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Health seeking behaviour for Buruli Ulcer disease in the Obom sub-district of the Ga south Municipality of Ghana

Eric Koka

Department of Sociology and Anthropology, University of Cape Coast, Cape Coast, Ghana

ABSTRACT

The current biomedical Buruli ulcer case management strategies emphasise the importance of early reporting and appropriate medical treatment of nodules before they ulcerate and give rise to deformities and disabilities. However, there are a wide range of factors that influence health seeking behaviour for Buruli ulcer case management. The purpose of the study was to determine health seeking behaviour for Buruli ulcer by affected persons and their families. This was a descriptive study involving both qualitative and quantitative data collection. Thirty (30) in-depth interviews were conducted for Buruli ulcer patients and their corresponding caregivers on barriers and facilitators to health seeking. Three (3) Focus Group Discussions (FGDs) were also conducted among elderly community members. Survey questionnaire interviews were conducted with 300 community respondents in Ga, Akan and Ewe languages in the study area. Systematic sampling was used to select 300 respondents for the survey. The study revealed that most respondents (41.0%) would resort to self-medication as their first treatment option when infected with Buruli ulcer. However, the health seeking of self-medication before seeking biomedical treatment was alarming since it leads to delays in reporting. This is a serious public health concern since delay in reporting could lead to category three lesions.

Keywords: Buruli Ulcer; Health seeking behaviour; treatment; health care utilization; Ghana

*Correspondence to Author:

Eric Koka

Department of Sociology and Anthropology, University of Cape Coast, Cape Coast, Ghana

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Introduction

Background to the study

Buruli ulcer is a devastating infectious disease caused by *Mycobacterium ulcerans*. It is named after Buruli County (now called Nakasongola District) located near the Nile River in Uganda, where in 1961 the first large numbers of cases were reported (WHO, 2009). *Mycobacterium ulcerans* infection was first described in 1987 by Sir Alfred Cook, a missionary doctor in the Buruli County in Uganda (WHO, 2000). However, there has been no reported incidence of the disease in Nakasongola District since the 1980s. The causative organism is from the family of bacteria which causes tuberculosis and leprosy but Buruli ulcer has received less attention than these diseases (WHO, 2009; Kargbo-labour, 2010). The exact mode of transmission is still under investigation. However, some patients state that lesions develop at the site of antecedent trauma. Research suggests that in Africa, some aquatic insects of the order Hemiptera (Naucoridae and Belostomatidae) can harbour *M. ulcerans* in their salivary glands and transmit the disease to experimental animals. More recent data from Australia suggest that salt marsh mosquitoes test positive for *M. ulcerans* DNA, although transmission by this type of mosquito has not been established. Further research is in progress to establish the exact role of insects and other factors in the transmission of the disease to humans. If confirmed, Buruli ulcer will be the only known mycobacterial disease to be transmitted by insects (WHO, 2009; Kargbo-labour, 2010). The natural reservoir and mode of transmission of the infection remain largely obscure and might differ between endemic foci around the world. However, skin injury and insect bites have been proposed as modes of transmission (Nienhuis et al., 2010).

In developing countries in general and Ghana in particular, socio-cultural beliefs and practices strongly influence the health-seeking behaviour of people infected by Buruli ulcer. The first recourse is often traditional treatment. Due to the

disfigurement, stigma is a problem that also prevents people from seeking treatment. As a consequence, most patients seek treatment too late, and both the direct and indirect costs are considerable (WHO, 2009). Factors such as geographic access, lack of funds, local beliefs about the illness, and stigma were important determinants for health-seeking behaviour (Stienstra et al., 2002). The majority of Buruli ulcer cases in Ghana reported to health facilities after traditional medicine had failed them and complications might have set in (Mensah-Quainoo, 2004). The combined effects of these are surgery and long periods of hospitalisation. A lot of epidemiological studies on the disease have been undertaken in endemic countries, Ghana inclusive, including socio-cultural issues associated with its management (knowledge, local perception of the disease and wound care among others) in the area under study (Koka et. Al., 2016; Koka E., 2018). Findings in our previous studies (Koka et. Al., 2016; Koka E., 2018) have serious implications for treatment seeking in the study area. Hence the need to conduct this study to determine the health seeking behaviour for Buruli ulcers in the Obom sub-district of the Ga South Municipality of Ghana.

Conceptual and theoretical underpinnings of the study

Health-seeking behaviour studies acknowledge that health control tools, where they exist, remain greatly under or inadequately used. Understanding human behaviour is prerequisite to behaviour change and improvement of health practices (Sheeran, & Abraham, 1995). On the whole, health-seeking behaviour models as applied to public health mostly serve as catalogues of relevant variables that need to be considered in research design, rather than as behavioural models themselves (Sheeran & Abraham, 1995). The main statistical data obtained using these models permit the evaluation of the relative weights of different factors in health behaviour (use of preventive or therapeutic measures, choice between different

health resources, non-compliance with treatment, or the consequences of behaviour for delayed care seeking). The principal objective is to identify problematic areas in order to intervene with specific health system strategies. Health-care-seeking behaviour studies range across many different health care programmes – from malaria studies to reproductive health. These studies are important because they provide relevant information on what patients, or caretakers, do when faced with a health problem (Sheeran & Abraham, 1995). The primary question is; to what extent would health-seeking behaviour studies be useful in determining the type of intervention programmes that can be put in place to alleviate the myriad of health problems? The Health Care Utilisation Model therefore guided the study.

