UNIVERSITY FOR DEVELOPMENT STUDIES

CONTRIBUTION OF TRADITIONAL BONESETTERS IN THE PRIMARY HEALTH DELIVERY SYSTEM IN TAMALE METROPOLIS

AHIRU ABDUL HAMIDU

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BY

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OCTOBER, 2018

DECLARATION

I hereby declare that this thesis is the result of my own original work and that no part of it has been presented for another degree in this University or elsewhere.

Tahiru Abdul Hamidu …… …….

(Student name) **Signature** **Date**

I hereby declare that preparation and presentation of this thesis was supervised by me in accordance with the guidelines on supervision of the thesis laid down by the University for Development Studies.

Dr. Thomas Azongo ...…… …….....

(**Name of Supervisor**) Signature Date

ABSTRACT

This study was conducted to examine the contribution of traditional bone setting in primary health care in the Tamale Metropolis. The study was a cross sectional descriptive study using mixed methods of data collections. Purposive and Snow Ball sampling techniques were adopted. Eight (8) traditional bone setters were interviewed. In all, forty (40) in-patients as well as thirty (30) out-patients were interviewed. Additionally, ten (10) health care providers were interviewed. Findings of the study indicated that perception on quality of care by traditional bone setters among the entire category of respondents was judged to be high. On treatment outcome, 66.6% indicated that they were fully treated, 16.6% indicated that they were partially treated whiles 16.8% said they developed complications after the treatment. With pain management, majority of the TBS said they do not give pain medication. On the part of the challenges confronting TBS, inadequate accommodation for patients, inadequate funds, difficulty in accessing herbs and poor record keeping were identified. Almost all the respondents supported the need for collaboration between traditional bone setters and modern health care practitioners. This study therefore concludes that the contribution of the TBS is very beneficial among the people since majority of the patients who received their service indicated that they were fully recovered. It was recommended that, there is the need for sensitizing and training of bonesetters by formal health care institutions to improve their services.

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DEDICATION

This work is dedicated to the memory of my late father Jeyirwura, TahiruDramani and to my mother Mariama Ewuntogmah.

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DAMA	Discharge Against Medical Advice
TBS	Traditional Bone Setters
TM	Traditional Medicine

CHAPTER ONE

INTRODUCTION

1.1 Background of study

Traditional medicine variously known as ethno-medicine, folk medicine, native healing, or complementary and alternative medicine is the oldest form of health care system that has stood the test of time. It is an ancient culture-bound method of healing that humans have used to cope and deal with various diseases that have threatened their existence and survival (Abdullahi, 2011).

Access to quality healthcare is a major determinant of the productivity of nations, and also a fundamental human right of every individual irrespective of their socio-economic background and geographic location (UNDP, 2005). However, the high cost of Western medical care coupled with inadequate health personnel puts more health care services out of the reach of large percentage of Ghanaians and other Africans especially those living in rural areas. They rely more on traditional medicine and medicinal plants to meet their health care needs (Abdullahi, 2011).

Traditional medicine is a product of social institutions and cultural traditions that have evolved over many centuries to enhance health care of people (Adamatey, Oduro & Ocloo, 2014). The use of traditional medicine is widespread in Africa, and its acceptability, availability and popularity is not in doubt as about 80% of Africans have recourse to it for their health care needs (Azongo, 2014).

The essence of traditional medicine revolves around the use of natural herbs in the bodily, spiritual, emotional and psychological healing of the total man (Ahmed, 2005). God is the source of nature and the manufacturer of the herbs. Therefore, God is the

source of traditional or herbal medicine. King David in Psalm 104:14 stated thus: “He causes the grass to grow for the cattle and herbs for the service of man (Bali, 2012; Olaolorun, Oladiran & Adeniran, 2001).

The Ministry of Health (2000) indicated that in rural Ghana one doctor (general practitioner) serves 40,000 people whereas one surgeon serves 300,000 people. In Sub-Saharan Africa for instance more than 80% of the population relies on medicinal plants and traditional medicine as their primary source of health care (Bannerman, 1993).

This involves the use of herbs and other spiritual connotations to fix broken bones or dislocations. Apart from the problem with access to modern medicine, this practice has seen an upsurge in recent years due to remarkable increase in cases of fractures as a result of increased urbanization and an emergent reliance on motor vehicles (Aries, 2007).

Also, most people go for the service of the traditional bone setters because of their beliefs as indicated by the Health Belief Model that people's health seeking behavior is influenced by their perceptions about the threats of a health condition, seriousness of the condition, benefits of the course of action and barriers, including tangible and psychological cost (Ahmed, 2005).

Most Africans believe that diseases and accidents have spiritual components that need to be tackled alongside the treatment (Thanni & Oginni, 2000). Yidana (2014) indicated that in almost all societies, the concept of illness is determined by culture. Also as purported by Rumun (2014), illness is believed to be associated with culture in

which perceptions, conception and management of ill-health are determined by the culture of the people concerned.

This suggests that culture incorporates belief systems which in turn underline the perception and interpretation of disease in societies (Adamatey, Oduro & Ocloo, 2014). Notwithstanding that, it is also believed that in African traditional medicine, the patient is not only seen as a physical being, but also as a body with soul and spirit (Aries, 2007). The traditional healer seeks to strike some sort of equilibrium amongst these three components of the human being (Access, 2010).

Therefore, in situations in which medical facilities cannot offer sufficient explanation to afflictions, coupled with the pervasive reverence for ancestors, one would expect attempts by people to solicit traditional interventions to satisfy their health needs (Azongo, 2014).

The use of traditional medicine in the world remains widespread (Access, 2010). For example, traditional medicine accounted for around 40% of all health care in China and up to 80% in Africa (WHO, 2002). Therefore traditional medicine has an important role in the healthcare delivery system of most countries in the world (Yidana, 2014). These traditional ways are used for different diseases, and in some cases its use is reserved for those diseases when not treated by other form of medicine (Owumi et al., 2013).

According to Omololu et al. (2012), traditional medicine has been the first point of call before western or orthodox medicine and a last resort when all orthodox efforts fail. This is because most people in certain parts of the world believe that certain diseases can only be treated by traditional methods.

In Nigeria, the services of traditional bone setters (TBS) are accessed by more than any other group of traditional care-givers by people in the society (Orjioke, 1995). It is not different in the case of Ghana where patients leave formal health facilities to seek treatment from traditional bonesetters due to the perceived belief of a better and quicker result (Aries, 2007).

The above assertion is supported by a study conducted by Sine et al. (2014) which found that about half of patients who visited bone setters were taken to hospitals before being withdrawn to the bone setters. Reasons for this included culture and beliefs, third-party advice, and also overcrowding of hospitals with trauma cases. Care takers of patients sometimes also believe that the services of the TBS were cheaper, more available and results in faster healing than orthodox measures (Thanni & Oginni, 2000).

The Ministry of Health (1995) formed the Ghana Traditional Healers Association and this association is recognized by the government of Ghana. This is because, the traditional bonesetters, have a role to play in the management of patients with fractures. Based on the above recognition, a recommendation by Nwachuku et al. (2011) in a study indicated that, a collaborative effort on the part of governments, professional orthopedics societies, private/charitable organizations and traditional healers is needed to integrate modern fracture care in developing nations. They support the notion that further integration between traditional and Western medical care will ultimately provide sustained long-term improvement of outcomes in the treatment of musculoskeletal injuries.

1.2 Problem statement

Notwithstanding the limitations of traditional bone setting in the National health Care delivery system, many people continue to patronize it (Aries, 2007). Ghana and for that matter Northern region has experienced an upsurge of traumatic injuries due to increasing urbanization and an emergent reliance on motor vehicles (Thanni & Oginni, 2000; Abdullahi, 2011). Consequently there is a remarkable increase of fractures with some patients leaving formal health facilities to seek treatment from traditional bonesetters (Abdullahi, 2011)

For instance according to the Annual Report of the Orthopaedic Unit of the Tamale Teaching Hospital, 88 patients out of 567 admissions representing 15.52% requested for discharge against medical advice (DAMA) for 2015 and 85 patients out of 485 admissions representing 17.5% opted for DAMA in 2016 (Hospital records, 2016).

Patients who leave the hospital to the bone setters feel that the services of the bone setters are more affordable, easily accessible and result in faster healing than the orthodox care (Thanni & Oginni, 2000).

Apart from those patients who visit the hospital before leaving to the bone setters, there are others who go straight to the bone setter without passing through the hospital. However, inadequate information exists on the contribution of the traditional bonesetters to modern health care in the Tamale metropolis. This study was conducted to fill this gap in the literature.

1.3 Research questions

1. What is the perception of quality of care by traditional bone setters in the Tamale Metropolis?

2. What is the treatment outcome of traditional bone setters' patients in the Tamale Metropolis?
3. What are the challenges confronting traditional bone setters in the Tamale Metropolis?

1.4 Research objectives

1.4.1 General objectives

The main objective of the study is to assess the contribution of traditional bone setters in the Primary HealthCare delivery system in Tamale Metropolis.

1.4.2 Specific objectives

1. To examine the perception of quality of care of traditional bone setters in the Tamale Metropolis
2. To assess the treatment outcome of traditional bone setters among patients in the Tamale metropolis
3. To ascertain the challenges confronting traditional bone setters in the Tamale metropolis

1.5 Significance of the study

This research report would serve as a reference material and provide opportunity for further study into this area. Carrying out this study would help in gathering data based on available evidence and would provide an explicit objective for safety measures with regards to bonesetters' treatments.

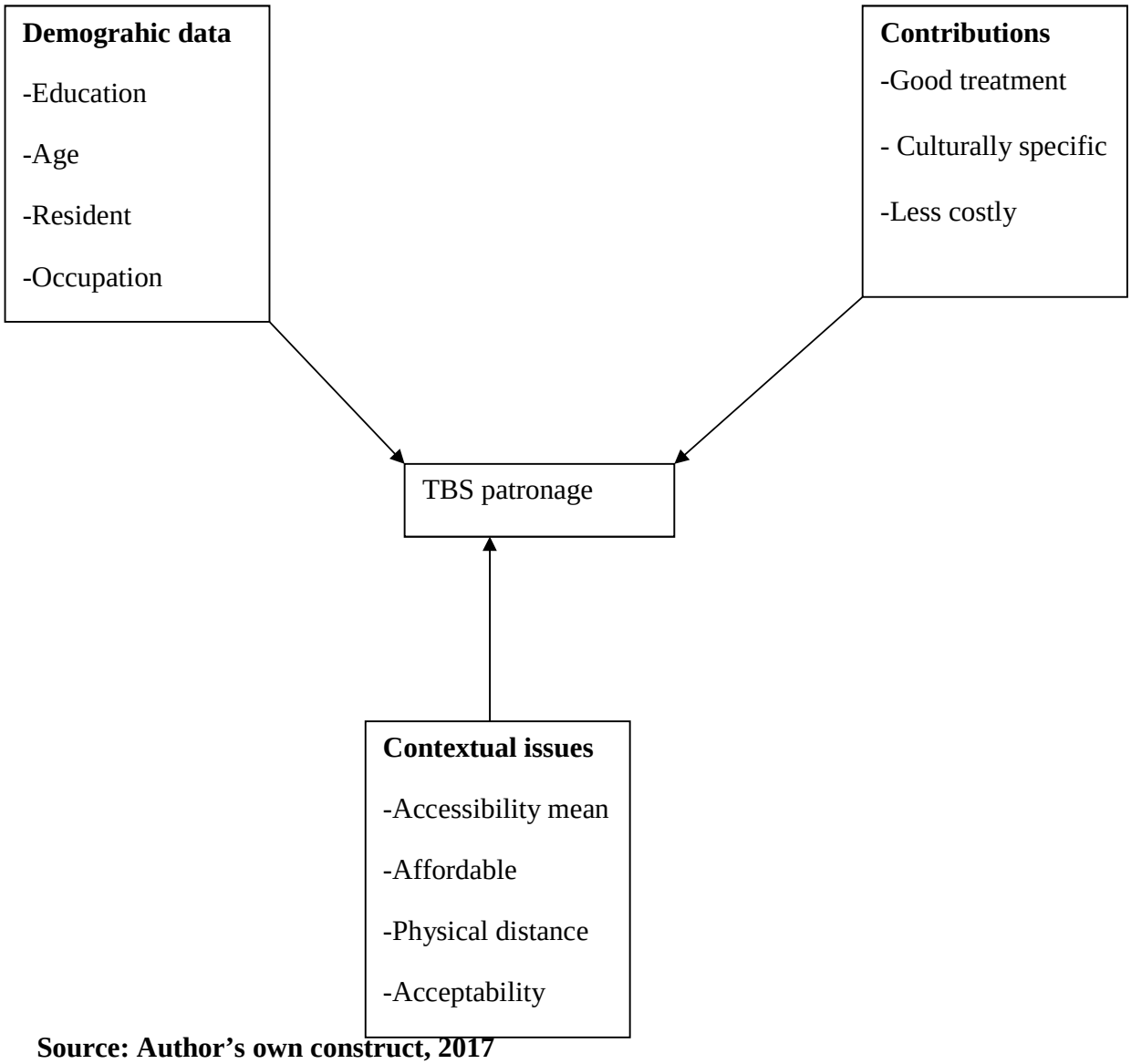
The data generated from this study would be useful to the Ministry of Health, Ghana Health Service and other interested organizations in the Tamale metropolis and Ghana

as a whole in formulating policies regarding traditional bone setting and traditional medicine in general.

1.6 Conceptual framework of the study

The study adopted a conceptual framework to support the study variables. This is explained in Figure 1.1.

Figure 1.1: Conceptual framework



Source: Author's own construct, 2017

Figure 1.1, shows the various factors likely to influence people to patronize traditional bone setters. In the figure, certain demographic characteristics of patients such as the age, occupation and place of residents may influence the patronage of traditional bonesetters.

People staying far away from health care facilities are more likely to patronise traditional bonesetters as compare to those who live very close to health care facilities. It was also showed that, the elderly are more likely to patronise traditional setters as compare to the young persons.

Concerning contextual issues that were more likely to influence the patronage of traditional bonesetters at the study area, accessibility was identified. It was showed that services of traditional bonesetters were easily accessible to the people in the study area, their services in most cases were very affordable and people also perceived their treatment processes to be faster in terms of the healing processes. It was also showed that, people perceived them to be culturally sensitive when they were treating fractures since they made use of traditional herbs.

1.7 Scope of the study

The study was conducted to assess the contribution of traditional bone setters in the primary health care delivery system in Tamale metropolis. The study was restricted to finding out the perception of traditional bone setters on the quality of care to their patients, examine treatment outcome of traditional bone setters among patients, identified the contributions of the traditional bonesetters and also examined the challenges confronting traditional bone setters in the Tamale metropolis.

1.8 Definitions of key concepts

- **Bone setter:** A practitioner of bone manipulation
- **Modern healthcare:** Health care provision to a patient which is satisfactory and of an acceptable standard

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

The World Health Organization notes that the term traditional medicine (TM) is used when referring to Africa, South-East Asia, Latin America and/or Western Pacific while Complementary and Alternative Medicine is used when referring to Europe and/or North America and Australia (WHO, 2002).

Traditional bone setting as part of traditional medicine (TM) is a known procedure among Africans. A traditional bonesetter is a lay practitioner of bone and joint manipulation. He or she is a practitioner who takes up the practice of healing without any formal training in accepted medical procedures (Garissa Hospital Records, 2009).

Despite the advances in technology and medical research coupled with the availability of modern health care, traditional bone setting has continued to exist as an alternative health service in most developing countries such as in the Indian Subcontinent, Africa and South America. These unorthodox practitioners still play an important role in providing primary “medical” support (Green, 1999; Bodeker, Kronenberg & Burford, 2007).

Before the advent of western invention, every society had its own ways of doing everything including how to maintain the health of its members. These ways are embedded in the culture of the people. Just like in every other aspect, there are traditional ways of treating the sick whenever there is the need to do so (Mack et al. 2005; Olaolorun, Oladiran & Adeniran, 2001).

Traditional medicine therefore has an important place in the healthcare delivery system among Africans (Thanni & Oginni, 2000). Traditional medicines are used for treatment, and serve as last resort where other forms of treatment have failed (Patricia 2012; Olaolorun, Oladiran & Adeniran, 2001). Omonzejele (2008) puts it as being the first port of call before western or orthodox medicine and a last resort when all orthodox efforts fail.

The development of traditional medicine in Africa has led to the emergence of various categories of healers, the various healing methods, strategies and medicines or remedies now known (Memon et al., 2009; Bali, 2012). The British colonial masters brought in orthodox medicine and, today, both systems of medicine exist in the country; both have the primary objective to cure, manage or prevent diseases and maintain good health (Onuminya, 2006; Memon et al., 2009)

2.2 Fractures and dislocations

Open fracture is the type of fracture in which there is an open wound or break at the site or near the site of the fracture.

According to American Academy of Orthopaedic Surgeons,a fracture may be described as a break in the continuity of a bone (Onuminya, Onabowale & Obekpa, 1999). If the broken bone perforates the skin, it results in an open or compound fracture while closed or simple fracture is one in which the skin is undamaged (Onuminya, Onabowale & Obekpa, 1999).

All open fractures therefore carry the risk of becoming infected. In addition, blood loss from external haemorrhage may be significant (Green, 1999). In a closed fracture the skin is either intact, or if there are any wounds these are superficial or unrelated to the

fracture. So long as the skin is intact, there is no risk of infection from outside and any haemorrhage is internal (Iwegbn, 2004).

