigned twenty-four (24) respondents each.

The research team arbitrarily decided to select respondents from every fifth house, beginning from the centre of the community, clockwise. On entering a house, the oldest adult was identified and interviewed. To ensure fair representation of males and females, each sex was selected alternatively. So for example if a female was selected from house B, in house C, a male was selected. In each house, the eldest adult was interviewed.

At the end of each day, the principal researcher collected the filled questionnaires from the research assistants and edited them. The data collection process was reviewed and mistakes were discussed. Where necessary questionnaires were returned to respective research assistants for gaps to be filled.

Focus Group Discussions (FGDs)

Four FGDs were conducted in four communities – Two (2) Ga and Two (2) Ewe communities. One male and one female FGD were conducted in Ga and Ewe. Participants for the FGDs were selected by the environmental officer and a health volunteer of the respective community. Participants for each FGD varied between 8 – 12 participants (refer appendix b for the guide).

Case Studies

The case studies documented the background characteristics of patients, circumstances surrounding the contraction of the disease, perceived cause of the disease, methods applied in the management of the disease (places visited, treatment sought, costs involved etc) stigma attached to the disease, impact of the disease on education, economic activity and life in general.

1.5 Data Analysis Format

Data was analysed as follows:

Questionnaires

Codes were extracted manually after going through all 200 questionnaires. The codes were compiled into a coding manual. Questionnaires were then coded manually and entered into the computer using Statistical Package for the Social Sciences (SPSS), version 10 for windows. Frequency tables were produced using

SPSS. Pie charts and histograms were constructed based on the data by using the application Microsoft Graph 2000 chart in Microsoft Word.

1.6 Ethical Considerations

Before the onset of the study, permission was sought from the District Director of Health Services (DDHS). Then accompanied by public health nurses from the District Health Management Team (DHMT), Amasaman, informed consent was sought from the Medical Assistant (MA), Obom health centre and members of the Sub-district Health Management Team (SHMT) after briefing on the study. Permission was sought from the Chief of each selected community or an elder, in the absence of the chief after briefing on the research. Consent was sought from patients and members of the community before they were involved in FGDs and case studies. Respondents were assured of confidentiality of response and to ensure this, the research team avoided asking for names.

1.7 Study Limitations

The main limitation to this study was the period in which it was undertaken. This coincided with the rainy season and therefore a busy time for respondents, most of whom were farmers. Hence, certain designated houses for data collection (using structured questionnaire) were empty except the children, which meant that these houses in question had to be revisited. To curtail this problem, data collection had to begin as early as 7 a.m. in order to get the respondents before they set off for the farm.

1.8 LITERATURE REVIEW

Various concepts or explanations are given by people in different cultures, to describe or explain illnesses. These explanations are congruent with the way people perceive illnesses and are derived from concepts, symbols, beliefs and practices that have deep roots in their culture. For this matter the mechanisms of treatment seeking behaviour, perception of sufferers of any illness falls within the socio-cultural environment in which the people were born into, socialised into and are familiar with. The purpose of this chapter is to review existing literature against the background of the main research question, "local perceptions of buruli ulcer in the Ga district". During the search, it was discovered that there has been no study socio-cultural study on buruli ulcer, though a socio-economic impact study has been done in the Amansie-East district of Ghana (Asiedu and Etuaful: 1998). However literature from other studies on socio-cultural/local assessment of diseases have been reviewed.

1.8.1 Cultural/local perceptions and etiology of disease

Public health coupled with advancement in scientific and medical research has made tremendous impacts on the control and in some cases the eradication of some diseases as well as designed interventions. Yet outbreaks of unexplained new diseases with some resulting in deaths to which no logical explanation has been arrived at by both medical research and the local people culminates in consultations with folk-practitioners of all types. In the face of such situations, to rural communities, westernized medicine does not seem to have the answers anymore. (Lyttleton : 1996). In a study in Thailand, the outbreak of a condition in the late 1980s known initially as the Sudden Unexplained Nocturnal Death Syndrome (SUNDS) which later on was confirmed to be AIDS was attributed to spiritual causes - spirits of widows demanding male companionship (ibid).

Studies have indicated that diseases that are associated with skin lesions tend to be attributed to "bad blood". In a study in North-Western Botswana to determine some

socio-cultural factors influencing knowledge and attitudes of the community toward leprosy, where cases of leprosy have existed over years, leprosy was attributed to "bad blood" (Kumaresan and Maganu : 1994). This "bad blood" phenomenon holds true in similar studies on leprosy in other countries such as Trinidad and Tobago, India, Ethiopia, Congo and Tanzania. Association of "bad blood" in other studies on syphilis and boils is also known (ibid; Senah, 1997; Sidhar and Kale, 1991).

Grave diseases not easily understood by local people are attributed to supernatural causes such as witchcraft, curses or juju. Lieban (1992) shares this view and argues that among the Amba of East Africa, major catastrophes which culminate in illness and death are attributed to witchcraft. Also among the Limba's of Botswana, serious illness is attributed to witchcraft. Opala and Boillot (1996). In a study conducted in Northern Ghana on lymphatic filariases, almost all the respondents interviewed attributed supernatural causes to the disease. Among the explanations given for the spiritual etiology of filariases was juju. However there were other non spiritual causes such as diet, hereditary and fever, which were in the minority (Gyapong et al.: 1996). Other studies conducted in Ghana have also revealed that diseases without an immediate unknown cause are given supernatural explanations such as an offense against one's spirit, the gods, the ancestors or casting of juju spells. (Twumasi :1997; Appiah-Kubi :1981; Senah: 1997). The inability to explain the biological phenomena gives rise to spiritual assertions. (Awusabo-Asare : 1995) . The long incubation period of certain tropical diseases particularly guinea worm, makes it hard for people to visualise the direct connection between their source of drinking water and the manifestation of the disease. The immediate causes of guinea worm in Idere, Nigeria were given as bad or weak blood, witchcraft, or by inhaling the smell of an uncovered guinea worm wound. (Sidhar and Kale: 1991).

1.8.2 Multiplicity of factors in disease aetiology

In order to appreciate a disease condition it must be viewed in a wholisitic way where all the various factors are analysed. Therefore according to Turshen (1984) in what he

describes as the "political ecology of disease" the population living with the disease must be seen as actors in the aetiology of diseases rather than passive objects of manipulation. While these people have found themselves in circumstances that culminate from economic and political development, they still have to conceive their own ways of conceptualising, responding and coping with illness. To lose sight of the grassroots experience and response to disease is a great omission of the understanding of the "political ecology of disease. In a study on the socio-cultural factors which influence malaria transmission and control among the Osudoku group of the Ga-Adangbe in Ghana, Agyepong (1992) it was evident that socio-cultural and socio-economic factors have an impact on the epidemiology and control of many diseases, yet these have not been given much attention. In order to understand certain diseases like elephantiasis, malaria, schistosomiasis and lymphatic filariases which according to Hunter (1992) are diseases of development, a multiplicity of factors, social, cultural, economic and political which influence the health of the people should be taken into consideration. To address this problem in a sustainable manner, Packard et al (1989) recommend that, those who constantly live with diseases should be involved as active collaborators in the research process in order to appreciate their own situations better and be better informed to pursue a path of positive change.

1.8.3 Health seeking behaviour

The perception of the causative factor for diseases has implications for health seeking behaviour especially in its early stages and therefore the most important stages of diagnosis for the disease. If the disease cycle is not properly understood, home based care is the first line of action, followed by traditional healers. The health facility is the last resort when everything has failed. Similarly health-seeking behaviour in Botswana is similar to what was found in a study conducted in Pakistan. (Mull J.D., et al: 1989). However in cases where a disease has been with the people for several years, they tend to resign themselves to their fate and no longer use up their meagre resources to combat it. However if a choice is to be made as to the line of treatment to follow, the herbalist or the soothsayer is the most preferred (Gyapong et al: 1996). Hunter (op.cit)

argues in the same vein that chronic conditions with low rates of success of treatment are often attributed to supernatural causes and that for such conditions, hospital treatment is often avoided and regarded as irrelevant. Among the Osudoku group of the Ga-Adangbe in Ghana, majority of people who are sick with “*asra*” – the local terminology for fever, only seek hospital treatment when local home therapies and herbal treatments fail them and also when the disease is perceived to be severe (Agyepong op.cit) . The story is no different for buruli ulcer patients, traditional therapy is often resorted to in the management of the disease. Therefore majority of cases are reported at hospitals during the latent part of the disease by which time complications may have set in. (Mensah-Quainoo: op.cit).

1.8.4 Community reaction

Community reactions towards victims of a disease may differ by culture of the people, the severity of the disease and also its etiology. Severe chronic visible manifestations of diseases that could culminate in the swelling of certain organs of the body, for example the genitalia and breast, have grave psychological problems for its sufferers. A study conducted in India on lymphatic filariases indicated that women with chronic filariases bear not only the physical suffering from the disease but also have to grapple with the problem of dealing with their families and society (Bandyopadhyay L: 1996). In another study conducted in Botswana among the Limba, lepers are viewed as victims of witchcraft who can also pass the witchcraft (leprosy) on to other. The Limba's however have stopped segregating lepers but their negative attitude towards them has persisted even in the wake of modern drugs (Opala J and Boillot F.: 1996). In a study by Gyapong et al: (1996) in northern Ghana, it was observed that since the victims of filariases were not responsible for its occurrence, the community accepted them and therefore these victims went about their normal duties in a congenial atmosphere void of stigmatisation.

CHAPTER TWO

STUDY AREA

2.0 Introduction

This chapter presents the profile of the study area – Obom-Sub-district- in order to understand the background from which the study respondents hail and therefore provide a platform for appreciating their world-view. The chapter therefore focuses on the following:

2.1 Geographical Location

Obom, sub-district one of the five districts in the Ga district, is located 15 kilometres to the north-east of the district capital Amasaman, which is thirty-five (35) kilometres from the national capital Accra, on the Accra-Kumasi-Bolgatanga road. The other four sub-districts of the Ga district with their respective populations are:

Sub district	Population
Amasaman	233,884
Danfa/Pantang	36,540
Madina	110,403
Weija	132,383

The sub-district is bordered in the north by the main Adeiso-Nsawam road, south by Otuplem village in the Amasaman sub-district, east by Fankyeneko and west by the main Bawjwase road. Obom's population of 67, 860 is distributed in over 100 dispersed settlements. The dominant ethnic group is the Ga, who are the landlords. The Ewe, who are settler farmers, are the second largest ethnic group. Other minority ethnic groups are the Hausa, Dagarti, Grunshie and Akan. Obom is one of the two endemic sub-districts in the Ga district as regards buruli ulcer. The other one is Amasaman. (refer figure 1)

2.2 Topography

The eastern part of the sub-district, consists of low hills, interspersed with plains in the central parts. The river Densu, the largest water body, runs from north to south through the sub-district. Other water bodies, which are tributaries of the Densu are the Adeiso, Honi and Ponpon rivers. There are also small ponds and seasonal streams. In addition, numerous surface water bodies have sprung up in the wake of extensive sand-winning activities to supply the building industry in the urban parts of the sub-district and the neighbouring Accra metropolis.

These water bodies are significant for economic activities such as fishing (to a lesser extent), farming and disease causation. Several water - related diseases such as buruli ulcer, schistosomiasis, malaria are endemic in the sub-district.

2.3 Religion

About 52 percent of the people are Christians precisely Catholics, Presbyterians, Pentecostals. There are however some divine healers (9 percent), Moslems (20 percent) and practitioners of traditional religion (19 percent).

2.4 Economic Activities

About 95 percent of the farmers are small holders with 5 percent being large scale holders. Small-scale holders mostly settler farmers cultivate mainly maize, cassava during the major rainy season and vegetables such as okro, pepper, tomatoes, garden eggs during the minor season. These products are harvested and sold at the local markets in the district and sometimes Dome and Madina markets in the Amasaman sub-district. There are others that have ventured into pineapple farming on a small scale.

2.5 Social Infrastructure

2.5.1 Health

Apart from the main health Centre situated at the sub-district capital, Obom, there are private clinics and maternity homes at Domeabra, Obom and Jei Krodua. These facilities complement the efforts of the sub-district since access and consequently coverage of the population is poor. Owing to the poor condition of the roads, the scarcity of transport and the fact that most communities are quite far from the health centre, access to health care is a major problem in the sub-district. The majority therefore seeks home-made (local) herbal treatment for majority of ailments as a first line of action.