The Health Care Utilisation Model

This study adapted the Andersen model of Health Care Utilisation. The Andersen model is a conceptual model aimed at demonstrating the factors that lead to the use of health services. According to the model, usage of health services (including inpatient care, physician visits, dental care etc.) is determined by three dynamics: predisposing factors, enabling factors, and need factors. Predisposing factors can be characteristics such as race, age, and health beliefs. For instance, an individual who believes health services constitute an effective source of treatment for an ailment is more likely to use such services. Examples of enabling factors could be family support, access to health insurance, one's community etc. Need factors represent both perceived and actual need for health care service from the perspective of clients. The model was specifically developed to investigate the use of biomedical health services. Later versions have extended the model to include other health care sectors, i.e. traditional medicine and domestic treatments (Weller et al., 1997).

According to Weller et al., (1997), an individual's access to and use of health services is

considered to be a function of four characteristics:

1. Predisposing Factors: Representing the socio-cultural characteristics of individuals that exist prior to their illness. These may include: Social Structure - education, occupation, ethnicity, social networks, social interactions, and culture. Health Beliefs - attitudes, values, and knowledge that people have concerning and towards the health care system and Demographic -age and gender. The factors considered in this study are age, Education, beliefs, perceptions experience and expectations.

2. Enabling Factors: These comprise the logistical aspects of obtaining care and may include: Personal/Family - The means and know how to access health care services, income, health insurance, a regular source of care, travel time and cost, extent and quality of social relationships (social capital). Community - availability of health personnel and facilities, and waiting time. Possible additions are genetic factors and psychological characteristics of the individual. The factors used as enabling factors in this study are family support, money, accessibility, geographical location and Health Insurance.

3. Need Factors: These determine the most immediate cause of health service use, from functional and health problems that generate the need for health care services. "Perceived need, will better help to understand care-seeking and adherence to a medical regimen, while evaluated need will be more closely related to the kind and amount of treatment that will be provided after a patient has presented to a medical care provider (Andersen, 1995). Perceived need represents "How people view their own general health and functional state, as well as how they experience symptoms of illness, pain, and worries about their health and whether or not they judge their problems to be of sufficient importance and magnitude to seek professional help" Whereas evaluated need represents "Professional judgment about

people's health status and their need for medical care" (Andersen, 1995). The need factors used in this study are time, symptoms, pain, worries, evaluated need and professional need.

4. Treatment actions: Are all-encompassing variables representing actions considered in the course of illness. These may include home remedies (herbal, pharmaceuticals), pharmacy, over the counter drugs from shops, injectionists, traditional healers, private medical facilities, public health services etc. The treatment actions considered in this study are self-medication, the traditional treatment and the biomedical health treatment.

The model centres specifically on treatment selection. It includes both material and structural factors, which are barely taken into account in the social psychology models, which dominate

biomedical practices. Weller et al., (1997) emphasised its particular use for working with statistical data on actual cases. The model has also been used for gaining evidence on the weight of different factors for health service use. Andersen's model has been modified in the International Collaborative Study on Health Care (Kroeger, 1983). In addition to the predisposing factors and enabling factors, this version includes Health Service System factors, referring to the structure of the health care system and its link to a country's social and political macro-system. This is a valuable extension as it puts emphasis on the link of health-seeking behaviour with structural levels within a macro-political and economic context (Figure 1). The following framework was therefore adapted based on the health care utilisation model to guide this study:

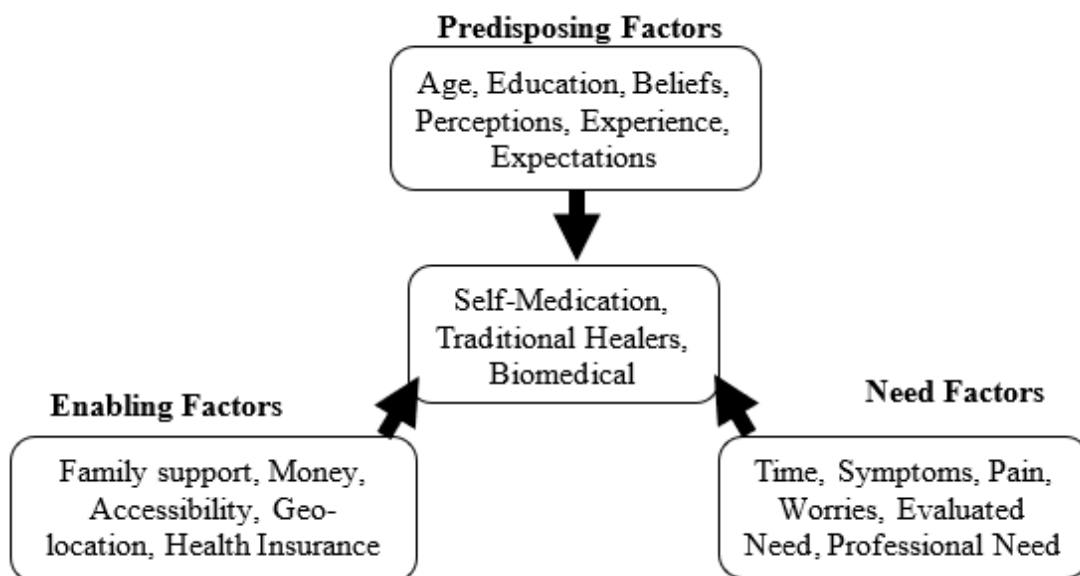


Figure 1: Health Care Utilisation Model: (adapted from Andersen model)