Fractures can further be categorized into depressed fracture, oblique fracture, comminute fracture, spiral fracture, impacted fracture, complete compound fracture, green stick fracture, incomplete fracture and fissured fracture (Bali, 2012).

Dislocation on the other hand is an injury to a joint in which the ends of the bones are forced from their normal positions (Thanni & Oginni, 2000). It can be categorized into fracture dislocation, dislocation of joints due to ligament tears, anterior posterior dislocation of the head of the humerus, downward displacement of the head of the humerus, marked displacement of any articulation surface usually found in the knee joint and oblique dislocation in one of the articulating bones (Thanni & Oginni, 2000).

The aim of fracture treatment is to achieve anatomic reduction, fracture union and functional outcome of injured part close to normal as possible (OlaOlorun et al, 2001; Memon et al. 2009).

In conventional medicine diagnosis of fractures is done through history, clinical examination, and radiological assessment (Hausmann-Muela et al. 2003). The primary aims of fracture treatment are: the attainment of sound bony union without deformity and the restoration of function, so that the patient is able to resume his former occupation and pursue any athletic or social activity he wishes as quickly as possible and without any risk of any complications, whether early or late (Nkele, 2000)

The initial treatment of the fracture requires that undue movement at the fracture site be prevented by the use of temporary splint age till radiographic and other examination is complete (Graham &Solomon, 2012). The commonest method used in

fracture reduction is by the application of traction, followed by manipulation of the fracture and the stabilisation and immobilisation. This can be either through internal fixation, continuous traction, arm slings, bandages and adhesive strapping and plaster of Paris (Omonzejele, 2008)

A loose splint will not serve the purpose while a tight one may cause pain and suppuration of the underlying tissues. After the actual treatment is over, a properly united fracture is one with absence of gaps between the broken fragments, no shortening deformity, and return of painless, easy movements (Graham &Solomon, 2012; Olaolorun, Oladiran & Adeniran, 2001).

Traditional medicine has endeared itself to the people especially in the rural areas who lack access to western medical practice (Memon, et al. 2009; Bali, 2012). Furthermore the prohibitive cost of western medications present another attraction for traditional medicine (Arie, 2007; Bannerman, 1993). Throughout Africa, traditional medicine is very popular because the practice takes full account of the socio-cultural background of the people (Olaolorun, Oladiran & Adeniran, 2001; Onuminya, Onabowale & Obekpa, 1999).

Moreover the efficacy of western drugs has been questioned (Abdullahi, 2011).

A traditional bonesetter often manipulates the bones and applies splints to the area around the fracture or wound and applies medicines by reciting incantations to the affected area. He/she performs a series of ceremonies and incantations through calling on spiritual essence of the patient and connects with his spirit guides for assistance (Nwachuku et al. 2011)

Sometimes the healer may include specific actions in order to alleviate the underlying cause of the ailment. He knows the skills of reduction and immobilization and also uses locally available plant material. (Bannerman, 1993; Mack et al. 2005; Onuminya, Onabowale & Obekpa, 1999).

Traditional bone setting is a known procedure among Africans; although it is associated with severe complications, such as pain, gangrene, malunion, nonunion, joint stiffness and infections, people still prefer this method of treating fractures, most commonly in developing nations (Onuminya, Onbowale & Obkpa, 1999; Callistus, Alhassan & Issahaku, 2013)

The fracture should be fully assessed by clinical and radiological examination: the site, pattern, displacement and angulations are noted (Eshete, 2005). Involvement of the skin, and damage to related structures such as important nerves or blood vessels should be assessed.

If a fracture is only slightly displaced, reduction may nevertheless be highly desirable, as for example in fractures involving the ankle joint, where even slight persisting deformity may lead to the development of osteo-arthritis (Braun & Clarke, 2006). In other situations, some displacement may often be accepted, depending on the site involved, where good remodeling may be anticipated (especially in children), if the patient is very old, then the risks of anaesthesia may be considered to outweigh a problematical improvement (Hellman, 2000).

2.3 Traditional medicine

Importance of traditional medicine cannot be overemphasized, as Panneerselvam (2007), stated that traditional healing has been a practices designed to promote mental,

physical and spiritual well-being that are based on beliefs which go back to the time before the spread of Western scientific bio-medicine. World Health Organization (2002) made it known that populations throughout Africa, Asia and Latin America use traditional medicine to help meet their primary health care needs (Thanni & Oginni, 2000; WHO, 2000).

As the economic importance of traditional knowledge and medicinal plants products and services are growing, employment opportunities are provided to various people and at the same time people raise concerns about availability of medicinal plants all the time, increasing costs of the herbal products in domestic market especially for marginalized population and a dilution of classical practices are raised (Panneerselvam, 2007).

In Africa, efforts have been made to recognize traditional medicine as important aspect of health care delivery system (Thanni, 2001; Oyebola, 2008)

Traditional medicine according to WHO is the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness (WHO, 2000).

Other authors such as Osemwenkha (2000) define traditional medicine as the sum total of all knowledge and practices whether explicable or not, used in the diagnosis, prevention and elimination of physical, mental and social imbalance and relying exclusively on practical experience and observations handed down from generation to generation, whether verbally or in writing.

Traditional medical practitioners in Ghana, as in other parts of Africa, include "herbal healers, bonesetters, traditional birth attendant, spiritualists, shrine operators, eye specialists, throat specialists, animal bite healers, veterinary healers etc. (Bodeker, Kronenberg&Burford, 2007).

In many developing countries especially in Africa, traditional medicine is still the main source of health care delivery in spite of the growth of religious enlightenment and western civilization in the areas of modern technology and orthodox medicine (Peter, 2003). According to experts, the World Health Organization records that an average of 80% of the total populations of Asia, Latin-America and Africa use traditional medicine in meeting their primary health care needs (WHO, 2005).

Onuminya, Onbowale and Obkpa (1999) observed that healing is part of the whole complex religious attempt by man to bring the physical and spiritual aspects of the universe as well as man who lives in it into the desired consistent harmony. The idea of “wholeness” is therefore not alien to the African mind (Olaolorun, Oladiran & Adeniran, 2001). Healing becomes a cardinal religious practice because African cosmology demands that life in the world must be free from problem especially ill-health and obstacles that may hinder the fulfillment of desired goals (Mack et al. 2005).

In the traditional African world view, health and healing are connected just in the same way they are with the fundamental theme of life. Herbs were the first medicines used by pre historic man. They are, therefore, part of every cultural tradition and have helped the development and growth of herbal medicine in Africa (Azongo, 2014; Mack et al. 2005).

For many people in Africa, Asia, Latin and America particularly and those living in rural areas, traditional/herbal medicine is the only available, accessible and affordable source of health care (Ugah, 2010).

There has been a steady upsurge of interest in the use of traditional medicine both in developed countries and developing countries of Africa, Asia, Europe and Latin America. In these countries herbal medicine is usually referred to as complementary and alternative medicine (Onuminya, 2004; Twumasi, 1997). According to the WHO (2005) about 60% of children in Ghana suffering from fever, most probably caused by malaria are treated with herbal medicines. Issues of access, ratio of doctor to patients, distance, cost as well as cultural factors may account for this pattern of people.

The recognition of the overarching role of traditional medicine in Ghana is dated back in 1961 when Psychic and Traditional Medicine Practitioners' Association was formed (Callistus, Alhassan & Issahaku, 2013). Also, the Medical and Dental Decree which was established in 1972 as well as the Nurses and Midwives Decree in 1972 permit natives of Ghana to practice traditional medicine, provided their practices are not injurious to human lives (Callistus, Alhassan & Issahaku, 2013)

Apart from that the Ministry of Health has also established a Traditional and Alternative Medicines Directorate at the Ghana Health Service since 1999 which has organized all traditional medicine practitioners into an umbrella body known as the Ghana Federation of Traditional Medicine Associations (GHAFTRAM) (WHO, 2001).

The ministry also indicated that, a very important component of traditional healing is bone-setting which play a substantial role in the Ghanaian healthcare system (MoH,

1995). Despite all that, traditional bone setting has not received the necessary attention it deserves (Abdullahi, 2011).

African traditional medicine has an important place in the healthcare delivery system among the people of Africa (Adefolaju, 2011). Prior to the advent of western medicine invading the African traditions, every society stipulated ways of doing things in their unique ways even with relation to health (Abdullahi, 2011). These conducts are embedded in the culture and practice of the people.

There is an aura of mystery and secrecy surrounding traditional healthcare (Onuminya, 2004; Twumasi, 1997). Also, secrecy may be understandable as a way in which traditional health practitioners guard their valuable health care knowledge on which their families depend (Rumun, 2014).

The modern health practitioners perceive belief to be contrary to sound medical science, and for some, their Christian religious conscience (Bannerman, 1993; Onuminya, 2004)

Omeonu (2003) observed that African medicinal plant resources may be doomed to extinction by overexploitation resulting from excessive commercialization, habitat destruction and other natural and man-made destructive influence unless serious conservation measures are taken to ensure their continued availability.

This can be done through establishment of medicinal plant garden and farms (Bodeker, Kronenberg & Burford, 2007)

2.4 Traditional bone setting

A traditional healer as defined by the WHO (2001), is a person who is recognized by the community in which he lives as competent to provide health care by using

vegetable, animals and mineral substance and certain other methods based on social, cultural and religious background, as well as on the knowledge, attributes and beliefs that are prevalent in the community, physical, mental and social well-being and the cessation of disease and disability.

Traditional bone setting is a branch of traditional medicine which is practiced all over the world and in Africa in particular (Udosen, Otei&Onuba, 2006; Adesina, 2014). Traditional medicine is defined as drugs made from herbs or plants and can be used as raw materials for medicine (Omonzejele, 2008; Neba, 2011). Traditional bone setting according to (WHO, 2002) encompasses ancient and culture-bound healthcare practices which existed before the application of science to health matters.

Traditional bone setting health service delivery relies exclusively on practical experience through apprenticeship and observations handed down from generation to generation whether verbally or in writing (Azongo, 2014; Adesina, 2014). A traditional bone-setter takes care of sprains, dislocations, simple to complex fractures which mostly are emergency cases when they occur and require urgent attention and treatment (Rumun, 2014; Osemwenkha, 2000)

Traditional bone setting involves the use of splints and bamboo stick or rattan cane or palm leaf axis with cotton thread or old cloth (Rumun, 2014; Osemwenkha, 2000).They often reduce the fractures by manipulating the bones, massaging with black powder mixed with shear butter and applying splints to immobilize the fracture or wound using the locally available plant material (Dada, 2011; Osemwenkha, 2000; Adesina, 2014). Most of them also perform a series of ceremonies and incantations

through calling on spiritual essence of the patient and connects with his spirit guides for assistance (Thanni & Oginni, 2000).

Although bone setting is associated with pain and joint stiffness, people still prefer this method of treatment despite the emergence of the orthodox method (Onuminya et. al. 1999; Callistus, Alhassan & Issahaku, 2013). Possibly this might be due to the trust and confidence the TBS have built for themselves over the years and for the fact that it is considered cheap, available, accessible as and culturally compatible.

Local health traditions are observances, convictions and norms related to the health of an individual (Ezema, 2010; Nwachuku et al. 2011). Traditional healers perform various rituals and practices with the sole objective of providing healing to the individuals. There are over a million community-based traditional health workers (Onuminya, 2004; Thanni & Oginni, 2000)

2.5 Contributions of Traditional Bone Setters

Despite the advances in technology and medical research coupled with the availability of modern health care, traditional bone setters still play an important role in the health care delivery system due to the difficulty in accessing modern health care systems in most developing countries. This assertion is supported by MoH (1995) and WHO (2002). They have indicated that traditional healers play a substantial role in the Ghanaian healthcare system and that fractures are often managed by bonesetters, whose services are praised and are widely available for the whole population.

With these descriptions various forms of medicines and therapies such as herbal medicine, massage home therapy, hydrotherapy, mind and spirit therapies etc are a few elements of traditional medicine (Udosen et al. 2004; Peter, 2003; Ugah, 2010).

The high cost of Western medical care puts more health care services out of the reach of a large percentage of Ghanaians and other African populations especially those living in rural areas (Hellman, 2000)

They therefore rely more on traditional medicine and medicinal plants to meet their health care needs (Osemwenkha, 2000; Orjioke, 1995). In Sub-Saharan Africa for instance more than 80% of the population relies on medicinal plants and traditional medicine as their primary source of health care (WHO, 2001).

Surveys indicate that, in planning healthcare, Ghana faces serious short-term and long-term constraints in extending health services to the majority of its citizens who live in rural communities. Healthcare workers are relatively few and concentrated in the larger urban communities (Onuminya, 2006; Olaolorun, Oladiran & Adeniran, 2001).

Traditional bone setters have made a lot of contributions towards the treatment and cure of bone-related diseases and fractures. The relevance is not only revealed in their effectiveness and efficacy but also on the fact that they are affordable and close to the patients in the community (Patricia, 2012).

That seems important because patients with fractures indeed need swift attention and how swiftly patients with bone injuries are attended to might depend on a number of factors such as how close one is to a health facility, the ability to pay for the cost of treatment, means of transport to a health facility and the waiting time before one is attended to (Bukar et al. 2009).

Therefore, if all the above factors are to come to play, some people will not be able to assess modern health care and will have to rely on the TBS whose activities are considered to be available, affordable and culturally compatible.

Despite the fact that there are no accurate statistics on bonesetters distribution in most countries, it is estimated that between 10 to 40% of patients with fractures and dislocation, in the world are managed by traditional bone setters (Agarwal & Agarwal, 2010). Many bonesetters are specialists whose only medical interest revolves around orthopedics (Thanni & Oginni, 2000)

The successes achieved in the area of orthopedics by traditional healers have been so amazing that even the western orthodox medical practitioners have had to acknowledge the fact that traditional bone setters have a role to play in the management of these patients (Thanni & Oginni, 2000; Iwegbn, 2004). Generally, the providers of orthopedic care in the rural developing world have recognized the contributions of traditional bone setters and see it as a viable low cost alternative for health care (Bukar et al. 2009)

However, the acceptance or non-acceptance of such practices is solely defined by societal norms and values (Agarwal et al, 2010; Kimani, 1995).Studies have shown that traditional bone setting services especially as in Wungu and Loagri in Northern Ghana contributes a lot to the national healthcare delivery and that these services will remain crucial in the lives of both rural and urban dwellers given the fact that many Ghanaians use both traditional and orthodox health services (Adamtey, Oduro & Ocloo, 2014)

Though traditional bone setting is seen as a specialized field that has achieved some successes over the years; nevertheless it also sometimes lead to complications and even death in extreme situations (OlaOlorun et al, 2001). Meanwhile others still feel that whiles complications in traditional health care systems are overemphasized and

their efficacy down-played, the complications and loss of lives that occur in modern health care are excused and their efficiency overemphasized (Patricia, 2012)

Orjioke (1995), indicated that several people have somewhat lost confidence in the efficacy of orthodox medicine. Analysts attribute the people's loss of confidence in orthodox medicine to factors such as drug counterfeiting and drug reactions, as well as the affordability and accessibility of the traditional healthcare delivery (Kibet, 2005)

However, it has been observed that traditional medicine has been used to cure various life-threatening ailments in all parts of the world at lower costs, before the discovery of some medications (Thanni & Oginni, 2000; Twumasi, 1997). The general acceptance of traditional medicine is even attested to by the World Health Organization (WHO, 2000).

The traditional bonesetters offer a holistic health care to their patients. The patient is not only seen as a physical being, but also as a body with soul and spirit (Trochim, 2006; Okwesili, Harris & Katz, 2011; Neba, 2011). The traditional healer seeks to strike some sort of equilibrium amongst these three components of the human being. This equilibrium can be brought about by herbs because herbs are natural and the patient's body which is only momentarily in disequilibrium is natural (Callistus, Alhassan & Issahaku, 2013)

The traditional bonesetter belief that, only nature can restore nature (Abdullahi, 2011). Some of these means of treatment include herbalism, therapeutic dieting, hydrotherapy, bone setting and psychotherapy (Adamatey, Oduro & Ocloo, 2014)

Bukar, et al. (2009) revealed that, people were patronizing traditional bone setting because it was perceived as cheaper, more reliable and more effective. Others

patronize TBS because of dissatisfaction from treatment and frequent interruption in the services received in the orthodox hospitals (Green, 1999). While some of the patients patronized TBS on the belief that treatment by TBS made use of natural herbs (Dada, Yinusa & Giwa, 2011)

2.6 Perception on quality of care

Despite the complications purported to be arising from the activities of the traditional bone setters, they still continue to have patronage from both the highly educated and the illiterate. Possible reasons for this include cultural beliefs, third-party advice, and the belief that they have more expertise in fracture treatment than the hospital. This assertion is again strengthening by the fact that there are evidences of patrons who have successful received treatment from the traditional bone setters.