2.5.2 Schools

There are a four (4) pre-schools, thirty two (32) primary schools, ten (10) of which admit pupils up to the JSS level. There is however no Senior Secondary School (SSS). Most of these schools are far away from the communities and children often have to trek long distances, sometimes across marshy lands to access them.

2.5.3 Roads

Apart from Jei-Krodua, in the eastern part of the sub-district, eighty-five (85) percent of the roads are untarred and deteriorate further during the rainy season. The poor condition of the roads makes access to health services and other socio-economic services such as education and market a major problem in the district.

2.5.4 Water

With the exception of a few communities that have borehole water, most of the communities lack access to potable water supply and as stated earlier, depend on ponds, dams, streams and the river Densu. Even in communities where boreholes have been provided, the populace depends on the rivers and ponds with the excuse that the water from the borehole is not palatable and is salty.

2.5.5 Toilet facilities

Any visitor entering the communities in the sub-district will be struck with the reality that sanitation facilities such as toilets are woefully inadequate. Out of the 100 communities in the district, 15 have KVIPS, some of which are broken down due to lack of maintenance. Where KVIPS are non-existent, the populace resorts to defecating in the bush or in communal pits. In an attempt to improve the health status of the populace households are being encouraged to construct private latrines. This innovation has not yet caught on in the district.

2.6 Conclusion

The Obom sub district is certainly a deprived area by all standards. Its inhabitants, mostly settler farmers have small farms that they cultivate at the subsistence level. During the dry season, most of the farmers trade in non-agricultural products to eke out a living. It can be deduced from the preceding paragraphs that the environmental conditions pertaining in the sub-district are responsible for the health conditions that plague the people.

CHAPTER THREE

FINDINGS OF THE STUDY

3.0 Introduction

This chapter presents data from the field. The data has been arranged under the following headings so as to address the main and specific objectives of the study:

- **Socio-demographic characteristics of respondents**
- **Major health problems**
- **Local names of buruli ulcer**
- **Local etiology of buruli ulcer**
- **The perceived role of animals in disease transmission**
- **Person-to-person transmission**
- **Local taboos**
- **Category of people affected by buruli ulcer**
- **Health seeking behaviour**
- **Community reaction towards buruli ulcer patients**

3.1 Socio- demographic Characteristics of Respondents

3.1.1 Age

Table 3.1 below, portrays the age ranges of respondents. Overall, however, it is clear that the area, like most parts of Ghana has a youthful population, since majority of respondents (49.2 percent) fell between the ages 20-39.

TABLE 3.1: AGE OF RESPONDENTS

AGE	FREQUENCY	PERCENT
Up to 19 years	6	3.0
20-24	20	9.5
25-29	30	15.1
30-34	19	9.5
35-39	30	15.1
40-44	18	9.0
45-49	17	8.5
50-54	18	9.0
55-59	11	5.5
60 an above	31	15.6
Total	200	100.0

Source : Survey data, 2002

3.1.2 Sex _

In this study, more females (56.8 %) were interviewed than males (43.2 %).

3.1.3 Ethnicity

Quantitative data collected from seven (7) communities, namely Obakrowa, Ashaladza, Krokowhe, Kwame Anum, (Ga communities), Busiafise, Agunor, (Ewe communities) and Hobor (both Ga and Ewe communities) show that the Ewe were in the majority (59.0 %), followed by the Ga (32.5 %).

TABLE 3.2: ETHNICITY OF RESPONDENTS

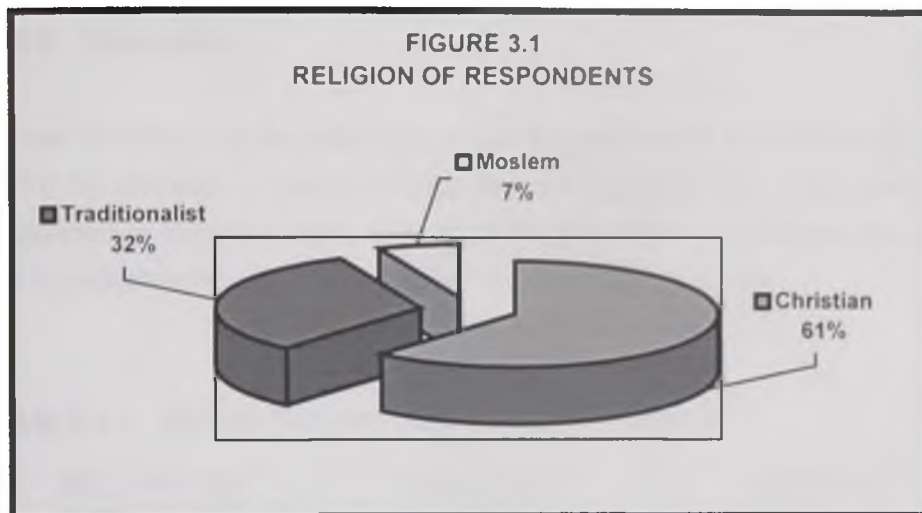
ETHNICITY	FREQUENCY	PERCENT
Ewe	118	59.0
Ga	65	32.5
Akan	14	7.0
Grushie/Dagomba	3	1.5
Total	200	100.0

Source: Survey data, 2002

There are very few Akans and other ethnic groups from the three northern regions of the country, therefore their representation in the data was very low. It must be emphasised here that all the respondents apart from the Ga are migrants.

3.1.4 Religion

From the figure below, 61 percent of the respondents are Christians, quite a significant proportion of them are traditionalists (32%), seven (7) percent of them are Moslems.



Source: Survey data, 2002

3.1.5 Education

An overwhelming majority of the respondent's (55.3 %) had no form of education. Approximately 19 percent have had primary education and 23.1 percent have completed middle school/elementary school or the junior secondary school. Only 4 respondents have completed senior secondary school and 2 respondents have had post-secondary education.

TABLE 3.3 RESPONDENT'S LEVEL OF EDUCATION

LEVEL OF EDUCATION	FREQUENCY	PERCENTAGE
None	111	55.3
Primary	37	18.6
JSS/MSLC	46	23.1
SSS	4	2
Post Secondary	2	1
Total	200	100

Source: Survey data, 2002

3.1.6 Occupation

It can be seen from the table below that a vast majority of respondents are farmers (82.0 %) followed by traders (10 %). About 3.5 percent are unemployed. The large proportion of farmers is not strange since majority of them are illiterate and an additional 18.6 percent have only primary education (refer table 3.3 above).

TABLE 3.4 MAJOR OCCUPATION OF RESPONDENTS

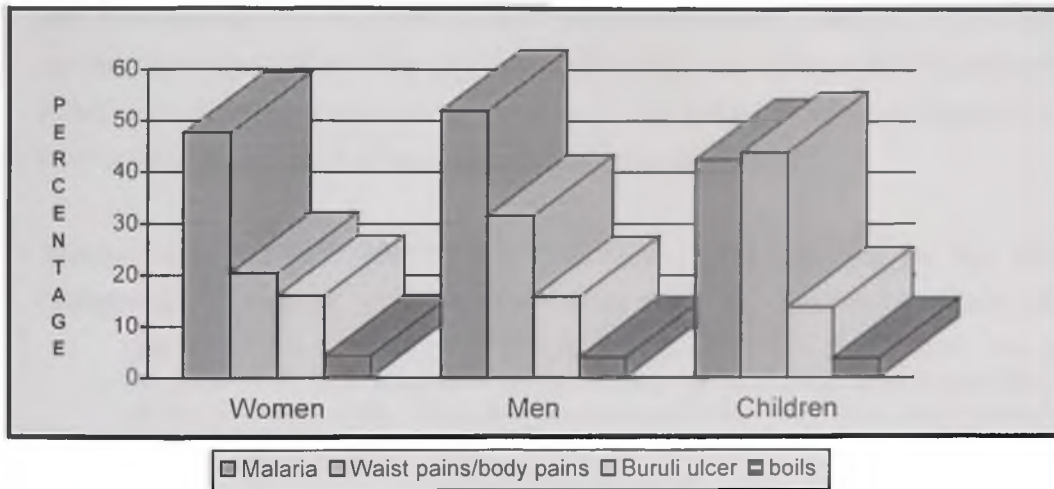
OCCUPATION	FREQUENCY	PERCENT
Farmer	164	82.0
Trader	20	10.0
Unemployed	7	3.5
Driver	2	1.0
Seamstress	2	1.0
Traditional healer	1	0.5
Mason	1	0.5
Potter	1	0.5
Barber	1	0.5
Priest	1	0.5
Total	200	100.0

Source: Survey data, 2002

3.2 Major health problems in the study area

The question "what are the major health problems in this community?" was posed to discover whether buruli ulcer was regarded as a major health problem in the community and to discover from the community's perspective, the known health problems of the various communities. The data (see figure 3.2 below) reveal that there are four main diseases common to men, women and children in the communities visited. In order of priority or severity these are malaria, waist pains/body pains, buruli ulcer and boils.

FIGURE 3.2
MAJOR HEALTH PROBLEMS OF WOMEN, MEN AND CHILDREN IN STUDY COMMUNITIES IN
THE OBOM SUB DISTRICT



3.3 Local Names of Buruli Ulcer.

Mycobacterium, ulcerans the bacteria responsible for buruli ulcer is spongy like in nature. Hence it has been given a similar description by the local people to mean cotton wool. These people have identified the cotton wool like substance as the main causative agent in the identification, treatment and cure of the disease.

From one focus group discussion, buruli ulcer was explained thus:

*"it all begins as a painless hard boil. It is very hard and interestingly is not painful at all. First we thought that it was **tsina asane**¹ and we were applying local herbs, then we were told that this one is a different boil - this one is **odontihela**"*

(Ga woman, Denchira)

3.4 Local aetiology of buruli ulcer

From the data, respondents attributed causes of buruli ulcer to three main factors: casting of a spell through witch craft (27.5 %), poor personal hygiene/wading in ponds dirty surroundings (22 %), drinking water from the river/pond (18.0 %). Other reasons by order of magnitude are dirty surroundings (14 %); I do not know (6.6 %); transmitted by flies into open sores and cuts on the skin (5.1 %); wading in swampy areas (4.3 %); it is in the blood/as a result of bad blood (1.5 %); airborne (1.0%).

Responses from a FGD with Ga and Ewe women gave weight to the fact that the unknown is supernatural. One Ewe woman had this to say, to which the others agreed:

*"We do not know because we discovered this strange sickness here. It is not in our hometown (**the southern sector of the Volta Region and Togo**) Because we do not know where this strange sickness is from, we have been speculating that it is as a result of witchcraft and evil spirits."*

(Ewe woman, Hobor)

¹ Ga name for carbuncle and is literally translated to mean cow boil – "tsina" for cow and "asane" for boil.

There was a consensus on this view. Asked for further explanation, another woman reinforced the point thus:

"What can one say, this sickness is strange it has to be witchcraft. You see, we used to have guinea worm in this community. We realised that we could get it from the water. Now guinea worm is no more, and in its place, we have this strange sickness. We actually do not know the cause. It is believed that this disease is in two forms: the male and the female. In certain cases, when one gets infected with the male form and is treated, the disease reappears in the form of the female. "

(Ewe woman, Hobor)

In yet another focus group discussion with adult males from a Ga community, seventy percent of them pointed to the unpotable water sources they depend on as the cause:

" It is from the water, we do not have good source of water. It is also believed that the cause is spiritual."