Relevance of the Health Care Utilisation Model to the study

This model has helped to provide appropriate explanations to the factors that influence treatment seeking behaviour for Buruli ulcer disease. The predisposing factors which comprise of age, education, beliefs, perceptions, experience, expectations gender, religion,

global health assessment, prior experiences with illness, formal education, general attitudes towards health services, knowledge about the illness might be the factors that influenced health seeking behaviour of Buruli ulcer patients to delay treatment or resort to home treatment or consulting traditional healers. For example, patient's knowledge about the cause of Buruli

ulcer illness may influence his/her treatment seeking behaviour.

The enabling factors which identified availability of services, financial resources to purchase services, health insurance, and social network support as factors that determine treatment seeking among patients were also relevant to the study. This model was a guide to further explore some of the factors that influence treatment seeking so that a more appropriate and sustainable social intervention could be put in place to control Buruli ulcer in Ghana.

The need factors that influence health care utilisation such as perception of severity, total number of sick days for a reported illness, total number of days in bed, days missed from work or school, help from outside for caring were very important for this study. For example, the perception of severity of illness and total number of sick days for a reported illness were cited by Buruli ulcer patients for not seeking treatment or delaying treatment (MacCallum et al., 1948). Buruli ulcer starts as a painless nodule and so it is perceived as less severe hence the treatment delay (MacCallum et al., 1948). This model therefore gave a broader insight into the factors that influence health care utilisation by Buruli ulcer patients. The treatment actions of home remedies (herbal, pharmaceuticals), pharmacy, over the counter drugs from shops, injectionists, traditional healers, private medical facilities, public health services were some of the treatment seeking options available to patients and study participants. This also guided the researcher in the design of survey questionnaire for the community study.

Objectives

The goal of this study was to determine health seeking behaviour for Buruli ulcer by affected persons and their families. Specifically, the study was designed to examine the reasons why Buruli ulcer patients and their families seek treatment from home, traditional healers and the biomedical health facilities.

Methods

Study area

The study took place in the Obom sub-district of the Ga South Municipality. The Ga South Municipality was carved from the then Ga West District in November 2007. The Municipality was established by Legislative Instrument 1987 in 2007 with the capital at Mallam. The Ga South (Weija) Municipal Area lies within Latitude 5 degree 48' North and within Longitudes 0o 8' East and 0o 3' west. It has total land coverage of approximately 517.2 sq. km. It shares boundaries with Accra Metropolitan Area to the South-East, Ga West to the East, Akwapim South to the North- East, West Akim to the North, Awutu Senya to the West, Gomoa to the South-West and the Gulf of Guinea to the South (Ghana Statistical Service, 2010). The three main local languages spoken by community members are Ga, Akan and Ewe.

According to the extract from the 2010 National Population and Housing Census, the total population of the district is approximately 485,643 made up of 237,558 (48.9%) males and 248,085 (51.1%) females. The high population size is due to the Municipality's closeness to the capital city Accra, making it home for many workers. According to the 2010 census, there are about 362 communities spread in the urban, peri-urban and rural areas of the Municipality. The coastal and the central portion of the Municipality have very dense population while the communities in the Northern section are sparsely populated and scattered (GSS, 2010).

Obom, a sub-district in the Ga-South municipality is located 15 kilometres to the north-east of Amasaman the district capital of Ga West Municipality. The Eastern part of the sub-district consists of low hills, interspersed with plains in the central parts. The river Densu, the largest water body in the district, runs through the sub-district. Other water bodies, which are tributaries of the Densu, are Adeiso, Honi and Ponpon rivers. There are also small ponds and seasonal streams. In addition, numerous surface water bodies have sprung up in the wake of extensive sand-winning activities to supply the building

industry in the sub-district and the neighbouring Accra metropolis with sand. These water bodies are significant for economic activities such as fishing and farming as well as disease causation. Water - related diseases such as Buruli ulcer, schistosomiasis and malaria are endemic in the sub-district (MoH, 2012).

Apart from the two main health facilities (one in Obom, the sub-district capital and the other in Amasaman, the district capital of Ga West Municipality) that are accessible to residents in the sub-district, there are private clinics and maternity homes in the sub-district, some of which are at Mayra, Kojo Ashong, Domeabra, Oduman and Jei-Krodua. These facilities complement the efforts of the sub-district public health delivery, which could not reach majority of the people due to poor access and coverage. There are other decentralised health facilities (CHPS compounds) at Ashalagya, Balagono, Hobor and Kofikwei providing primary health care services to the populations that they serve. Owing to the poor condition of roads, the scarcity of means of transport and the fact that most communities are quite far from health facilities, access to health care is a major problem in the sub-district. The majority therefore utilise home treatment either home-made herbal treatment or over the counter medications usually bought from shops and itinerary vendors to manage ailments as a first line of action (MoH, 2012).

