

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA,
LEGON**

**ASSESSING THE IMPACT OF BURULI ULCER PUBLIC HEALTH
PROGRAMMES ON HEALTH SEEKING BEHAVIOR IN THE SUHUM
KRABOA-COALTAR DISTRICT OF GHANA**



**THIS DISSERTATION IS SUBMITTED TO THE UNIVERSITY OF
GHANA, LEGON IN PARTIAL FULFILMENT OF THE REQUIREMENT
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SOCIAL SCIENCE DEGREE.**

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DECLARATION

I, **Sylvia WirekoaOpong** hereby declare that apart from references to others people's work which have been duly acknowledged, this work is a result of my independent work. I further declare that no part of this study has been submitted for any degree in this University and Universities elsewhere.

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Sylvia W. Opong
(Student)

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Date



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Dr. Mercy Ackumey
(Academic Supervisor)

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Date

DEDICATION

This work is dedicated to my mother Lucy Davis, my children; Kwame, Yaw and Selassie Frempong, my husband; Michael Frempong of blessed memory who gave me the benefit of having classmates today and Paul Andoh who encouraged and challenged me to the task.



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ABSTRACT

Buruli ulcer remains one of the most devastating but at the same time neglected diseases humans have encountered in the recent centuries since it was discovered. The disease threatens the whole country with a national prevalence rate of 20.7 per 100,000. The inadequate appreciation of the socio-cultural context of the disease, which is directly linked to the knowledge, attitudes and perceptions of the people as far as the disease is concerned, is a matter that calls for attention. This study investigated the public health programmes for Buruli ulcer and its effect on the health seeking behavior of the people of Suhum-Kraboia-Coaltar of the Eastern Region of Ghana, one of the endemic districts of Buruli ulcer. The study used an exploratory qualitative design. It employed in-depth interview as the main data collection method. The main instrument used in collecting primary data for this study was an interview guide. The design of the interview guide was based on the specific objectives of the study. The researcher and 2 trained field assistants administered the interviews. A thorough review of the various projects was carried out through site visits and interviews of project staff, and key informants. Interviewees included key members from all stakeholder groups, partners in Buruli control, and beneficiaries. Various site visits were carried out, focusing especially on the assessment of specific objectives and activities of the Buruli ulcer programme. In doing this, two research assistants were trained to conduct ten interviews in the district over a period of six weeks from 15th May to 29th June 2012. The interviews were guided by an interview guide who focused on the objectives of the study. The interviews were recorded and transcribed. Major themes were identified in line with the objectives of the study before doing the relevant analysis. The findings of the study showed that BU affects all persons, irrespective of age and sex but females and the less educated were found to be more prone to the disease. Moreover, the public health programmes in the form of health

talks, home based and clinical based care, screening and mobile treatments, have contributed in reducing the myth surrounding the disease as having spiritual causes. Most infected people now understand the natural causes of the disease and attended BU clinics regularly for treatment. The study recommends among other issues, the intensification of the public health programmes to deepen the understanding of the people and the institutionalization of the operations of mobile treatment and care that brings treatment to the door steps of infected persons. The need to improve the road network in the district has also been emphasized as a way of making movement from the communities to the treatment centre easier for infected persons.

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CHAPTER ONE

INTRODUCTION

1.1 Background to the Study

Buruli Ulcer (BU) is a debilitating disease of the skin and underlying tissue caused by *Mycobacterium ulcerans* (Johnson et al., 2005; Asiedu et al., 2000; Silva et al., 2009; WHO, 2004-2008). It is regarded as the third most common mycobacterial disease in immune-competent people after Tuberculosis and Leprosy (WHO, 2000). The mode of transmission of this disease is unclear. *Mycobacterium ulcerans* may be acquired from the natural environment (van der Werf, 1999). A skin prick during farming or an insect bite could transmit the microorganism into the subcutaneous fat (Duker et al, 2006; Aiga, 2004; Barker, 1973; Marston et al, 1995; Meyers et al, 1974; Johnson et al, 1999; Porteals et al, 2001).

Buruli ulcer remains one of the most devastating diseases humans have encountered in the recent centuries since it was discovered. The World Health Organisation (WHO) has noted that it is the third most common mycobacterial infection in humans (WHO, 2006). The disease is more prevalent in the tropics and the sub-tropics (WHO, 2006). In Ghana, even though it is said that BU was first noticed in 1971 (Bayley, 1971), Ghanaian health care officials indicated that the disease was diagnosed as far back as 1969 (Montoro et al., 1997). The disease has engulfed the whole country with a national prevalence rate of 20.7 per 100,000, which is about two times the prevalence rate of leprosy in the country (9 per 100,000) (Amofah et al., 2002). In most endemic districts, the prevalence rate is higher (150.8 per 100,000) (Amofah et al., 2002).

1.1.1 Transmission of Buruli Ulcer Disease

The exact mode of transmission of the disease remains a mystery however there is an association of the disease with human activities near or within water bodies (Duker et al, 2006). Epidemiological studies have suggested insect bites, swimming in ponds, rivers or stagnant waters and antecedent trauma or skin prick at site of lesions as possible mode of transmission (Duker et al, 2006; Aiga, 2004; Barker, 1973; Marston et al, 1995; Meyers et al, 1974; Johnson et al, 1999; Porteals et al, 2001). Even though evidence from studies has not clearly supported person to person transmission, researcher's caution that this mode of transmission cannot be overlooked (Asiedu et al, 2000). Some researchers also suggest that one may get the disease after a human bite (Muelder and Nourou, 1990; Debacker, et al, 2003). The strongest evidence for the lack of direct transmission came from a study of a large number of cases observed in a Ugandan refugee camp where it was found that relatives who were living with buruli ulcer patients were not infected with the disease (Uganda Buruli group, 1971). In a more recent study among households in Cameroon, person to person transmission among members of the same household was found to be scarce (Neoske et al, 2004).

However a study in Benin proved otherwise where out of the 28 patients in the study 10 had relatives who were also infected with the disease (Muelder and Nourou, 1990). Another possible option for transmission is from mother to child. This was reported in a hospital at Malaya (Radford, 1974). Infection with human immunodeficiency virus does not seem to be a risk factor for buruli ulcer, but it is a risk factor for development of severe (disseminated osteomyelitis) forms of buruli ulcer (Noeske et al, 2004).

1.2 Symptoms and Developmental Stages of the Disease

Quek et al (2007) conducted a study to find the first symptom of buruli ulcer in 88 patients in Australia. Forty-one (41) patients described a papule, nineteen (19) a small ulcer, and seven (7) an eschar, Ten (10) patients recalled an injury before buruli ulcer symptoms and seventeen (17) recalled an insect bites, however, most patients were unable to report how much time had elapsed from this until the onset of buruli ulcer symptoms.

Buruli ulcer develops in three stages (WHO, 2001). The first stage is the non-ulcerative form, which appears as subcutaneous nodules, plaques or edema. These lesions progress with no fever or pain but may itch (Noeske et al, 2004). During this phase the disease may be considered not serious enough to seek medical treatment or may go unnoticed (Thangari, 1999; Johnson, et al, 2005; Van der Werf et al, 2005). If nothing is done, the disease develops to the second stage which is characterized by ulcers of widely varying sizes with undermined edges that tend to extend, but are well defined (WHO, 2005). Secondary infections at this stage may provoke pain. At the third stage which is also the final stage, healing may take many months and sometimes is punctuated by local recurrences of the active disease. Lesions tend to resolve spontaneously but the resulting scars often lead to disabling or disfiguring sequelae. Bone lesions also exist in buruli ulcer (Porteals et al, 2001). The damaged bone can suffer from severe bone lesions, sometimes leading to amputation (Lagarrigue et al, 2000).

1.2.1 Treatment of Buruli Ulcer

Based on some observational studies, the WHO recently recommended the use of the combination of Rifampicin/Streptomycin for buruli ulcer treatment. Traditionally, drug therapy has been considered ineffective. Surgery was considered the only effective therapy for buruli

ulcer if undertaken early (Ayoulat et al, 2003). However this method is expensive and usually out of means of the affected persons who are usually poor and living in the remote areas. In 2004, the use of a combination of rifampicin and streptomycin for 8 weeks was recommended as the standard therapy (Sizairre et al, 2006; WHO, 2005). Nodules or uncomplicated forms of the disease can be treated without hospitalization. This regimen gives promising results, especially for early forms and small-sized ulcers of less than 10 cm diameter (Etuafu et al, 2005; Chauty et al, 2007). In the disease's later stages, IDE excisions including healthy tissues are needed to stop the infection and prevent recurrence or relapse at the same site. This is followed by skin grafting and requires long hospital stays. As long as the mode of transmission is not understood, and in the absence of an effective vaccine, control strategies promoting early detection and treatment have achieved the best results in limiting morbidity and costs associated with the disease.

A study conducted in Benin on the role of antibiotics alone or the combination with surgery on early lesions of buruli ulcer patients showed that lesions of 94.7% out of the 224 patients were healed exclusively with antibiotics (Chauty, 2005). In some instances both surgery and antibiotics may be needed to effectively treat the disease. In cases when Buruli ulcer is recognized too late, the only option is extensive surgical treatment with skin transplantations and protracted physiotherapy. If the bone has been attacked as well, amputation is often the only option left to save the life of the patient. This may require admission to a treatment centre (W.H.O, 2005).

1.3 Socio-demographic Characteristics of Buruli Ulcer Patients

Buruli ulcer affects young people even though cases are reported in all age groups (Amofah et al, 2000; Kwyer and Ampadu 2006; Kanga and Kancou, 2001; Porten, 2009; WHO, 2005). Kwyer

and Ampadu (2006) reported that the age distribution of buruli ulcer patients in Ghana is 53.1% for patient younger than 15 year, 33.9% for those aged 15-49, and 12.9% for those older than 50 years. There were no sex differences in the distribution of cases among children although some studies have reported slightly more females than males among adults (Aiga, 2004; Kabadi et al, 2009; Kwyer and Ampadu, 2006; WHO, 2003).

1.4 Perceived Cause of the Disease

According to Kleinman (1979) illness is the culturally constituted, socially learned response to symptoms that includes the way we perceive, think about, express and cope with 'sickness'. In Africa, perception of illness centres on etiological factors. These are natural, supernatural and mystical perception (Nukunyah, 1992; Oke, 1998; Senah, 1997). In a number of societies, the outbreak of a disease with no known cure or origin may be attributed to the commission of an offence against one's spirits, the ancestors or the gods, or an omission of duty on the part of an infected person. It could also be attributed to a curse from a jealous neighbour, co-wife and even a family member or somebody who has been wronged (Twumasi, 1975). An exploratory study in Ghana indicated that illnesses that are severe and highly incapacitating are perceived to be caused by ghosts, witches, curses, gods, and sorcery (Senah, 1997). In East Africa, depression is believed to be caused by evil charms, cast by jealous relative whilst in North America, depression is believed to be biological. (Gardiner, Mutter and Komitzki, 1998). In Haiti, illnesses are categorized into natural (illnesses of God) and supernatural (illnesses of Satan) (Corbeit, 2003).