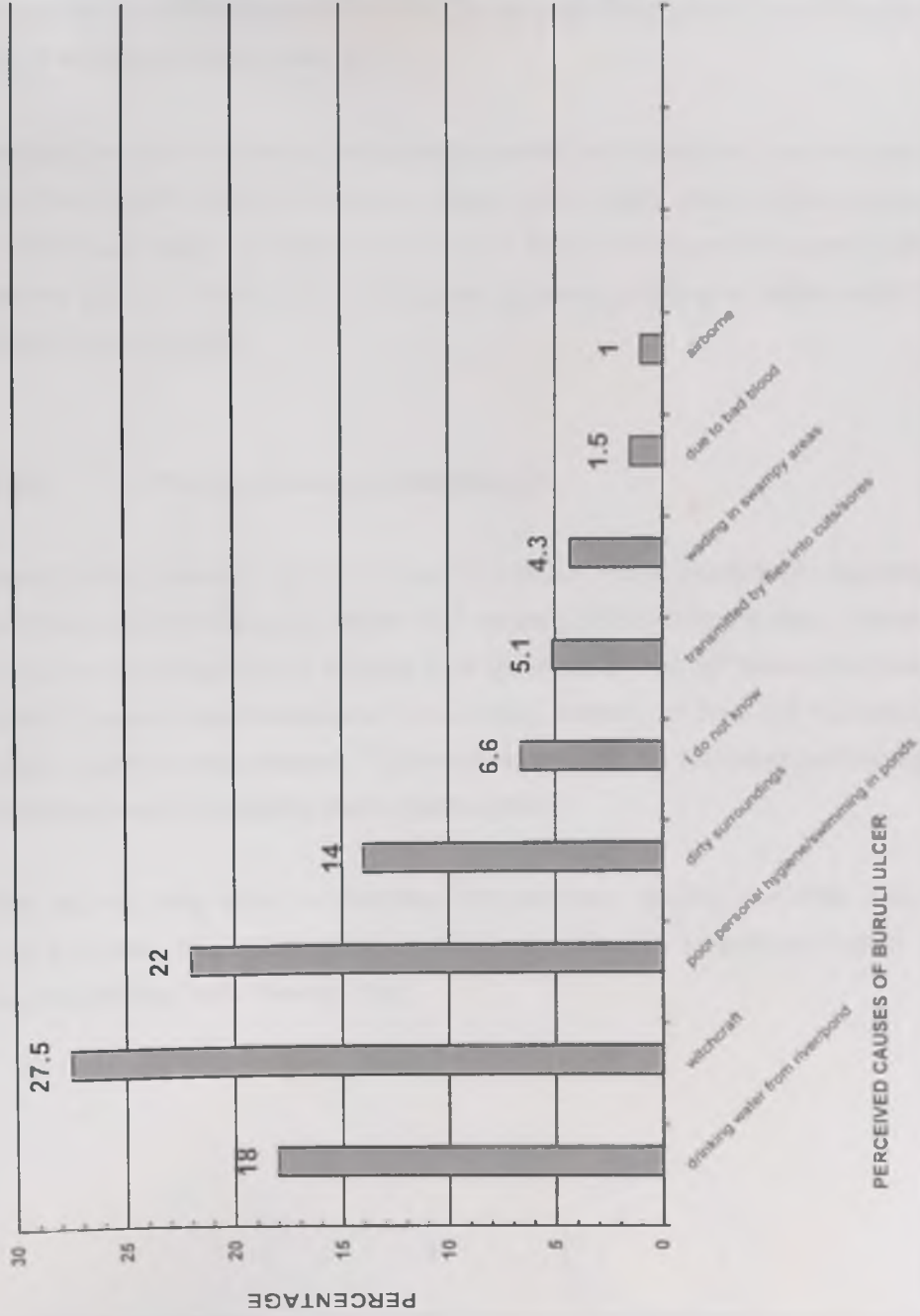
(Ga man, Obakrowa)

One gentleman had a different opinion from the others:

" I do not think that it is from the water because I have a friend who lives at Odorkor (near Accra), he drinks tap water, but he has the disease. It has affected him thrice".

(Ga man, Obakrowa)

FIGURE 3.3
HOW DOES ONE GET INFECTED WITH BURULI ULCER?



3.4.1 The perceived role of animals in disease transmission

In an interview with two female parents of buruli ulcer patients and in a FGD with Ga women, I was informed that cows have a disease similar to buruli ulcer. This assertion could be passed for a disease classification mix up with "tsina asane" the Ga name for carbuncle, translated to mean "cow boil."

This statement is quite frightening considering the fact that there are a lot of domestic animals, in the Obom sub-district namely: dogs, ducks, fowls, sheep, goats, pigs and cattle. Cattle, our object of concern here, graze freely and share the same drinking water source (ponds, streams and rivers) as humans, polluting it further with their faeces and dirt as they drink.

3.4.2 Person to person transmission

In response to the question, "is buruli ulcer infectious?" 75.0 percent of respondents indicated that it was not infectious whilst 17.5 percent indicated that it was. About 7.5 percent had no idea whether the disease was infectious or not. Of those who thought that person-to-person transmission was a possibility, majority of them (37 %) said they did not know how this could happen. Thirty-one percent (31 %) indicated that contagion could be possible via the wounds of an infected person.

The FGDs did not help either in clarifying this question. During one FGD with Ga women at Denchira, the whole group of twelve women was unanimous that it was infectious and affirmed their feelings thus:

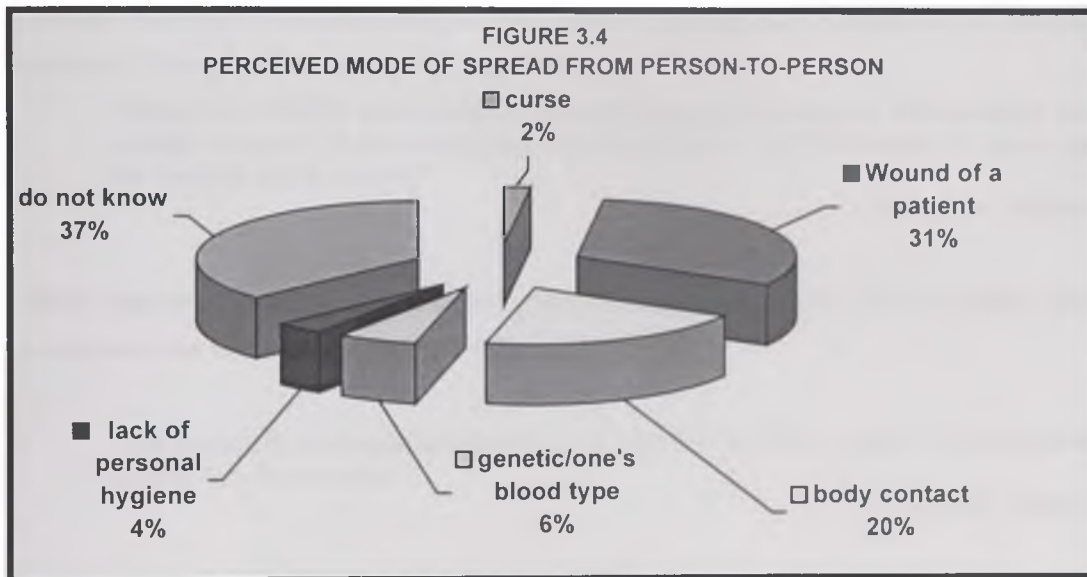
" it is possible to get it from someone who has it. For example if you are responsible for the dressing of the wound of a patient, the germs from the wound could get lodged under your finger nails."

(Ga woman, Denchira)

In another focus group discussion one of the participants was of a different view by saying:

" I do not think that it is contagious, because if it is, why didn't my wife contract the disease? After all, we were sharing the same bed and using the same cover cloth. She was responsible for the daily dressing of my wound, but she did not get it, neither did my children"

(Ga man, Obakrowa)



Source: Survey data, 2002.

In an FGD with women in the Hobor community, seventy percent (70 %) of them had children who had contracted the disease. Some of these children had been cured;

others still had the ulcer and were seeking medical treatment. They were all of the opinion that it is contagious. One woman explained this by saying:

" My child had buruli ulcer. After she became well, my rival's child also developed the sickness. They do not use anything in common. However, they bath together, using water from the same bucket. We all live in the same compound. "

(Ga woman, Hobor)

3.5 Local taboos

It was clear from all the FGDs, that there is a clear distinction between the ordinary boil and buruli ulcer, nevertheless, one cannot take chances. It is only after the " *detsifu*" or " *odonti*" has been removed that one can receive injections to speed up the healing process. During a FGD, one woman emphasised the fact that:

"When the "detsifu" is out, one is at liberty to seek clinical care. The patients visit private "doctors" in the community who inject them with antibiotics to speed up the healing of the wound."

(Ga woman, Hobor)

There are other food taboos imposed by the herbalist from whom help is sought. This statement was confirmed in all the FGDs:

"The patient is not supposed to eat meat, palm oil and fresh salt is roasted before adding it to the cooking."

(Ga woman, Hobor)

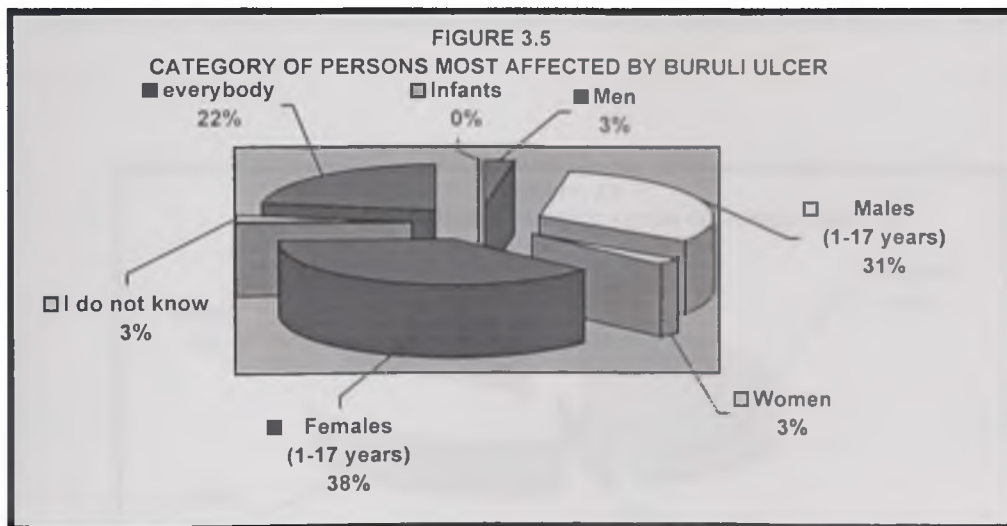
3.6 Category of people affected by Buruli Ulcer

Figure 3.5 below clearly shows that even though children are mostly affected, females (38.2 %) are more susceptible than males (31.4 %). In addition, even though the

disease affects "every body", further probing reveals that within this "everybody" classification, children emerge the victims.

Reasons given why children are most affected are numerous. However, the first five reasons by order of prominence are:

- Young children do not observe good personal hygiene (38.3 %)
- Young children like swimming/wading in ponds and rivers (6.3 %)
- Every one is at risk (6.3 %)
- Children are mostly affected through witchcraft (6.3 %)
- I do not know (18.3 %).



Source: Survey data, 2002

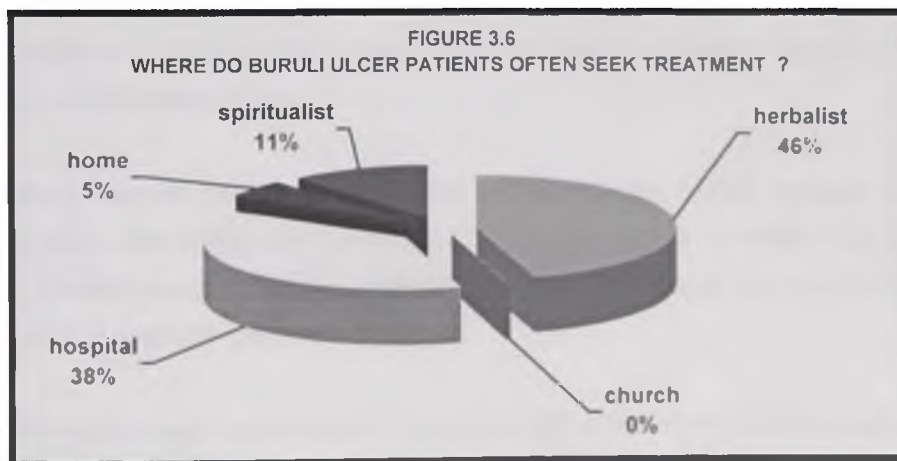
The fact that children do not observe any good personal hygiene was emphasised during the FGDs. One woman said:

"These children walk around barefoot, do not bath regularly and enjoy wading in swampy areas and ponds" Pointing to a child playing about in the drizzle, she added "do you see what I mean?"