Target population and sampling

The population for the study included community members, Buruli ulcer patients and their caregivers and some selected elderly community members above age 55 in the Obom Sub-district of the Ga south Municipality. In-depth interviews were used to collect data from Buruli ulcer patients and their corresponding caregivers while Focus Group Discussions (FGD) was used to solicit information from elderly community members from three groups of languages (Ga, Akan and Ewe). Purposive sampling was used to collect data from Buruli ulcer patients and their caregivers in their homes, the traditional healer's homes and the

health center. Snowball sampling technique was also used to mobilise some selected elderly community members into three groups notably Ga elderly community members, Akan elderly community members and Ewe elderly community members. Each group comprised ten (10) elderly community members. Survey questionnaires were also used to collect data from the sampled community respondents. In selecting respondents for the community survey, systematic sampling was used to select compounds of potential respondents. The compounds were listed in the eleven most Buruli ulcer endemic communities. Using the procedure for generating compounds systematically, the compounds were selected in all the eleven communities for the survey. Thus, there were 2,203 compounds in all eleven communities. Hence, 2203 was divided by the sample size of 300 given 7. Thus every 7th compound was visited for the study. In a given compound, two respondents were interviewed. However, in a compound where there were more than two adults, a simple random sampling (where yes or no was written on pieces of paper and tossed for the potential respondents) was used to select two respondents for the survey. The inclusion criteria for the survey was adults who were 18 years and above in a given compound. The estimated population for the eleven communities was 16600.

Study design and data collection

This was a descriptive study involving both qualitative and quantitative data collection designed to determine health seeking behaviour for Buruli ulcer by affected persons and their families in the Ga South municipality. Thirty (30) in-depth interviews were conducted for Buruli ulcer patients and their corresponding caregivers on barriers and facilitators to health seeking and the most preferred health seeking options and the reasons for choosing that option. The three FGDs conducted among the elderly community members also centered on the factors that affect health seeking in the communities. Survey questionnaire interviews

were conducted with 300 community respondents in three major languages (Ga, Akan and Ewe) in the Obom sub-district of the Ga South municipality. Before the main data collection, the in-depth interviews, FGD and survey questionnaire were pre-tested at Kojo Ashong; a community which is not part of the Obom sub-district. In all, five (5) in-depth interviews, one (1) FGD and thirty (30) community members were randomly selected and interviewed. These enabled the researchers to validate the tools prior to the main data collection. The data collection instruments after the pre-test, had to be modified to take care of some inconsistencies and difficulty in translations. The questionnaire contained five (5) main items or themes as; demographic information, basic health information of the study communities, community knowledge of Buruli ulcer signs and symptoms, community perceptions about Buruli ulcers and health seeking behaviour for Buruli ulcer and how to prevent Buruli ulcer in the communities as a sub-theme. However, for the purposes of this paper, results reflected demographic data, health seeking behaviours for Buruli ulcers and other factors that influenced treatment seeking behaviour in the study area.

All questionnaires were self-administered to study participants by trained research assistants who were proficient in the local language.

Data Analysis

Qualitative data from in-depth interviews and focus group discussions were categorised in a format that allows for manual coding by interview item for content analysis to be done. Data was analysed to clarify aspects of treatment seeking behaviour of patients and their caregivers. Qualitative variables of interest were categorised and selected into common themes for presentation. This allowed the performance of phenomenological analysis on relevant coded segments for presentation. Representative narratives were presented to show the position of respondents on topics of interest. The two data sets, quantitative and qualitative, were

presented to complement each other. Epi-Info 7 was used to analyse the quantitative data. Basic statistical analyses of variables of interest were done by performing tabulations and cross-tabulations. The relevant tabulations yielded frequencies which were used to describe the basic summaries of the variables. The cross tabulations allowed for comparison between variables. Chi-square statistics and corresponding p-values were used to test the associations between variables. The p-value of <0.05 was considered statistically significant

Ethical Review

The Institutional Review Boards of the Noguchi Memorial Institute for Medical Research, University of Ghana and the Ghana Health Service reviewed and approved the study protocol. The following ethical considerations were followed:

Ethical principles of anonymity, confidentiality, and rights of withdrawal were ensured among participants (Buruli ulcer coordinators and patients, and all other respondents). Research participants were informed about the objectives, methods and what was expected of them by clarifying their roles in the study to them. It was made clear to participants that their participation in the study was voluntary and refusal to take part would not affect their access to services offered by the health facility. No form of inducement was used to entice participants to partake in the study. However, refreshment and transportation was provided after interviews. To help protect the identity of patients and prevent questioning by community members, both the questionnaire administration and individual interviews were held within an environment devoid of many people, which were largely chosen by respondents. To ensure participants' right, an informed consent (both oral and written) was obtained from them before conducting the interview.

Results

Demographic Profile of Respondents

Table 1 shows the demographic profile of respondents. Out of the 300 respondents, 54% were females and 46% were males. The age distributions indicated that the majority (35.7%) of the respondents were between 41 to 50 years old. It also became clear that majority (51.7%) of the respondents had no formal education. As was expected, the population was dominated by the Ga ethnic group (55.7%); however it was

surprising to find that only 9.3% of the respondents were Akans, given the proximity of the study area to regions surrounded by Akan speaking populations. With regard to religion, the majority (75%) of the respondents said they were Christians. Further analysis of the demographic data revealed that majority (64.3%) of the respondents was engaged in trading/ businesses of all kinds.