The outbreak of buruli ulcer in Africa has been given similar explanations even though the disease is well known in many endemic communities (Aujoulat et al, 2003; Debacker et al, 2005;

Johnson et al, 1999). Most people in Ghana have a poor understanding of the aetiology of the disease (Aiga et al, 2004 ; Renzaho, 2007).The delay of buruli ulcer patients in seeking help is partly due to the cultural beliefs and the misconceptions about the cause and transmission of the disease. Buruli ulcer has commonly been associated with mystical causes in many cultures in Africa (WHO, 2005).

A qualitative study conducted in Congo using 19 patients revealed that the vast majority of the patients interviewed had no biomedical knowledge about the cause of the disease, most of the respondent indicated supernatural origin as the etiology of the disease; the disease was identified by respondents as ‘mbasu” (wound caused by an attack of witches) only 3 out of the 19 respondents attributed the disease to microorganisms in stagnant water (Kibadi, et al, 2009). A similar view about the causes of the disease is shared both in Benin and Cameroon where both natural and supernatural causes were identified as the possible explanation of the disease. Health workers interviewed in Benin believed that there are two distinct diseases with the same clinical presentation: one is a naturally caused disease called buruli ulcer and the other is an induced disease called “sasa” (Aujoulat et al, 2003; Mulder et al, 2008).

The above perception about buruli ulcer disease is also deeply rooted in many cultures in Ghana. For instance a study in Ghana reported that common perceived causes of the disease within endemic populations are witchcraft and curses. Other reported perceived causes are poor personal hygiene, dirty environment and close contact with a patient with the disease. (Stienstra et al, 2002). In another study in the Ga district, researchers brought to light that most indigenous people believe the disease is caused by supernatural factors (witchcraft or spiritual), environmental (water, air borne, insect bite) and personal circumstances (genetic, person to person) (Bigelow et al, 2002). In a more recent study by Rehazo et al (2007) including 504

household heads in the Ga community, the researchers indicated that although 67% of the participants regarded the disease as a health problem, 53% of them did not know its cause, 16% of the respondents attributed the cause to drinking non potable water, 8.1% mentioned poor personal hygiene or dirty environment and 5.5% identified wading or swimming in ponds as risk factors. About 5.2% thought that witchcraft and curses cause the disease. The fact that few people attributed the cause of the disease to witch craft suggests that health education about the causes of the diseases in Ga district has gone on well.

1.4.1 Local Names of Buruli Ulcer

Local names given to buruli ulcer disease by most indigenous people in Ghana include the following cow boil “tsina asane”, witches disease, “ayei hela” and cotton wool disease, “odonti hela” however some of the respondents did not know the local name of the disease (Bigelow et al, 2002; Renhazo, 2007). In Cameroon the disease is known as “Atom” (disease caused by malediction) (Noeske et al, 2004), in the Democratic Republic of Congo it is known as “mbasu” (wounds caused by the attack of witches) (Kabadi et al., 2009) and in Benin the disease is known as “sasa” (disease induced supernaturally) (Aujoulat et al., 2003)

1.5 Stage of Reporting to Health Care Facility

One of the most important factors in determining the prognosis of buruli ulcer disease is the stage at which it is reported to the health care facility. In Australia, where access to health care facilities is easier, people with buruli ulcer reports early for treatment however, this is not so in African countries where most cases occur in the remote areas (Auyoulat et al, 2003). In these countries before buruli ulcer patients seek help they tend to wait for a long time after noticing the first symptoms of the disease (Kabadi et al, 2009). Late reporting of buruli ulcer patients to the

hospital is common (Aguiar, 1997; Kanga and Kacou, 2001; Johnson et al, 2004). For instance Phanzu et al (2006) reported that 94.4% of the patients reported to the hospital with the ulcerative form of the disease which suggests that most the patients arrived at an advanced stage of the illness, usually with physical impairments or other serious complications such as sepsis, dissemination, and bone involvement. In Cameroon, Um Boock and Nsom (2005) reported the results of a national survey which revealed that three-thirds of the patients reported late to the hospital, with only 2% of the patients reporting in the nodular stage. The situation in Cameroon has not changed since Umbook and Nsom's study in 2005, and this showed up in a more recent study which indicated that most patients report late to the Hospital, presenting mainly with ulcerative lesion (about 80%) and advanced stages of the disease (Porten et al, 2009). Another related study, conducted in Cote d'Ivoire showed that 89.5% of the patients reported late to the hospital and only 10.5% reported early (Kacou and Kanga, 2001).

In Ghana, out of 1157 cases that were recorded in national survey, ulcerative lesions constituted 66.2% of the total cases and disability rate was 12% (Ampadu, 2005). This indicates that majority of the cases are detected late. Late diagnosis of cases poses many health challenges to health care providers and the family as resources allocated to health care are insufficient. Patients in Latin American are not too different from those in Africa as they also do not report early for treatment and this is supported by a study conducted by Couppie (2006) in French Guyana. In the study, out of the 17 reported cases only 2 reported early to health facility, the rest of the patients reported late.

Active cases have been identified in all ten regions of the country and were present in 90 out of the 110 districts in the country as of 2002 (Amofah et al., 2002). It is more prevalent in the southern belt: Ashanti, Central, Western and Eastern Regions (Amofah et al., 2002). According

to Adamba and Owusu (2011), the burden of an illness is often categorized into two components: economic and social. Economic burden consists of the direct cost of illness which is always seen in terms of the medical cost of treating a particular illness (cost of drugs, hospitalization, laboratory tests, surgery, etc.), and the indirect cost which includes the opportunity cost of time lost to the patient seeking health care and the accompanying caretaker if any, and any cost of change in accommodation or dietary pattern due to the illness. In a study in Ghana it has been noted that the indirect cost of an illness is more than half of the total cost of that illness (Asante & Asenso-Okyere, 2003).

Buruli ulcer (BU) is a growing health problem in several West African countries like Benin, Cote D' Ivoire, Nigeria, Togo and Ghana. Buruli ulcer is a disease endemic in parts of Ghana and many patients in endemic areas present late with disease (Auyoulat et al 2003). Van der werf et al. (2005), argues that BU is an emerging public health issue and that improved understanding of transmission and socio-cultural features of management and control are needed for improved disease control and prevention. Late reporting of the disease is therefore problematic (Auyoulat et al 2003). The BU disease continues to attract the attention of public health practitioners because of frequency of new cases and recurrences (Debacker et al., 2005; Van der werf et al., 2005). Incidentally, most BU infected persons do not seek early treatment due to cultural beliefs, low financial capacity, difficulty in accessing treatment facilities and fear of prolonged hospitalization and surgical outcome (Ackumey et al., 2008). This study therefore seeks to assess the impact of public health programmes for Buruli ulcer control.

1.6 Problem Statement

Disease prevention and control is of major concern to any health organization. And as a consequence, appropriate measures are put in place for control. The success of any public health programme is dependent not only on the effectiveness of the programme but also the attitudes and perceptions of the beneficiaries towards management of the disease in question. In relation to BU, it is known that the disease affects children in rural communities, often diagnosed late and results in life-long disability and stigma. WHO report indicate that only 80% of cases are treatable and it is known to be strongly associated with poverty. Thus Africa and Ghana in particular is heavily affected (<http://www.who.int/mediacentre/factsheets/fs199/en/>).

In view of the fact that the mode of transmission of BU is not clearly known, efforts to prevent the disease have not been very successful because new cases continue to emerge (Van der werf et al, 2005). The inadequate appreciation of the socio-cultural context of the disease, which is directly linked to the knowledge, attitudes and perceptions of the people as far as the disease is concerned, is a matter that calls for public health attention. This study therefore seeks to investigate the knowledge, attitudes and common perceptions of public health programmes for Buruli ulcer control in the SuhumKraboa-Coaltar District of the Eastern region of Ghana.

1.7 Justification of the Study

In effect, the study seeks to examine public health programmes for Buruli ulcer control pertaining to the level of knowledge of the people about the programmes as well as their attitudes and perceptions about them. It is justifiable to do this study in the SuhumKraboa-Coaltar district because according to the National Buruli Ulcer Control report of 2010, the Eastern region

recorded the third highest number of Buruli ulcer cases. The Eastern region came after the Greater Accra region.

This study will thus provide insight into community members' knowledge, attitude and perception of Buruli ulcer control programmes. This will help in targeting Buruli ulcer control programmes in a manner that will address inherent challenges in achieving success of the programmes. It will also be an important resource for Buruli ulcer researchers, especially those who are interested in understanding the socio-cultural dimensions of the disease.

1.8 Definition of Terms

The terms defined in this section are considered crucial in understanding the study.

Health: Culturally defined well-being of the body and mind.

Health seeking behaviours: Actions taken by buruli ulcer patients towards treatment upon realizing the disease in order to return to health.

Factors: Conditions, situations and circumstances that influences patient's use of health care centres.

Herbalist: A person who uses herbs to treat diseases.

Faith Healer/Spiritualist: A person who prays for the sick to recover.

Nodule: A small, solid palpable, elevated area extending deeper into the skin.