(Ga woman, Ashaladza)

3.7 Health Seeking Behaviour

From the data, (as seen in figure 3.6 below), the herbalist is the most preferred choice (46 %). It must be stated that even though majority seek herbal treatment through the herbalist this is often done after home made treatment has been applied and failed. The kind of treatment given at home, are ointments like "akobalm", a local balm as the name denotes and "tinkalo" a herbal preparation used for boils, both are sold on the market.



When herbal treatment fails, the next port of call is the hospital (38.0 %). However there are few who report at the hospital first and foremost. Others too consult a spiritualist (11.0 %). Very few go to church for prayers (0.0 %).

The explanation given by the local people for buruli ulcer explicitly defines their treatment seeking behaviour. Initially, herbs believed to have the potency to remove the "odonti" or the "detsifu" were discovered by the local people after a series of trial and errors. In one FGD, a man disclosed:

"This is our local knowledge given to us by God. When you try one herb and it fails you try another"

(Ga man, Kokompe)

3.7.1 Herbal treatment

It was gathered from the FGDs that the efficacy of any herbal treatment is subject to the body constitution of the patient. There are some patients who react negatively to herbal medicine whilst others do not.

Information from all the communities interviewed and the FGDs revealed that some patients have died in the past. From the FGDs, the causes of death were excessive pain and enlargement of the ulcer, which the author suspects to be cross infection and absence of appropriate diagnosis and cure.

From the FGDs it was apparent that the people still entertain the fact that buruli ulcer is caused by witchcraft for lack of the clear identification of any causative agent (Nukunya: op cit.) A herbalist or spiritualist, therefore, can only effectively treat the disease. Yet when herbal treatment is prolonged without much success a combination of western

and herbal treatment in the form of antibiotics or injection (from private practitioners) and herbal dressing is adopted. Case study two (see appendix D) reviews this kind of combination.

One gentleman told me:

"I was actively involved with the treatment of my step-son and I realised that the white man's medicine is good at preventing the infection from spreading but not too effective at healing the ulcer" This view is shared by majority of the local people.

(Ga man, Denchira)

3.8 Community reaction towards buruli ulcer patients

Table 3.5 below summarises the various reactions of the community towards buruli ulcer patients. The disease condition evokes a lot of sympathy from the community (26.3 %), mostly because this mishap is seen as no fault of the patients. Patients are seen as victims of witchcraft machinations and evil forces (17.8 %).

It was also discovered that patients are not shunned, during the initial stages they go about their normal personal and social duties. During field visits, there were quite a couple of patients in and around the community moving about and leading a normal life. However as the disease advances, it is characterised by extreme pain and discomfort. In addition, the ulcer tends to be offensive. These developments do not give the patients the moral courage to mingle with society (10.6 %).

"Madam, if you invite a patient to sit amongst us he/she will not come". When I demanded to know the reason, I was told "madam you have no idea, you will not allow him/her to sit close to you because of the stench. The patient will also not feel comfortable"

(Ga man, Obakrowa)

TABLE 3.5: Community reaction towards buruli ulcer patients

REACTION	FREQUENCY	PERCENT
Sympathised with	119	26.3
Not allowed to go to school	85	18.8
Regarded as people plagued with evil forces	81	17.8
Not welcome at social/community functions	48	10.6
Not allowed to perform household chores	43	9.5
Not allowed to play leadership roles	29	6.4
Locked up in a room	18	4.0
Not suitable for marriage	12	2.6
Stripped off community/social responsibilities	10	2.2
I do not know	8	1.8
Total	453	100.0

Source: survey data, 2002

Teachers were reported as having told children with the disease to stop schooling for fear of passing it on and also because of the stench of the ulcer. Because of the pain experienced by children parents also do not have the moral courage to allow them to go to school. However children continue their education after they are cured.

Findings of the study have been presented in the preceding sections. These findings present a platform from which indepth analysis and discussions can be made. The next chapter is devoted to this.

CHAPTER FOUR

DISCUSSIONS AND ANALYSIS

4.0 Introduction

This chapter analyses and discusses data from the field and interprets them in order to address the main and specific objectives of the study. To ensure a smooth flow of discussions, the chapter is organised under the following central issues as the preceding chapter:

- **Socio-demographic characteristics of respondents**
- **Major health problems**
- **Local names of buruli ulcer**
- **Local etiology of buruli ulcer**
- **The perceived role of animals in disease transmission**
- **Person-to-person transmission**
- **Local taboos**
- **Category of people affected by buruli ulcer**
- **Health seeking behaviour**
- **Community reaction towards buruli ulcer patients**

The analysis begins with a discussion on the socio-demographic characteristics of the respondents.

4.1 Socio- demographic Characteristics of Respondents

The demographic background of the respondents was captured during the study as it was regarded as an important piece of information against which other variables such as treatment seeking behaviour, perceived causes of buruli ulcer, times when the disease is most endemic etc. could be analysed. This aspect of

the data is very important because many social science studies have shown that people's social environment has a crucial bearing on how they perceive the world. This point is reinforced by the Marxian aphorism that a person's social position determines his/her level of consciousness. Other socio-demographic characteristics discussed under this section are, age, sex, ethnicity, religion, education and occupation.

4.1.1 Age

It is clear from the data that the area, like most parts of Ghana has a youthful population (20-39) (refer table 3.1 on page 22). The preponderance of the youth (49.2%) however is quite uncharacteristic of a rural community in view of the fact that most young persons (especially males) tend to migrate to the urban centres. Perhaps the youthful men of the population may be explained by the fact that most communities in the area consist of settler farmers predominantly.

4.1.2 Sex __

In this study, more females (56.8 %) were interviewed than males (43.2 %). Explanations for this phenomenon are that generally there are more females than men in any given community, since most of the communities are occupied by settler farmers, it is assumed that their wives are living with them. Thirdly, the period of the survey coincided with the rains and therefore the planting season for some and harvesting of certain crops such as cassava, pineapples and mangoes for others. For this reason, men in certain households visited were away at the farm, leaving behind their wives to take care of the home.

4.1.3 Ethnicity

Ethnicity, was considered an important variable in this study in order to ascertain whether there were any remarkable differences or similarities in the perceptions of the various ethnic groups regarding the perceived aetiology and also mode of spread of buruli ulcer, treatment seeking behaviour and attitudes towards victims of the disease.

Quantitative data collected from seven (7) communities indicate that the Ewe were in the majority (59.0 %), followed by the Ga (32.5 %). There were very few Akans and other ethnic groups from the three northern regions in this country therefore their representation in the data was very low. It must be emphasised here that all the respondents apart from the Ga are migrants.

4.1.4 Religion

The concept of religion is cultural and universal and helps fulfill several basic functions within human societies such as defining the spiritual world, giving meaning to the divine and offering explanations for events that seem difficult to understand. (Schaefer and Lamm: 1999). The concept of religion in Ghana is no different from the above and is the beliefs and practices associated with the supernatural. Thus defined, the concept embraces many aspects of man's relations with the supernatural including magic and witchcraft. (Nukunya: 1992).

In many societies, worldwide religion and health are synonymous one to another. Sociologically, the religious and health institutions are the most fundamental to any society because they are regarded as the bedrock of society.

It follows in the same vein therefore that the religious background of the respondents will ultimately help shape their etiology of buruli ulcer and outline their pathways to therapy (refer to figure 3.1 on page 23).

4.1.5 Education

Education is responsible for stimulating an individual's sense of reasoning and learning in order to bring about the desired social change. Education, whether formal or informal promotes this social change by serving as a meeting ground where each society's distinctive beliefs, traditions, ideologies can be passed on

To conclude, analysis of the socio-demographic characteristics of respondents has provided foreknowledge of the background from which the respondents hail and also a platform on which the perceptions of their total social environment and consequential actions to adapt to this environment could be appreciated and understood.

4.2 Major health problems in the study area

It is a sociological aphorism and truism that the “health of any nation is the wealth of the nation”. On the local level, this statement implies physical, emotional, psychological and spiritual fitness of the individual and hence the ability to enjoy life void of pain and anxiety and to be in a physical position to work in order to provide income for one's sustenance and needs and also that of the family. On a higher level, this means less government spending on health and therefore the possibility of investing more in other sectors of the economy.

The question “what are the major health problems in this community?” was posited to discover whether buruli ulcer was regarded as a major health problem in the community and to discover from the communities perspective, the known health problems of the various communities. To obtain data in this regard, responses were elicited for men, women and children's diseases. The data reveal that there were four main diseases common to men, women and children in the communities visited. In order of priority or severity these are malaria, waist pains/body pains, buruli ulcer and boils.

Malaria is one of the commonest parasitic diseases and the single most important cause of morbidity (WHO: 1988). In Ghana, malaria is responsible for 40 percent of all out-patient visits, claims 25 percent of under-five mortality rates and ranks first on the list of ten out patient department cases. To alleviate the burden of malaria, WHO has initiated the roll back malaria strategy, which entails a series of multi-approaches aimed at reducing the malaria burden by half in all

and shared. Increased years of formal education are associated with openness to new ideas in various disciplines (politics, medicine, health, etc). (Schaefer and Lamm: op.cit). Educated people therefore “tend to have greater access to factual information a diversity of opinion and subtle distinctions of analysis” (Williams: 1964).

Against this background it was therefore important to analyse this variable – education. The data on education as portrayed by table 3.3 on page 24 show that the majority in the study area is illiterate and therefore their exposure to modern concepts of health and disease will be limited.

4.1.6 Occupation

The level of education of any individual is one crucial bargaining power for securing employment and also for competing effectively in the labour market. Lack of skills is a barrier to one’s competition in the labour market. Clearly, a person who can neither read nor write cannot enter an occupation requiring those skills. It can be seen from table 3.4 on page 24 that a vast majority of respondents are farmers (82.0 %) followed by traders (10 %). About 3.5 percent are unemployed. Since majority of them is also illiterate, they lack the requisite skills for any skilled or white-collar job. It was realised from the study that trading is a secondary occupation for farmers, especially during the post-farming season.

The 1997 Core welfare indicators questionnaire (CWIQ) survey found that 45 percent of the rural population had no formal education, compared to 26 percent of the urban population. Educational attainment rates differed vastly between farmers and non farmers, a difference explained in part by the lower school attendance rates in rural communities. Since earnings are low in most farming communities (GSS: 1997).

affected and participating countries by the year 2010. The second most common ailment stated by respondents is waist and body pains. Waist and body pains can be interpreted to mean general malaise which in actual fact is one of the symptoms of malaria. Buruli ulcer, the third most common ailment and the focus of this study was said to be the third most common ailment of men, women and children. This means that the community identified and perceived buruli as a major health problem. The fourth ailment boils, could be another description of buruli ulcer, since buruli ulcer begins as a painless, often itchy, nodule or papule in the skin. (WHO: 2000). To the lay man therefore, the onset of the formation of a boil could be easily passed on for buruli ulcer. The first case of buruli ulcer was seen in 1971 in the Ga district in lacustrine communities along the River Densu. (Mensah-Quainoo: unpublished). The communities interviewed in this study, which happen to be some of the most endemic ones in the Obom sub-district as far as buruli ulcer is concerned are also situated along the Densu River, and depend either totally or partially on its water for washing, cooking, bathing and drinking.

4.3 Local Names of Buruli Ulcer.

Just as a prognosis or diagnosis of any ailment in the clinical setting gives the physician the required information to prescribe the exact medication for treatment, in the same vein the local terminologies of illnesses by local people provide them with the knowledge on how to attack the disease.

Local names given to the disease vary by the local language of the respondent as seen in paragraph 3.4 on page in the preceding chapter. Data from the study revealed that the Ga names for this disease are "*odontihela*", and "*abuagbonyo*". The Ewe name is "*detsifudor*" and "*detsifufofoe*" which is similar in meaning to "*odontihela*".

Understanding and documenting local terminologies given to sicknesses or health problems is an essential aspect of any socio-cultural assessment of disease problems particularly from the local perspective of the community. As one respondent rightly put it:

"as soon as the "detsifu" is removed from the wound, then all that remains is the healing of the ulcer, but if care is not taken to remove all the "detsifu", this same "detsifu" will move in the body and reappear at another part of the body. Sometimes it can reoccur at the same place"

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In sum, understanding local taxonomies to diseases provide an indication to the kinds of treatment that people are likely to seek, especially when their places of residence and work are miles apart from the health centre. This is very crucial for health policy planning an programming.