Table 1: Demographic profile of survey respondents

Characteristics	Frequency N = 300	Percentage
Sex		
Female	162	54.0
Male	138	46.0
Age		
20 and Below	6	2.0
21-30	37	12.3
31-40	61	20.3
41-50	107	35.7
51-60	61	20.3
61 and Above	28	9.3
Education		
No Education	155	51.7
JHS	35	11.7
Primary	90	30.0
SHS	17	5.7
Tertiary	2	0.7
Voc/Tech	1	0.2
Ethnic group		
Ga	167	55.7
Ewe	82	27.3
Akan	28	9.3
Northner	18	6.0
Other	5	1.7
Religion		
Christianity	225	75.0
Islam	51	17.0
Traditional	20	6.7
No Religion	4	1.3
Occupation		
Trade/Business	193	64.3
Farming	55	18.3
Casual Labour / Sand Winning	16	5.3
Fishing	16	5.3
Other	9	3.1
Farming + Fishing	6	2.1
Unemployed	4	1.3
Official Employee	1	0.3

Health Seeking Behaviour for Buruli ulcers

The following findings summarised the health seeking behaviour for Buruli ulcer in the Obom sub-district of the Ga South Municipality in the Greater Accra Region. Majority (71%) of respondents said they would seek treatment immediately they see the signs and symptoms of Buruli ulcer. On the other hand, 27.7% would not seek treatment immediately with the reason that they would wait to see how their condition would progress before seeking treatment. There was no gender significant difference in terms of early/late treatment for Buruli ulcer treatment seeking. However, there was a significant difference ($p < 0.001$) between the two age groups that was examined, thus the older age group 41 and above years (72.6%) would reportedly seek early treatment for Buruli ulcer compared to the younger age group – (10 -40 years). Interestingly, those who had never been to school (73.2%) were more likely to seek early treatment for Buruli ulcer ($p = 0.016$) compared to those who have had at least primary school education (Table 2).

It came to light that most respondents (41.0%) would resort to self-medication as their first treatment option when infected with Buruli ulcer disease. There was an association between age and first choice of treatment option, thus significantly more respondents aged 41 and above years were more likely to take self-medication ($p < 0.001$), visit biomedical health facilities ($p = 0.005$) and consult traditional/spiritual healers ($p = 0.030$) compared to those aged 10 - 40 years (Table 2).

There was a significant relationship between education and first treatment options reported. Thus, comparatively more (53.5%) respondents with no education said they would seek self-medication as their first treatment option for Buruli ulcer than those who attained primary and above educational level (27.6%) $p < 0.001$. On the other hand, as was expected, significantly more ($p < 0.001$) persons with primary education and above (42.1%) would consult biomedical

health facilities as their first treatment option compared to those who had no education (23.2%). Various reasons were given for selecting a particular treatment option and the two most prominently reported ones were that they are the 'best place to manage the condition' (38.3%) and 'convenient to use' (33%) (Table 2). Respondents were asked whether they would combine more than one treatment option when infected with Buruli ulcer disease and the following were their responses; 166 (55.3%) of them said they would not combine more than one treatment regimen for the management of their condition while 128 (42.7%) said they would combine more than one treatment regimen when infected with Buruli ulcer. The remaining 6 (2%) of the respondents said the severity of the illness would inform their decision on whether to use one treatment regimen or more.

The 166 respondents who said they would not combine more than one treatment regimen to manage their condition gave various reasons why they would not do that and these were: 'to avoid complications' (31 (18.7%)), 'to avoid infection' (39 (23.5%)) and 'to avoid delay in wound healing' (96 (57.8%)). The reasons given by the 128 respondents who said they would combine more than one treatment regimen for the management of their infection were to: 'meet spiritual and physical needs (55 (43.0%)), 'heal the wound fast' (54 (42.2%)) and 'complement each other' 19 (14.8%).

This was corroborated by a Buruli ulcer patient during an interview session thus:

".... I will combine both the biomedical and traditional treatment because I believe evil spirits can cause a wound ... The traditional treatment will drive away the evil spirits whiles the hospital treatment will heal me physically ..." (in-depth interview 55 year old respondent)

There was no relationship between the sex of respondents and early treatment seeking behaviour. However, there was a significant relationship between age and early treatment

seeking behaviour of respondents, where those who were 41 years or more were more likely to seek early treatment compare to those who were aged 10 to 40 years ($p < 0.001$). Also, there was a significant relationship between educational

level and early treatment seeking behaviour, where those with no education were more likely to seek for early treatment compared to those who have at least primary education ($p = 0.016$) (Table 2).