Ulcer: An open circumscribed lesion on the surface of the skin

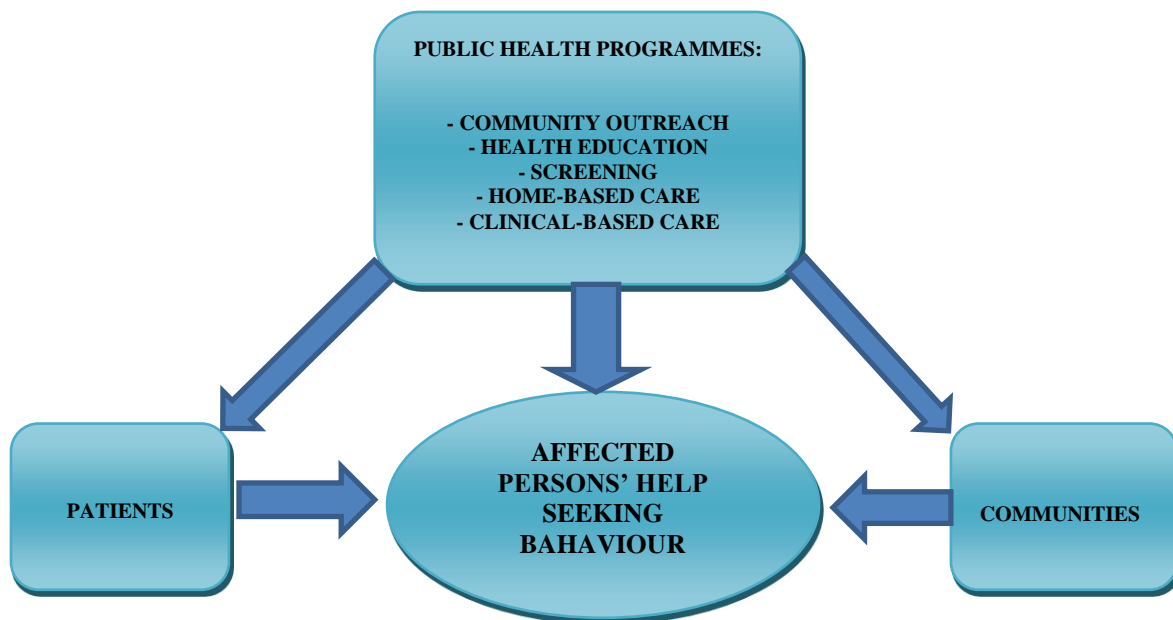
Early Reporting: Buruli ulcer patients who reported to the hospital with nodules

Late Reporting: Buruli ulcer patients who reported to the hospital with ulcers

1.9 Conceptual Framework

The conceptual framework of the study is presented below. The study examines how BU public health programmes, such as health education in schools and health facilities and medical treatment are shaping the health-seeking behaviour of affected communities in the Suhum Kraboa-Coaltar district. It adopts a conceptual framework designed by the researcher and described as Health-Seeking Behaviour Model. The model is designed on the assumption that BU public health programmes are aimed at shaping people's behavior towards the disease, especially when it comes to seeking help for their health situations. The programmes are also refined overtime due to lessons learnt to improve programme outcome. Thus, these lessons are themselves channels for changing people's health-seeking behavior. In addition, patients as well as affected communities who are also recipients of the health programmes are sources of behavior change among affected people. The model is presented in Figure 1.

Figure 1: Health-Seeking Behaviour Model



Source: Author's Own Construct

As can be observed in Figure 1, the health-seeking behaviour of people in affected communities is influenced by the kinds of public health programmes promoted in the district. The affected persons, patients and communities in the area are therefore caught up in the middle of the health promotion programmes and health interventions, which invariably positively influence the way they behave when they become infected.

1.10 Research Questions

The study attempted to answer the following questions:

1. What are the identifiable effects of BU public health programmes on health-seeking for Buruli ulcer in the Suhum Kraboa-Coaltar district?
2. Are communities aware of Buruli ulcer programs and their appropriateness?

1.11 Objectives of the Study

General objective:

To examine the influence of BU public health programmes on BU health seeking behaviour

Specific Objectives:

1. To document Buruli ulcer health programmes in the municipality?
2. To assess communities acceptance and perception of health programmes for Buruli ulcer.
3. To assess the influence effect of the Buruli Ulcer public health programmes on the health-seeking behaviour in SuhumKraboa-Coaltar district.

1.12 Organization of Chapters

This dissertation is organized under six chapters. The First chapter, which is the introductory chapter, contains the background to the study, the statement of the research problem, the research questions and objectives, the justification for conducting this study, the conceptual framework within which the study is situated and the organization of the chapters. This is followed by Chapter Two, which presents a review of relevant literature on the issue under investigation.

The research methods used in this study are explained in the Chapter Three. Information on the area of study, the study population, sample size and sampling techniques and procedures and methods of data handling and analysis are also presented in the chapter. Chapter Four is where the research findings and data analysis are presented. The discussion of findings from the data presented in Chapter Four is the focus of Chapter Five and the conclusion, summary and recommendation are presented in Chapter Six.

CHAPTER TWO

LITERATURE REVIEW

2.1 Buruli Ulcer: A General Overview

Buruli Ulcer is caused by *Mycobacterium ulcerans*. It is regarded as the third most common mycobacterial disease in immune competent people after Tuberculosis and Leprosy (WHO, 2000; Brieger et al., 1998). The mode of transmission of this disease is unclear. *Mycobacterium ulcerans* may be acquired from the natural environment (van der Werf, 1999). A skin prick during farming or an insect bite could transmit the microorganism into the subcutaneous fat (Muelder, 1992).

Three clinical stages of lesions have been described: pre ulcerative (which can present as a nodule, papule, plaque, edema), ulcerative, and healed (scar) disease. The clinical characteristics of these lesions are nonspecific, particularly during the pre-ulcerative stage. Lesions usually start as a single, painless, subcutaneous nodule, ill-defined edema, or plaque that enlarges over time. The skin that covers the nodule or plaque eventually sloughs off, together with the underlying tissues, forming an ulcer (Carey et al., 1997). If left untreated, the ulcer enlarges and becomes undermined. The patient usually has no systemic symptoms. Spontaneous healing of the ulcer has been described; healing starts at the proximal end of the ulcer and extends to the distal portions, resulting in a depressed scar that contracts and may produce severe deformities (Carey et al., 1997).

2.2 History of Buruli Ulcer

The disease was first discovered in 1897 by Sir Albert Cook, a British physician who used to work in Uganda at the Mengo hospital (WHO, 2007). It was in 1948 that the Professor Peter MacCallum and his colleagues in Australia provided a comprehensive description of the disease (WHO, 2007). They did this by studying six BU patients from the Bairnsdale area near Melbourne. Since 1993 however, there have been increasing rates of the disease (Marsoller et al, 2002). Later in the 1950s there was an outbreak of the disease in Buruli County in Uganda giving rise to the most widely used name Buruli ulcer (Clancey, 1961).

2.2.1 Global picture of Buruli Ulcer

According to WHO (2009), an estimated 26, 275 cases were reported from 2004 to 2008 in 20 countries worldwide (WHO, 2009). These countries include Australia, Japan, Cameroon, Central African Republic, Congo, Cote D'Ivoire, and Democratic Republic of Congo. Equatorial Guinea, French Guiana, Gabon, Nigeria, Ghana, Liberia, Togo, Sierra Leone, Guinea, Sudan, Papua New guinea and Uganda.

2.2.2 Epidemiology of Buruli Ulcer

Buruli ulcer frequently affects individuals who live close to water bodies – slow flowing rivers, ponds, swamps, and lakes; however, cases of the disease have been reported after flooding (Hayman et al 1991, Muelder, 1992). Activities that are developed close to the water, such as farming, constitute risk factors. The prevalence gradually increased from 0.6 to 32.6/1000 when the distance to a river shortened by 10 km (Portaels, 2010). All ages and genders are affected, but most patients are children younger than 15 years, with peak age of onset between 10 and 14

years. In adults, it is between 75 and 79 years (Portaels, 2010). A study showed that even though there are no gender differences among children and adults, men older than 59 years had a higher chance of developing BU than women (Debacker et al, 2004).

2.2.3 Buruli Ulcer in Africa

In Africa before 1980, several publications on the disease were produced from several African countries namely; Cameroon, Democratic Republic of Congo, Gabon Ghana, Nigeria and Uganda (WHO, 2009). There were also some unconfirmed cases that were also reported in the Central African Republic, Kenya, Sudan and Tanzania. After 1980 a rise in new cases has been described in several West African countries mostly along the Gulf of Guinea, notably Benin, Cote d'Ivoire and Ghana. New cases have also been identified in Angola, Burkina Faso and Guinea Conakry (WHO, 2005). According to the WHO, BU is endemic in the West African countries of Benin, Cameroon, La Cote D'Ivoire and Ghana (WHO, 2009).

2.2.4 Buruli Ulcer in Ghana

According Adamba and Owusu (2011), the disease Buruli ulcer has been around as far back as the 1800s. Ghana is one of the West African countries in which the disease is endemic (WHO, 2006). According to Bayley (1971), the first time BU was detected in Ghana was in 1971. This fact is however disputed and Montoro et al. (1997) have indicated that officials of the Ghana health care report that it was in 1969 that the disease was first noticed. By the year 1999, 6000 new cases had been reported through a national survey (Amofa et al., 2002). In Ghana, the regions which are most affected are the Ashanti, Central, Western and Eastern Regions (Amofa et al., 2002).

There are a number of socio-cultural factors which influence people's perceptions and attitudes towards the disease in the country partly due to the fact that the cause of the disease is uncertain (Stienstra et al., 2002). In a study conducted by Stienstra et al. (2002) in parts of the Ashanti region witchcraft and curses were perceived causes of BU. According to the study some people also mentioned personal hygiene, the environment and the coming into contact with an infected person as the causes of the disease. The idea held by some Ghanaians that BU is caused by witchcraft or a curse was supported by Renzaho et al. (2007) who did a study on the disease in the Ga-West District of Ghana. Findings from this study also showed some other factors which are believed to cause the disease, these included the drinking of water which is not potable, through flies and swimming or walking in a river or a swampy area respectively.

It is obvious that the perception held about the disease goes a long way to influence individuals' health-seeking behavior on the disease. There have been several efforts made in the direction of treating BU. These efforts are from the international level to the national level. Espey et al. (2002) admit that few effective or practical treatments exist for BU stating that debridement of necrotic tissue, combined with skin grafting has been in use for large BU lesions. There have however been varying results to this treatment, which could be recurrences and extension of the disease.

Walsh et al. (2008) have indicated that treatment options for BU include antibiotics and surgical intervention. Physiotherapy is imperative for all BU patients (WHO, 2006). Historically surgical intervention has been the standard treatment for all forms of BU (Wansbrough-Jones and

Phillips, 2006). Surgeons sometimes administer ciprofloxacin and rifampicin for 1-2 days before surgery.

The effects of Buruli Ulcer, do not only pertain to the individual patient, but also their families, the community and indeed the country as a whole. From the individual patients' perspective the disease has severe socio-economic and psychological implications due to long periods of hospitalization (Boleira et al., 2010). This argument supports what had already been put forward by the WHO in 2004 that BU results in the disruption of productivity of individuals, households and communities. These two statements could be understood in the sense that the nature of the disease requires long durations of treatment. During these times, patients are unable to go about their normal economic activities. This is where their productivity becomes low or even ends. The thought of being infected with a disease like BU in a lot of Ghanaian communities is surrounded by a lot of misconceptions, superstitions resulting in stigmatization and patients are sure to have psychological problems.

Treatments periods also require the assistance of other family members who have to support the patient in diverse ways including economically. According to Merritt et al. (2005), it is at this stage that family income would also be affected since resources which could have been channelled into other ventures are used to assist the BU patient.