According to (Marx: 1989) in epidemiological research, social factors remain largely understudied and poorly understood. He postulates that **in order to diagnose, treat and control a disease effectively, a wide range of factors should be taken into consideration. These factors as listed by him are cultural, behavioural, environmental and economical.**

4.4 Local aetiology of buruli ulcer

A combination of various experiences or occurrences whether natural or spiritual aids in shaping the perception of each individual and also in defining it's cultural milieu. Culture, therefore, is the lens through which individuals perceive, relate and react to various phenomena including health. Various concepts or explanations are given by people in different cultures, to describe or explain illnesses. These explanatory models are congruent with the way people perceive illnesses and are derived from concepts, symbols, beliefs and practices that have deep roots in their culture. Responses from all the FGDs revealed that

buruli ulcer is on the increase. The re-emergence may be related to environmental and socioeconomic factors, such as deforestation leading to increased flooding, and population expansion without improved agricultural techniques, thus putting more people at risk (Portaels et al:2001; Dobos and King 1999) .

The fact that witchcraft is one of the prominent reasons for buruli ulcer iterates the findings of other studies, that for lack of scientific or logical explanation to certain strange illnesses or occurrences, local folk tend to attribute these to supernatural causes. (Twumasi, 1997; Appiah-Kubi, 1981; Senah, 1997).

The communities visited had certain features in common:

- Were situated along the Densu river basin;
- Depended mainly on ponds, (some of which were created as a result of sand winning activities), shallow hand dug wells, dams or the river Densu, for bathing, drinking, cooking and washing;
- Were not too far away from swampy/marshy areas;
- Were at least 15 kilometres away from the Amasaman health centre;
- Most of them lack toilet facilities and people either defecate indiscriminately in the bush or in community pit latrines;
- Where boreholes have been provided, they are not being utilised for the mere reason that the water from the borehole is salty.

From the above, it can be easily deduced that the disease is water related and is common among communities with poor access to potable water and which probably have poor sanitation. This is in conformity with findings from some researchers that buruli ulcer is found in warm, humid environments especially in settings rich in vegetation and marshy soil or stagnant or slow flowing water bodies (Amofah et al: 2000). However, even though it has been proved that the disease occurs in close proximity to water bodies, no specific activity associated

4.4.1 The perceived role of animals in disease transmission

The host range of mycobacterium ulcerans includes lizards, amphibians, chick embryos, possums, armadillos, rats, mice and cattle. In addition, the disease occurs naturally in koalas and ringtail possums in Australia. The lesions in these animals as observed are clinically identical to those observed in humans (Portaels et al; 2001).

It is being recommended that the perceived role played by animals in the transmission of mycobacterium ulcerans requires further (epidemiological investigation by research) animal science department faculty of agriculture, Nogouchi research institute all at the university of Ghana .

4.4.2 Person to person transmission

There is still some degree of ambiguity concerning person-to person transmission. Whilst some scientists have stated that it remains an unsolved puzzle, others have stated that it is possible. Scientists have postulated that one characteristic feature of the disease is its apparent association with bodies of water worldwide (Muelder 1992; Oluwasanmi et al; 1986). The recent identification of *M. ulcerans* in certain water insects has raised the possibility of mechanical transmission of the infection (Portaels et al; 1999). Muelder and Nourou (1990) after discovering that 10 out of 28 persons had relatives who had the disease have cautioned against the dismissal of possible person-to-person transmission.

In response to the question, "is buruli ulcer infectious?", 75.0 percent respondents indicated that it was not infectious whilst 17.5 percent indicated that it was. About 7.5 percent had no idea whether the disease was infectious or not. Of those who thought that person-to-person transmission was a possibility, majority of them (37 %) said they did not know how this could happen. Thirty-

with water (fishing, washing bathing etc.) has been identified as being responsible for disease transmission (Hayman J. and Asiedu K: 2000).

Again, responses from the questionnaire and the discussions that ensued during the FGDs, seem to point to the fact that the main causative agent mycobacterium ulcerans, thrives in the water used for bathing, washing, cooking and drinking, that is the water from the ponds, hand dug wells, river etc., and one could get infected through contact with water from these sources. In an in-depth interview, a 45-year old farmer from Denchira, (one of the endemic communities), whose two sons had the disease, responded to a question on why both children had the disease, thus:

“Sister, it is like this. There is this big pond right behind my house. When it rains, all kinds of filth are washed into this pond, and it will surprise you that this is where the children like to swim. If you want to see things for yourself, just visit us when it is raining heavily and you will be amazed at the children. I have realised that when the children swim, they drink in a lot of this filthy water”

(Ga man, Denchira)

Scientists are also of the opinion that the bacterium enters the body through cuts and abrasions on the skin, (Oluwasanmiet al 1976; Portaels; 1999). However, the researcher is of the opinion that transmission could be two ways: oral (through the mouth) by taking in infected water or through the most conventional route - cuts and abrasions. However, this calls for further epidemiological and microbiological investigation.

Early diagnosis of an *M. ulcerans* infection is crucial, especially since the local people suspect that the microbe may sometimes reside in the body for months or years before it surfaces as a boil and begins to eat away body tissue. This assertion is also borne by scientists (Dobos and King, 1999).

one percent (31 %) indicated that contagion could be possible via the wounds of an infected person (refer fig. 3.4 on page 30).

According to the local people, buruli ulcer could also be passed on through body contact. There are some who believe that one's level of immunity or resistance has a role to play in this, this in local parlance is due to the "strength of one's blood". In certain cultures in Africa, life is equated to blood, hence one's ability to resist all forms of infection and live on is due to the purity of one's blood. (Sidhar and Kale; 1991)

From the questionnaires and the FGDs conducted in the communities, the following issues, however unclear are apparent:

- **That the issue of immunity and resistance is worth considering and exploring further through scientific research.**
- **There is the possibility of contagion or person-to-person transmission through the pus from the infected wound. Some patients whose ulcers are considerably healed walk around the community going about their normal duties without any form of dressing. The vector in this scenario may be the housefly.**
- **The assertion that pus from wounds which get stuck under finger nails or on any part of the hand and could be ingested. This statement requires further investigation.**
- **As the disease advances, it becomes difficult for patients to go about their normal duties due to the stench emanating from the ulcer which could pose a discomfort for others and also the excruciating pain associated with the ulcer. Patients therefore remain indoors.**

4.5 Local taboos

The existing socio-cultural barriers and taboos associated with diseases pose major hindrances to health seeking behaviour. (Luthra & Saxena, 1991). For instance in Ghana, the popular view is that one does not "*take boil to the hospital*". If one ventures, and is injected one may die. For this reason most people infected with the ulcer did not go to the hospital initially and there are incidences of death in these cases.

However the FGDs revealed that It is only after the " *detsifu*" or "*odonti*" has been removed that one can receive injections to speed up the healing process.

4.6 Category of people affected by Buruli Ulcer

Children both males and females are known to be the most affected by the disease Oluwasanmi et al. (1976). Data from the study revealed that, see figure 3.5 on page 33 clearly shows that even though children are mostly affected, females (38.2 %) are more susceptible than males (31.4 %).

Reasons given why children are most affected are numerous. However, the first five reasons by order of prominence are young children do not observe good personal hygiene (38.3 %), enjoy swimming/wading in ponds and rivers (6.3 %), and are mostly affected through witchcraft (6.3 %)

Even though children enjoy playing in swampy areas, it was observed during data collection that owing to the topography of the Obom sub-district, children cannot avoid wading through swampy and marshy fields on their way to school, to fetch water and perform other domestic assignments, a situation which is aggravated during the rains. These children can be observed wading into deep ponds that are shared with animals to fetch water, a task they perform

barefooted. Ghanaian homes depend heavily on children to perform certain tasks such as disposal of refuse including human excreta, washing, baby sitting and fetching of water. (Grootaert and Kanbur, 1995; Dankwa et al 1994).

The perception that this disease is caused by supernatural forces such as witchcraft has been discussed earlier. Intelligent children and those who show promise in the future are often said to be the target of witches. According to Nukunya (1992) witches are known to possess certain powers which they use to harm others to benefit themselves. Witchcraft accusations are caused by the necessity to account for the unexpected or undeserved misfortune, where it is not recognised that such misfortunes can happen by chance or natural causes.

4.7 Health Seeking Behaviour

At a certain point in the evolution of any society, diseases have generated some form of response aimed at interpreting, controlling, preventing and alleviating, repairing, curing or healing them. "Treatment is diagnosis. The only way to know with certainty the cause of a particular illness is to treat that cause and see if the condition improves" (Fierman: 1981). Therefore the local aetiology of the disease as explained earlier has provided the platform for appreciating the treatment seeking behaviour of buruli ulcer patients .

4.7.1 Herbal treatment

Practitioners and adherents of traditional medicine have a distinctive view of their own medical system and act according to the different interpretations within this system which they are familiar with such as natural, herbal, spiritual or magical phenomena. The interpretation of illness, disease and health are determined by the relative social position of individuals in the society as a whole and are strongly shaped by their own individual experience and cultural system (Pedersen and Baruffati. 1989).

of sickness – the farm or the home, who the advisors were, socio-economic status, or the religious background of the parents. Caldwell (1988) agrees that education is a factor in mortality decline in that in having access to better quality advice, educated mothers in white-collar jobs are at a greater advantage, because they have access to better informed peers. Similarly, mothers with low educational status who lived in the city and interacted with educated women were well informed. **Education therefore plays a very important role in treatment seeking behaviour of people and the provision of accurate information on mechanisms of disease, disease patterns and inherent dangers, if only the right messages or appeal is communicated.** (Elias 1991).

The most serious cases of buruli ulcer ever handled at the Amasaman health centre and seen at the Obom health centre are those who have repeatedly consulted herbalists without any success. A survey in Kenya found that Western medical practitioners were consulted for STDs only when herbalists and traditional healers failed to provide relief (Mulder, 1994).

Yet there are still some patients who still delay in seeking medical advice and treatment after seeking herbal treatment without any success for fear of amputation. Lack of time and money, as well as the poor availability of health facilities play an important role in delays in seeking healthcare (Bang & Bang, 1994; Narayan & Srinivasan, 1994).

Access is an important factor to seeking appropriate health care. Factors accounting for poor access to health facilities are: the availability of the medical practitioner, physical distance, poor road network – which means long hours on the road before arrival at the health centre, high transportation costs because of the poor conditions of the road, money for transport, feeding and the purchase of basic drugs and medical utilities. (Tanahashi: 1978) Until all these bottlenecks are removed in order to make health delivery effective, efficient and beneficial to

It was gathered from the FGDs that the efficacy of any herbal treatment is subject to the body constitution of the patient. There are some patients who react negatively to herbal medicine whilst others do not.

There are several questions to be posed on the efficacy of these herbal remedies, the kind of equipment/tools used by these herbalists, is there the possibility of cross infection? The patient stands the risk of cross infection if the ulcer is not handled with the strictest observance of hygiene and cleanliness. Information from all the communities interviewed and the FGDs revealed that some patients have died in the past. From the FGDs, the causes of death were excessive pain and enlargement of the ulcer, which the author suspects to be cross infection and absence of appropriate diagnosis and cure.

The belief that one could die or be harmed if one receives injection when the cotton wool like substance has not been removed is responsible for preventing patients from seeking early treatment at the Amasaman health centre. According to the health workers at the Obom health centre, this propaganda is being disseminated by herbalists and traditional healers and must be stopped through appropriate health education strategies and sensitisation.

Environmental and socio-economic factors like education and place of residence whether rural or urban play an important role in the first line of action to take when illness strikes and also in making informed choices about treatment seeking. In a study in Nigeria, on the response of parents to the five killer diseases among children, in a Yoruba community (Adetuni; 1991), discovered that mothers would not directly seek medical care immediately a child became sick. Local home remedies in all cases was the first line of treatment. It is only when this fails after repeated trials that another alternative would be tried. The choice of treatment would be determined by where the parents were at the time

the majority who incidentally happen to be the poor, mortality rates will continue to be high. (see case study three appendix D). One woman summarised this problem in a FGD as follows:

"Transportation is a major problem in these parts of the district. Sometimes there is not enough money in the house to feed the family yet alone board a vehicle to the health centre.