African traditional medicine has an important place in health care delivery among Africans (Bonita, Beaglehole & Kjellstrom, 2006). It is a first point of call before orthodox medicine and a last resort when all orthodox efforts fail, and this is true especially for chronic illnesses (Twumasi, 1997; Callistus, Alhassan & Issahaku, 2013). Traditional medicine is holistic in approach (Ward et al. 1996; Ugah, 2010; Trochim, 2006)

A study by Sina et al.(2014) revealed that almost everyone in any community has significant knowledge on TBS and has positively and strongly embraced TBS and considers it as a cultural norm. People now believe that the orthodox form of fracture management is time consuming (Memon et al. 2009). Apart from that, it is also believe that it is tied to prolonged and expensive hospital protocols and procedures. Though some community members perceived low cost as a major influence on the

choice of TBS, in some few cases, charges by TBS were relatively high compared to the orthodox treatment costs. (Hausmann-Muela et al. 2003; Ezema, 2010).

Although TBS practice had no formal documentation and training, their skills and knowledge on bone setting are mostly reasonable and quantifiable. (Green, 1999; Hausmann-Muela et al. 2003)

The presence of traditional medicine (TM) and for that matter traditional bone setting and its contribution to overall healthcare is, largely neglected in publications on the state of Ghanaian medicine (Osemwenkha, 2000).In 1978, during the World Health Organization (WHO) conference on Primary Health Care in Alma Ata, it was recognized that besides biomedical healthcare, Traditional Medicine (TM) and complementary medicine existed before, which was widely available and quite affordable (Twumasi, 1997; Yidana, 2014)

The Alma Ata report suggested that -cooperation could contribute to improving access to healthcare. In Ghana, the importance of TM was emphasized by the formation of the Ghana Traditional Healers Association and its recognition by the government (Ministry of Health, 2000).

According to the WHO (2002) it "encompasses ancient and culture-bound healthcare practices which existed before the application of science to health matters" This type of health service delivery relies exclusively on practical experience through apprenticeship and observations handed down from generation to generation whether verbally or in writing.

Confidence level among patrons of Traditional Bone Setters is still high to the extent that most of them promised to advertise the services of the TBS (Darimani, 2007;

Onuminya, & Obekpa, 2000). Patients with all kinds of fractures preferred traditional bone setting to hospital treatment because it is believed that the traditional method shortened the duration of immobilization and kept degeneration of muscles and joints to a minimum (Darimani, 2007; Nkele, 2000). Apart from that they also claim their treatments are complete, inexpensive and convenient (Yidana, 2014).

The patrons of the services cut across all categories of people within the society including the educated and the rich (Yidana, 2014). The practice is widespread including areas well served with modern healthcare facilities such as cities and towns (Dadaet al., 2011; Mulimba, 2007).

Arie (2007) in his study realized that half of the patients who were diagnosed with fractures at the Accident and Emergency (A&E) decided to leave the hospital for bonesetters because they were convinced that bonesetters have more expertise in fracture treatment than the hospital. The study concluded that patients perceived TBS best in terms of quality of health care being offered to them.

Despite the widespread perception that bonesetters are more effective, faster and less expensive than hospital treatment of fractures, biomedical practitioners are still reluctant to take bonesetters seriously (Oyebola, 2008). Meanwhile modern orthopaedic care professional aversion can do injustice to the skills and proficiency of bonesetters, but cannot prevent Ghanaian patients from relying on the services of bonesetters (Osemwenkha, 2000).

Neba (2011) found out in his study that the services of the traditional practitioners are relied upon by people because of the belief that the practitioners are well conversant when treating physical illnesses as well as psychological and spiritual comfort. There

is another belief among the people especially those far away from the cities as identified by Ezema, (2010) which is the belief by those people who have fractures that amputation is imminent once a person is referred to a hospital.

The erroneous belief in traditional African that the only available option for the treatment of fractures in hospital is amputation and that the application of Plaster of Paris (POP) usually results in atrophy and gangrene of the affected limbs was also identified (Algorithm, 2008; Solagberu, 2005)

This fear of amputation was also identified by Agarwal et al, (2010) as one of the factor that ensures high patronage of traditional bone setters by patients. Memon et al, (2009) also identified this fear of amputation as a major reason for their patronage as they put it that the patients will not be subjected to any form of surgery with a risk of losing their lives or limbs in the case of the TBS.

The cost involved is another factor that makes the patronage of traditional bonesetters to be on a higher side. Traditional bonesetters, unlike the modern hospital charges lesser fees. The reason for the cheaper fees being charged by the bonesetters as identified by Onuminya, Onbowale and Obkpa (1999) that it is because of a strong conviction and belief that the spirits would desert the treatment centers and make the medicine powerless, and in some cases, make the practitioners go mad or die when monetary rewards become the primary driver.

Peter (2003) identified the mode of payment as being through multiple little payments and even payments in kind with clothes and life animals are allowed. This indicated that there are practitioners who do not necessarily collect money from their patients, but do request for things that serves as money substitute.

Onuminya (2006) pointed to the fact that the high cost of treatment in the modern way may be a major factor for the patronage of traditional bone setters by the patients. Another factor that is directly related to the cost of the service is poverty. This is the state of one who lacks a certain amount of material possessions or money. The United Nation measured poverty and explained it to mean those who are living below $1.25/ day (Salati & Rather, 2009; Oyebola, 2008; Green, 1999)

It is a well-known fact that majority of those who live in the developing nations live below the poverty level. It may therefore be difficult for them to afford the cost that will be required by orthodox hospitals, hence, the adoption of traditional means of fracture treatment as an alternative (Yidana, 2014)

Omololu et al, (2002) estimated the cost of managing a child forearm fracture for sound union in about 6 -8 weeks to cost $35. These are people who live below $1/day.

Memon et al. (2009) in his work, he also identified ignorance and poverty as being the basis for the continual patronage of traditional bonesetters.

Ward et al. (1996) conducted a study on determinants of utilization of traditional bone setters in Ilorin, north central Nigeria. It was found that the community knowledge on traditional bone setting was at 95%, and the utilisation of the services of TBS by the community was at 90%. The preference for the service was determined by the level of education, religion and influence by family and friends. The study concluded that, reasons for patronage of TBS were less cost in accessing their services, easy accessibility, cultural beliefs, and pressure from relatives and friends.

In a related development, Thanni (2001) stated that, the traditional bone setters scored highly on their basic knowledge to treat fractures. Out of a maximum score of 35, two

TBSs scored above 30 and the other two scored 23 each. However, all the TBSs scored poorly on classification of dislocations. Complications associated with TBS in this study included joint stiffness, shortening of the limb, angulations, osteomylitis and gangrene leading to amputations.

2.7 Treatment outcome

Traditional bonesetters are perceived to repair compound fractures and some even believe that they are so skillful in the art that they can heal fractures which do not respond to treatment in modern hospitals. However, while some surgeons accept that traditional bonesetters could be useful in the health care delivery system, others maintain that such practitioners need to be trained to recognize fractures that are beyond their skill.

Though some bonesetters' treatment of compound fractures has resulted in permanent deformations which could have been prevented if the patient had been referred to a hospital, it is also an incontrovertible fact that traditional bone setters have recorded meaningful and notable contributions which cannot be dismissed with a wave of the hand in Health Care Delivery Services not only in Ghana but in many countries of Africa.

Globally there is now a general recognition that traditional medicines, the medicines once described as primitive, within the past three decades, the changing view of herbs in particular as traditional medicine has moved from that of "witches brew" to major medicine (Ezema, 2010; Olaolorun, Oladiran & Adeniran, 2001).

It is estimated that out of a global population of 6.3 billon people in the world, about 4 billion people patronize the use of plants to meet their primary health care needs

(Adamatey, Oduro & Ocloo, 2014). It is also discovered that approximately about half the people living in urban cities in various states of Nigeria regularly make use of what is regarded as Complementary and Alternative Medicine. This increase in the demand and availability of services for Complementary Medicine (Darimani, 2007; Ahmed, 2005)

A very important component of traditional healing is bone-setting (Sina, Taiwo & Ayodele, 2014; Ugah, 2010). Bonesetters play a substantial role in the Ghanaian healthcare system. A traditional bone-setter takes care of sprains, dislocations, simple to complex fractures which mostly are emergency cases when they occur and require urgent attention and treatment (Ugah, 2010).

How swiftly patients with bone injuries are attended to might depend on a number of factors such as how close one is to a health facility, the ability to pay for the cost of treatment, means of transport to a health facility and the waiting time before one is attended to (Neba, 2011; Olaolorun, Oladiran & Adeniran, 2001).

Bonesetters command great respect for their treatment of fractures in many African countries (Neba, 2011; Olaolorun, Oladiran & Adeniran, 2001). Although bone-setting has a long tradition, the safety and efficacy of traditional methods are sparsely evaluated, with the main focus being on treatment complications (Omeonu, 2003; Osemene, Elujoba & Ilori, 2011). Overall, providers of orthopedic care in the rural developing world have widely recognized the contributions of traditional and regional practitioners (Osemene, Elujoba & Ilori, 2011)

The acceptance or non-acceptance of such practices is solely defined by societal norms (Thanni, 2001; Access, 2010). A scientifically-trained general practitioner can

effectively treat nearly 90% of common orthopedic and trauma conditions (Yidana, 2014; Bannerman, 1993; Olaolorun, Oladiran & Adeniran, 2001). In the face of infrastructural deficits, use of non-medical healthcare providers in rural clinic settings has been advocated as a viable low cost alternative (Agarwal & Agarwal, 2010).

Various authors have reported varied treatment outcome from the traditional bone setters. For instance a research carried out in one of the recognized traditional bone setting clinics in Gwollu a village in Upper West Region of Ghana revealed that the available records at the clinic indicated that about 96% of patients got fully cured after receiving treatment, that is to say there were no deformities or any other difficulties after they had gone through the treatment. Apart from the records, interactions with the in- patients revealed that they were also satisfied with the progress of their treatment (Darimani, 2007).

Another research involving the community members, the health care providers as well as the in-patients revealed that about 90% of those who received treatment for bone-injuries indicated that they were very satisfied with the outcome and that they opted to go to the bone-setters because they knew they were going to receive the needed treatment. For those patients who were still receiving treatment at various stages also said they were very satisfied with the progress of their recovery.

A patients whose injuries were thought to be beyond treatment was quoted to have said : "*Although we knew that the bone-setter could help, most family members and friends thought that I could not be treated and perhaps my left leg would be amputated due to the degree of injury I sustained on a hunting expedition.*

Apart from the scar on my leg which will give you an idea that I had an injury, you would be surprised to know that the bone at this point broke and pierced my flesh. I do not think a hospital treatment could have yielded this result. At best my leg would have been amputated" (Personal communication with a person with bone injury fracture (Wungu, May 2013, Adamtey et al. 2014)

The above findings show high rate of treatment outcome though their mode of data collection was different. Whiles one used secondary data in the form of existing records the other researcher used primary data by interviewing the respondents directly.

Other finding revealed that majority (49.8%) of the respondents who had undergone treatment with the TBS indicated that their treatment was excellent whiles 7 representing (2.8%) said it was poor. This according to them really shows the strength of the bone setters in fracture management especially in the rural communities (Sina et al. 2014)

The above finding could have been influenced by a number of factor including the mode of the fracture as well as the part of the body involved. For instance Bassey (2011) observed in a study that traditional bonesetters' practice was good for close fractures of the shaft of the humerus, ulna, radius and tibia, but poor for peri-articular and open fractures. It therefore indicates that traditional bonesetters are proficient in some aspect of bone treatment.

Non-union, malunion, traumatic osteomyelitis and limb gangrene were the common major complications of patients who sought treatment at TBS (Darimani, 2007; Olaolorun, Oladiran & Adeniran, 2001). A similar study in Northern Ghana showed

the efficacy of treatment by local bonesetters. Most respondents (n = 82) reported that their present condition was perfectly normal; 14% had slight deformities and 2% had major deformities (Olaolorun, Oladiran & Adeniran, 2001).

Despite criticisms on the efficacy of traditional bone-setting which includes reported cases of complications, complaints about unsatisfactory results, pain/discomfort, poor wound management, etc. among patients treated by traditional bonesetters, studies have revealed that traditional bone setting can be effective (Olaolorun, Oladiran & Adeniran, 2001).

Following WHO's caution (WHO 2002), without a critical assessment of what should be integrated and what should not, there is a risk of developing a health care system that costs more, is less safe and fails to address the management of health in a publicly responsible manner (Dada, Yinusa & Giwa, 2011). Hence appropriate policies will have to be designed taking care of the epistemological subtleties of these systems and their contextual realities (Onuminya, 2006; Dada, Yinusa & Giwa, 2011; Azongo, 2014)

2.8 Challenges faced by traditional Bone setters

Most traditional bone setters seem not to charge for their services with the belief that their grand fathers who handed it over to them use to treat people without any consideration in the form of cash and that charging for the services will have effect on the efficacy of the treatment. As a result of these believes they will not be able to meet their basic needs such accommodation for their clients.

There are myriads of serious challenges militating against the progress and development of Traditional bone setting practice in Africa. Although a lot of progress

has been made in implementing the strategies on promoting the role of traditional medicine in Health Care System, countries continued to face some challenges that hamper the institutionalization of traditional medicine into the National Health Care Systems (Callistus, Alhassan & Issahaku, 2013; Omololu, Ogunlade & Alonge, 2002). These challenges include: poor organizational arrangement. There is limited organizational arrangement for the institutionalization of traditional medicine such as: poor allocation of financial resources for implementation of traditional medicine activities (Omololu, Ogunlade & Alonge, 2002), delay in the establishment of mechanisms for the official recognition of traditional health practitioners (Mack et al. 2005), lack of national policies in most countries (Onuminya, 2004), limited national strategic plans for policy implementation (Orjioke, 1995, Thanni, 2001) and lack of mechanisms of collaboration between practitioners of conventional and traditional medicine (Sina, Taiwo & Ayodele, 2014; WHO, 2001)

There is the challenge of ensuring the safety and efficacy of herbal medicines, the quality of the source of raw materials, cultivation and harvesting, field collection, transport and storage, correct identification of species of medicinal plants (Agarwal & Agarwal, 2010; Dada, Yinusa & Giwa, 2011)

Also, complications arising from the practice of traditional bone setting called for effective monitoring. The issue of misidentification, adulteration, wrong labeling, contamination with toxic substances, over dosage, misuse of herbal medicines both health-care providers and consumers and the concomitant use of herbal medicine at the same time with other orthodox medicines (Nwachuku et al. 2011)

With regards to challenges with traditional bone setting, Darimani(2007) put it that insufficient funds is a concern to the bonesetters since the clinics are being run on humanitarian grounds and patients are not charged but are made to give out anything they can afford. Since many cannot afford, the gratis nature of the services attracts several patients and this worsens the plight of the centers since very little resources are expected to care for large number of people (Adamtey et al. 2014)

Another possible major challenge for the traditional bone setters is poor record keeping. Most traditional health practitioners have a low level of formal education. They received their training through informal means and apprenticeship (Adefolaju, 2011; Adamatey, Oduro & Ocloo, 2014). As such, most of their knowledge and practices are not documented. This poor educational level has led to poor record keeping. Furthermore, most of them have little or no formal training in basic health issues (Adamatey, Oduro & Ocloo, 2014)

Due to the lack of formal education, practitioners are not able to keep record hence there is no record keeping system to take care of the record keeping needs of the clinic. A such the records of patients who attended the clinic were not properly organized and kept so that such records could be used in monitoring the progress of patients and also relied upon in the future when the patients attended the clinic (Bodeker, Kronenberg & Burford, 2007; Olaolorun, Oladiran & Adeniran, 2001).

In spite of the acknowledgement of the continued utilization of traditional medicine and its effectiveness in management of various health problems is not documented (Ahmed, 2005). As such, the utilization of traditional medicine continues to depend on

undocumented testimonies of patients often spread through social network (Bodeker, Kronenberg & Burford, 2007; Ahmed, 2005)

Others have also identified inadequate accommodation facilities as one of the major challenges affecting the work of the traditional bonesetters and that patient on admission who were supposed to adhere to certain rules and regulations but due to inadequate accommodation most of them were compelled to stay outside the clinic making it difficult for their activities to be monitored. In some cases as many as six people share a room normally meant for only two patients (Darimani, 2007; Olaolorun, Oladiran & Adeniran, 2001).

Though there are challenges regarding accommodation, forcing some practitioners to practice from their homes, there are others who practice from well-established traditional bone setting centres (Darimani, 2007; Nwachuku et al. 2011). These established centres have inpatient facilities in the form of wards (Peter, 2003; Oyebola, 2008; Onuminya, Onbowale & Obkpa, 1999).

The patronage of traditional bonesetters has attracted a large recognition though there are challenges in terms of lack of proper training and lack of education that may account for the reported complication that occur and may never end as long as the underserved masses (especially fracture victims) continually patronize traditional healer as well as traditional bonesetters (Arie, 2007; Bodeker, Kronenberg & Burford, 2007)

While practitioners of traditional bone-setting recognize the fact that advances in medical research and science requires more formal education, they also accept the idea of access to regular training under medical supervision (Neba, 2011; Onuminya,

2006). However, some orthodox practitioners are against the promotion of traditional bone-setting and medicine, as well as their integration with modern healthcare delivery system (Osemwenkha, 2000; Thanni & Oginni, 2000).