2.3 Global Control Efforts

The world's largest organization which is in charge of the health of people all over the world is the WHO and because BU is indeed a devastating disease, efforts have been made on the part of

the WHO to control if not arrest the disease. WHO therefore recommends combination therapy with daily intramuscular streptomycin and oral rifampicin for 8 weeks for all stages of the disease (WHO factsheets/199/en/index). Surgery to remove necrotic tissue and to correct deformities is recommended for more advanced disease. Disability prevention techniques are also recommended for all cases. Recent clinical trials have shown that early stages of disease respond well to treatment with combination anti-mycobacterial therapy, leading to high cure-rates without surgery (Etuafu et al., 2005).

A combination of rifampicin and aminoglycoside (streptomycin/amikacin) for eight weeks is a first-line treatment for all forms of the active disease. Nodules or uncomplicated cases can be treated without hospitalization. Surgery to remove necrotic tissue and skin grafts to aid in healing make recovery faster and more efficient. Surgery is performed to correct skin defects, contractures and the function of affected joints, and for cosmetic reasons. These constitute interventions to minimize or prevent physical, emotional and social disabilities but could be expensive and beyond the reach of the poor who are often affected by the disease (Lehman et al., 2006).

Prevention of BU is difficult because there is no clear knowledge about the forms of transmission of the disease or isolation of a specific antigen to develop a vaccine. The Calmette-Guerin bacillus (BCG) appears to offer some short-term solution for the disease. Even though there is still some debate, BCG vaccine seems to protect against osteomyelitis. Due to the absence of efficient tools to control BU, current control strategies aim at reducing the prolonged suffering, disability, and socioeconomic burden associated with the disease (WHO, 2007).

In the annual meeting of the WHO for the control and management of BU, held in Geneva, Switzerland, in March of 2005, the following control strategies were suggested: Early detection of cases in communities through diagnostic test, education and communication, prevention of disabilities, education of health workers in communities, case management (a combination of antibiotics, surgery, and prevention of disabilities/ rehabilitation, laboratory confirmation of cases, standardized storage of data and communication system using forms BU 01 and BU 02 and a *HealthMapper*, strengthening of reference health services and monitoring and evaluation of control activities.

In response to the recommendations made by the WHO to control the disease, countries which are endemic have also devised strategies in that direction. It is in an attempt to arrest the problem of BU that the BU Control Programme in Ghana was established (GHANBU). This strategy is a step in the right direction considering reports from the WHO an example of which is the report in the year 2000 which said that some communities in Ghana have prevalence rates as high as 22 percent (WHO, 2000).

2.4 Socio-cultural Features of BU Treatment and Control

The fight against Buruli ulcer has not been without difficulties. The challenges range from local perceptions, socio-cultural factors, as well as health system factors. In as much as the eradication of BU would be in the interest of all stakeholders, provision and access to treatment programmes especially in endemic areas is inhibited by a number of factors.

2.4.1 Perceptions, attitudes and behaviour and implications for BU management

As has been explained in previous paragraphs, though the exact cause of the disease is yet to be discovered, there is no doubt that it is a clinical disease which needs to be treated. However, the perceptions that people hold about the disease go a long way to affect their health seeking behaviours (Stienstra et al., 2002) That is to say even where treatment is available, attitudes and practices of affected persons is critical in treatment and management of BU (Renzaho, et al., 2007; Stienstra et al., 2002, Hill, Kendal, Arthur, Kirkwood and Adjei, 2003). In a study in the Ga-West district by Renzaho, et al., (2007), 71.8% of respondents indicated that herbalists are the first point of call for people who suffer from BU. The hospital then becomes the last resort.

In most developing countries, the socio-cultural beliefs and practices held about the disease is the major challenge to the health seeking behaviours of those who get infected with the disease. According to Senah (2001), in Ghana, diseases which are often described as strange and which are also very devastating are believed to be caused by witches, ghosts, gods, curses and sorcery. There is a lot of myth about Buruli ulcer especially in Africa. Apart from the myths which surround the disease others also do not appreciate the nature and as such the intensity of the disease (Stienstra et al., 2002).

In a study conducted by Stienstra et al. (2002) on the beliefs and attitudes towards BU in Ghana, about 59% of the 66 respondents attributed magico-religious factors such as curses and witchcraft to BU. The perceptions about the disease translate into the socio-cultural practices surrounding Buruli ulcer (Stienstra et al., 2002). Consequently, traditional forms of treatment often in the form of herbs are resorted to even before hospital treatment is sought. This often results in patients seeking treatment in the advanced stages of the disease. There are, however,

some others who are also of the view that BU is caused by environmental factors like poor sanitation.

Buruli Ulcer is often endemic among the rural poor in developing countries (WHO, 2006). The high cost of surgeries as a treatment option therefore constitutes a major challenge to the fight against the disease (WHO, 2006). Because these rural people are the ones to report cases late, surgical treatment is often the only way to handle it because they report at the last stages of the disease. According to Renzaho et al. (2007), cost of transportation is one other reason accounting for late reporting of BU cases. Transportation costs are high mostly because road networks linking rural areas to urban centres where treatment facilities are available are often in bad states. This pushes vehicle drivers to charge exorbitant fares. Another factor which influences the cost of transportation is the duration of treatment which requires that patients travel to and from the hospital several times to seek treatment.

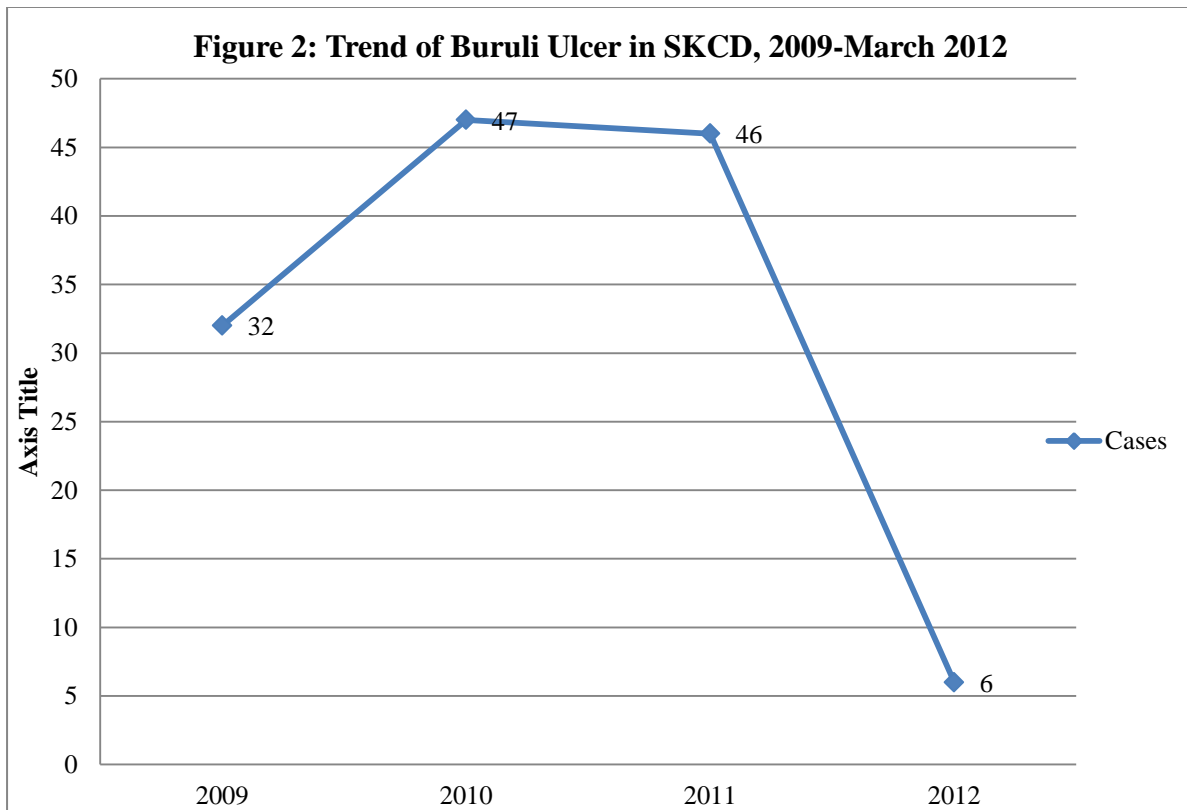
According to Stienstra et al. (2002), apart from financial difficulties, the fear of hospital treatment is another factor which delays treatment and thus the control of the disease. People often hold the view that once they seek hospital treatment for BU, the affected part of their body might be amputated (Auyoulat et al., 2003).

There is therefore the need to adequately educate people on the disease through education programmes for a change of attitude and perception about the disease. At the same time, accessibility particularly in the line of infrastructural development is undeniably an issue that requires much attention.

Just like any other disease, Buruli ulcer has several adverse effects on those who suffer from it and society as a whole. In as much as there have been efforts at the global as well as the national level to arrest the situation, the disease has not been completely done away with in various parts

of the world. Studies have pointed out that the rural areas of developing countries are the most affected. This makes the situation more alarming requiring strategic approaches. As the medical aspects of the disease control are being tackled, the socio-cultural dimensions which in effect influence the health seeking behaviours also need much attention.

Figure 2 below shows trends in the cases of Buruli ulcer in the SuhumKraboa-Coaltar district from March 2009 to March, 2012. It would be observed from the figure that the cases of BU rose up quite sharply between 2009 and 2010; 47 cases were recorded during this period. However, since 2010 there has been a steady decrease in the number of cases recorded. Indeed there was a remarkable decrease from 2011 to 2012 in which case the incidence level reduced by 40. As at March, 2012, the lowest number of cases had been recorded, this is a single number (6). Judging from the statistics in figure 1 below, one sees clearly the fact that the BU situation in the district under study is much under control. It is however, important to mention here that, it is not all the BU cases that are reported by the patients at the hospital. It could therefore be that there are a number of cases which are not reported. The fact that in sampling respondents for this study, only 10 as opposed to 30 of them were found in the hospital suggests that cases reported at the hospital may not be as many as those not reported. This notwithstanding, it is evident that the hospital personnel are working towards managing the disease.



With respect to BU management the focal person indicated that in 1996, when the disease was first discovered in the Suhum-Kraboia-Coaltar district, there was no known cure for it. What the hospital personnel did then was just to provide dressing for those affected. With time, however, treatment with WHO-recommended drugs became available. Using WHO guidelines, patients are treated with intramuscular injection Streptomycin and oral tablet Rifampicin for 56 days depending on the stage of the sore. Some patients heal before the 56 days are up. The introduction of these drugs has been a major breakthrough in controlling BU in the district. He, however, admitted that surgical operations for BU patients are not done in the health centre.