(Ewe woman, Hobor)

An issue of considerable importance within the traditional health sector is the cooperation between the traditional and modern, allopathic systems of health care, which could help the two to supplement each other. Research could enhance the understanding of the beliefs, concepts, and perceptions underlying the traditional systems and could help to improve communication and understanding between the modern health provider and the general population.

4.8 Community reaction towards buruli ulcer patients

Teachers were reported as having told children with the disease to stop schooling for fear of passing it on and also because of the stench of the ulcer. Because of the pain experienced by children parents also do not have the moral courage to allow them to go to school. However children continue their education after they are cured. The proportion of children that continue with their education after being cured was not ascertained during the study. Even though some children who had had the disease earlier on and had returned to school were encountered, it is possible that a larger proportion of children drop out of school as a result of the disease. This could be due to the long period of infection and treatment, several hours of tuition missed and the possibility of having to repeat a class or lag behind his/her peers by two or three classes. If this anomaly is not checked and addressed promptly and effectively, Ghana will in the not too distant future lose out considerably on its future labour force more so when the disease is endemic in 90 out of 110 districts in the country.

The district directorate of the Ghana Education Service (GES), should educate teachers to refrain from discriminating against children affected by the disease but rather provide them with the necessary emotional support and create the enabling environment for them to learn in an atmosphere void of any form of discrimination.

Discussions in this chapter will provide a basis for recommendations in the next chapter.

CHAPTER FOUR

DISCUSSIONS AND ANALYSIS

4.0 Introduction

This chapter analyses and discusses data from the field and interprets them in order to address the main and specific objectives of the study. To ensure a smooth flow of discussions, the chapter is organised under the following central issues as the preceding chapter:

- **Socio-demographic characteristics of respondents**
- **Major health problems**
- **Local names of buruli ulcer**
- **Local etiology of buruli ulcer**
- **The perceived role of animals in disease transmission**
- **Person-to-person transmission**
- **Local taboos**
- **Category of people affected by buruli ulcer**
- **Health seeking behaviour**
- **Community reaction towards buruli ulcer patients**

The analysis begins with a discussion on the socio-demographic characteristics of the respondents.

4.1 Socio- demographic Characteristics of Respondents

The demographic background of the respondents was captured during the study as it was regarded as an important piece of information against which other variables such as treatment seeking behaviour, perceived causes of buruli ulcer, times when the disease is most endemic etc. could be analysed. This aspect of

the data is very important because many social science studies have shown that people's social environment has a crucial bearing on how they perceive the world. This point is reinforced by the Marxian aphorism that a person's social position determines his/her level of consciousness. Other socio-demographic characteristics discussed under this section are, age, sex, ethnicity, religion, education and occupation.

4.1.1 Age

It is clear from the data that the area, like most parts of Ghana has a youthful population (20-39) (refer table 3.1 on page 22). The preponderance of the youth (49.2%) however is quite uncharacteristic of a rural community in view of the fact that most young persons (especially males) tend to migrate to the urban centres. Perhaps the youthful men of the population may be explained by the fact that most communities in the area consist of settler farmers predominantly.

4.1.2 Sex

In this study, more females (56.8 %) were interviewed than males (43.2 %). Explanations for this phenomenon are that generally there are more females than men in any given community, since most of the communities are occupied by settler farmers, it is assumed that their wives are living with them. Thirdly, the period of the survey coincided with the rains and therefore the planting season for some and harvesting of certain crops such as cassava, pineapples and mangoes for others. For this reason, men in certain households visited were away at the farm, leaving behind their wives to take care of the home.

4.1.3 Ethnicity

Ethnicity, was considered an important variable in this study in order to ascertain whether there were any remarkable differences or similarities in the perceptions of the various ethnic groups regarding the perceived aetiology and also mode of spread of buruli ulcer, treatment seeking behaviour and attitudes towards victims of the disease.

Quantitative data collected from seven (7) communities indicate that the Ewe were in the majority (59.0 %), followed by the Ga (32.5 %). There were very few Akans and other ethnic groups from the three northern regions in this country therefore their representation in the data was very low. It must be emphasised here that all the respondents apart from the Ga are migrants.

4.1.4 Religion

The concept of religion is cultural and universal and helps fulfill several basic functions within human societies such as defining the spiritual world, giving meaning to the divine and offering explanations for events that seem difficult to understand. (Schaefer and Lamm: 1999). The concept of religion in Ghana is no different from the above and is the beliefs and practices associated with the supernatural. Thus defined, the concept embraces many aspects of man's relations with the supernatural including magic and witchcraft. (Nukunya: 1992).

In many societies, worldwide religion and health are synonymous one to another. Sociologically, the religious and health institutions are the most fundamental to any society because they are regarded as the bedrock of society.

It follows in the same vein therefore that the religious background of the respondents will ultimately help shape their etiology of buruli ulcer and outline their pathways to therapy (refer to figure 3.1 on page 23).

4.1.5 Education

Education is responsible for stimulating an individual's sense of reasoning and learning in order to bring about the desired social change. Education, whether formal or informal promotes this social change by serving as a meeting ground where each society's distinctive beliefs, traditions, ideologies can be passed on

and shared. Increased years of formal education are associated with openness to new ideas in various disciplines (politics, medicine, health, etc). (Schaefer and Lamm: op.cit). Educated people therefore “tend to have greater access to factual information a diversity of opinion and subtle distinctions of analysis” (Williams: 1964).

Against this background it was therefore important to analyse this variable – education. The data on education as portrayed by table 3.3 on page 24 show that the majority in the study area is illiterate and therefore their exposure to modern concepts of health and disease will be limited.

4.1.6 Occupation

The level of education of any individual is one crucial bargaining power for securing employment and also for competing effectively in the labour market. Lack of skills is a barrier to one’s competition in the labour market. Clearly, a person who can neither read nor write cannot enter an occupation requiring those skills. It can be seen from table 3.4 on page 24 that a vast majority of respondents are farmers (82.0 %) followed by traders (10 %). About 3.5 percent are unemployed. Since majority of them is also illiterate, they lack the requisite skills for any skilled or white-collar job. It was realised from the study that trading is a secondary occupation for farmers, especially during the post-farming season.

The 1997 Core welfare indicators questionnaire (CWIQ) survey found that 45 percent of the rural population had no formal education, compared to 26 percent of the urban population. Educational attainment rates differed vastly between farmers and non farmers, a difference explained in part by the lower school attendance rates in rural communities. Since earnings are low in most farming communities (GSS: 1997).

To conclude, analysis of the socio-demographic characteristics of respondents has provided foreknowledge of the background from which the respondents hail and also a platform on which the perceptions of their total social environment and consequential actions to adapt to this environment could be appreciated and understood.

4.2 Major health problems in the study area

It is a sociological aphorism and truism that the "health of any nation is the wealth of the nation". On the local level, this statement implies physical, emotional, psychological and spiritual fitness of the individual and hence the ability to enjoy life void of pain and anxiety and to be in a physical position to work in order to provide income for one's sustenance and needs and also that of the family. On a higher level, this means less government spending on health and therefore the possibility of investing more in other sectors of the economy.

The question "what are the major health problems in this community?" was posited to discover whether buruli ulcer was regarded as a major health problem in the community and to discover from the communities perspective, the known health problems of the various communities. To obtain data in this regard, responses were elicited for men, women and children's diseases. The data reveal that there were four main diseases common to men, women and children in the communities visited. In order of priority or severity these are malaria, waist pains/body pains, buruli ulcer and boils.

Malaria is one of the commonest parasitic diseases and the single most important cause of morbidity (WHO: 1988). In Ghana, malaria is responsible for 40 percent of all out-patient visits, claims 25 percent of under-five mortality rates and ranks first on the list of ten out patient department cases. To alleviate the burden of malaria, WHO has initiated the roll back malaria strategy, which entails a series of multi-approaches aimed at reducing the malaria burden by half in all

affected and participating countries by the year 2010. The second most common ailment stated by respondents is waist and body pains. Waist and body pains can be interpreted to mean general malaise which in actual fact is one of the symptoms of malaria. Buruli ulcer, the third most common ailment and the focus of this study was said to be the third most common ailment of men, women and children. This means that the community identified and perceived buruli as a major health problem. The fourth ailment boils, could be another description of buruli ulcer, since buruli ulcer begins as a painless, often itchy, nodule or papule in the skin. (WHO: 2000). To the lay man therefore, the onset of the formation of a boil could be easily passed on for buruli ulcer. The first case of buruli ulcer was seen in 1971 in the Ga district in lacustrine communities along the River Densu. (Mensah-Quainoo: unpublished). The communities interviewed in this study, which happen to be some of the most endemic ones in the Obom sub-district as far as buruli ulcer is concerned are also situated along the Densu River, and depend either totally or partially on its water for washing, cooking, bathing and drinking.

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buruli ulcer is on the increase. The re-emergence may be related to environmental and socioeconomic factors, such as deforestation leading to increased flooding, and population expansion without improved agricultural techniques, thus putting more people at risk (Portaels et al:2001; Dobos and King 1999) .

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The host range of mycobacterium ulcerans includes lizards, amphibians, chick embryos, possums, armadillos, rats, mice and cattle. In addition, the disease occurs naturally in koalas and ringtail possums in Australia. The lesions in these animals as observed are clinically identical to those observed in humans (Portaels et al; 2001).

It is being recommended that the perceived role played by animals in the transmission of mycobacterium ulcerans requires further (epidemiological investigation by research) animal science department faculty of agriculture, Nogouchi research institute all at the university of Ghana .

4.4.2 Person to person transmission

There is still some degree of ambiguity concerning person-to person transmission. Whilst some scientists have stated that it remains an unsolved puzzle, others have stated that it is possible. Scientists have postulated that one characteristic feature of the disease is its apparent association with bodies of water worldwide (Muelder 1992; Oluwasanmi et al; 1986). The recent identification of *M. ulcerans* in certain water insects has raised the possibility of mechanical transmission of the infection (Portaels et al; 1999). Muelder and Nourou (1990) after discovering that 10 out of 28 persons had relatives who had the disease have cautioned against the dismissal of possible person-to-person transmission.

In response to the question, "is buruli ulcer infectious?", 75.0 percent respondents indicated that it was not infectious whilst 17.5 percent indicated that it was. About 7.5 percent had no idea whether the disease was infectious or not. Of those who thought that person-to-person transmission was a possibility, majority of them (37 %) said they did not know how this could happen. Thirty-

one percent (31 %) indicated that contagion could be possible via the wounds of an infected person (refer fig. 3.4 on page 30).

According to the local people, buruli ulcer could also be passed on through body contact. There are some who believe that one's level of immunity or resistance has a role to play in this, this in local parlance is due to the "strength of one's blood". In certain cultures in Africa, life is equated to blood, hence one's ability to resist all forms of infection and live on is due to the purity of one's blood. (Sidhar and Kale; 1991)

From the questionnaires and the FGDs conducted in the communities, the following issues, however unclear are apparent:

- **That the issue of immunity and resistance is worth considering and exploring further through scientific research.**
- **There is the possibility of contagion or person-to-person transmission through the pus from the infected wound. Some patients whose ulcers are considerably healed walk around the community going about their normal duties without any form of dressing. The vector in this scenario may be the housefly.**
- **The assertion that pus from wounds which get stuck under finger nails or on any part of the hand and could be ingested. This statement requires further investigation.**
- **As the disease advances, it becomes difficult for patients to go about their normal duties due to the stench emanating from the ulcer which could pose a discomfort for others and also the excruciating pain associated with the ulcer. Patients therefore remain indoors.**

4.5 Local taboos

The existing socio-cultural barriers and taboos associated with diseases pose major hindrances to health seeking behaviour. (Luthra & Saxena, 1991). For instance in Ghana, the popular view is that one does not "*take boil to the hospital*". If one ventures, and is injected one may die. For this reason most people infected with the ulcer did not go to the hospital initially and there are incidences of death in these cases.

However the FGDs revealed that It is only after the "*detsifu*" or "*odonti*" has been removed that one can receive injections to speed up the healing process.