Table 2: Relationship between sex, age, education and respondents who will seek treatment immediately for Buruli ulcers

Seek treatment immediately	Female	Male	P-Value	Chi Square	Degree of Freedom
	N=162 (%)	N=138 (%)			
Yes	110(67.90)	103(74.64)	0.248535	6.74	
No	50(30.86)	33(23.91)	0.225556	6.95	2
Don't know	2(1.23)	2(1.45)	0.731305	0.21	
	10-40yrs	41yrs & Above			
	N=136 (%)	N=164 (%)			
Yes	95(69.85)	119(72.56)	0.000000	30.63	
No	38(27.94)	45(27.44)	0.017954	13.80	2
Depends on the illness	3(2.21)	-	-	-	
	No Education	Primary – Above			
	N=164 (%)	N=136 (%)			
Yes	120(73.17)	93(68.38)	0.016124	13.28	
No	43(26.22)	40(29.41)	0.921137	0.16	2
Depends on the illness	1(0.61)	3(2.21)	-	-	

Footnote: The following have been re-categorised for chi-square analysis: Age: 10-40 =104(34.67%), 41 and above = 196 (65.33%). Education: No education = 155(51.67%), Primary and above =145(48.33%)

Table 3: Relationship between sex, age, education and first treatment option for BU

1 st mode of treatment	Female N=162 (%)	Male N=138 (%)	P-Value	Chi Square	Degree Freedom	of
Self-medication	70(43.21)	53(38.41)	0.468187	4.80		
Biomedical	49(30.25)	48(34.78)	0.475689	4.54		
Traditional /Herbal treatment	40(24.69)	37(26.81)	0.774553	21.12		3
Depends on the illness	3(1.85)	0	-	-		
	10-40yrs N=138 (%)	41yrs & above N=162 (%)				
Self-medication	58(42.03)	65(40.12)	0.000247	22.61		
Biomedical	45(32.61)	52(32.10)	0.004801	16.74		
Traditional /Herbal treatment	35(25.36)	42(25.93)	0.030141	12.23		3
Depends on the illness	0	3(1.85)	-	-		
	No Education N=155 (%)	Primary – Above N=145 (%)				
Self-medication	83(53.55)	40(27.59)	0.000009	25.96		
Biomedical	36(23.22)	61(42.10)	0.000770	18.84		
Traditional /Herbal treatment	35(22.58)	42(28.97)	0.257229	6.38		3
Depends on the illness	1(0.65)	2(1.38)	-	-		

Footnote: The following have been re-categorised for chi-square analysis: Age: 10-40 =104 (34.67%), 41 and above = 196 (65.33%). Education: No education = 155 (51.67%), Primary and above =145 (48.33%)

Other Factors that Influence Treatment Seeking Behaviour

The kind of relationship that exists between patients and care providers has a great influence on their treatment seeking behaviour and adherence to treatment. The relationship has psychological effects on patients' healing process. It is therefore vital to respect the patients who come for treatment taking into

consideration their beliefs and practices as much as possible so as to avoid conflict with the biomedical treatment being offered by health practitioners. In view of this, we tried to understand how patients perceived biomedical health practitioners who handle their wounds during treatment at health facilities and the following narratives explained their positions:

“...We (Akans) have the belief that government health workers like nurses and doctors are exempted from some of the taboos of wound care....However; some nurses too have good and bad eyes...”(In-depth interview, a 70 year old female respondent).

Asked how she saw the services being provided by the nurses, this was what she said:

“...Hmmm!!! My son (referring to the interviewer) I will not say sorry, but some of the nurses at the clinic do not deserve to be nurses because they do not treat patients well at all....Such people do not work with a clean conscience; hence your condition will never improve nor heal.....So as for me, when I get to the clinic and ask of the in-charge called ‘chief’ and they say he is not there, I do not allow anyone to attend to me...”(In-depth interview, a 70 year old female respondent).

This was what a 66 year old male respondent had to say about how nurses should treat patients with wounds:

“.....People who have wounds need to be pampered for the wound to heal fast....So nurses need to pamper patients so that they do not dropout of treatment.... There are nurses who do not take good care of wounds when they are dressing them... They are not time for the patient so such patients’ wounds do not heal fast or they stop coming for treatment at the clinic...”(A 66 year old male, focus group discussion).

Some of the patients claimed that they did not have any problem with pregnant nurses who dressed their wounds at the clinic while others were not comfortable with that. This position was represented in the following narratives:

“...In the clinic, there are young nurses who dress my wound for me.... I am happy with the way some of them treat/dress the wound but some are not polite at all.... There was a pregnant nurse who dressed my wound.... But since she is a government worker I am not worried.... However, some of the patients

especially the old women were not happy with that..... They were not happy because of the belief that pregnant women are not allowed in our culture to dress wounds...” (In-depth Interview, a 48 year old male BU patient)

According to participants, there were some few individuals who neither practiced witchcraft nor juju /charms but they naturally have evil eyes from birth. Such people have ‘bad luck’ so when they see your wound it will not heal fast. According to them this was one of the reasons why many people did not want to come to the clinic for treatment because you could not tell who has good eyes or evil eyes.

A 57 year old Buruli ulcer patient made the following remark:

“...Even at the hospital/clinic, there are good hands and bad hands. Some nurses dress your wound and you will be relieved and not feel any pain until 3 days.....But some nurses also dress your wound and you will have no rest... It will pain you for the whole day or more.... When such people are dressing your wound, it does not heal fast.....I would have loved that one nurse dress a wound for a patient till the wound gets healed because since I have been coming here for a long time, I know the nurses who have good hands and bad hands.....If I have my way, I would have maintained one nurse to treat my wound till it heals.... This may apply to many patients who come to the clinic for wound dressing because some see some nurses as having painful hands and some having good hands.....Some of the nurses too do not do their work with clear/free conscience so it affects the wound of the patients.... Such nurses do not help the wound to heal fast.....But there are some nurses too who have clear/good conscience and are happy about what they do. Such nurses help the wound to heal fast...” (A 57 year old Buruli ulcer patient, in-depth interview).