According to the DCO, aside from medical treatment, health education programmes including health talks and videos on BU in the communities are additional interventions for BU management. These programmes provide opportunities for community members to ask questions

and receive expert answers on issues bordering on BU. It is through the outreach programmes that the disease is demystified to the community members. Consequently community members have realized, through these programmes that BU is not caused by witchcraft but rather by a bacterium.

It was also gathered that, the District health management team had recruited some people whom they refer to as volunteers. The work of these individuals is to identify and report any case of BU and other diseases found in the communities. When this is done the affected people are followed up by the disease control personnel for treatment to be made available to them. This practice according to the focal person has gone a long way in helping in early detection of the disease since the volunteers are also trained to detect BU cases even in the early stages of the disease.

It can therefore be inferred that the Medical treatment given to BU patients is the main strategy being used to control the disease. Apart from this, however, the whole community also benefits from the education programmes which have been explained above as well as the activities of the volunteers for BU control. All these interventions in different ways are contributing to controlling the disease in the SuhumKraboa-Coaltar district. In spite of the seeming advantages of the health programmes, there are also a number of factors which hinder the success of the programme.

CHAPTER THREE

RESEARCH METHODS

3.1 Introduction

This is an exploratory study employing qualitative research methods. This approach was employed to explore in detail the effect of Buruli ulcer public health programmes on the health-seeking behaviour of the people of SuhumKraboa-Coaltar District of the Eastern region of Ghana.

3.2 The Study Area

The SuhumKraboa-Coaltar district is one of the 138 districts created under the Local Government Act 462 of 1993. It is located in the south-central portion of the Eastern Region and Suhum, the district capital, is about 65 kilometres north-west of Accra, the nation's capital. The predominant economic activity in the district is agriculture, which engages 58.4% of the economically active population. Technical and related works account for 14.0%, Transport and Equipment works account for 5.2%, Sales work and Service contributes 13.3% and 5.0% respectively.

The SuhumKraboa-Coaltar district like all other districts aims at mobilizing resources from within and outside to improve health, education, water, sanitation, electrification and other infrastructure facilities for the socio-economic development of the district. The district falls within the forest-dissected plateau. Most of the land is elevated with an altitude between 500 to 1,000 feet above sea level. The terrain is generally undulating. The Atewa range, the highest elevation, stands at about 2,000 feet above sea level. It is an important catchment area of rivers and streams in the district. Indeed, the district is well drained by rivers and streams such as

Densu, Essiem and Kua. It shares boundaries with East Akim to the north, Akuapim South to the south, West Akim and Kwaebibirem to the west and New Juaben and Akuapim North to the east. The district covers an area of 1,018 km² with a population of 188,661 (projected from 2000 census). The main occupation within the region is agriculture, which engages about 70% of the economically active population. The major sources of water supply in the district are pipe-borne water, hand-dug wells with pumps and boreholes. A few communities depend on streams and springs. Only 50% of the households have access to potable water from mechanized boreholes. The river Densu is the largest water body within the region and flows from the northern part of the district to the south (SuhumKraboa-Coaltar Economic Development Report, 2001-2006).

3.3 Study Population

The study population lived in the SuhumKraboa-Coaltar district, and included both people who are infected and those who are not infected with the disease. However, the main target populations were the individuals who were infected with the diseases who were either seeking or not seeking treatment for their disease, as well as those who live with them. Other groups of persons from whom information was collected were the focal persons and coordinators on BU in the offices of the Health Centres and District Health Management Team Office.

3.4 Recruitment of Study Participants

Participants were recruited purposively into the study until the point that further recruitment of members into the study provides no insight into the study topic. In selecting the sample for the study, the purposive sampling technique was employed for persons infected. This is largely because of the need to target those infected. Thus the researcher went to the health centres in the district where the infected persons go for treatment to identify such persons, and also identified

households with such persons. The focal persons and coordinators were also sampled purposively. It also reviewed existing documents on the programmed objectives, reach and effects of the programme.

3.5 Sample and Sampling Techniques

A total sample size of forty (40) respondents was chosen for this study with the disease condition at various stages. This consisted of 30 affected persons and their relatives, as well as community members from 6 endemic communities in the Suhum Kraboa-Coaltar (SKC) district, and ten (10) patients from the Asuboi health centre and their relatives, the main health facility offering medical treatment for Buruli ulcer (BU). Since the study adopted a qualitative approach, the sample size of 40 was deemed appropriate for delving deep into the issue under investigation.

In selecting the sample for the study, the purposive sampling technique was employed for persons infected. This is largely because of the need to target those infected. Thus the researcher went to the health centres in the district, where the infected persons go for treatment to identify such persons and recruit them, as well as their relatives, and also identified households with such persons in the community and community members as well. The focal persons and coordinators were also sampled purposively because they work directly with these people and the community. When a person is identified, the person together with his or her accompanying relative are both interviewed one on one using a structured interview guide with open ended questions. They are then followed into the community to their various houses to get people living with them in the same neighbourhood or same house to be interviewed as well, using the same open ended questions leaving out those that are not relevant to uninfected persons.

3.6 Data Collection Method

In-depth interviews were used in collecting data from respondents. It was used for all the infected people, the coordinators and those who were talked to. This method was chosen to ensure that as much detailed information as possible was obtained from the respondents. An interview guide which was based on the research questions and the objectives of the study was designed to serve as the tool for data collection. The researcher and two trained field assistants undertook the interview sessions from 15th May to 29th June, 2012 in Akan and English depending on which language a particular respondent was more comfortable with. With the consent of respondents, the interview sessions were captured on a recorder to guarantee that no information was lost. In addition to recording the interviews, the researcher and the assistants took notes.

A thorough review of the various projects was carried out through site visits and interviews of project staff, and key informants. Interviewees included key members from all stakeholder groups, including donors, partners in Buruli control, and beneficiaries. Various site visits were carried out focusing especially on the assessment of specific objectives and activities of the Buruli ulcer programme.

3.7 Data Management and Analysis

The recorded interviews and the notes were first transcribed verbatim. Using thematic content analysis, codes based on relevant themes were assigned. These themes were based on the objectives of the study. The generated themes became the basis for the analysing and discussing findings in this study and informed the conclusion and recommendations of this study.

3.8 Ethical Issues

Ethical clearance approval was obtained from Ghana Health Service **Ethical Review Committee** through School of Public Health, College of Health Sciences, University of Ghana research and publication committee and Ghana Health Service Ethics Committee for approval by submitting a detailed proposal for approval. At the time of data collection participation in the study was based on the willingness of the respondents. Informed verbal and **written** consent was obtained from the participants.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents the analysis and findings of the study. The chapter is organised by sections in accordance with the research questions and objectives. It covers the socio-demographic background of respondents, overview of Buruli Ulcer programmes in the Suhum-Krabo-Coaltar district, community perceptions of the Buruli Ulcer programmes, effects of Buruli Ulcer public health programmes on health seeking behaviour of the people, community members' perceptions of Buruli Ulcer and attitudes towards public health programmes for Buruli Ulcer.

4.2 Socio-demographic Background of Respondents

Forty (40) respondents comprising 30 affected persons from 6 endemic communities in the Suhum-Krabo-Coaltar (SKC) district, and ten patients from the Asuboi health centre, the main health facility offering medical treatment for Buruli ulcer (BU) were interviewed.

4.3 An Overview of Buruli Ulcer Programmes in the Suhum-Krabo-Coaltar District

In order to appreciate the effects of Buruli ulcer public health programmes on the health seeking behaviour of the people of Suhum-Krabo-Coaltar District community members and the disease control officer (DCO) in the municipality were asked to mention the BU public health programmes that were undertaken in the study communities. .

4.3.1 Available Public Health Programmes

Respondents mentioned various health activities which are carried out regularly. These are: community-based, clinic-based and school health talks, and film shows. Community health talks were held bi-weekly by trained community health workers and community volunteers and were organised in all BU-endemic communities in the district. Health talks in the clinic were organised for patients. Together, these talks highlighted risk factors for BU, explained the clinical features of BU and stressed on the importance of timely treatment for BU and the consequences of delayed treatment which can lead to prolonged wound healing and consequential deformities. Community and school health talks advertised the health facilities offering medical treatment in the district. The following statement shows the importance of BU outreach programmes in the study area:

Since all the areas are endemic, at Child Welfare Clinic, we give talks on the BU and advise them to report with Disease cases (*Disease Control Officer, Asuboi Health Centre, SuhumKraboa-CoaltarDistrict*)

4.3.2 Community Perceptions of Buruli Ulcer Programmes

In view of the fact that there is a general perception among community members that the disease is caused by evil spirits (witchcraft), the study sought to investigate community perceptions of BU. Contrary to this general view, narratives of respondents indicated that the majority of affected persons did not believe that BU was caused by witchcraft, others attributed BU infection to a bacteria. The following statements buttress this point.

I will tell anybody with the disease to go straight away to the hospital for treatment because it is not caused by any spirit or witchcraft (*Interview with 42 year old female respondent, Govinakrom*)

I really don't know I only went to see the spiritualist because I did not know what was happening but my children advised me and said if I went to the hospital I would be given injections and I would be fine so that was why I went to Asuboi. I am sure I would have been dead if I hadn't come here because the sore smells really bad (*Interview with 70 year old female respondent, Mensakrom*)

I think anybody at all can be affected by the disease, I don't believe it is caused by Witchcraft. I do not entertain those thoughts (*Interview with 78 year old male respondent, Kyekyewere*)

Well, a disease can affect anybody, I am unable to tell if it is caused by witchcraft or anything of the sort but for me I just took it that it was like any other disease which affects people (*Interview with 65 year old male respondent, Govinakrom*)

Additionally, narratives suggested that there was a link between personal hygiene and BU infection. For example, where an individual does not bathe after working hard on the farm is a practice that exposes one to the risk of infection. This perception is held by both health officials and community members. Statements that support this include;

The environmental sanitation I think is also a contributing factor. Most of the villagers are unkempt and are more prone to diseases including the Bu (*Disease Control Officer, Asuboi Health Centre, SuhumKraboa-Coaltar District*).

We often return back from the farm very tired, worn-out after a hard day's work of working in the soil and wading through water, we do not take our bath and just go to bed (*Interview with 52 year old female respondent, Mensakrom*).

All respondents agreed that health education was an effective strategy to promote awareness of BU. Health education also demystified BU as a disease caused by witchcraft and contributed to the acceptance of medical treatment.

The health education really helped me, when it started I thought that I had a spiritual attack so could heal myself by using the herbs I know but after applying the herbs for about 2 weeks without any improvement, I quickly remembered the health education and talks so I went to the health centre (interview with a 48year old male herbalist).