4.6 Category of people affected by Buruli Ulcer

Children both males and females are known to be the most affected by the disease Oluwasanmi et al. (1976). Data from the study revealed that, see figure 3.5 on page 33 clearly shows that even though children are mostly affected, females (38.2 %) are more susceptible than males (31.4 %).

Reasons given why children are most affected are numerous. However, the first five reasons by order of prominence are young children do not observe good personal hygiene (38.3 %), enjoy swimming/wading in ponds and rivers (6.3 %), and are mostly affected through witchcraft (6.3 %)

Even though children enjoy playing in swampy areas, it was observed during data collection that owing to the topography of the Obom sub-district, children cannot avoid wading through swampy and marshy fields on their way to school, to fetch water and perform other domestic assignments, a situation which is aggravated during the rains. These children can be observed wading into deep ponds that are shared with animals to fetch water, a task they perform

barefooted. Ghanaian homes depend heavily on children to perform certain tasks such as disposal of refuse including human excreta, washing, baby sitting and fetching of water. (Grootaert and Kanbur, 1995; Dankwa et al 1994).

The perception that this disease is caused by supernatural forces such as witchcraft has been discussed earlier. Intelligent children and those who show promise in the future are often said to be the target of witches. According to Nukunya (1992) witches are known to possess certain powers which they use to harm others to benefit themselves. Witchcraft accusations are caused by the necessity to account for the unexpected or undeserved misfortune, where it is not recognised that such misfortunes can happen by chance or natural causes.

4.7 Health Seeking Behaviour

At a certain point in the evolution of any society, diseases have generated some form of response aimed at interpreting, controlling, preventing and alleviating, repairing, curing or healing them. "Treatment is diagnosis. The only way to know with certainty the cause of a particular illness is to treat that cause and see if the condition improves" (Fierman: 1981). Therefore the local aetiology of the disease as explained earlier has provided the platform for appreciating the treatment seeking behaviour of buruli ulcer patients .

4.7.1 Herbal treatment

Practitioners and adherents of traditional medicine have a distinctive view of their own medical system and act according to the different interpretations within this system which they are familiar with such as natural, herbal, spiritual or magical phenomena. The interpretation of illness, disease and health are determined by the relative social position of individuals in the society as a whole and are strongly shaped by their own individual experience and cultural system (Pedersen and Baruffati. 1989).

It was gathered from the FGDs that the efficacy of any herbal treatment is subject to the body constitution of the patient. There are some patients who react negatively to herbal medicine whilst others do not.

There are several questions to be posed on the efficacy of these herbal remedies, the kind of equipment/tools used by these herbalists, is there the possibility of cross infection? The patient stands the risk of cross infection if the ulcer is not handled with the strictest observance of hygiene and cleanliness. Information from all the communities interviewed and the FGDs revealed that some patients have died in the past. From the FGDs, the causes of death were excessive pain and enlargement of the ulcer, which the author suspects to be cross infection and absence of appropriate diagnosis and cure.

The belief that one could die or be harmed if one receives injection when the cotton wool like substance has not been removed is responsible for preventing patients from seeking early treatment at the Amasaman health centre. According to the health workers at the Obom health centre, this propaganda is being disseminated by herbalists and traditional healers and must be stopped through appropriate health education strategies and sensitisation.

Environmental and socio-economic factors like education and place of residence whether rural or urban play an important role in the first line of action to take when illness strikes and also in making informed choices about treatment seeking. In a study in Nigeria, on the response of parents to the five killer diseases among children, in a Yoruba community (Adetuni; 1991), discovered that mothers would not directly seek medical care immediately a child became sick. Local home remedies in all cases was the first line of treatment. It is only when this fails after repeated trials that another alternative would be tried. The choice of treatment would be determined by where the parents were at the time

of sickness – the farm or the home, who the advisors were, socio-economic status, or the religious background of the parents. Caldwell (1988) agrees that education is a factor in mortality decline in that in having access to better quality advice, educated mothers in white-collar jobs are at a greater advantage, because they have access to better informed peers. Similarly, mothers with low educational status who lived in the city and interacted with educated women were well informed. **Education therefore plays a very important role in treatment seeking behaviour of people and the provision of accurate information on mechanisms of disease, disease patterns and inherent dangers, if only the right messages or appeal is communicated.** (Elias 1991).

The most serious cases of buruli ulcer ever handled at the Amasaman health centre and seen at the Obom health centre are those who have repeatedly consulted herbalists without any success. A survey in Kenya found that Western medical practitioners were consulted for STDs only when herbalists and traditional healers failed to provide relief (Mulder,1994).

Yet there are still some patients who still delay in seeking medical advice and treatment after seeking herbal treatment without any success for fear of amputation. Lack of time and money, as well as the poor availability of health facilities play an important role in delays in seeking healthcare (Bang & Bang,1994;Narayan &Srinivasan, 1994).

Access is an important factor to seeking appropriate health care. Factors accounting for poor access to health facilities are: the availability of the medical practitioner, physical distance, poor road network – which means long hours on the road before arrival at the health centre, high transportation costs because of the poor conditions of the road, money for transport, feeding and the purchase of basic drugs and medical utilities. (Tanahashi: 1978) Until all these bottlenecks are removed in order to make health delivery effective, efficient and beneficial to

the majority who incidentally happen to be the poor, mortality rates will continue to be high. (see case study three appendix D). One woman summarised this problem in a FGD as follows:

“Transportation is a major problem in these parts of the district. Sometimes there is not enough money in the house to feed the family yet alone board a vehicle to the health centre.

(Ewe woman, Hobor)

An issue of considerable importance within the traditional health sector is the cooperation between the traditional and modern, allopathic systems of health care, which could help the two to supplement each other. Research could enhance the understanding of the beliefs, concepts, and perceptions underlying the traditional systems and could help to improve communication and understanding between the modern health provider and the general population.

4.8 Community reaction towards buruli ulcer patients

Teachers were reported as having told children with the disease to stop schooling for fear of passing it on and also because of the stench of the ulcer. Because of the pain experienced by children parents also do not have the moral courage to allow them to go to school. However children continue their education after they are cured. The proportion of children that continue with their education after being cured was not ascertained during the study. Even though some children who had had the disease earlier on and had returned to school were encountered, it is possible that a larger proportion of children drop out of school as a result of the disease. This could be due to the long period of infection and treatment, several hours of tuition missed and the possibility of having to repeat a class or lag behind his/her peers by two or three classes. If this anomaly is not checked and addressed promptly and effectively, Ghana will in the not too distant future lose out considerably on its future labour force more so when the disease is endemic in 90 out of 110 districts in the country.

The district directorate of the Ghana Education Service (GES), should educate teachers to refrain from discriminating against children affected by the disease but rather provide them with the necessary emotional support and create the enabling environment for them to learn in an atmosphere void of any form of discrimination.

Discussions in this chapter will provide a basis for recommendations in the next chapter.

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATIONS

The main objective of this study is to assess the local perceptions of the buruli ulcer and how these perceptions affect the management of the disease. This study is important for the reason that socio-cultural factors are significant in the aetiology, explanation, prognosis and management of any disease. Consequently, the improper management of a disease could contribute immensely to its spread.

This study therefore sought to understand the etiology of the disease from the perspectives of the various ethnic groups, identify the various health seeking behaviour of these ethnic groups and determine the communities reaction towards buruli ulcer patients.

Findings

The author would like to conclude by presenting the major findings of the study.

- The two most dominant ethnic groups in the area are the Ga and the Ewe. However, there are a few Akan, Grushie and Dagomba. The study communities are situated along the river Densu and depend on unwholesome sources of water such as ponds, shallow hand dug wells and the river Densu for all domestic purposes. In most cases these water sources are shared with cows. Toilet facilities are either not adequate or simply not available.
- These communities are rural by all standards: lack access to potable drinking water, good roads, tele-communication facilities, electricity and transport. The main health centre, Obom, is on the average ten (10) kilometres away from most of these communities. Amasaman, the district health where treatment for buruli

ulcer patients in the form of skin grafting is carried out is on the average, twenty-five (25) kilometres away from most communities.

- Majority of respondents have not had any formal education and are therefore illiterate. They are mostly farmers and/or traders.
- *Mycobacterium ulcerans*, the main causative agent is spongy-like in nature. This spongy-like substance has also been identified by the people as the main causative agent and forms the basis for the various names given to it by the local people. Hence, in Ga the name is "odontihela" and "detsifudor", in Ewe.
- Causes of buruli ulcer are attributed to three main factors: casting of a spell through witchcraft, poor personal hygiene/wading in ponds dirty surroundings and drinking water from the river/pond.
- There is the possibility of contagion or person-to-person transmission through the ingestion of pus from the infected wound which could get lodged under finger nails or on any part of the hand.
- Children both male and female are known to be the most affected by the disease. Reasons given why children are most affected are numerous. However, the most common are that they do not observe good personal hygiene and that they are fond of swimming/wading in ponds and rivers. Owing to the topography of the Obom sub-district, children cannot avoid wading through swampy and marshy fields on their way to school, to fetch water and perform other domestic assignments, a situation which is aggravated during the rains. These children can be observed wading into deep ponds that are shared with animals to fetch water, a task they perform barefooted.
- Most buruli ulcer patients seek treatment from the herbalist. It was apparent from the study that the efficacy of any herbal treatment is subject to the body

constitution of the patient in that there are some patients who react negatively to herbal medicine whilst others do not. However, it was established that patients go for injections from private practitioners to speed up the healing process. This happens after the "cotton wool" like substance has been removed.

- There is the tendency for the local people to patronise the skin grafting therapy at the Amasaman Health centre if only:
 - The nature of the therapy is made clear to them and all misconceptions about it such as the possibility of not coming round after surgery, the fear of death if one is injected and the fear of being amputated especially in the advanced forms of the disease.
 - The availability of the DDHS at all times who currently is mainly in charge of this therapy.
 - The possibility of easily obtaining transport to the Amasaman health centre at all times. This however seems far-fetched considering the poor condition of the roads that worsen during the rainy season.
- The disease condition evokes a lot of sympathy from the community, mostly because patients are often seen as victims of the machinations of witchcraft and evil forces. Patients are not shunned and go about their normal personal and social duties. However as the disease advances, it is characterised by extreme pain, discomfort and is very offensive. These developments do not give the patients the moral courage to mingle with society.
- Children do not continue with their education when the disease advances because of the excruciating pain they experience and also owing to the fear that they may pass it on. However it was not quite clear from the study, the proportion of children that continue with their education after being cured.

Recommendations

Against the background of these findings the following recommendations are being made:

- Buruli ulcer is not just a clinical or epidemiological problem but encompasses psycho-social ramifications, mental, economic, political, and social factors that are embedded deep in the web of causation. To understand the totality of the disease, consideration must be given to the interplay of all associated factors listed above.
- It is important to understand and document local terminologies of sicknesses or health problems an essential aspect of any socio-cultural assessment of disease problems particularly from the local perspective of the community. This will provide an indication to the kinds of treatment that people are likely to seek, especially when their places of residence and work are miles apart from the health centre. This is very crucial for health policy planning and programming because, many a time developmentalists have entered rural communities with intervention programmes as what they perceive as the anecdote for various health problems. These seemingly "successful" interventions turn out to be total failures or half-successes several months later.
- An issue of considerable importance within the traditional health sector is the cooperation between the traditional and modern, allopathic systems of health care, which could help the two to complement each other. Socio-cultural research could enhance the understanding of the beliefs, concepts, and perceptions underlying the traditional systems and could help to improve communication and understanding between the modern health provider and the general population.
- The researcher is of the opinion that transmission of buruli ulcer could be through two ways: oral (through the mouth) by taking in infected water or through the most

conventional route - cuts and abrasions. However, this calls for further epidemiological and micro-biological investigation.