Asked what has to be done to improve nurse-patient relationship to enhance effective wound care, this was what a respondent had to say:

“...Since I started coming to the clinic, I have seen significant improvement but I think some of the nurses need to be advised to treat us all well.... A wound is a painful condition so our dear nurses need to be patient with us so that we can remain at the hospital till our wounds heal.....By so doing, some of us will not be tempted to add other things to the wounds in our homes...”(A 48 year old male BU patient, In-depth Interview,).

Discussion

Findings from the study show that most respondents would resort to self-medication or visit the drug store whenever, they are not well. This is similar to Nsungwa-Sabiiti et al., (2004) findings on malaria in Uganda where self-medication was used as a first treatment option when signs and symptoms of malaria were detected. The majority said the drug store was the most accessible health service delivery point to them. These findings were consistent with similar work done by Grietens et al., (2012) in Cameroun where it was found that many respondents resorted to self-medication or visited the drug store when unwell. Moreover, Kibadi et al., (2009) conducted a study in rural Democratic Republic of Congo on Buruli ulcer patients and also found that patients waited for an average of two months (wait and see period) after noticing their Buruli ulcer status during which they used their social network to confirm the disease. They resorted to self-medication and this was usually with allopathic drugs in the form of non-specific antibiotics and anti-inflammatory medicaments mostly without prescription. These drugs were normally purchased from local markets, and they dressed the wound with local cloth or bandage. Another option was the use of the health facility. Moreover, findings in this study were similar to what Lonnroth et al., (2001), found in their TB research in Vietnam, where patients resorted to self-care and delayed treatment for TB in biomedical health facilities due to the fear of being stigmatised. As with Buruli ulcer, TB represents a classic public health issue that

affects the whole society and therefore has received Governmental attention in its appropriate and effective detection, diagnosis and treatment (Lonnroth, et al., 2001). Nonetheless, studies of health seeking behaviour in relation to TB repeatedly demonstrate that patients do not always choose a public health care facility for the entire duration of treatment; they delay diagnosis and often do not complete the lengthy course of treatment necessary for effective healing (Steen & Mazonde, 1999; Yeboah-Manu et al., 2013).

In this study, most of the respondents said health facilities available to them are very far. In fact, some of the respondents state that it is less burdensome, socially and financially, to access treatment at the drug store instead of walking long distances for treatment in a health facility. Findings in this study supported the claim made by Ahorlu et al., (2013) and Adamba et al., (2011) that treatment outside of the community, whether biomedical or traditional, usually placed an overwhelming financial and social burden on the patient and his/her household as it either implied constant travelling to receive treatment or social isolation for the patient who was required to stay without relatives at the place of treatment. These movements also lead to social isolation for the patient who is required to stay without relatives at the place of treatment to save money on travel cost (Grietens et al., 2012). Contrary to the reasons cited in this study for treatment choices resorted to by Buruli ulcer patients, Awusabo-Asare and Anarfi (1997), in their HIV study reported that due to the social interpretations given to certain diseases, persons affected tend to avoid other people, as they may initially choose home or self-administered treatment strategies mostly involving the use of herbs, self-medication, and purchase of drugs over the counter. This tendency leads to delays in reporting the infection for early attention, thus enlarging the enormity of coping that is required. The health implications of self-medication and patronising the drug stores are serious for the individual and

the society at large. This might lead to misuse and abuse of drugs, especially antibiotics by the patient, since most of the store attendants are not professionals who could give the right dose to their clients. However, involving drug store attendants, in management, health promotion programmes and training them on pharmaceutical usage by the Ghana Health Service through the control programme could help regulate and promote appropriate use of drug stores by people infected with Buruli ulcer.

Findings from the study revealed that most community members in the Obom sub-district were more likely to seek treatment immediately they see the signs and symptoms of Buruli ulcer. This is consistent with a study conducted by Renzaho et al., (2007) in Ghana, where they found that, most Buruli ulcer patients sought treatment immediately after an infection was suspected. Similar to other studies, this study found however that some would wait for some time before seeking treatment and this is also consistent with findings reported in other studies in Ghana and DR Congo (Renzaho et al., 2007; Ackumey et al., 2011; Kibadi et al., 2009). This finding has serious implications for Buruli ulcer early case detection and treatment at the health facilities and this must be taken into consideration when designing health educational messages to reduce late reporting at health facilities.

This study found that herbalists/spiritualists/traditionalists manage Buruli ulcers by applying herbs, use of concoction in addition to exorcising evil spirits to cater for spiritual aetiological factors. Similar findings were reported in an earlier study conducted in Ghana (Ahorlu et al., 2013). This is also consistent with a study by Winch et al., (1996) in Tanzania where illnesses having symptoms compatible with severe malaria were seen as distinct from 'homaya malaria' and were placed either with severe fevers or with illnesses due to witchcraft or sorcery and so were treated through exorcism to drive out the evil spirits. It is clear from the findings that most community

members at the Ga South Municipality seek biomedical treatment only as a last resort, when self-medications and herbal remedies had failed to cure the infection. This supports the report that Buruli ulcers are not considered a 'hospital disease' in their early stages (Stienstra et al., 2002). This has serious public health implications as early diagnosis of the condition often results in favourable health outcomes. To circumvent this, there is the need for continuous community outreach and educational programmes using recovered Buruli ulcer patients to share their success stories. Such testimonies by former patients could improve health seeking behaviour toward the biomedical system as demonstrated by Ahorlu et al., (2013).