This accounts for the climate of mistrust that exists between the two forms of health care delivery (Agarwal et al, 2010). Patients knowing the disputation still highly patronize the traditional facilities (Thanni & Oginni, 2000)

Government do not cover them properly in law making for poor manufacturing practice and lack of product standardization, contamination of products, substitution or incorrect preparation of dosage, environmental factors, some of them may not even know the content/ingredient of the herbs used (Onuminya, Onbowale & Obkpa, 1999; Olaolorun, Oladiran & Adeniran, 2001)

Government has failed in its regulatory role. This is evidenced by the lack of adequate supervision and control of the activities of the traditional health practitioners this has resulted in a sector being entered by imposters (Mack et al. 2005). Some give imagined testimonies of people where they had previously successfully healed (Bannerman, 1993)

Traditional bone setting is a known procedure among all people in the world (Adefolaju, 2011; Algorithm, 2008).

Lack of X-ray facilities results in most of the bone setters using repeated manipulation and massage of fractured bones there by making it difficult to tell whether they have achieve alignment or not (Udosen, Otei & Onuba, 2006; Osemwenkha, 2000)

Even though pain management is also a concern; however, there has been an attempt by some bone setters to introduce some forms of pain relief into their practice (Rumun, 2014; Ugah, 2010). The main pain relievers include herbs and a few of the practitioners are said to be combining herbs and pharmaceutical agents (Sina, Taiwo & Ayodele, 2014). This may be as a result of alliance with quack medicine dealers and some hospital staff (Access, 2010). It should however be noted that the application of analgesics without proper reduction and immobilization of fractures is a futile exercise (Sina, Taiwo & Ayodele, 2014).

One of the most important flaws of the practice of TBS is the process of training and acquiring skills in bone setting, which is not formal, undocumented and uncontrolled with attendant continuous decline in imparted knowledge and hording of information. (Owumi, Patricia & Olorunnisol, 2013; Sina, Taiwo & Ayodele, 2014). Further the practise is passed on by oral tradition and there is no regulation, review and even peer-criticism (Udosen, et al. 2004; Twumasi, 1997)

Quality is therefore not guaranteed and complications are bond to occur and when they do such as tetanus, gangrene and non-union are usually attributed to charms and witchcrafts. This is unlike orthodox training, which is regulated, open and subject to regular review on the basis of new evidences (Udosen, Otei & Onuba, 2006).

Another problem associated with African traditional medicine (even in the past) is when it sometimes resorts to spiritual explanations for the causation of ill-health and complications which is attributed to mystical forces (Bagah, 1995; Adamatey, Oduro & Ocloo, 2014). This is disturbing, while there may be some very small cases of illnesses with mystical explanations, most illnesses have scientific

explanations/causation (Adefolaju, 2011; Darimani, 2007; Hausmann-Muela et al. 2003).

This factor limits African traditional medicine to the extent that it is extremely difficult to provide explanations and evidence in accordance to basic epistemology for the cure of ailment even when the therapy is effective (Mack et al. 2005; Bukar, Chuah &Ismail, 2009). For instance, in Nigeria, everyone perceives that orthopaedic cases are better managed by traditional healers, but the connection between the broken leg of a chicken and the eventual treatment of a patient with broken bone is extremely difficult to explain (Dada, Yinusa & Giwa, 2011; Ahmed, 2005)

In contrast to other countries situations, traditional medicine in Kenya remain non-codified and include what have generally been termed “folk”, “tribal”, “rural” and “indigenous” which has been handed over orally from generation to generation in communities. They are generally based on traditional beliefs, norms and practices based on centuries old experiences of trials and errors, successes and failures at the household and community level (Ezema, 2010; Owumi, Patricia & Olorunnisol, 2013). Thus, a significant part of traditional medicine in Kenya remains secrets.

The methods and procedures of the trial of new drug or treatment before its application on humans in African traditional medicine are weak (Adamatey, Oduro & Ocloo, 2014; Bali, 2012). That the bark of a particular tree is effective in animals is not enough and sufficient reason that the same bark would be effective in treating similar ailments in humans (Omololu, Ogunlade & Alonge, 2002; Mack, et al. 2005).

Studies done have shown that most bone setters are semi-illiterate in formal education and as a results, they lack basic knowledge of anatomy and physiology (Oyebola, 2008; Olaolorun, Oladiran & Adeniran, 2001)

2.9 Integrating traditional bone setting into primary health system

Comparing the contribution of TBS as against their deficiencies, it is believed that there would have done better in their treatment outcome if they had little training on their practice. Training on basic infection prevention would have helped reduce infections and subsequent complications. Though they have started adopting basic modern practices in their care, they still need to be trained in other to improve on their practice.

This can be achieved through collaboration and integration. It is based on this that Callistus et al. (2013) and Eshete (2005) mentioned that in view of the high patronage by the TBS in Northern Ghana coupled with the attendant complications, there is the need for scientific training of TBS on how to prevent these common complications associated with their treatment methods as well as encourage them to refer patients with complications early for orthodox management.

Access to quality health care is said to be a fundamental human right but the numerous challenges faced by modern health care system makes this a reality for only a section of the Ghanaian populace (Onuminya, Onabowale & Obekpa, 1999; Green, 1999; Omonzejele, 2008). Inadequate number of the already ill-equipped health facilities coupled with the unavailability of adequate trained personnel at the facilities makes traditional medicine an important part of the health care system in Ghana.

Regardless of some known complications associated with some traditional methods of care, some people still prefer this method of management and it's usually the first point of call (Yidana, 2014; Oyebola, 2008; Omonzejele, 2008).

In many rural-based populations, traditional healers are the only source of health services for majority of the people and in most cases they are the preferred source of health care (Adamatey, Oduro & Ocloo, 2014; Abdullahi, 2011). In Ghana, for example, in Kwahu district for every traditional practitioner, there are 224 people compared to one medical doctor for 21,000 people (Adamatey, Oduro & Ocloo, 2014). This is not peculiar to Ghana, the records suggest that countries like India, China and a number of other Southeast Asian states have developed their traditional medical practice better and have used this in supplementing and complementing the modern health care system (Oyebola, 2008; Omonzejele, 2008). Thus it is logical that the burden on public healthcare delivery system in Ghana will be made lighter if traditional medicine is further integrated into the healthcare system (Bannerman, 1993; Azongo, 2014)

At the centre of Ghana's modern healthcare system is a serious shortage of health workers. Ghana's case feeds into the fact that despite the unprecedented advances in health care, the world is immensely confronted with severe shortages of health workers especially in the poor countries (Ministry of Health, 1995)

WHO and its Associates explain that in African region, traditional medicine is better integrated in healthcare system compared with other countries, where there is mutual distrust between traditional healers and conventional medicine (Nwachuku, et al. 2011). In Ghana, one of the seven directorates of the Ministry of Health is Traditional

and Alternative Medicine (TAM) (Omeonu, 2003; Mack, Woodsong, Macqueen, & Namey, 2005).

One of the key vehicles to integrating traditional medicine into Ghana's healthcare system fully is the mechanism of decentralization. The records however suggest that in Ghana as in other African States, the decentralization of the healthcare system is a response to poor economic conditions, poor logistics, and reduced public finance for health services (Neba, 2011; Azongo, 2014).

In recent years, research has established that 80% of general practitioners are referring some conditions to complimentary practitioners and 75% of patients have indicated that they would prefer to have available both western orthodox and complimentary approaches to enable them to access the benefits of each system (Omololu, Ogunlade & Alonge, 2002; Onuminya, 2006).

Obviously if major stakeholders are to ensure sustainable development in especially rural areas, there is the need to understand the role of traditional healers with the aim of fostering the needed integration of the health systems in Africa for the benefit of the people (Osemene, Elujoba & Ilori, 2011; Azongo, 2014)

It is based on this that some authors have also advocated for collaboration between the bone setters and the orthodox practitioners. According to Chi (1994) the so called policies on collaborations are rather seen as policy of co-existence rather than collaboration and therefore there is the need for the inclusion of them in the national healthcare system. Notwithstanding the limitations of traditional bone setting in the National Health Care delivery system, many people continue to use the system (Darimani, 2007)

According to Adamet al. (2014) rural health care planning must pay attention to traditional medicine such as bone-setting in the training of medical students as it is done elsewhere such as China where elements of Chinese medicine are included in the curricular of conventional health workers training. He added that, the Department of Herbal Medicine at the Kwame Nkrumah University of Science and Technology in Kumasi should forge a partnership with the bone-setters and the Mampong Centre for Research into Plant Medicine since a mutual collaboration between them might help to promote the work of bone-setters and enhance research into herbal medicine.

Apart from that, when the traditional bone setters are properly trained in orthopedic care they will be able to provide essential and culturally relevant health services to their communities in developing countries, and can also serve as the first point of contact at the primary healthcare level reducing the burden on secondary and tertiary institutions. (Agarwal et al, 2010).

Recognizing some of deficiencies of the TBS and the fact that people still continue to patronize their services, there is the need for their activities to be regulated and monitored. It is based on this that Dada et al. (2011) suggested that the bone setters still enjoy societal confidence. There is the need for efforts to be made at regulating their practices including the establishment of a sound referral system and adoption of a standard training curriculum.

They also indicated that though a number of deficiencies of the bone setters have been identified, it is obvious that they can be trained to function at the primary level especially in the rural areas. Some suggestions have been given on how the collaboration should be done. The first step towards integration should involve studies

to better understand the morbidities associated with bone setting care as well as the types of injuries that bone setters typically handle proficiently.

With this knowledge according to them, healthcare policy makers can develop a fracture care scheme in which bonesetters manage fractures for which they can achieve acceptable outcomes and referring complex cases to local or regional hospitals. Such an integrated scheme will benefit patients, orthopedic surgeons and bonesetters alike in developing nations. Patients will receive streamlined care with fewer complications, while physicians and bonesetters will be able to address the burden of fractures in developing countries with an optimal deployment of culturally compatible care and technical expertise (Nwachukwu et al. 2011)

Once the collaboration is successful, it can create an opportunity for patients and their families to receive clearer information on the types of fractures that can be best treated by either bonesetter or hospital. Bonesetters could further gain expertise in conservative treatment and get the recognition they deserve and therefore, the sparse hospital services can concentrate on more difficult and complicated cases (Nwachukwu et al. 2011)

Both traditional and orthodox health systems have been developed to enable the people to meet their health/medical needs (Sina, Taiwo & Ayodele, 2014). Traditional medicine in particular has survived great pressure and condemnation from westernized professionals (Osemwenkha, 2000). Yet both systems continue to be patronized by the people depending on their socio-cultural and economic situations. This therefore suggests their functionality and continued relevance to the health needs of the citizens (Mack et al. 2005; Omonzejele, 2008)

Traditional bone setting is a known procedure among Africans (Eshete, 2005). Many interesting facts have been described in ancient ayurvedic classics on the management and treatment of fractures including the different kinds of bandages and slings to be used (Onuminya, 2004; Udosen, Otei & Onuba, 2006). The traditional way to make a diagnosis is clinical where fractures are said to be present when there is swelling, twisting ,rotational deformity, tenderness, crepitus, and various forms of pain, continuous restlessness and loss of function of the affected part (Oyebola, 2008; Trochim, 2006; Eshete, 2005).

Without the benefit of anatomical dissections, charts of the skeletal and organ structures or x-ray photographs, beliefs about how the body is constructed are usually based on inherited folklore, books and magazines and personal experience and theorizing (Omeonu, 2003). Modern day health care has greatly evolved following advances in technology and medical research (Ugah, 2010; Nkele, 2000).

But despite the availability of these services, traditional bone setting has continued as an alternative health service (Salati & Rather, 2009). In developing countries-especially in the Indian Subcontinent, Africa and South America with less developed health care resources-these unorthodox practitioners still play an important role in providing primary “medical” support (Okwesili, Harris & Katz, 2011; Nyamwaya, 1992)

Studies showed that, the existing level of interactions between herbal practitioners and orthodox health care practitioners is not encouraging and most of the herbal practitioners were not willing to disclose the contents of their preparations and products to either their colleague practitioners or orthodox medical practitioners for

fear of piracy and rendering the medicines impotent or ineffective (Foote, 1999; Yeboah, 2000)

Despite these strained relationships, of the users, orthodox health care professionals and herbal practitioners support the integration of traditional medicine into modern health care delivery system (Darko, 2009; Elvin-Lewis, 2001)

A collaborative effort on the part of governments, professional orthopaedic societies, private/charitable organizations and traditional healers is needed to integrate modern fracture care in developing nations (DeJong, 1991). Studies have held the notion that further integration between traditional and western practices will ultimately provide sustained long-term improvement of outcomes after musculoskeletal injuries (Eisenberg, et al. 1993; Ward et al. 1992)

The first step toward integration is to appoint an impartial third party organization charged by the healthcare system to bring the two cultures together (Wardet al. 1993; Gyasi et al. 2011). If resources allow, the use of radiography could be introduced to aid bonesetters in their diagnosis and care. The overarching goal of any bonesetter-training program should be that the bonesetters understand which fracture types to treat and which fracture types to refer to the hospital (Davies, 1994; Elvin-Lewis, 2001)

Under this model, the traditional bonesetter continues to serve as the primary point of contact for many patients (Ossom & Lamptey, 1992). However, through collaborative referrals and safer practices, better outcomes will be achieved as complex patients present to orthopaedic centers earlier and with less apprehension (Wardet al. 1993; Ossom & Lamptey, 1992)

2.9.1 Activities of Traditional Bonesetters

Herbal medicine is one of the oldest forms of medicine, having been used in all cultures and civilisations for centuries (Wardet al. 1999). Herbal preparations form the basis for many of our modern drugs for example aspirin is based upon an extract of willow, which was used by the American Indians for the relief of pain (Ossom & Lamptey, 1992)

The principles of traditional bone setting, although differing slightly among cultures are generally similar.

The process entails making a diagnosis, reduction of the fracture by manipulation and massages, fomentation of the site, application of herbal creams with or without scarification, immobilization of the fracture by use of splints and bandaging (Omololu, Ogunlade & Alonge, 2002; Mack, Woodsong, Macqueen& Namey, 2005; Nunes & Esteves, 2006).

The diagnosis is based on physical assessment and the traditional bonesetter notes such features as swellings, pain, and loss of function, tenderness, limb shortening or deformity, presence of a gap between broken fragments, abnormal mobility and crepitation on palpation of the fracture site as features of fractures (Adefolaju, 2011; Kafaru, 1990; Dada et al. 2009)

The reduction is carried out closed by traction or manipulation by local pressure and without anesthesia. The fractured part is usually fomented with hot water or heat and massaged with herbal concoction cream (Panneerselvam, 2007).

The scarification is carried out to let out 'bad blood'. The traditional splints utilized include wood, bamboo, rattan cane and palm leaf axis. The splinting materials are

knitted into mat-like splint and applied over the fracture site. Usually the joints above and below the fracture site are not immobilized. The splint is usually applied without padding and is bandaged tightly most times (Omololu, Ogunlade & Alonge, 2002; Onuminya, Onbowale & Obkpa, 1999; Panneerselvam, 2007)

Traditional medicine has been relied upon as an alternative means of achieving primary health care for the majority of the people (Omonzejele, 2008; Aries et al. 2007). A lot of African countries are endowed with vast resources of medicinal plants that could be tapped for the health care of the people (Mohammed & Osman, 2010). Countries in Africa, Asia and Latin America used traditional medicine to help meet some of the primary health care needs of their people (Mack et al. 2005; Azongo, 2014)

The art of traditional medicine is so wide that different experts have emerged to have their own area of specialization (Neba, 2011; Algorithm, 2008). There is therefore no disputing the fact that some aspects of trado-medical knowledge system is well structured and organized and has survived through generations to maintain harmony between body, mind and soul within its socio-cultural and religious context. However, different experts have emerged within their ranks including herbalists, bonesetters, psychiatrists, and traditional birth attendants among others (Green, 1999; Olaolorun, Oladiran & Adeniran, 2001).

They usually rely on vegetables, mineral substances, animal parts and certain other methods such as prayers, divinations and incantations (Memon, et al. 2009; Bodeker, Kronenberg & Burford, 2007). Herbalists use mainly herbs, that is, medicinal plants or parts of such plants-whole root, stem, leaves, stem bark or root bark, flowers, fruits,

seeds, but sometimes animal parts, small whole animal, snails, snakes, chameleons, tortoises, lizards, etc (Panneerselvam, 2007; Mack et al. 2005).

Inorganic residues-alum, camphor, salt, etc and insects, bees, black ants etc. Such herbal preparations may be offered in the form of (i) powder, which could be swallowed or taken with pap (cold or hot) or any drink, (ii) powder, rubbed into cuts or incisions made on an part of the body with a sharp knife, (iii) preparation, soaked for some time in water or local gin, decanted as required before drinking (Neba, 2011; Darimani, 2007; United Nations Development Programme, 2005; Algorithm, 2008)

The materials could also be boiled- in water, cooled and strained (iv) preparation pounded with native soap and used for bathing; such 'medicated soaps' are commonly used for skin diseases, (v) pastes, pomades or ointments, in a medium of palm oil or shea butter, or (vi) soup which is consumed by the patient (Udosen et al. 2004; Yidana, 2014; Dada, Yinusa & Giwa, 2011). Majority of traditional bone setters use the same method of herbal cream application, native bamboo splinting, frequent pulling and massage (Braun & Clarke, 2006).