- It is being recommended that the perceived role played by animals in the transmission of mycobacterium ulcerans requires further epidemiological investigation.
- A first line of action to curb the spread of the disease could be to provide the communities in the study area with potable drinking water. Those who have been provided with boreholes should be educated to utilize these facilities, employing participatory approaches. This recommendation is against the background that all the study communities are situated along the river Densu and lack access to safe drinking water, and basic sanitation facilities.
- Health education should be intensified in all the communities in the sub-district. To begin with the health team should endeavour to understand and appreciate the socio-cultural milieu of the people and consequently interpret their health-oriented actions in this context. This will enable the health team to package health messages so as to make them culturally acceptable. It is then that the local people will be: motivated to adopt health-promoting behaviour (sanitation, clean drinking water, hygiene,); sensitized to make informed choices about their health, that is seeking appropriate health care; providing necessary skills and confidence ("empowerment") to put their decisions into practice; and influence decision-makers in the family, and community to take appropriate action to make health decisions possible.
- To minimise the school drop out rate as a result of the disease, the health team should encourage parents, during health education talks and community visits, to send their children back to school when they recover from the disease. The district directorate of the Ghana Education Service (GES), should educate teachers to refrain from discriminating against children affected by the disease but rather provide

them with the necessary emotional support and create the enabling environment for them to learn in an atmosphere void of any form of discrimination.

- In order to encourage buruli ulcer patients to seek medical care well enough before complications set in, an improvised theatre (similar to the one at Amasaman) should be provided at Obom and skilled staff in the art of skin grafting technology should be employed for treatment of buruli ulcer. In addition, more doctors equipped with the skill should be employed at the Amasaman health Centre.

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APPENDIX A

SERIAL NO:

LOCAL PERCEPTIONS OF BURULI ULCER IN THE GA DISTRICT, GREATER ACCRA REGION**INTRODUCTION:**

The purpose of this questionnaire is to solicit information on the local perceptions of buruli ulcer in your community. This exercise is to help throw more light on the causes of buruli ulcer and also to explain its mode of spread. Your candid responses will therefore be most appreciated and we wish to assure you of confidentiality of responses. THANK YOU.

NAME OF COMMUNITY **INTERVIEWER**

SECTION ONE: ENVIRONMENTAL/SANITATION ISSUES

1. Where do you obtain water for the following activities? (Kindly tick the appropriate box(es))

a. Washing

From the river/stream	<input type="checkbox"/>	Other specify
From a pond	<input type="checkbox"/>
From a hand dug well	<input type="checkbox"/>
From a borehole	<input type="checkbox"/>
From the water tanker	<input type="checkbox"/>

b. Bathing

From the river/stream	<input type="checkbox"/>
From a pond	<input type="checkbox"/>
From a hand dug well	<input type="checkbox"/>

From a borehole

From the water tanker

Other specify

.....

c. Drinking

From the river/stream

Other specify

From a pond

.....

From a hand dug well

.....

From a borehole

.....

From the water tanker

d. cooking

From the river/stream

Other specify

From a pond

.....

From a hand dug well

.....

From a borehole

.....

From the water tanker

2. How is refuse disposed of in this community? (Please tick the appropriate box(es))

Dumped on the community refuse collection site

Dumped in a pit in the house

Dumped at the back of the house

Dumped indiscriminately in the community

Dumped in the District Assembly refuse containers

Other specify

.....

.....
.....

3. How do you attend nature's call (go to toilet)?

Household toilets	/_/_	Other specify
Pit latrines in the house	/_/_
Pit latrines in the community	/_/_
Free range/in the bush	/_/_
Community KVIPs	/_/_

4. Kindly indicate the kinds of animals which graze/feed in this community?

Goats	/_/_	Others
Sheep	/_/_
Cattle	/_/_
Pigs	/_/_
Poultry	/_/_
No animals	/_/_	

5. Where do these animals drink from?

Pond /_/_

River/stream /_/_

Other/specify

.....

.....

SECTION TWO: CAUSES/MODE OF SPREAD OF BURULI ULCER

6. Name the three most common ailments that plague the following category of people in this community?

MEN	WOMEN	CHILDREN
1.	1.	1.
2.	2.	2.
3.	3.	3.

7. What local names are given to buruli ulcer?

.....

8. Is buruli ulcer a major health problem in this area? Yes _ _ No _ _

8a Please give reasons for your answer

.....

.....

.....

9. How does one get infected with buruli ulcer? (Please tick the appropriate box (es))

By drinking water from the		By wading in swampy areas	/_ /
river/pond	/_ /		
Poor personal hygiene	/_ /	Curse	/_ /
Dirty surroundings	/_ /	By casting of a spell through	
Transmitted by flies into open sores and cuts on the skin	/_ /	Witchcraft	/_ /
By swimming in the river	/_ /	I do not know	/_ /

Others

.....

10. At what times of the year is one likely to get infected?

TIME OF THE YEAR	REASON
During the rainy season	
During the dry season	
During planting/seed time	
During harvest	
Any time of the year	
Other specify	

11. Is buruli ulcer infectious? Yes _ _ No _ _

11 a If yes, how do you think the disease is spread from person to person? (Please tick the appropriate box(es))

Through body contact /

From the wound of an infected

Person /

I do not know /

Other.....

12. Who does the disease affect most? (Please tick the appropriate boxes (es))

Infants (0 months to 1 year) _ _

Children (1-17 years) (females) _ _

Children (1-17 years males) _ _

Men _ _

Women _ _

Every body _ _

12a. Why do you think these people suffer most?

.....
.....
.....
.....

SECTION THREE: TREATMENT SEEKING BEHAVIOUR

13. Have you ever contracted the disease before? Yes /_/_ No /_/_

13a. If yes to the above question, kindly describe how you sought treatment?

.....
.....
.....
.....

14. If no to question 13, where do buruli ulcer patients often seek treatment in this community? (please tick the appropriate box)

At home /_/_

From the herbalist /_/_

From the spiritualist /_/

From the hospital /_/

I do not know /_/

Other specify
.....

SECTION FOUR: COMMUNITY PERCEPTION/COMMUNITY ACTION

15. How are buruli ulcer patients treated by the community? (Please tick the appropriate box(es))

Regarded as people plagued with evil forces /_/

Not suitable for marriage /_/

Not allowed to perform household chores /_/

Sympathised with /_/

Not allowed to go to school /_/

Not allowed to play leadership roles /_/

Stripped of community/social responsibilities /_/

Locked up in a room /_/

Not welcome at social/community functions /_/

Others
.....
.....
.....

16. what measures has the community put in place to curtail the spread of buruli ulcer?

.....
.....
.....
.....

17. How do you think buruli ulcer could be prevented in the community? (Please tick the appropriate box(es))

By providing us with clean water

By avoiding swimming in the river

I do not know

Other.....

.....

SECTION FIVE: BACKGROUND OF RESPONDENTS

18. Age:

19 Sex: Male Female

20. Marital Status :

Single

married Divorced

Widowed

21. Level of education

None

prim Sch JSS/MSLC

SSS/Sec Sch

Post Secondary

22. Ethnicity

Akan

Ga

Adangbe

Ewe

Northener

23. Religion

Chistianity

Moslem

Traditional Religion /_/

24. Occupation:

Farmer /_/

Nurse /_/

Other

trader /_/

Traditional healer /_/

teacher /_/

unemployed /_/

APPENDIX B

FOCUS GROUP DISCUSSION GUIDE

1. Name any three major health problems that plague men, women and children in his community?
2. What are the local names for buruli ulcer?
3. Is it a major health problem in this community?
 - a. Why do you say so?
4. How does one get infected with the disease?
5. Is buruli ulcer infectious?
6. What times of the year (months, seasons) is one likely to get infected?
 - a. What kind of explanation would you give to this anomaly?
7. How does the disease spread from person to person?
8. Who does the disease affect most?
9. Where/who does the buruli ulcer patient go to for treatment?
 - a. In this place/at these places, what kind of treatment is given to the patient?
 - i. Mechanisms of treatment?
10. Who is affected most by this disease?
11. How are buruli ulcer patients treated in the community?
 - a. Are they stigmatized
 - b. Are they allowed to carry out their normal/social responsibilities e.g. (education, leadership roles, political roles, are mothers allowed to breast milk, are they eligible for marriage etc.)

APPENDIX C

CASE STUDY GUIDE (For buruli ulcer patients)

1. What is buruli ulcer
2. How did you get infected with buruli ulcer for the first time?
3. What chores/work were you doing when you first got infected? (eg. Fetching water from a stream, collecting firewood etc.)
4. What year was that?
5. Did you have a cut on your skin before you got infected?
6. How many times have you been re-infected?
7. For all the times you got infected/re-infected kindly describe your treatment seeking behaviour, beginning with the first.
 - a. For each of these treatments, give reasons for your choice
8. Kindly evaluate each line of treatment (which one has helped you most?)
9. How has this disease affected your life (social, economical, education, marriage, political etc.)
10. Are you stigmatized because of the disease?
 - a. Form of stigmatisation
11. When you had buruli ulcer or now that you have it, how are you treated?
12. In your opinion, how is buruli ulcer transmitted from person to person?
13. What measures do you think can be put in place to curtail the spread of buruli ulcer?
14. Where do you obtain water for the following?
 - a. Drinking
 - b. washing
 - c. Cooking
 - d. bathing

15. How old are you
16. What tribe are you?
17. Do you attend school?
18. If yes what class are you in?
19. Do you still attend school
20. Where do you work?
21. Do you still work
22. What are your parent's names?
23. Who do you stay with?

APPENDIX D: CASE STUDIES 1-3**CASE STUDY ONE:****The case of two herbal treatments.**

Kodzo developed this disease. His mother consulted a local herbalist. This herbalist came to Kodzo's house to apply a herbal dressing to the affected area. He demanded the following as his charges:

- ❖ A bottle of local schnapps
- ❖ One fowl
- ❖ Five thousand cedis (¢5,000)

This herbalist used to visit Kodzo's home regularly to apply the herbal dressing. He asked Kodzo to refrain from eating meat. Kodzo should not take "Fresh salt". It should be roasted before applying to the food. He applied this dressing for two months with success - the wound healed. A month later the ulcer reappeared at the same spot! At this juncture the herbalist announced that he could no longer treat Kodzo because the second occurrence of the ulcer had defied his knowledge of the disease. Kodzo's parents therefore sought the help of another herbalist. This second herbalist demanded the following:

- ❖ Two fowls
- ❖ One bottle of schnapps

Kodzo's mother could provide only one fowl. This second treatment was successful according to Kodzo's mother. With this treatment the son's wound was dressed with a herbal preparation and was given "bitters" to drink. However during the latter stages of the treatment, a group from the church came to pray for Kodzo. These prayers helped tremendously. Kodzo was attending school before he contracted the disease after the disease he had to stop school. Now he lives in Lagos with an aunt. It is assumed he is attending school there.

Case Study TWO:**A combination of remedies: Traditional and Western**

Mr. Lamptey had his ulcer for two years. He sought herbal treatment because his ulcer had advanced. He was applying local herbs at home but the ulcer was spreading. He therefore consulted a herbalist in a nearby community. At the herbalists, two lines of treatment were applied: the first one was to remove the "odonti". After it was removed a herbal preparation was applied to the wound to heal it, another one was prepared for him for drinking. Within a space of four months after visiting the herbalist and applying his treatment, his ulcer was healed. Mr. Lamptey met other patients at the herbalist's. They had been visiting the herbalist long before Mr. Lamptey. However Mr. Lamptey got cured before they did. There were other patients at the herbalist's. Mr. Lamptey received a couple of injections at the base of a private practitioner during the course of this herbal treatment. This was after the "odonti" had been removed, therefore there was no fear of death.

CASE STUDY THREE**Frustration of efforts in an attempt to solicit westernised therapy**

Mensah is 3 years old and has the ulcer on his right wrist. When it was detected as buruli ulcer, Kwashie, the village volunteer took him to Amasaman, but the doctor was not available. Kwashie took Mensah to Domeabra and Doblo, both communities in the Amasaman sub-district where there are health posts. At Doblo, x-rays were taken yet no treatment was given. It cost Mensah and his mother twenty thousand cedis (¢20,000) for each round trip to Amasaman health centre and back feeding inclusive. In all she made three trips to Amasaman whilst her husband made two trips to Doblo. These trips cost them ¢100,000 in all. At times she got there late because it could take her as long as five hours before any vehicle showed up on the road, especially on non market days. Sometimes after spending a couple of hours by the roadside without any vehicle in sight, Mensah's mother had no choice than to go home. These trips did not yield any tangible results- the doctor was not available. She was also informed that Mensah had to be examined, admitted and booked for an operation at a latter date. The parents of Mensah were discouraged and developed cold feet towards seeking clinical care, they therefore decided to consult a herbalist. Later on, Mensah's mother took him to the Obom health centre where she was given, eusol for dressing his wounds.