4.4 Effects of Buruli Ulcer Public Health Programmes on Health seeking Behaviour

The implementation of the public health programmes for Buruli ulcer was for effective treatment and control of the disease. One objective of this study was to assess the effects of public health programmes for BU on health seeking behavior. The health programmes actually sent across very vital information about the disease, like early identification, timely treatment, free treatment available and demystifying or making people understand that the disease is just like any other disease, to achieve its goal. These statements made by community members and the disease control officer are typical:

The treatment is helpful in the sense that at first we thought it was caused by witchcraft and when we resorted to spiritual healing it did not yield results it was when the doctors came around that the disease has come under control so I think the treatment is good.
(Interview with 47 year-old female respondent, Asuboi)

All I know is that the hospital treatment is the best for the BU *(Interview with 32 year old male respondent, Mensakrom)*

I knew that if I treated it at home my hand would have deformed, that was why I decided to get to the hospital where they told me what was wrong with my hand. That was at Asuboi *(Interview with 58 year old female respondent, Kyekyewere)*.

The treatment is very effective. A man came from Kyekyewere with a sore almost eating up his whole thigh with BU he has been cured *(Disease Control Officer, Asuboi Health Centre, SuhumKraboa-Coaltar District)*.

Three ladies and two gentlemen also confirmed that the health programme that is the, continuous health education and film shows on the disease has made them and their families well informed about the disease. Two men however still believed that it is caused by spiritual forces. Thus, from the above, one can deduce that the health programmes have contributed in sensitizing the affected communities positively, thereby changing their perceptions about the disease.

4.4.1 Controlling Buruli Ulcer in the SuhumKraboa-Coaltar District

According to the DCO, before 1996, BU was unknown in the district. However, in 1996, a teacher resident in the Govinakrom community in the district discovered an affected person with BU and subsequently informed the health directorate. A survey was later conducted which showed that the SuhumKraboa-Coaltar district was endemic. The district health directorate team then started putting together strategies in addition to the already existing treatment.

4.4.2 The Challenging Nature of Controlling Buruli Ulcer

In this section the challenges which confront the health programmes in the estimation of the health personnel, are presented. Many challenges confront the programme, ranging from attitudes of the community members, especially those infected with BU, and poor road network in the district. The BU focal person for the district gave an apt description of a major challenge in controlling the disease in an interview when he noted that:

It is very challenging because sometimes when we go on the outreach programmes and detect some of the cases, the infected people refuse to accept our diagnosis of BU. So they don't come for the treatment. It is often because some of their family members tell them the disease is caused by witchcraft and so cannot be treated medically. Others refuse to come for treatment because they do not believe us when we tell them that the treatment is free of charge (*Disease Control Officer, Asuboi Health Centre, and SuhumKraboa-Coaltar District*).

The above points to the fact that in as much as the hospital is doing its part in an effort to address the problem of BU in the district, on the part of the community members, there are a number of challenges. These hindrances would obviously affect the health-seeking behaviour of the patients. The fact that the disease is associated with witchcraft is a major problem to deal with. This finding has been captured in a lot of the studies done in the developing countries concerning

BU. The works of Asare and Anarfi (1997) can be cited as examples. It is because of this belief held that for most of the patients, their first point of call in terms of treatment options is at the herbalist'. Since the belief is that the disease is spiritually caused, then a cure for it is also assumed to be spiritual.

There was another factor identified by the focal person as an issue which confronts the control programme. This is the problem with finances. The Suhum Kraboa-Coaltar district is a relatively poor area with the source of livelihood of the people being mainly farming. As has been indicated in the literature, BU is often endemic among the rural poor. In terms of infrastructural development, the district lacks a lot of amenities such as good road networks. Though health programmes are available to communities, problems with finances and transportation also affect the health-seeking behaviour.

Although the treatment is free, affected persons would have to pay for their own transport fares in order to access the health facility. This according to the focal person is one of the problems for the community members as most of them are unable to fund the transportation fares to go through the treatment period. The effect is that rather than reporting cases at the hospital, patients stay at home and use herbs in treating the disease. It is when the outreach programmes are organized that sometimes some of these cases are identified and treatment offered to the affected people. Usually by the time these cases are identified, they would have reached the advanced stages therefore increasing the time needed for the treatment.

In order to address this problem, the hospital authorities proposed that a transportation programme be organized for the patients. Under this programme patients were to be given money to fund their transportation cost to the hospital for treatment. However, this proposal had not yet materialized and they could only hope that that dream would become a reality one day.

Another factor is the road factor. For this particular factor, the researcher during the fieldwork also observed it. The roads linking the communities to the clinic are in very bad states. In fact some of the communities such as Govinakrom are virtually cut off from the other communities. This makes it difficult for affected people to travel to the clinic for treatment. Because of the bad nature of the road, some drivers charge exorbitant prizes to commute people around the district. As has already been established, the district is a relatively poor one and therefore the people there are faced with financial difficulties. The ongoing discussions suggest that even if the transportation programme being proposed by the hospital authorities is materialized, the agencies responsible for the infrastructural development would also have to do their part. This is because if one has the money for transportation but the roads available are not commutable it would amount to nothing.

Aside the challenges with local beliefs that prescribe medical treatment, finance and transportation all of which result in late reporting of the disease, there is also the problem with stigma. It was pointed out that the BU sore has a very offensive odour which makes patients very uncomfortable among other people, which also fuels the stigma associated with the disease. People therefore often shun the company of those with the disease. This makes it difficult for the BU infected people to turn up at the clinic for treatment since they are likely to suffer discrimination by other people at the hospital. This obviously affects their health-seeking behaviour.

The sore has some bad smelling water coming out of it, it is very bad that you the individual feel very bad and uncomfortable. It is as if you are rotten, you cannot go anywhere and cannot join public transport when you are going to a place as soon as people smell the offensive odour they start making faces then they move away. (Two females and two males from Asuboi, Govinakrom and Mensakrom)

The discussions so far have focused on the challenges faced by the health personnel in their attempt to control BU in the SuhumKraboa-Coaltar district. although the major objective is to assess how the health programmes have affected the health-seeking behaviour of patients, the research findings are showing that there are a number of factors which stand against the success of the programme. It is therefore important to touch on these factors in order to get a clearer picture of the situation in the district. By so doing more relevant recommendations can be made to better the disease control programme.

4.5 Community Members' Perceptions of Buruli Ulcer

Having discussed the side of the story from the focal person, it is also important to assess how members of the communities in the district view the disease. This assessment is crucial because their perception of the disease will also influence their attitudes towards the health programmes in the district.

Respondents were therefore first asked what they thought was the cause of the disease, out of the forty respondents, five of them all being females admitted that for them when they first had the disease they thought they had been cursed by someone who did not like them.

When the swelling appeared and became like a boil straight away i knew that i had been cursed by my husband's family so i went to the spiritualist for help. (Answers from respondents)

As soon as the boil became a sore I knew I had been cursed by someone so i went to seek help from the spiritualist. (Answers from respondents)

This idea expressed by these five respondents corresponds with the assertion of the focal person that some of the communities' members associate something spiritual to the disease. These respondents obviously did not seek medical treatment as the first option to take.

For the rest of the thirty-five respondents, thirteen of them said they are aware that it is caused by mycobacterium ulcerans.

I Know that it is caused by some worms, I know that some small animals cause the disease, some water insects cause the disease. (Answers from respondents)

They however did not use that particular term but rather expressed the idea in different ways. For instance some words the word ‘animals’, others said ‘insects’ and still others thought it is caused by some ‘worms’. Though their expressions were not entirely right, their responses prove that they do not attribute the disease to witchcraft or curses. These respondents are not far from the truth about the disease since even medical research has not been able to adequately answer all questions about the BU disease.

According to twelve other respondents, they have no idea about what causes the disease. Most of the respondents in this category were elderly people mostly above 45 years.

I do not know what causes the disease; I know it is not caused by witch or a curse. (Answers from respondents)

I do not know what causes it, all i know is that everybody gets sick in one’s life time; it is not caused by witch or supernatural factors. (Answers from respondents)

It is a disease that comes and goes, it has no spiritual cause. (Answers from respondents)

In as much as they said they did not know what causes the disease, they also did not attribute it to any supernatural factors. The foregoing analysis shows that most people are aware of the real cause of BU. this however does not take away the fact that there is other who still belief it is by witchcraft. The proportion of such respondents was however lowest.

An important point to be made about those respondents who said they thought the disease was caused by witchcraft or curses is that, that was their initial thought. This is to say that as at the

time of the study, they had disabused their minds of the wrong impression that there was something spiritual about the disease. As one woman explained:

At first I thought I had been cursed so I decided to go and see a spiritualist. I then called my elder sister who is a nurse and told her about it. She actually insulted me for deciding to see a spiritualist rather going to the hospital. So now I know it is not caused by any spiritual forces (*Interview with 51 year old woman, Mensakrom*).

For some others, neighbours or family members who had some knowledge about the disease were the ones who convinced them that the disease had a medical rather than a spiritual cause. It can be concluded from the data collected on the perceptions of the community members about BU that the belief that the disease is caused by witchcraft is gradually fading away. This is not to say that this perception is still not held by some people. Rather the argument is that more and more people are becoming receptive of the tracts about the disease. The educational programmes organized by the health facility can therefore be said to be yielding some positive results in this sense. It would then be fair to say that where people begin to fully appreciate the true nature of the disease, their attitudes towards the control programme is also likely to be affected. Consequently their health-seeking behaviours would also change.

It is therefore important to reiterate that the educational programmes are helping in getting people to rightly appreciate the facts about BU; this means that the programmes at the end of the day also improve health-seeking behaviours positively.

4.6 Attitudes towards Public Health Programmes for Buruli Ulcer

It has been established in the previous section about the perceptions of the people about BU that gradually most of them are getting to know that the disease has a medical cause rather than a

spiritual one. This understanding was revealed in the attitudes that the respondents portrayed concerning the public health programme for Buruli Ulcer. It is important to state here again that the programmes identified in the area are the education programmes for all the communities' members and the hospital treatment itself which is given to patients of BU.

All respondents at different points in time had accessed the hospital treatment. They all agreed to the fact that the treatment had been very beneficial to them. No matter the stage their respective cases had gotten to, the hospital had the right treatment programme for them. Whilst some had been almost completely healed, others especially those who were contacted at the hospital were still on the treatment programme. The fact that they had seen it as a better option to go to hospital for treatment is much evidence that they see the treatment to be the only source of cure for the disease.