The herbalist cures mainly with plants which he gathers fresh. When seasonal plants have to be used, these plants are collected when available and are preserved usually by drying to eliminate moisture (Rumun, 2014; Panneerselvam, 2007; Ahmed, 2005)

Many bone setters are specialists whose only medical interest revolves around orthopaedics (Bagah, 1995). The successes achieved in the area of orthopaedics by traditional healers have been so amazing that even the western orthodox medical practitioners have had to acknowledge the fact that traditional bone setters have a role

to play in the management of these patients (Bonita, Beaglehole & Kjellstrom, 2006; Onuminya, 2004)

It has been noticed by the investigator that a substantial number of patients with bone injuries at Garissa Provincial Hospital are treated by traditional methods. Even the elite often times show evidence of doubt in the efficacy of orthodox methods of bone treatment (Garissa Hospital Records, 2009)

The practitioners are usually poorly educated and improperly trained persons with the craft claimed to have been inherited by ancestral or supernatural means (Darko, 2009). Majority of these traditional bone setters still hold their methods and techniques in high secrecy. Some of their methods can best be described in scientific light as shrouded in mysteries (Yeboah, 2000)

According to Davies (1994), the medicinal preparations of about 33.3% of the herbal practitioners interviewed involve some secrecy, while that of the remaining 66.7 percent do not involve any secrecy and therefore have nothing to hide from the public.

Studies have shown that, whereas 8 out of the 15 herbal practitioners were not willing to disclose the ingredients of their preparations to their fellow herbal practitioners, 3 were very willing, 2 were willing, and another 2 were somehow willing to disclose the ingredients of their herbal preparations to their fellow herbal practitioners (Elvin-Lewis, 2001; Eisenberg et al. 1993)

Among the reasons, 33.3% cited the fact that the contents of their medicine may be revealed, 20% cited fear of medicine being pirated or stolen by colleagues and 13.3% cited fear of the medicine being rendered impotent or ineffective as reasons for their reluctance to disclose the ingredients of their herbal preparations to their fellow herbal

practitioners. Of those who were willing to disclose contents of their medicine, 26.7% gave provision of an avenue to promote collaboration and the opportunity to learn from one another, and 6.7% gave the non-secret nature of some herbal preparations as the reasons for their willingness to disclose the contents of the herbal preparations and products.

Similarly, 5.5 shows that 9 of the herbal practitioners interviewed were not willing to reveal the ingredients of their herbal preparations to orthodox medical practitioners, while 3 and 2 respectively were, very willing and somehow wiling. Again, 40% of practitioners cited fear of their medicine being rendered impotent or ineffective, 13.3% also cited fear of the medicine being pirated or stolen by orthodox medical practitioners, and another 13.3% cited the fact that orthodox healthcare professionals do not believe in herbal practice as the reasons for their reluctance to disclose the contents of their preparations to orthodox medical practitioners (DeJong, 1991; Fakeye, Adisa & Musa, 2009)

On the other hand, 33.4% of the herbal practitioners gave the provision of an avenue to promote collaboration and the opportunity to learn from one another as the only reason cited for the willingness to disclose the ingredients of their herbal preparations to orthodox medical practitioner (Davies, 1994; Foote, 1999)

Quite similar, 25% of the orthodox healthcare professionals interviewed also advocated for the training of herbal practitioners in dosage and side effects of their medicines, 22.5% advocated for the hygienic preparation and administration, 20% advocated for training in branding and packaging, 20% advocated for training on the

sustainable utilisation of medicinal plants, and 12.5% advocated for training on how to reveal indigenous knowledge (Fakeye, Adisa & Musa, 2009)

2.10 Theoretical framework

According to Ward et al (1996) quoted in Ahmed (2005) health seeking behavior "refers to the sequence of remedial actions that individuals undertake to rectify perceived ill health". These actions start from identifying or defining the symptoms and then the appropriate strategies for treatment. Treatment choice involves a multiplicity of factors, associated with the type and severity of illness, already existing belief about causes and etiology of illness, accessibility and availability of effective options (Ahmed, 2005).

To be able to understand how these factors apply in the study area, components of three health-seeking behavior models pertinent to this study form the framework for explaining contribution of the traditional bone setters in the primary health care in the context of the study area. The use of more than one model has been deemed necessary given the complex nature of this field of study.

Indeed, Mckinlay (1972) cited in Bagah (1995) contends that "seldom do researchers in the area of utilization behavior adopt only one approach to the exclusion of all others, although one may be given greater emphasis". As a result, the researcher in this field has decided to employ three behavioral theories for this study which include; Functionalism, modernization theory and the Health Care Utilisation Model.

2.10.1 Functionalist theory

The functionalist perspective, also called functionalism, is one of the major theoretical perspectives in sociology. It has its origins in the works of Emile Durkheim, who was especially interested in how social order is possible or how society remains relatively stable. As such, it is a theory that focuses on the macro-level of social structure, rather than the micro-level of everyday life (Ahmed, 2005)

Within functionalist theory, the different parts of society are primarily composed of social institutions, each of which is designed to fill different needs, and each of which has particular consequences for the form and shape of society. The parts all depend on each other. Functionalism sees society as an organic whole, with each of its parts working to maintain the others (Ahmed, 2005)

This is similar to the way in which parts of the body work to maintain each other and the body as a whole. To study the function of a social practice or institution is to analyze the contribution which that practice or institution makes to the continuation of the society as a whole (Green, 1999). When Functionalists study "society", therefore, they look initially at institutional arrangements and relationships which are seen as building-blocks of any society (Mack et al. 2005)

The way in which institutions relate to one another determines the structure and basic character of any society. Institutional arrangements are significant in relation to the concept of culture, which can be defined as broad pattern of values and beliefs that both characterize a particular way of life and which are transmitted from generation to generation (Osemwenkha, 2000)

Before the emergence of western invention, every society stipulated methods of doing things even with relation to health. These methods are imbedded in the culture and tradition of the people. This means that in every society there are ways in which illnesses ,including fractures are handled (Udosen et al. 2004)

The practice of traditional bone settings as a culture of almost all Africans existed for centuries and continues transmitting from generation to generation. Universal Functionalism postulates that all standardized social or cultural forms have vital functions.

The functional view of culture insists therefore on the principle that in every type of civilization, every custom/object/idea/belief fulfills some vital function and traditional bone setting as a custom or practice equally fulfills some vital function (Bannerman, 1993). The theory further states that, an institution only exists because it serves a vital role in the functioning of society. If it no longer serves a role, it will die away. When new needs evolve or emerge, new institutions will be created to meet them (Osemwenkha, 2000). In this theory frantic effort are made to explore the rate of bonesetters in the functioning of the society.

2.10.2 Post modernism Theory

The modernist theorists looked at how society evolves from tradition to modernity. They explained that societies will join the developed world when they do away with their traditions and adopt modernity as a way of life. In constructing their accounts of development, they drew on the tradition-modernity distinction of classical sociologists. They placed most emphasis on norms and values that operate in these two types of society.

They argued that the transition from the traditional to modernity depended on a prior change in the values, attitudes and norms of people. They called for the total abandoning of the old form of doing things, for the adoption of the western ways (Agarwal et al. 2010).

Looking at the functionalism and modernization theory, they both have a common perspective in ensuring that people who have fractures get treated and continue to contribute their own quota toward having a functional society.

This is important as the complement does not only reduce the rate of complication, but also ensures that proper treatment is received by the patients, which intend aid their health restoration and by extension optimal functioning of the society.

Today both the traditional bonesetters and the western practitioners are practicing side by side in Ghana. Until recently, the relationship that exists between these two kinds of practitioners could not describe as being cordial as the traditional bonesetters 'method of treatment was regarded as being fetish, primitive and not modern (Agarwal et al. 2010). This conception of the art of traditional bone settings led to its relegation to the background while greater emphasis was placed on modern form as the best way of treating bone fractures.

This is as a result of the belief that the method of traditional treatment is not rational and therefore does not deserve funding by government, unlike modern orthopaedic care. This is however different from the practice in China where there is already full integration of both traditional and western medicine (Agarwal et al. 2010)

The treatment methods used by the TBS include the use of splints in the form of bamboo stick and old cloth as a bandage which is wrapped tightly on the injured part

and left in place for the first 2–3days before intermittent release and possible treatment with herbs, massage and manual traction of the affected bone. The modern way of fracture treatment includes the use of radiological graphs, wound dressing and suturing, aids, functional cast bracing, amongst others.

However, most of the TBS have now adopted some of the modern practices such as the use of bandage instead of old cloth, analgesics and even radiological graphs. The coexistence of traditional bonesetters and orthopedic care provides an opportunity to learn about the potential strengths and limitations of each method and to examine opportunities for cultural synthesis and collaboration (Agarwal et al. 2010)

Recent reports from South-Western and Central Nigeria confirm that some of the practitioners have started inculcating some orthodox practices into their treatment. This includes wound dressing and suturing and even use of radiological aids (Dada et al, 2011), functional cast bracing which bear close resemblance to some of the "bamboo" bandaging pattern of traditional bone healers (Agarwal et al, 2010). These findings showed that traditional bone setters are now adopting modern form of treatment in fracture management.

This study therefore looks at integrate modern practices and the traditional bone setters in ensuring a healthy society. It is important to state that although there is still divergence relationship between traditional and western practitioners, the move is now towards some tolerance and recognition

2.10.3 The Health Care Utilisation Model

Another health seeking behavior model relevant to this study is the Health Care Utilisation model, also known as the Socio-Behavioral Model. In the Health Care Utilisation Model three groups or categories of factors which influence health-related behavior are grouped into a logical sequence of predisposing, enabling and need factors (Ahmed, 2005).

The predisposing factors include attributes such as age, sex, social capital, religion, global health assessment, formal education, general attitude towards health services, and knowledge about the illness as well as prior experiences about the illness. The enabling factors consist of availability of services, affordability of the services, health insurance and social network support.

The need factors include perception of severity, days lost due to illness, total number of days in bed, days missed from work or school, help from outside for caring (Ahmed ,2005). Finally health service utilization includes treatment actions such as home remedies, pharmacy, over the counter drugs from shops, traditional healers, private medical facilities and public health services. This model has also been used for gaining evidence on the weight of different factors for health service. (Ahmed, 2005).

However, health-related behavior is complex and could be influenced by a wide range of individual factors hence these factors should not necessarily be seen in a logical sequence. This study is therefore interested in whether the determinants of health-related behavior proposed by this model are applicable to TBS as a field of traditional medicine within the context of the study area.

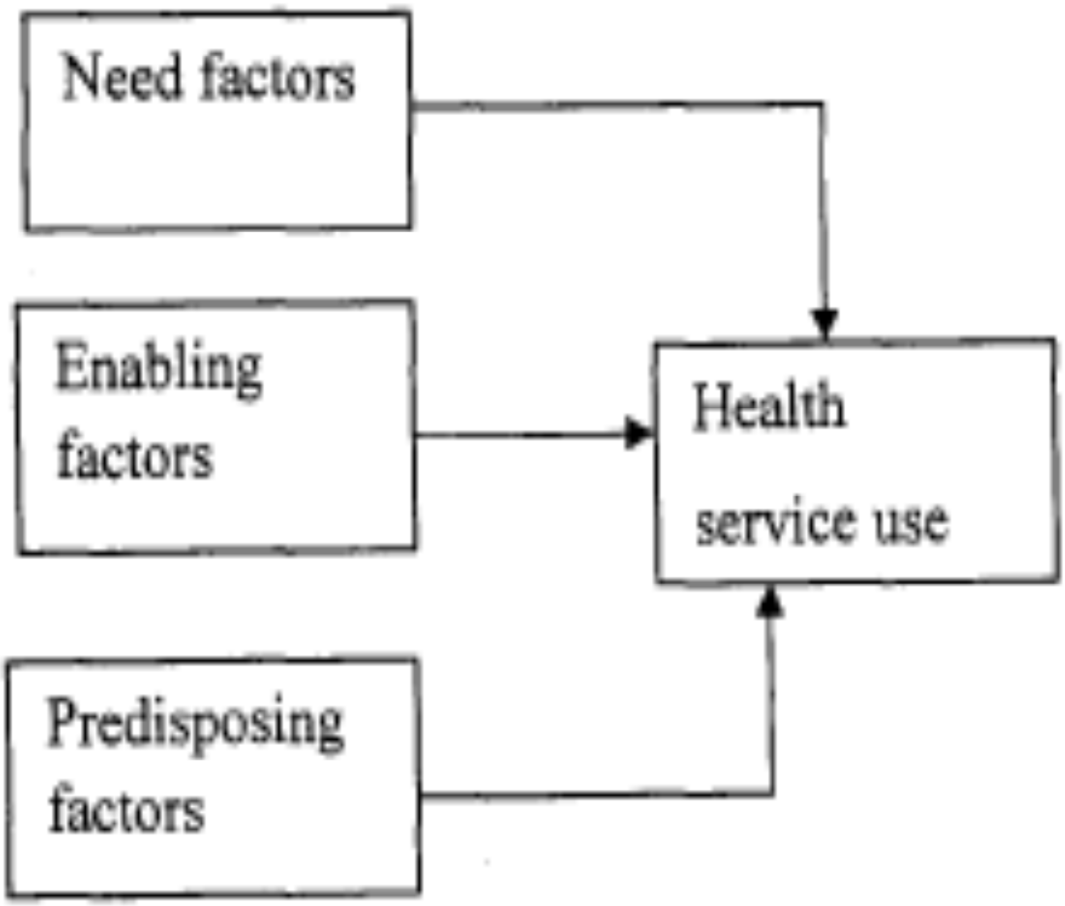
The enabling factor, consist of availability of services, affordability of the services, health insurance as well as social network. In the case of the availability of service, where modern health care are not available to victims of fractures or orthopaedic related cases, such victims are most likely not to receive health care service when indeed according to (Bukaret. al., 2009), fractures are considered emergencies and needs swift attention.

Failure to receive such immediate attention could result to complications. That would have meant that such individuals contribution to the society would have lost since the total number of days stayed in bed as well as days missed from work or school would have prolonged.

This can go a long way to affect the survival of the society. If there is an alternative in the form of traditional bone setters who can provide at least primary health care to such victims in order to restore their health to continue their role and contribution to the society, one cannot but admit that the contribution of the TBS is significant and hence their contribution to the functioning of our societies cannot be down played.

Apart from that, on the affordability of health care service, again victims who cannot afford the cost of modern health care especially the orthopaedic surgeries which are very costly are more likely not to receive health care even if they are ensured by the national health insurance (NHIS). This is because most of the implants including walking aids such as crutches are not taken care of by the NHIS.

Some people will always like to access services which are religious, social and culturally compatible. Besides they also want to access services which have been tried and tested and that is on the bases of prior experience.



Source: Hausmann-Muela, et al, 2003

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter offers the approach to the research, the design, the study area, sampling procedures and techniques, data collection techniques as well as data presentation and analyses. Also, the reasons for the respective choices have also been discussed in this section.

3.2 Profile of the study area

The study was conducted in the Tamale Metropolis. The Tamale Metropolitan Assembly was established by legislative instrument (LI, 2068) which elevated the then Municipal Assembly into a Metropolis in 2004. At present, it is one of the six Metropolitan Assemblies in the country and the only Metropolis in the three Northern regions namely: Upper East, Upper West and Northern regions. It has Tamale as the Metropolitan capital city and at the same time the regional capital of the Northern Region (GSS, 2010). The Tamale Metropolis is made up Tamale Central and Tamale South constituencies, the latter being relatively rural.

The Tamale Metropolis is located in the central part of the Region and shares boundaries with the Sagnarigu District to the west and north, Mion District to the east, East Gonja to the south and Central Gonja to the south-west. The Metropolis has a total estimated land size of 646.90180sqkm (GSS-2010).Geographically, the Metropolis lies between latitude 9º16 and 9º 34 North and longitudes 0º 36 and 0º 57 West.

Tamale is strategically located in the Northern Region and by this strategic location, the Metropolis has a market potential for local goods from the agricultural and commerce sectors from the other districts in the region. Besides the comparative location of the Metropolis within the region, the area stands to gain from markets within the West African region from countries such as Burkina Faso, Niger, Mali and the northern part of Togo and also en-route through the area to the southern part of Ghana (GSS, 2010).

The population of Tamale Metropolis, according to the 2010 Population and Housing Census, is 233,252 representing 9.4 percent of the region's population. Males constitute 49.7 percent and females represent 50.3 percent. The proportion of the population living in urban localities (80.8%) is higher than that living in rural localities (19.1%) of the metropolis.

The population of the metropolis is youthful (almost 36.4% of the population is below 15 years) depicting a broad base population pyramid which tapers off with a small number of elderly persons (60 years and older) representing 5.1 percent. The total age dependency ratio for the district is 69.4, the age dependency ratio for rural localities is higher (86.5) than that of urban localities (65.7) (GSS, 2010).

The metropolis has a total of 219,971 households. The average household size in the metropolis is 6.3 persons per household. Children constitute the largest proportion of the household structure accounting for 40.4 percent and heads of household make-up 16.1 percent of the household population.

Spouses form about 9.4 percent and other relatives constitute 12.9 percent of the population. The proportion of households who live in extended household structure

(head, spouse(s), children and head's relatives) constitute the largest proportion (46.1%) than that of any other type of household structure. Nuclear households (head, spouse(s) and children) constitute only 19.5 percent of households in the metropolis (GSS, 2010).

About 63.3 percent of the population aged 15 years and older in the metropolis is economically active and 36.7 percent are economically not active. Of the economically active population, 92.6 percent are employed while 7.4 percent are unemployed. For those who are economically not active, a larger percentage of them are students (56.0%), 20.9 percent perform household duties and 12.4 percent are either too young or old to work. About five out of ten (52.9) of unemployed persons in the metropolis are seeking work for the first time (GSS, 2010).