This study also established the fact that community members and Buruli ulcer patients combined more than one treatment options to manage the disease. This finding is consistent with studies conducted by Ackumey et al., (2011) in Ghana and Steen and Mazonde, (1999) in Botswana where respondents believe that combining more than one treatment regimen complimentarily for their condition addressed both the spiritual and physical needs for the wound to heal fast. This means that, even though, there is a high awareness and knowledge about Buruli ulcers in Ghana, socio-cultural factors continue to influence the treatment seeking behaviour of many people affected by the disease. Contrary to studies conducted in Ga West by Ackumey et al., (2011), and Adamba et al., (2011), obstacles to hospital treatment for Buruli ulcers in Ga South was not dominated by cost of transport and poor accessibility but beliefs and perceptions about wound healing and community taboos discourage them from seeking treatment.

The Health Care Utilisation model discussed the barriers that influence health seeking by individual patients, households and communities. The model generally indicated that financial obstacles, especially in relation to transportation, time constraints, socio-cultural beliefs and practices and availability of health

care staff and services influenced treatment seeking. The strength of this model lies in its exposition of physical, structural, social, cultural and economic factors as influencing the utilisation of health services by clients in every social environment. Since this was a community study, the model was relevant to the research findings.

The findings therefore demonstrated the relevance of the health care utilisation model as adapted for the study. The predisposing factors as outline in the framework as knowledge, perceptions, culture of wound care and treatment seeking behaviour for individuals and communities supported the findings of the study. Cultural beliefs as pregnant women should not dress wounds, lactating mothers should not dress wounds, and women in their menstrual cycle should not manage wounds predisposed the community members to prefer traditional treatment to the biomedical facility. This was found in both the quantitative and qualitative findings. Moreover, the perceptions of the causes of Buruli ulcer as natural and supernatural as found in the community also confirmed the predisposing factor of perceptions as outline in the conceptual framework. In effect, all those who said Buruli ulcer was caused by supernatural factors were predisposed to utilise the traditional medicine to health facilities.

Furthermore, the adaptation of experience as a predisposing factor in the model corroborated findings of the study. Reports of bad Experiences with nurses at clinic and contradiction in wound healing perspectives (of dry and wet wounds) predisposed community members to either utilise the health facility or visit the traditional/spiritual homes for treatment. Additionally, the expectations of wound healing physically or spiritually as found in the study predisposed some community members to combine both the biomedical and traditional treatment in their regimen. The factors adapted as predisposing factors in the conceptual framework therefore confirmed the findings of the study and predisposed community members

to utilise biomedical health care or traditional treatment.

It is however important to note that, predisposing factors did not influence self-medication in the study but rather the items used for treatment. The study established that everyone at a point in time self-medicated irrespective of their belief or perception about Buruli ulcer disease. However, the findings of treatment seeking behaviour for Buruli ulcer did not support the enabling and need factors outlined in the conceptual framework adapted for the study. The findings have shown that the satisfaction of enabling and need factors could not guarantee health care utilisation by clients, household and communities.

In conclusion, the findings of the study as related to the conceptual framework adapted have established that predisposing factors are important determinants of Buruli ulcer treatment seeking in the Ga South Municipality of Ghana. The need and enabling factors are secondary issues when individuals, households and communities sought to utilise health care of any kind.

It is important to note that, better understanding of community and individual perceptions and cultures by health care providers about their disease conditions, the quality of services, and their health needs enable them to improve the efficacy of public health interventions and contribute to increased utilisation and effectiveness of health delivery services. The model failed to address this vital factor in health care utilisation. Again, the model was silent on health providers' barriers and perceptions like doctors' availability, waiting time, fear of infection, inhaling of bad wound odour timing of facility and other supply side issues which should be complemented by client perspective also to ensure treatment seeking by patients. However, in considering the objectives of the study, the health care utilisation model served as a guide to designing tools for data collection and also helped to give clearer insight into socio-cultural factors that influenced treatment seeking

by patients and community members in Buruli ulcer endemic areas and so was relevant to the study.

Conclusion

In a community where people have varied ideas about what the cause of the disease is and largely attributed it to supernatural causes, the unorthodox treatment actions taken by the people is expected. However, the health seeking of self-medication or visiting the drug store or herbalist before seeking biomedical treatment was alarming since it leads to delays in reporting. This is a serious public health concern since delay in reporting could lead to category three lesions that have serious financial implications on the individual and the nation at large.

Limitation of the Study

The main weakness of this study was that, even though it was conducted in more than one community, all the communities are in (one sub-district) Obom sub-district. For this reason, findings from the study could not be generalised beyond the study area, though most of the health system issues may be applicable countrywide, caution needs to be exercised when making inferences from the study in other contexts in and out of Ghana.

Competing Interests

The author hereby declares that he has no competing interest

Author's Contribution

At the conception, design and implementation, and data collection stages of this paper EK, was involved. After the collection of the data, EK did the analysis, and wrote the paper, proofread and finalised it.

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