The hospital treatment is free and actually works, you see the people healed but because we lack knowledge instead of coming to the hospital we go searching for solutions that do not work. (Community respondents Mensakrom)

I know the hospital treatment is the best, you can see people healed when they go to the hospital for drugs, injection and wound dressing. They get worse when they go elsewhere. (Respondents Govinakrom)

Aside the health programmes respondents also commented on the education programmes. It was, however, the case that not all respondents had participated in the education programmes such as the health talks and the film shows. These were mostly the elderly respondents. They nonetheless somehow still benefited from the education programmes. This was because most of them explained that when they were first affected by the disease and did not know how to go about it, it was their child or other relation who had learnt about it who advised them on the treatment option. In this case though they had often not been at the education programmes, they gained something from it.

When the disease started I did not know what it was, but as soon as my children saw it they told me about a film show they watched about the disease so the next day we went to the hospital where it was confirmed and treatment was started. (A 55year old man from Mensakrom)

In order to further ascertain what respondents were saying, the researcher asked what their advice to someone who they saw with the disease would be. To this question, all respondents said they would immediately ask the fellow to go to the hospital for treatment. This is a clear indication that they have a very positive attitude towards the public health programmes. In other words community members to a very large extent are seeing the health programmes as the appropriate means of treating BU. This argument can be supported by the discussions made earlier on about the perception of community members about the disease. From the discussion, it shows that the people through the health programmes are getting to understand that the disease is caused by an organism. In that sense it is then understandable that they also have a good attitude towards the health programmes.

The hospital treatment is the only treatment that we have seen to give positive results; anybody we notice with the disease will be referred to the hospital to be treated early because early reporting is good. (A 50year old male respondent from Kyekyewere)

I think everybody suffering from this disease should not go anywhere for cure but to the hospital, because the film shows and the health talk on the disease has given us enough information on the disease. (A 48year old female respondent)

Though the interview sessions showed that respondents appreciated the health programmes, they also mentioned some of the challenges they face in accessing the treatment programme especially. What they mostly noted was their financial status coupled with the transportation programmes. One woman who was speaking on behalf of her mother who was affected by BU explained her case this way:

The taxi drivers were charging 20 Ghana Cedis from here to the Asuboi hospital, since she had the disease; I have spent about 300 Ghana Cedis on transportation alone. The drivers charge so much because of the bad state of the road. At a point I could not afford the transportation fares and we had to stop the treatment for a while (*Interview with 41 year old woman, Mensakrom*).

Three other respondents also said the transportation to and from the hospital is so much that at some point you cannot continue because you do not have the money. Thanks to the DCO who comes on his motor to help us out with our treatment. (Answers from respondents)

This challenge had also been identified by the disease control officer who spoke for the health team as a whole. Although there are some obstacles to access to health programmes, the general attitude to the health programmes is that of approval, a trend which is hoped by all will become more widespread.

4.7 Effects of Buruli Ulcer Public Health Programmes on Health seeking Behaviour

The question of the effect of the public health programmes on the health seeking behaviour on the people of the SuhumKraboa-Coaltar district has almost been fully answered as previous discussions which have gone on have pointed to some of the issues in that direction. By health-seeking behaviour, the researcher includes general attitudes towards the disease BU, including attitudes towards the available treatment options. Where community members rate a type of treatment option as better than the other that would be where they would seek help from when infected by the disease. In the case of this study, it has been established that there are basically two main sources of treatment that people in the community resort to. Either the point of call is the herbalist which also includes spiritualists, the hospital treatment, or even home treatment.

The treatment given by the hospital is the best option because the spiritualist could not cure himself when he was infected. (A female respondent). The herbalist could not cure my sister and all those who were sent to him for the same disease. This is a small community so everybody knows what goes on, with the

help of the health education and the film shows on the disease now, no one will spend money on the herbalist. (A male respondent)

Over the years and even in recent times however, the idea of spirituality attached to BU has only been reduced in the community. This explains why some respondents indicated that they had first considered their situation to be caused by witchcraft or curses. In such an instance, hospital treatment would not be the preference but rather herbal or spiritual avenues. It is however the aim of the Buruli ulcer control programme in Ghana to make community members aware of the fact that the disease has a medical cause and not otherwise. The health-seeking behaviour therefore which this unit on Buruli ulcer would desire is for infected persons to seek help at the medical centres where the right kind of treatment would be given. Not only is the control unit concerned about this but also a matter of importance to the whole country.

The health education with the pictures and the film shows of how the disease is like, its stages and what should be done to cure it has really helped us. We now know that it is not caused by a curse or a witch and should seek immediate treatment from the hospital which has all the evidence to show for how people have been cured. (A male opinion leader Mensakrom)

It is in line with these concerns that the Buruli ulcer public health programmes have been instituted. As noted in this study, BU education programme is the main health programme available to the people of the Suhum Kraboa-Coaltar district. This effect being talked about can be seen in their attitude towards the health programmes which is a positive one. The fact that respondents pointed out that they prefer the medical treatment to other forms of treatment shows that the objective of the health programme has been met. Most of these respondents had learnt more about the disease through the education programmes such as the health talks and film shows through which their knowledge of the disease increased. Their acceptance of the right

kind of help in the case of Buruli ulcer is confirmed where respondents indicated that they would also carry the message across to other people and when it becomes necessary.

The health-seeking behaviour of the people of the SuhumKraboa-Coaltar district concerning Buruli ulcer can therefore be said to have had so much effect by the education programmes. This is because as represented in the sample for this study, the first point of call for Buruli ulcer patients is the health centre rather than other areas of treatment.

CHAPTER FIVE

DISCUSSION

5.1 Introduction

The main purpose of the study is to document Buruli ulcer health programmes in the municipality for SuhumKraboa-Coaltar district, to assess communities' acceptance and perception of health programmes and evaluate the impact of the Buruli ulcer public health programmes on the health-seeking behaviour. In this chapter, the study findings will be interpreted and major findings obtained through a structured questionnaire will be linked to findings from other studies.

5.2 Socio Demographic Characteristics

Research has shown that there is no sex difference among Buruli ulcer patients. However, Aiga et al. (2004), Kibadi et al. (2009) and Kwyer and Ampadu (2006) have reported slightly more females than males among adults. This is consistent with the outcomes of this study which shows slightly higher cases among females than males. The underpinning reasons why females tend to be more affected is not very clear. However, since there are generally more women than men and also women engage in most of the menial jobs, they tend to be more prone to the disease than men.

The educational status of respondents shows that more than half of the respondents have no education or lower level of education. This is supported by a study conducted in Ghana which found educational attainment of Buruli ulcer patients to be very low (Renzaho et al., 2007). This could be explained by the fact that increased years of formal education are associated with

exposure to information. Educated people may have greater access to information about the possible mode of transmission of the disease and therefore prevent it.

The disease was slightly higher among farmers than, traders, unemployed and other vocation. The high prevalence of the disease among farmers is in line with other studies that have reported farmers to be among high risk groups (Duker et al., 2006). Similar findings were also revealed in a study by Renzaho et al. (2007) who found the major occupation among the interviewed participants to be farming. The reason may be due to exposure, either in the fields through an interpersonal, animal or arthropod vector or in nearby bodies of water. Most of the traders in this study were traders who deal in farm products, hence they move from farm to farm to gather the products for the market. These situations render them vulnerable to the BU infection.

5.3 Perceptions about Buruli Ulcer Disease

The perceived causes of Buruli ulcer disease elicited from respondents were many; however, five out of forty respondents attributed it to supernatural powers, particularly witchcraft. Thirteen out of the thirty-five respondents attributed the disease to environmental causes. The twenty-two remaining attributed it to natural causes of disease patterns.

Knowledge of a biological agent was not reported by five respondents as in similar studies in Benin and Cameroon where both natural and supernatural causes were identified as the possible explanation of the disease (Aujoulat et al., 2003; Mulder et al. 2008). An episode of any disease, no matter knowledge of biological causes, may be attributed to witchcraft or other causes. Additionally, some diseases with no known cure or origin, and cases of disease that do not respond to medical intervention may also be attributed to non-natural causes (Twumasi, 1975).

Witchcraft accusations, which serve other economic and political purposes in many communities may also be caused by the necessity to account for unexpected or misfortune, where it is not recognized that such misfortune can happen by chance or natural cause. A class of diseases in Ghana exists, called “not for hospital” illnesses, where the non-medical cause of the illness proscribes using medical facilities after diagnosis. Although this does not appear to be the case for BU, attribution of witchcraft may dispose the patient not to use medical facilities.

5.4 Effects of Buruli Ulcer Public Health Programmes on Health seeking Behaviour

Available data on cases of BU in the district show that reported new cases have reduced. At the time of collecting data for this study, only six new cases had been reported for the year 2012. It was also observed that some cases are also reported in the district but the patients are from other districts that come for treatment because of the treatment facility available in the SuhumKraboa-Coaltar district. Other factors that have contributed to the low incidence of the disease is the fact that treatment is free at the clinic and the introduction of mobile clinic treatment by the Disease Control Officer who goes to the communities on motor bike to give treatment. This is very useful because the infected persons may be poor and hence cannot afford transportation to the health centre for treatment. Bringing treatment to their door steps is therefore an important relief for them. It also prevents them from the stigma associated with the offensive odour emanating from the disease, especially those that have advanced. In effect, the health education, free consultation, counseling and treatment are the hallmarks for the effectiveness of the programme in informing the people about where to seek help when the need arises.

CHAPTER SIX

SUMMARY, CONCLUSION AND RECOMMENDATIONS

6.1 Introduction

The Buruli Ulcer disease is undoubtedly a very devastating one which is of major concern to the government of the countries in which the disease is endemic. Ghana is one of those countries with the problem of Buruli Ulcer. Just like any other disease, government has taken steps to address it since it poses a threat to the human resource of the country. The Buruli Ulcer control programme has therefore been mandated to see to the combat of the disease in Ghana. There are therefore public health programmes in this connection. Because of the mystery surrounding the disease especially with respect to its cause, people have different behaviour patterns when it comes to seeking help on Buruli Ulcer. Most of the time however, the kind of perception held about disease results in infected people seeking help from the multiple sources. It is thus the primary aim of the public health programmes to make help accessible to those who might be affected.

The Suhum Kraboa-Coaltar district in the eastern region of Ghana is one of the districts in Ghana where Buruli Ulcer is endemic. The district is also largely a rural poor area. Public health programmes have therefore been made available to the people in the communities with the aim of influencing their health-seeking behaviour. This study was thus conducted to generally examine the effect of the public health programmes on the health-seeking behaviour of the people on the district. Specifically, the study sought to document the programmes offered to the district members and also to assess the acceptance and perception of the programmes. The third specific objective was to evaluate the impact of the health programmes on the people's health-seeking behaviours.

In order to achieve these objectives, the qualitative approach to research was adapted for the study. A total of forty respondents were purposively sampled for the study. This sample size comprised of all persons who had almost healed wounds finished their drug treatment, others who were still on drug treatment and wound dressing and their relatives as well as community members. Respondents were interviewed and the raw data from the interview sessions were manually analysed thematically. In addition to the forty respondents, a focal person from the Asuboi Health Centre was also contacted for an interview. The findings from the study are summarized in the following section.