Historically, the Northern Regions of the country had vast land cover with smaller population sizes and the Metropolis is of no exception. This area begun experiencing high population growth after many people with different ethnic backgrounds started migrating from other areas to settle there, thus making it a cosmopolitan area.

The Dagombas are the majority and other ethnic groups such as Gonjas, Mamprusis, Akan, Dagaabas and groups from the Upper East Region are also residing in the Metropolis. Also found in the Metropolis are other nationals from Africa and other countries across the globe. The area has deep rooted cultural practices reflected in activities such as annual festivals, naming and marriage ceremonies.

Some of the festivals that are celebrated annually in the Metropolis are Damba, Bugum (fire festival) and the two Muslim Eid festivals (Eid Fitr and Eid Adha) and

the Christians festivals such as (Christmas and Easter). The Metropolis is dominated by Muslims and followed by Christians, spiritualists and traditionalists (GSS, 2010).

The Tamale Metropolis has a number of health facilities including private Medical Diagnostic and Laboratory centres. The prominent health facilities in the metropolis include; the Tamale Teaching Hospital, the Tamale Central Hospital, The Builpela Health centre, The Tamale West Hospital, Seventh Day Adventist Hospital (SDA), Vittin Health centre and Kabsad Scientific Hospital, among others.There is an orthopaedic unit in the Tamale teaching hospital with two orthopaedic surgeons. However, there is no single orthopaedic trained nurse in that unit. All kinds of orthopaedic surgeries are supposed to be carried out in that facility. These facilities complement one another to deliver quality services to the people.

There are a good number of both private and government schools comprising Secondary, Junior, Primary and Kindergarten Schools in the metropolis. Of the population, 60.1 percent are literates and 39.9 percent are non-literates. The proportion of literate males (69.2%) is higher than that of females (51.1%) (GSS, 2010).There are also reported cases of liver related diseases such as liver cirrhosis, elevated cholesterol, diabetes, sexual weakness, hypertension, PIH, and hepatitis among others in the Tamale Metropolis and Ghana as a whole (GSS, 2010).

The Total Fertility Rate for the metropolis (2.8) is slightly lower, compared to the regional fertility rate of 3.5. The General Fertility Rate is 79.9 births per 1000 women aged 15-49 years. The Crude Birth Rate (CBR) is 21.2 per 1000 population. The crude death rate for the metropolis is 5.6 deaths per 1000.

Accident/violence/homicide/suicide account for 9.6 percent of all deaths while other causes contributes to 90.5 percent of deaths.

Majority of migrants (54.9 percent) living in the metropolis were born elsewhere in the region while 45.1 percent were born elsewhere in another region. For migrants born elsewhere in another region, those born in Northern region have the highest proportion (19.6%) followed by those who were born in the Upper East (18.7).

Occupation is defined as the type of work a person is engaged in at the establishment where he/she works. This was asked of persons 5 years or older who worked in the last 7 days before the census night, and those who did not work but had a job to return to as well as those unemployed who had worked before. All persons who worked during the 7 days before the census night are classified by the kind of work they are engaged in. The emphasis was on the work the person did during the reference period and not what he/she is trained to do.

The occupation with the highest population in the Metropolis is service and sales workers (33.0%). This is followed by those in the craft and related trades works (21.5%). The proportion of the employed persons engaged in skilled agricultural forestry and fishery is 17.6 percent, which is the third largest occupation in the metropolis.

There are more males compared to females in almost all the occupations with the exception of service and sales where only 16.5 percent of males are engaged, compared to a large proportion of 50.3 percent for females. Also there are more females (11.3%) than males (6.1%) in the elementary occupation category.

The major transport services in the area are taxi cabs with a main taxi station at the Central Business District (CBD). State Transport Company, Metro Mass Transit, O. A. Travel and Tours and other private bus services link the Metropolis with other cities and towns in the country. Most of the people also use motorbikes as their means of transport within the Metropolis. For easy transport of goods and services, EMS, FEDEX, DHL and others offer fast and reliable express services from the Metropolis to other places (GSS, 2010).

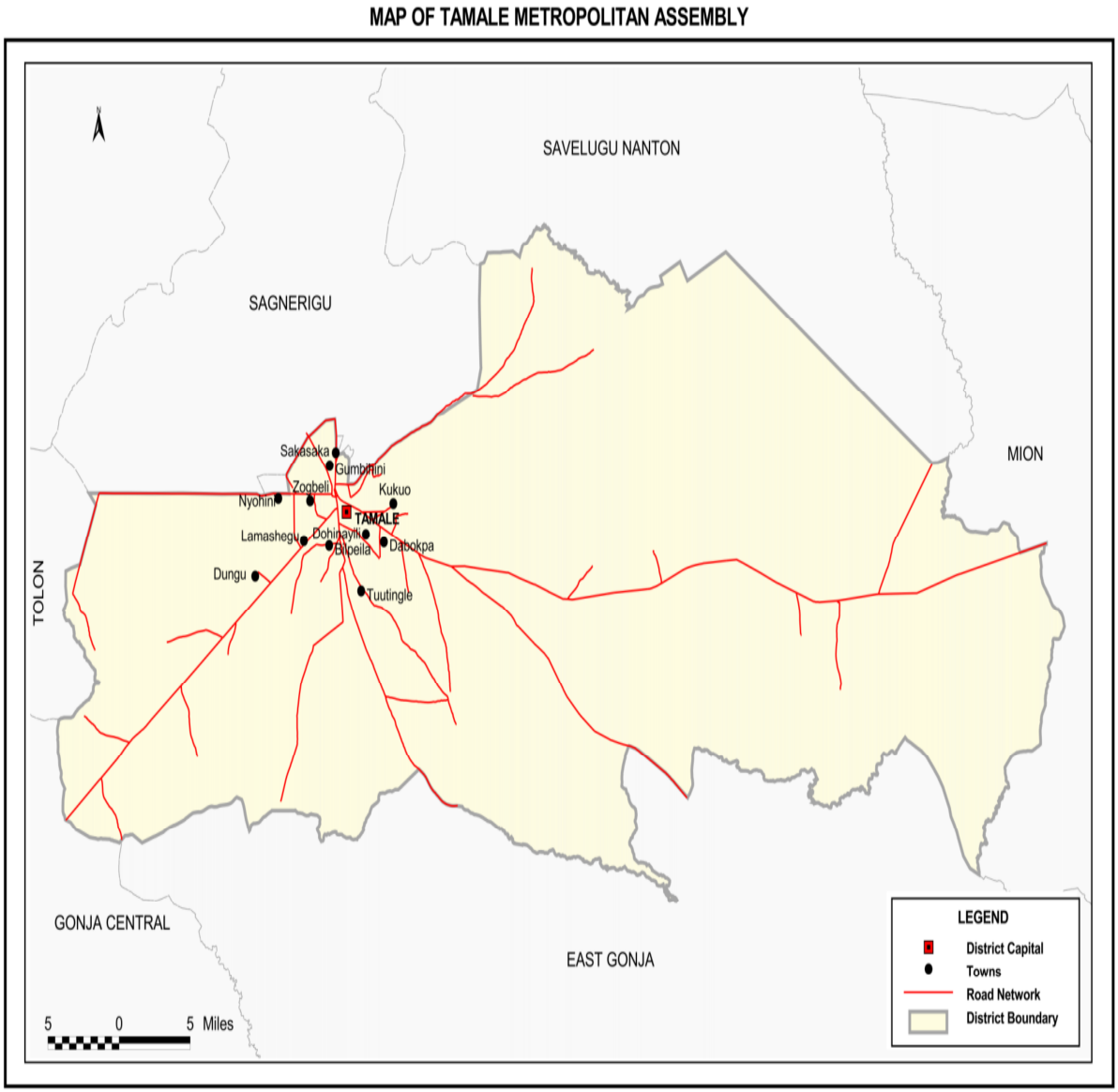


Figure 3.1: Map of Tamale metropolis

3.3 Research design

The study was a descriptive cross-sectional survey that made use of mixed methods of data collection. The research design follows directly from the research questions and is also based on the actual purpose of the study. The research design refers to the set of logical steps taken by the researcher to answer the research question (Brink, 2009). This design was chosen because of its suitability in non-cause-effect one time studies.

The motivation for this choice of research design was based on the following; a cross-sectional analytical approach allows for the measurement of exposure and effects simultaneously (Bonita et al.,2006). Also, the cross-sectional studies are observational in nature and are known as descriptive research. This design allows the researcher to record the information that emerges from a specific population without manipulating the variables.

Accordingly, this type of research may be used to describe the characteristics that exist in a population (Trochim, 2006). Cross-sectional study design was employed in this study as it also provides a quick assessment of the strength of the relationship between a factor and a health outcome associated with the specific factor as the relationship exists within a specified population at a particular time. A cross-sectional approach represents the simplest variety of descriptive epidemiology that may be conducted on representative samples of a population.

3.4 Study population

The target population refers to the total number of cases about which the researcher intends to make generalization. On the other hand, accessible population represents the

aggregate of cases that conform to the chosen criteria that are available to the researcher as a pool of participants for study.

Therefore, the target population for this study was the aggregate of users of traditional bone setting in the Tamale metropolis while the accessible population was the aggregate of victims of fracture and dislocation undergoing treatment or who have completed treatment with the bone setters.

3.4.1 Inclusion criteria

- Age to give informed consent
- Clients with fractures within the last twelve months and treated by a bonesetter whether successfully or with complications.
- Traditional bonesetters who live in the metropolis
- Health care providers who work in the orthopedics unit of TTH
- All respondents should be people living within the metropolis for at six months

3.4.2 Exclusion criteria

- Clients who were below18 years of age and those above 80 years of age
- Those who had lived in the Metropolis for less than six months before the research
- Those who declined to give consent to participate in the study.

3.5 Sampling Units

Sampling unit is a single section selected to research and gather statistics of the whole. In this study, the sample units were purposively selected from the various categories of the respondents for the interviews. The sampling units at the institutional level

included health care providers in the orthopaedic unit of the Tamale teaching hospital. At the bone-setting centers, the bone setters as well as patients who were still receiving treatment in the center were interviewed apart from that, patients who had completed treatment from the bone setters were also selected.

3.6 Sample size

Sample size of eighty-eight (88) was employed. This comprised of eight (8) bone setters, ten (10) health care providers from the orthopedics unit of Tamale teaching hospital, forty (40) in-patients from the bone setters clinic as well thirty (30) patients who have completed treatment.

The rest were two case narratives one in-patient and one ex-patient. All the in-patients and those who were identified to have completed treatment were recruited into the study but at the end only seventy (70) patients agreed to participate out of (77) patients. Again all the bonesetters within the metropolis were recruited and only eight of them agreed to participate out of ten (10).

3.7 Sampling technique

All clients known to have had fracture within the last twelve months and treated by a bonesetter whether still on admission or been discharged were recruited for the study. Purposive sampling technique was also adopted to select the bone setters and the health staff. With the bone setters, they were selected purposively because the researcher wanted to engage only the bone setters.

The health care providers were purposively selected since the researcher wanted to engage staffs who work in the orthopedic unit. These staffs were considered because

they deal specifically with orthopaedic related cases and believed to have knowledge and experience in that area. Just like the other respondents, all health care providers in the unit who were available and willing to part take in the survey were employed.

3.8 Source of data

According to Pennerselvam (2007) there are two main sources of data for analysis. These are primary and secondary sources. Primary data was generated from in-depth interviews and structured questionnaires. These were administered to bonesetters, health care providers as well as the patients. Secondary data on the other hand was generated from institutional report and a review of literature on bone setters using the internet, journals articles, magazines, books and related sources within Ghana and beyond.

3.8.1 Pretesting of data collection tools

The data collection tools were pretested in a neighbouring district, specifically the Sagnarigu district. The pretesting tested for the appropriateness of the data collection tools in gathering the desired data. It also tested for clarity and flow of questions and ambiguous questions were revised. The pre-test also helped to determine approximately how long it will take to interview a respondent. However, data gathered from the pretesting process was excluded in the study results.

3.8.2 Validity and reliability strategies for the interviews

Each interview lasted between 20-60 minutes and before the interview starts, the researchers established rapport by introducing themselves and allow participant do same. In some instances the researcher had to book appointments with some of the respondents especially some of the TBS. Both English and the local languages were used in the course of the interviews.

Research assistants were employed to assist in the data collection process. Training of data collectors was undertaken by the researcher to equip the data collectors with in-depth understanding of the questions and interview process.

Translation of the questionnaire into other local languages was done by both data collectors and researcher. The interviews were tape recorded to ensure that the views of participants have been fully captured. Apart from the audio recordings, detailed field notes were taken during every discussion to help capture responses and non-verbal actions during the interview processes. The consistent use of detailed field notes contributed immensely to ensuring consistency in views and opinions held by respondents during the analysis of the qualitative data.

The researcher avoided validity threat using the actual data collected during the research process. This was achieved by collecting data; all audio recordings were transcribed verbatim and compared with the detailed notes taken during the interview to ensure consistency. Apart from that, the researcher discussed the entire interview with the participant both the note and the recorded voice to ensure that participants agree with the notes as a true interpretation of the opinions.

3.9 Limitations of the study

Study participants encountered recall bias since some of the respondents could not recall everything that they went through during their treatment. In order to minimize that effect, the researcher ensured that patients who completed their treatment more than a year ago were not included in the study.

Also the attempts by some of the TBS to restrict certain information they consider as secret also constituted a challenge but the researcher was able to explain to them that the information provided will as much as possible remain confidential.

3.10 Data presentation and analysis

Data analysis was taken through various stages during the process since it involved a mixed method. Also, in this study the concept of the objectivity was used to critically examine the data. The qualitative data gathered from the interviews was transcribed verbatim and analysed using the five-step thematic analysis approach by (Braun & Clarke, 2006).

This technique was appropriate for this study taking in to consideration its flexibility to use and provides a rich analysis of the data generated. The thematic analysis process includes familiarization, coding, searching for themes, reviewing themes and defining and naming themes. Apart from that, narratives were also used. Quantitative analysis was done using percentages and simple diagrams such as charts and tables.

3.11 Ethical considerations

A research project is a process which has ethical implications. However, the researcher conducted this research taking into consideration the ethical issues. The following three fundamental ethical principles guided the researcher; respect for persons, respect for beneficence and respect for justice. These principles are based on the human rights that must be protected during any research project, including the right to self-determination, privacy, anonymity, confidentiality, fair treatment and protection from discomfort and harm.

In this study the research participants were all informed that they had the right to withdraw from the study at any time, the right to refuse to provide information and the right to ask for clarification regarding the study. The researcher informed the study

participants of the purpose of the study and introduced himself and his team of researchers to the study participants.

The researcher further informed study participants of the importance of the problem under investigation. The researcher explained the procedures and methods to be used by the study to the study participants. This included time to be spent by each participant, their inclusion status and their responsibilities as study participants. Participants were assured that their willingness to participate in the study would not be disclosed to anybody and their responses would be kept confidential.

CHAPTER FOUR

RESULTS

4.1 Introduction

This chapter presents the study results. It is presented in the form of tables and charts. Texts in terms of narratives were adopted to support the results obtained. This approach was adopted because it allows for in-depth analysis of the dynamics of bone setters and the sentiments of fracture patients that might not be easily obtained using other approaches such as statistical methods.

4.2: Demographic characteristics of respondents

The demographic profile of the respondents is shown in Table 4.1 with the following variables; age, sex, occupation, category, educational status and occupational status.

Table 4.1: Demographic characteristics of respondents

Variable		Frequency (88)	Percent (%)
Age	≥20	10	11.4
	21-25	15	17.0
	26- 30	16	18.2
	31-35	24	27.3
	36+	23	26.1
Sex	Male	56	63.6
	Female	32	36.4
Category	Health workers	10	11.4
	Bonesetters	8	9.1
	In-patients	40	45.5
	Out-patients	30	34.9
Educational level	No formal education	31	35.2
	SHS	27	30.7
	Primary	12	13.6
	Tertiary	18	20.5
Occupation	Salaried workers	22	25.0
	Students	20	22.7
	Farmers	14	15.9
	Petty traders	32	36.4

Source: Field data, 2017

From Table 4.1, the demographic profile of the study participants showed that 11.4% of the respondents were young in the age group less than 20 years old, 27.3% respondents were in the age group of (31 to 35) years old and 26.1% respondents were aged above 35 years. There was a male preponderance of 63.6% and the rest were females.

From the analysis, 11.4% respondents were health care providers at the Tamale Teaching Hospital, 9.1% respondents were traditional bone setters whilst the rest were both in and out patients of the traditional bone setters (See Table 4.1).

The educational background of the respondents is also important since it could contribute to the reliability of the results as respondents could have a fair understanding of the variables that were investigated. Analyses showed that 30.7% respondents had at least some form of Senior Secondary School education (SHS), 20.5% respondents had at least some form of Tertiary education, 13.6% respondents had at least some form of Primary School education and 35.2% respondents had no formal educational training (See Table 4.1).

The occupational status of the respondents was assessed. Twenty-two representing (25%) of the respondents were salaried workers twenty (22.7%) were students, fourteen (15.9%) were farmers whilst thirty-two (36.4%) of the respondents were petty traders (Table 4.1).