6.2 Summary of Findings

The main Buruli Ulcer public health programme operating in the SuhumKraboa-Coaltar district is the education programme which takes the form of health talks and film shows. The programme has been running since 1996. The BU programmes in the district has to some extent contributed to the district now recording low rates of the disease, especially in the year 2012.

The programmes available in the district include health education in the form of health talks, community and school based health talks and film shows. These programmes emphasize on the identification of the disease at various stages, the need to report early to health centre to prevent disabilities and to facilitate early healing. The health education was observed to be consistent, targeting various segments of the population and using the right medium and language to communicate to the understanding and acceptance of the people. This perhaps explains the general success of the public health programmes for BU in changing the perceptions about the disease as being spiritual. The use of community volunteers in this drive was also helpful in this direction.

The disease affects all manner of people, that is, men and women as well as adults and children. However as far as this work is concerned there were more women and adult respondents than there were men and children.

This sample of patients reported that the disease has a medical cause. However, some of them initially attributed the disease to witchcraft and curses. There are also others who still do not know how the disease comes about. When witchcraft and curses are seen as the cause, spiritualists are contacted as sources of cure. The fact that most respondents know that the disease is not a result of witchcraft, sorcery or a curse but has a natural cause and can affect anybody, irrespective of age or sex makes it easier for them to seek treatment at the clinic. Moreover, the fact that people see those who have been infected and healed through treatments at the clinic without having disabilities further removes the myths that previously surrounded the disease. In the past, most infected persons sought help from herbalists and spiritualists, but they hardly got the treatment needed to prevent disabilities.

A major challenge reported by the respondents and which is affecting community members in accessing the clinic treatment is the poor road network coupled with the low income levels of the people. The roads in the communities were observed to be very bad, making it very difficult to drive on them, especially when it rains. This sometimes makes it difficult for doctors from Accra to come to the communities to render services to patients.

Community members mostly perceive of the public health programmes as very beneficial to them, especially in broadening their understanding of the disease. They also see the hospital treatment as the best treatment option in tackling Buruli Ulcer. Both community members and health personnel hope that the programmes can go on for the benefit of the district.

The major impact of the health programme on health-seeking behaviour is that, community members largely now prefer the medical treatment to other sources of treatment. This was not the case before the health programmes were instituted.

6.3 Conclusion

Every country desires a healthy populace and diseases are a threat to this dream. That is why a country would put in measures to secure the health of her people. Almost invariably however, health intervention programmes have been strictly medical in terms of their design and delivery. The cultural aspects of some diseases are sometimes ignored and in the end the health-seeking behaviours towards that disease in question becomes a challenge. The disease Buruli Ulcer is one of such diseases. The facts notwithstanding, the ideas of spirituality attached to it are gradually being erased making way for the rightful attitudes towards the disease. This has been due to the public health programmes which have been put in place.

6.4 Recommendations

Based on the findings from this study, a number of recommendations are being made to stakeholders to aid in addressing the problem of BU in the SuhumKraboa-Coaltar District. The first recommendation goes to the government of Ghana. This is in relation to the road network in the district. As was brought up in the study, community members are often unable to access the treatment at the hospital because of the poor roads some of which have even cut off some communities from the health facility. This recommendation is very crucial to be given the necessary attention because if health programmes are made available but accessibility to them is a problem, then the essence of the programmes would not be easily achieved.

A second recommendation to government is that the hospital in the district where BU patients are referred to should be upgraded so that surgical operations can be done for patients when the need arises. As it is now, when one gets to the stage where surgery is the best or only option the patient may have to be sent to another place for the operation. The upgrading should therefore be done in terms of equipment and qualified health personnel.

A recommendation is also being made to the district health management team, which is the supervisory body that, even though they have chalked some success in terms of educating the community members on BU, more needs to be done. This is because there are still others in the district who hold the perception that the disease has a spiritual cause. The education programme should therefore be intensified to enable more people come to fully appreciate the nature of the disease. This will consequently influence their health-seeking behaviour in the near future.

The National Buruli Ulcer Control Programme should also motivate the health team working in the district by providing them with the requisite logistics to enable them work more efficiently. This is because the lack of logistics for the programme will render their activities ineffective. Such logistics include vehicles, motor bikes, medical equipments, treatment drugs, etc.

Finally, the National Buruli Ulcer Control Programme should consider promoting and institutionalizing mobile clinic treatment, which is an idea of the Disease Control Officer of the District. This drive will bring care and treatment to the door steps of affected individuals and communities. This will mean increasing the budget for Buruli Ulcer control.

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APPENDIX A

INTERVIEW GUIDE

A greeting, my name is Sylvia Wirekoa Opong. I am a student of the School of Public Health, University of Ghana. I am conducting a study on assessing the impact of BU public Health programmes on health-seeking behavior in the SuhumKraboa-Coaltar District of Ghana. Therefore, I would like to ask you a few questions on Buruli Ulcer health seeking behavior and the impact of Buruli Ulcer health programme. I would appreciate your candid responses to my questions. I want to assure you that your answers would be confidential. Thank you.

Section A: Background Characteristics

1. Sex of Interviewee
2. Name of Head Household or (proxy).....
3. District/Town.....
4. Age
5. Marital Status (Please circle the appropriate response)
 - a. Single/ Never married
 - b. Divorced
 - c. Widowed
6. No of children.....
7. Occupation (Please circle the appropriate response)
 - a. Unskilled labour (butcher, farmer, fisherman, trader, cell phone operators)
 - b. Skilled labourer (carpenter, mason, tailor/mechanic/hairdresser/ plumber
 - c. Professionals (Trained teachers, health workers etc.)
 - d. Apprentice
 - e. Unemployed
8. Religion
 - a. Islam
 - b. Christian
 - c. Traditional
 - d. None
 - e. Other (specify)
9. Level of education
 - a. Primary
 - b. MLSC/JHS/SHS/ Vocational
 - c. Tertiary (Teachers training, Polytechnic, University, Nursing training)
 - d. None
 - e. Other (specify).....
10. Date of Interview

11. Lesion type: a. Preulcerative: nodule [] plaque [] Edema []
b. Ulcerative: recurrence [] osteomyelitis []
12. Type of medical treatment:
On antibiotic treatment specify completed days
Completed antibiotic treatment
Wound dressing specify completed days
13. What brings you to the clinic today?
14. What causes BU?
15. When you had this condition, how did you treat it at home (Probe for herbal treatment, self-medication, drugs from peddlers, chemist shops etc.)
16. How long after the condition (BU) did you seek medical treatment?
17. (If respondent did not go soon after noticing his/her condition, then ask) Why did you not seek medical care for your condition earlier?
18. Where do you often go for medical treatment for your BU condition?
19. Why do you go for medical treatment for your condition?
20. Where there any other treatment types before the hospital (please explain these treatments Types)?
21. Which treatment type is a better option and why?
22. Will you recommend medical treatment to other people? Why?
23. What are the community's general perceptions about Buruli Ulcer?
24. Mention some of the health programmes for BU that you have in this community?
25. How useful are these programmes?
26. What are the benefits of these programmes/ how have these programmes helped you?
27. How did these programmes contribute to your health-seeking behaviour?
28. What do you like about these programmes? (Probe, nature of programme, quality of care, Staff attitude, treatment package, access)
29. Is there anything else you would want these

APPENDIX B

CONSENT FORM

ASSESSING THE IMPACT OF BURULI ULCER PUBLIC HEALTH PROGRAMMES ON HEALTH SEEKING BEHAVIOR IN THE SUHUM KRABOA-COALTAR DISTRICT OF GHANA

Institutional Affiliation:

School of Public Health,
College of Health Sciences
University of Ghana
Legon

Background**Personal Introduction:**

The Principal Investigator is Sylvia WirekoaOpong, currently a master's student of the School of Public Health, Legon and conducting a study on assessing the socio-culture impact of public health for Buruli ulcer control the SuhumkraboaCoaltar municipality. This study is for academic purposes and a requirement for the award of Master of Science Degree in Applied Health Social science Degree and supervised by Dr. Mercy Ackumey of School of Public Health, University of Ghana, Legon.

Procedure:

Respondents will be expected to answer questions on an interview guide. The interviews will be taped recorded with the permission of participants.

Risks and Benefits

There is no reasonably foreseeable harm that may arise from participating in this research while benefits that may arise include a greater contribution to the impact of public health programmes for Buruli ulcer.

Right to refuse:

Although there are no known risks associated with the research protocols, if you feel uncomfortable you have the liberty to opt out. You are also at will to withdraw from participating if you desire to do so.

Anonymity and confidentiality:

You are assured that the information collection will be handled with the strictest confidentiality, will not be shared with third parties not directly involved in the research and thus will be used purely for academic purposes.

Before taking consent:

Do you have any questions that you wish to ask? If yes, questions to be noted.

If you have question you wish to ask later, or anything you wish to seek clarification on regarding the research, please do not hesitate to contact the principal researcher Sylvia wirekoaopong) on;

Telephone number: 0244520580

Email:swopong@gmail.com

Or

The Academic Supervisor on: 0268040891

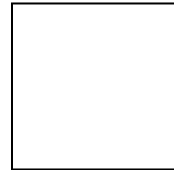
PARTICIPANT

Ihaving been adequately informed about the purpose, procedures, potential risks and benefits of this study. I have had the opportunity to ask questions and any question I have asked have been answered to my satisfaction. I know that I can refuse to participate in this study without any loss or benefit to which I would have otherwise been entitled. Having gone through the consent form thoroughly I agree to enrol in this study.

Name of participant:

Signature or Right thumb print:

Date:

**Interviewer's Statement:**

I have explained the procedure to be followed in this study to the client in the language that he/she understands best and he/she has agreed to participate in the study.

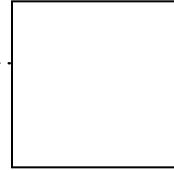
Signature of Interviewer..... Date.....

APPENDIX C**ASSENT FORM****PARTICIPANT**

Ihaving been adequately informed about the purpose, procedures, potential risks and benefits of this study. I have had the opportunity to ask questions and any question I have asked have been answered to my satisfaction. I know that I can refuse to participate in this study without any loss or benefit to which I would have otherwise been entitled. Having gone through the consent form thoroughly I agree to enrol in this study.

Name of participant:

Signature or Right thumb print:



Date:

Interviewer's Statement:

I have explained the procedure to be followed in this study to the client in the language that he/she understands best and he/she has agreed to participate in the study.

Signature of interviewer.....

Date.....