4.2 Perception on the quality of care of traditional bone setters to their patients

Bone setting is a focused section of customary remedy, which has been used since time immemorial. Trying to trace the origin of joint management and massaging would probably be quite impossible, for both have undoubtedly existed in one form or another since the beginning of the history of mankind. It is a natural tendency for one to massage and manipulate an aching muscle or limb.

Everyone, at some time or another, has felt the urge to exercise his shoulders and relieve the binding of spinal fatigue. It is not too much to assume that the primitive man devised methods of accomplishing the instinctive tendency to massage and

manipulate his fatigued and aching muscles and joints in order to maintain a desired flexibility. We have all had the experience of inadvertently snapping our joints while luxuriously stretching our fatigued frame.

4.2.1 Qualitative results

This part presents the results of the qualitative data gathered from the study.

> Findings from the research showed that whiles some of the traditional bonesetters said they receive average of 30 patients within a month; some couldn't give a figure because there was no proper record keeping besides other patients went there with different conditions other than fractures. On duration of treatment, it was realized that, traditional bonesetters use an average of 1-3 months depending on the nature of the fracture, part of the body involve, age of the patient as well as the level of cooperation of the client.

They indicated that open or compound fractures takes a longer period to heal compare to a simple fracture. Also fracture of the hand heals faster compare to the leg. In terms of age, they all agreed that fractures involving children are easily treated compare to an adult and the reason was that, the bones of a child can still grow in length whiles that of adults seizes to grow at certain age.

Apart from that, they also maintained that clients who obeyed treatment modalities were healed faster. One of them explained

> *"If a client is asked to assume a certain position and observe certain taboos and the client go strictly according to that the chances are that he will be healed faster otherwise he is likely to undergo prolong treatment."*

When asked why they think people patronized their services, they revealed that most people access their services because of the trust they have in them. According to them, (bone setters) the people believe that they are able to heal fractures faster; the service is readily available, reliable and affordable.

They added that, the patrons have seen evidence of people who go to them with complex fractures and were successfully treated and at the same time, some patients run to them for the fear of amputation from the hospitals. Almost all the patients who were interviewed on the perception of the quality of service of the TBS indicated that they had information regarding their services and that was what informed their decision to opt for their service.

Some of them said they were informed by friends and relatives about their good works and they knew they were going to be successfully and indeed their expectations were met. Others also claimed they knew friends and relatives who benefited from the services of the TBS and that was what informed their decision. For example,

> A 34-year old male farmer said:*" my friend was brought to this bone setter with fracture of the jaw after he was referred to Accra for a surgery that could not be performed in Tamale. We brought him here because we could not afford the cost of the surgery. He could not open the mouth to talk less of eating and within a week he was able to talk. As we speak now he is completely healed. That is why I also chose to come here.*

Again, the patients who were sampled agreed that they will encourage others to seek the services of the TBS. One of the patients said

It will be greedy on my part not to advice someone to go for the services of the bone setters after I have benefited from that. I am a beneficiary and will like any other person to equally benefit".

Most of them were also of the perception that orthodox treatment doesn't provide permanent cure for fractures since the individuals who underwent orthodox treatment will experience episodes of pain during cold weathers.

A 35 years farmer with femoral shaft fracture who was involved in a motor bike accident said" *Though both the bone setters and the hospital treats fractures, however, no matter how well a fracture is treated in the hospital, the person will still have to access the service of the bone setter if the person wants a permanent cure. Persons who received purely orthodox treatment mostly experience episodes of pains at the affected limb especially during cold weather. Therefore one cannot do away with the bone setters so far as fractures are concern.*"

On the part of the health care providers, majority of them said they would not advice patients to go for the services of the bone setter; however the TBS should be allowed to continue to practice since they also contribute to the health delivery system. They added that patients who cannot access or afford the cost of treatment of modern health care service are mostly managed by the bone setters.

4.3 Treatment outcome of traditional bone setters

There are numerous of reasons why patients make use of traditional bone-setters. The belief that diseases and accidents have spiritual components that needs to be tackled along with treatment account for one of the reasons for the patronage. The belief in the

community that sickness and afflictions usually have spiritual aspects that need to be cured with traditional believes like the use of incantations and concoctions are reasons for the patronage of traditional bone setters by patients.

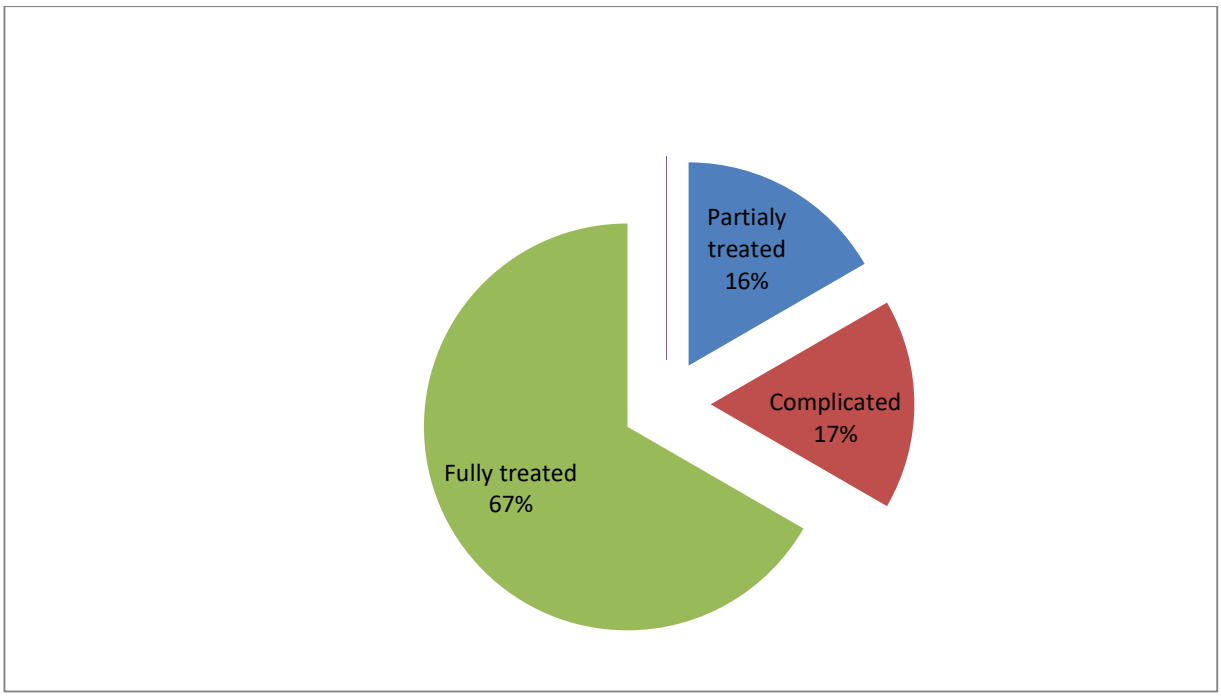


Figure 4.1: Treatment outcome

This section depicts the result of the treatment outcome of fracture through the bone setters. Generally the success rate of traditional bone-setters was judged to be high. On the investigation, majority of the patients who have completed treatment twenty (20) out of 30 representing (66.6%) of the respondents indicated that they were fully treated, five (5) representing(16.6%) indicated that they were partially treated whiles the rest representing (16.8%) said they developed complications (See Figure 4.1).

This result really shows the strength of the bone setters in fracture care in Tamale metropolis.

On the part of the in-patients, all of them indicated that they were satisfied with the progress of their treatments since they have seen a lot of improvements. Those who were discharged from the hospital to the bone setters said they have not regretted for leaving the hospital.

A 25 years male student who was discharged from the hospital to the center said"

My leg was kept on POP for about a week in the hospital, the leg kept swelling which was accompanied with pain. It got to a point when I could no longer bear the pain despite the administration of pain medications. As a result I requested for the discharge which initially they were reluctant with the explanation that the leg will be cut off if I send it to the bone setter but I insisted and finally I was granted the discharge. I could not even straighten my leg when I first came here, today as you can see I can now walk with the help of the crutches."

The researcher's observation on some of the patients especially those who said they were fully treated, it was difficult to tell the affected limb. However in some few cases one could see slight deformities especially those who were treated with compound fractures. On the part of the bone setters, they indicated that their treatments are generally successfully and this is what one of them said;

"*Since I inherited this profession I never fail any of my clients. All my clients always get treated successfully without any complications this is because all my clients go for X- rays for confirmation after treatment and thank God I am always on point"*

Case narratives

Narrative 1(Ex-patient)

This was a narration of a 35 year old male who had a fracture of the left leg. He was knocked by a taxi whiles riding on a motor bike. This happened in March, 2016. He had the following narration*:*

> *After I was knocked down I* felt a sharp pain on the leg *with my leg turning towards one side and bleeding from the fractured part. From there I was rushed to the hospital. After assessment I was diagnosed of a fracture and as results my leg was kept in plaster of Paris (POP).*

Though I was feeling pains since the day I sustained the injury, however, the pain became unbearable after the POP. Subsequently the leg was observed to be swelling there by aggravating the pain. Three days later, I realized that I could no longer bear the pain despite the administration of pain medications. In consultation with my family members, I requested to be discharged against medical advice.

Initially the health care providers felt reluctant to grant me the request with the explanation that if I send it to the bonesetters the leg will go bad and will subsequently be amputated. All the same, I insisted that I still wanted to go hence I was granted the discharge.

When I got to the bone setter, the leg was massaged and some dark blood flowing from the wound. The bone setter then told me that if the blood had continued to stay in the leg for few more days the leg would have gone bad. Though I was not giving any pain medication, I had to endure the pain after all I was already in pains.

The bone setter pulled the foot while the assistant pulled the leg slowly until alignments was achieved. Shear butter mixed with some black powder was applied during the massaging. The leg was swollen with a lot of pain, but he assured me that the swelling will go down after a while and therefore I should be patient. After the alignment was achievedt, the wound was dressed and cotton applied around the affected site.

A wooden splint was used to immobilize the limb. Then a bandage was used to tie round the leg in order to secure the splint. To further immobilized the limb, it was kept between four blocks arranged vertically in such a way that I could not move the leg. Three days later the bonesetter unties the leg to check on the wound and to also check for any change of skin color, any unusual smell or swelling than it was before. He assured me that all was well and again massage with the black medicine the same way he had done earlier. He checked on the wound as well.

During my stay in the clinic, I was treated well; I was fed, though sometimes my parents would bring food from the house. After 28 days I was allowed to walk with support. After one and half month the splint was removed leaving the bandage and I was allowed to move around with support. I was finally discharged home on the third month. Regarding the cost of treatment, I was not asked to pay any specific amount; rather I provided a fowl, cola and shear butter.

After the discharge, I was asked to give out any amount that I could afford. As we speak now I am completely healed and I have no any concern regarding my leg"

Case narrative 2 (an in-patient)

This was a narration of a 25 year old male driver who involved in an accident on his way from Kumasi in a yutong bus. This happened on November, 2016 and he had the following narration:

Though I am a driver but I wasn't the one driving when the accident occurred. I can't recollect exactly how the accident occurred but all I could recall was I saw a packed vehicle on the road and the next thing is I woke up in Tamale teaching hospital. I was diagnosed of having sustained a fracture of the femur and a mild head injury.

As a result of the head injury I was admitted in to the neurological unit. Subsequently I was referred to korlebu teaching hospital for maxillary facial surgery. However my relatives suggested that the fracture is more important hence it should be dealt with before the facial surgery. Though the transfer letter was taken, we did not go to the korlebu instead I was sent home for local treatment because the TBS said there was no space to admit me hence I was been manage at home.

The bone setter made the follow up the very day I was send to the house. On arrival, he confirmed that it was a fracture of the femur and without any pain medication; my leg was massaged and pulled until alignment was achieved. My brother who was a nurse was called to come and give me some pain medication before the reduction, but before he came the TBS had already carried out the procedure. The pain was so severe that I never thought I could

survive it. After achieving the alignment, a wooden splint was applied followed by a bandage.

He comes to inspect it every four days. Any time he comes he will massage it with local ointment and tie it again. This continued for about a month before I was allowed to walk with crutches though I could not step on my leg. Seven weeks later I was able to step on it though still with support. He said in the next few weeks I will be able to walk without any support. I have seen a lot of improvement and I am confidence that I will be fully healed without any complications.

4.4 Collaboration between traditional bone setters and modern health care

The safety and effectiveness of a country's health care delivery system depends largely on the nature of interactions between the practitioners of the different healthcare systems existing in that country (Yeboah, 2000; Darko, 2009). This is largely determined by the referrals of patients or clients from one healthcare system to another by their various practitioners (Elvin-Lewis, 2001)

A major challenge limiting interactions between traditional and orthodox medical practitioners is the secrecy involved in the transmission of knowledge from herbal practitioners to orthodox healthcare professionals (Ossom & Lamptey, 1992). Foote (1999) argues that the suspicious attitudes of some traditional practitioners to the orthodox medical system contribute to the lack of cooperation between the former and the latter.

Most of the herbal practitioners are not willing to disclose the contents of their preparations and products to either their colleague herbal practitioners or orthodox medical practitioners (Fakeye, Adisa & Musa, 2009)

Six (6) out of the eight (8) TBS representing 75% supported the need for collaboration. They explained that collaborating with the hospitals will be necessary since there were certain things they (TBS) needed in order to improve on their work which happen to be in the custody of the hospitals such as bandages, cotton, gloves etc.

Significantly, the greater majority (65%) of the users of traditional traditional bone setters agreed that the integration of traditional bone setting into modern health care system could help address most of the myriad problems confronting the modern health care system. Notable among the healthcare problems described by the users were the long distance between health facilities and the home coupled with un motorable roads leading to the hospitals and clinics, long queues at the facilities, the lack of and/or inadequate health care professionals, expensive nature of orthodox health services, and low health education.

They added that collaborating with the health care provider was needed so far as the administration of pain medication was concern since fracture reduction was a painful procedure, and ones the patient was not stable as a result of the pain, it becomes difficult to achieve alignment.

One of the bone setters said

> *"There is already some form collaboration between some of the bone setters and the hospital in that, there are situations the hospitals refers cases to us*

and we also do refer to them. Mostly when the clients keep so long in the house to the extent that new muscles are formed in the affected limb, it becomes very difficult to reduce the fracture unless operation is carried out and in such cases those patients are normally refers to the hospital. Mostly I refer my cases to the Bawku hospital."

Even though the orthodox health care professionals who were interviewed supported the integration of traditional bone setting into modern health care system, all of them did not believe that the integration of traditional medicine into modern health care system could be the antidote to the health constraints in the country. This shows that there is low level of integration between the two healthcare systems, even though they coexist. The survey also revealed that the integration of herbal medicine into modern medicine stands the chance of reaping several benefits.

On the specific ways in which integration of traditional and orthodox medicine could be achieved, it was showed that71% of the users interviewed in the survey proposed the promotion of cross referral of patients, 9% recommended the registration and provision of licenses to herbal practitioners, 5% recommended the training of herbal practitioners in modern healthcare practices, 10% proposed clinical testing of the efficacy and safety of herbal medicines before use, and 5% proposed the documentation of herbal medicines and their uses.

Two (2) of the bonesetters were skeptical on the issue of collaborating and their reasons were that, they didn't want too much interference in their work. They explained that there is the possibility for the hospitals to include an element of fee and they believe that charging for the services can influence the efficacy of their treatment.

This is what one bone setter from one of the places in Tamale"Tuutinglil has to say on the issue of collaboration *"My grandfather told me never to charge for any services and collaborating with the hospital has the tendency to include an element of fees which will not be in my interest hence I prefer to work without collaboration. However if the hospitals feels we can work together without any fees then no problem" (Bone-setter,"Tuutingli" personal communication, NOV,2016).*

Just as the bone setters, 90% of the patients also supported the need for collaboration especially in the area of pain management, care of the wounds, personal and environmental hygiene. One of the patients stressed that the collaboration should make room for patients who have under gone treatment with a bone setters to be able to take X-ray in the hospital for confirmation.

Few of the patients were of the view that, collaborating with hospitals would not be in the interest of the TBS since they would want to be independent and collaboration was more likely to subject them to the control of the hospitals.

Moreover, several recommendations were made for the improvement of the practice of traditional bone setting. Whereas about 78% of the respondents in the survey recommended scientific research into herbal medicines for the improvement of the practice, 15% recommended the provision of license to herbal practitioners, and 7% recommended the sustainable utilization of herbal medicine for the improvement of the practice.

4.5 Challenges confronting traditional bone setters

Almost all the bone setters identified accommodation as the major concern. The researcher's observation also revealed that just a few of the bone setters were able to

provide accommodation though not even enough for their clients. Apart from that both the in patients and ex-patients confirmed that accommodation was a major challenge for the bone setters.

My encounter with one of the bone setters revealed that it was one white lady who constructed three rooms structure for him. According to him the lady visited him and realized that he had no accommodation for his client. They lamented that there were situations they receive cases which should be detained but due to in adequate accommodation such patients have to be discharge earlier. One of the bone-setters said;

> *there are situations I receive seriously injured patients who are supposed to be admitted and monitored but due to the lack of accommodation, the patient is either managed and discharged earlier than he should or the patient will have to get accommodation elsewhere and be coming for reviews. This is done in order to make room for others patients who might also need argent attention (Bone-setter, kooTingli, NOV,2016).*

Apart from the accommodation, it was also revealed that the bone-setters have no record keeping system to track the record needs of the clinic. The records of patients who attend the clinic were not properly organized and kept so that such records can be used in monitoring the progress of patients and also relied upon in the future when the patients attend the clinic. Due to the same reason the bone-setters could not tell the researcher the exact number of people they have attended to.

For the same reason, traditional bone setters are not able to make proper follow up to see the progress of their clients.

Also, it was revealed that the bone setters don't have any reliable source of income since their services were eventually free. They only receive gifts of appreciation from some of the patients after they have been treated. These gifts according to most of the TBS range from fowl, cola, and cash between 5 cedis to 20 cedis.

This information was subsequently confirmed by all the patients who completed their treatment with the bone setters. According to the bone setters, the revenue generated was woefully in adequate taking into consideration what was required to get the herbs from the bush, bandages local crutches, mattresses, cotton, etc.

They indicated that there are situations they were compel to use one bandage for more than one patient which according to them was not the best. This was the responds of one of the bone setters to a question as to why they don't charge for their service.

> *We don't charge for our services because it is believe that our great grandparents were using it purposely to help people out and there were no fees attached to those services. There for charging for the service today is tantamount to selling out ancestral heritage which has the tendencies to affect the efficacy of the treatment (Bone-setter,"Vuting", NOV, 2016).*

According to the bone setters, access to herbs was becoming a serious challenge to them. They indicated that, those days it was easy to access herbs even at the back yard, but today due to development as well as environmental degradation the plants are becoming extinct. As a result, they would have to travel long distances especially those TBS living in the urban centers in order to access the herbs.

Lack of bandages, gauze and cotton for wound dressing was also a challenge identified by the traditional bone setters.

As to whether we charge for our services, I think you can see for your self-considering our environment, we don't even have a decent sleeping place. If I were to be charging patients taking in to consideration the number of people who visit this place I would have been a rich man. However, we don't charge any fees because, it is believe that our great grandparents were using the practice purposely to help people out and they use not to charge people for those services. There for charging for the service today is tantamount to selling out ancestral heritage which has the tendencies to affect the efficacy of the treatment.

On the part of pain management, majority of the patients including both in patients and ex-patients indicated that though they did not receive any pain medication from the bone setters, however they bought their own orthodox pain medications during the treatment. Six (6) out of the eight(8) bone setters who were interviewed indicated that they do not give pain medications however most of the patience comes to them with their own pain medications especially those from the hospital.

One of them indicated that he works closely with a nurse who always comes to give pain injection any time he wanted to reduce a fracture but due to the busy schedule of the nurse, he was not readily available and so there were instances he would have to work on the client without any pain medication.

Another one also said he gives the pain injection by himself this is what he said

I ever worked in the theater as an orderly and during that period I was able to learn how to give injections and for that matter I am able to give the pain injection myself (Bone-setter," TuuTingli", NOV,2016).

CHAPTER FIVE

DISCUSSION

5.1 Introduction

This chapter contains the discussion of the results found in this study compared with the literature review presented in chapter two of this study. The findings showed that traditional bone setting is common practice in the Northern part of Ghana which is highly patronized by all categories of people irrespective of educational level or social status. Though the majority of the bonesetters were not educated, they adopt some of the modern health care practices such as the use of crept bandages and analgesics instead of subjecting the patients to unbearable pains as being practiced previously.

Apart from that, the bone setters make use of the X-rays of patients who passed through the hospitals to their centers since it gives them more idea as to the nature of the fractures. After treatment some of them again requested for their clients to take X-rays for confirmation. This finding is supported by that of Omololu et al. (2011) which showed that traditional bone setters were now adopting modern form of treatment in fracture management.

It is important to state that although there is still dichotomous relationship between traditional and western practitioners, the move is now towards some tolerance and recognition.

5.2 Demographic characteristics of respondents

There were a high number of male patients compared to their female counterpart. This may be attributed to the hazardous nature of occupational activities of the men.

This finding is in line with that of Sina et al. (2014) who found that males (67.2%) accounted for a large portion of patients seeking services of traditional bone setters and showing that males were predominantly injured from the use of "Okada" (Motorcycles). Besides in the urban centers such as Tamale metropolis, the commonest means of transportation is motor cycle which is mostly used by men. These motor cycles tend to cause lot of road traffic accidents than any other means in the metropolis.

5.3 Perception on quality of care

The typical medicine-man devotes much time and personal attention to the patient and this enables him to penetrate deep into the psychological state of the patient. According to Ahmed (2005), traditional health practitioners symbolize the hopes of society, hopes of good health, protection and security from evil forces, prosperity and good fortune, and ritual cleansing when harm or impurities have been contracted (Mack et al. 2005; Bannerman, 1993)

Whereas there is wide diversity at a practical level, a basic philosophical underpinning of all such knowledge systems is their acceptance of a shared worldview which is an inherent relationship and sharing of key elements between the macro and microcosm, the outside universe and a living being (Orjioke, 1995; Neba, 2011). Few other common dimensions are ecological centeredness, focus on 'non-material' or 'non-physical' dimensions and a comprehensive approach to health, keeping in mind physical, mental, social, emotional, spiritual, ecological factors in wellbeing.

Citing the African traditional medicine situation, Ezema (2010) points out some of the key unifying features of any traditional medical knowledge as, popular and public

domain knowledge relating to self-help, a social character, religious dimension; orientation to prevention and comprehensive concepts of health and illness than in the Western tradition.

Further, one can see broad similarities at the theoretical level of traditional medicines such as their focus on functional aspects of health and diseases; systemic understanding of health and disease, multi causality approach, a circular method of cause-effect reasoning, subjective, qualitative, individualized and personalized management, preventive focus, attribution of importance to physician's wisdom etc (Salati & Rather, 2009; Osemene, Elujoba & Ilori, 2011).

This structure reflects the sum total of normative behavior which is governed by norms and roles (Ugah, 2010). This perspective analogically sees society as a system or an organ in the human body, such that an understanding of a part would require same of its relationship to other organs as well as its contribution towards the maintenance of the organism (Salati & Rather, 2009).

In like manner, an understanding of any part of the society should involve an analysis of its relationship to other parts especially its contribution towards the maintenance of society (Osemene, Elujoba & Ilori, 2011; Peter, 2003; Salati & Rather, 2009)

The bone setters perceived themselves to be doing very well since clients keeps going to them to the extent that some clients had to request for discharge from the hospital to their facility. To them, if they were not doing well people wouldn't have continued to patronize their service. They further build more confidence in themselves since they are able to provide a lot of evidence of cases they are able to handle which were considered complicated. However, some may argue that the entire credit should not be

attributed to the bone setters since most of the patients are normally stabilized in the hospital before going to the bone setters.

For instance patients who are seriously bleeding, unconscious or with serious fractures such as mangled foot will not go right away to the bone setter because they know the bone setter cannot transfuse the lost blood neither can he resuscitate the patient nor carry out amputation.

On the part of the health care providers, majority of them said they would not advice patients to go for the services of the bone setter; however the TBS should be allowed to continue to practice since they also contribute to the health delivery system. The above response by the health care providers could be influenced by their profession such that they don't want to endorse the acts of the bone setters which seem to be conflicting with their field of practice.

They could not also condemn it outright because they know it serves as an alternative to patients who cannot access modern health care. Almost all the patients had prior information regarding the quality of the services of the bone setters before visiting them and they perceived the services of the TBS to yield faster results compared to the orthodox. This supports the assertion that there is a belief among the general populace that traditional bone setting heals faster (Peter, 2003; Salati & Rather, 2009).

This means that those who provided them with the information might have previously received successful treatment from the TBS. Some of the patients asserted that the bone setters gave them more attention and that they were attended to immediately they got to the clinic.

This immediate attention as purported by the clients could possibly be due to the few number of patients in the bone clinic compared to the hospitals and again, because there are less bureaucracies in the bone clinic.

The fear of amputation as mentioned by one of the TBS as factors that drive patients to them is found to be in line with the findings of Omololu et al. (2002) who found that most people who have fractures believe that amputation is imminent once a person is referred to a teaching hospital. Those with such concerns may be partly right because amputation is done only in the hospital.

Though it is possible for the hospital to amputate a limb that could have been salvage by a bone setter but in certain cases the only option is to amputate in order to salvage the rest of the limb. A bone setter cannot and will not do amputation even if a case worsen in his care. Mostly the final decision will be for the bone setter to advice that the patient be sent to the hospital for further management. Probably that explained the reason why people believe that the bone setters do not amputate only the hospitals does and that whenever a fracture is sent to the hospital, amputation is eminent.

5.4 Treatment outcome

Traditional medical knowledge is around the world and the larger public has integrated them for their various health needs. While continued community or public patronage is sustaining and even fostering their growth both in developing and developed countries, there exists a gap between public choice and national, institutional efforts for integration. High external resource use and technology orientation in development coupled with markets as major determinant of distribution

is continuing to marginalize traditional medical cultures in the health systems (Mack et al. 2005)

It is evident that any model of healthcare based on a single system of medicine will find it difficult to cope with the health care demands in near future. It is also obvious that traditional and cultural medical knowledge has a catalyzing effect in meeting health sector development objectives and will continue to be so in both the worlds (Orjioke, 1995).

But there exist major differences in the usage of TCAM in developed and developing world. While safety is the prime concern in developed countries, access and cost seem to be issues in developing countries. Challenges and issues also seem to be quite different in the eyes of various stakeholders such as regulators, consumers, practitioners and the industry (Agarwal & Agarwal, 2010; Mack et al. 2005)

The stiff opposition to traditional medical practice from official quarters has not whittled down its level of patronage by the people simply because it was developed in response to the dictates of their environment (Bannerman, 1993; Bali, 2012). Consequently it is affordable, accessible and considered efficacious by the people. As at today, Nigeria runs a dual system of health care delivery- the officially recognized orthodox system and the barely tolerated traditional system.

Traditional medicine plays important roles in human society from past centuries to date. Traditional medical practice illustrates the medical knowledge practices, which improved for several centuries ago within a variety of societies before the era of modern Allopathic or Homeopathic Medicine began (Adesina, 2014; Access, 2010).

He went on further to say that among non-industrialized societies; the use of herbal medicine to heal disease is almost universal.

This study revealed that the success rate of traditional bone-setters was judged to be high and majority of those who have completed treatment indicated that their fractures were successfully treated. This is contrary to reports elsewhere that bonesetters take up cases and mismanage them; leading to deformation and in some cases deaths (Omeonu, 2003; Onuminya, 2004; Onuminya, 2006; Hag & Hag, 2010).

For those who were partially treated still have some difficulties such as episodes of pains, and some level of deformities but could use the affected limb without limitation. Those who developed complications were those who could not cope with the outcome of the treatment and will require further management such as hospital intervention.

The assertion by the patrons that the bonesetters provide socially acceptable services by taking off their emotional stress before treatment supports the findings of Daramani (2007) who found that majority of patients have built confidence in the Traditional Bone Setters and promised to advertise them since their treatment were found to be complete, inexpensive and convenient. It is however important to acknowledge that, for the fact that there are no deformities and pains, it is not enough to conclude that the fracture is completely treated since most of the patients did not take x rays to confirm.

In recent years there has been a growing interest in traditional medicine and their relevance to public health both in developed and developing countries. Diversity, easy accessibility, broad continuity, relative low cost, low levels of technological input, relatively low side effects and growing economic importance are some of the positive features of traditional medicine.

In this context, there is a critical need to mainstream traditional medicine practice into public health care to achieve the objective of improved access to health care facilities (Olaolorun, Oladiran & Adeniran, 2001; Omonzejele, 2008)

5.5 Pain management

Many communities have since creation, developed various traditional systems using locally-available resources for the alleviation of their health problem.

On the part of pain management, it was realized that most of the bone setters do not give pain medication except few who rely on the services of the health care provider for injections and another bone setter who claim he could give injection. Possibly, patients are allowed to take any orthodox pain medication of their choice due to the painful nature of fracture. The pain is more intense during the reduction and I think that is why some of the bone setters are compelled to get a health care provider to give the injections such that the patients will be stable for them to achieve proper alignment.

Notwithstanding that, there is the need for special attention to be paid on the bone setters' especially those who claim they can give injection on their own. Injection is a very delicate procedure which is supposed to be carried out by trained personnel. This is because a little mistake can render someone paralyze for the rest of his or her life. Once such a thing happened, it is most likely to be attributed to the fracture since the bone setter is not experience enough to be able to tell, the possible cause.

Traditional medicine was the only system available for health care for centuries for the prevention, diagnosis and treatment of social, mental and physical illnesses. Despite the official stigmatization of the system during the colonial era, it continued to thrive,

even if largely underground. The dawn of independence in the 60's saw the bold and open re-emergence of traditional medicine and traditional health practitioners. Four decades after independence traditional medicine is staging a comeback due to a mix of cultural, psychosocial and economic factors.

There are strong indications that traditional health care systems are still in use by majority of the people not only in Africa but across the world (Onuminya, Onbowale & Obkpa, 1999). Examples of traditional healers are herbalists, diviners, faith healers, traditional surgeons etc. All these traditional healers need information to support their work

Various countries have enunciated health care policies geared towards the maintenance and improvement of the health status of their populations. This is borne out of the realization that good health care is paramount for the well-being of the citizens and subsequently the socio-economic development of their various societies (Neba, 2011; Onuminya, Onabowale & Obekpa, 1999).

5.6 Challenges faced by traditional bonesetters

Inadequate accommodation was identified as the most pressing need of the clinics. This may be due to the fact that because the TBS do not charge or charge very little for their services and, they are not able to raise money to put up structures. Besides most of the bone setters themselves are not living in any better structures how much more to provide for their client.

Clients who manage to get accommodation in the clinic are more likely to get well faster since the chances of displacement of the limb is very slim as compared to those who stay at home and visit the clinic. This is because, once they keep lifting the

patients in to car or bike the possibility of displacement of the fracture is very high and since most of the bone setter doesn't use X-ray it will be difficult for him to detect it. This could lead to complications such as mal union or nonunion.

Improper record keeping was also identified as a challenge. It was realized that the bone setters were not keeping records of their patients. As a result, they could not tell the researcher the exact number of patients they have treated. Besides they cannot trace most of their patients in case they fail to complete treatment since most patients are likely not to go back to the bone setters once they are not satisfy with their treatment. This is likely to create the impression that all patients who passed through the bone setters were successfully treated not knowing some of them could have opted for alternative treatment.

It was also found that the bone setters do not have reliable source of income and again the possible reason could be because they do not charge for their services. They explained that charging for the services can affect the efficacy of their treatment because of that most of them have to engage in other activities such as farming since those gifts they receive from the service cannot sustain them.

May be those days their forefathers use not to charge fees because money was not seen as valuable as it is today and so giving someone a fowl was considered more valuable than money, but today money is needed in everything including going in to the bush for herbs.

Few years back one could get all the needed herbs at the backyard without having to go deep in to the bush as stated by one of the bone setters. Besides all the materials that were been used were gotten naturally and monies were not needed unlike these

days where the bone setter uses bandages, plasters, crutches which need to be bought. Therefore no wonder they are finding it difficult to survive on that.

Access to herbs was yet another concern since most of the herbs which could easily be gotten at the backyard those days are now difficult to access due development and extinction of some of the herbs. As a result bonesetters have to now travel far in to the bush in order to get the herbs which come with cost. It is even more difficult to get children to go for the herbs since most children are now in schools.

So far I have not come across this as a challenge in my literature review. May be it could be that because my study is been carried out in the urban areas whiles most of the studies on bone setting were carried out in the rural areas where the bone setters still have easy access to herbs.

5.7 Integrating traditional bone setting into primary health care system

It is important to stress the relevance of traditional medicine to the majority of Ghanaians. Most Africans, especially those living in rural communities don't have access to orthodox medicine and it is estimated that about 75 per cent of the populace still prefer to solve their health problems consulting traditional healers. (Onuminya etal, 1999).

Where such access exists, the rising cost of imported medications and other commodities used for medicines have posed a big problem. Besides, many rural communities have great faith in traditional medicine, particularly the inexplicable aspects as they believe that it is the wisdom of their fore-fathers which also recognizes their socio-cultural and religious background, which orthodox medicine seems to

neglect. Recent reports show that more people in the world embrace traditional medicine.

Traditional medicinal practitioners are mostly people without education, who have rather received knowledge of medicinal plants and their effects on the human body from their fore bears. They have a deep and personal involvement in the healing process and protect the therapeutic knowledge by keeping, it a secret. According to Panneerselvam, (2007), the practitioners of traditional medicine specialize in particular areas of their profession such as herbalists, diviners, midwives, bone seeting etc. Importance of traditional healers and remedies made from indigenous plants play a crucial roles in the health of millions (Twumasi, 1997; Yidana, 2014).

As the study revealed, the majority of the respondents supported the need for collaboration. This finding agreed with Bagah (1995) who asserts that integration of the orthodox health care and traditional medical systems is an effective way of providing socially acceptable and accessible health care services to the people. The few who had contrary view indicated that the bonesetters will want to be independent and will not want any interference.

Some kind of collaboration was observed by the researcher when the TBS said they engaged the services of some health care providers. Besides majority of the patients were found to be taking other orthodox medicine especially pain-killers alongside the local treatment. Meanwhile, the bone setters do not have knowledge on the orthodox medication; therefore there is the need for the health care providers to come in. Apart from that those bone setters who claim to be giving injection without any training

poses a health threat to the clients hence they also need to be monitored and this can only be achieve through collaboration.

Collaborating with the bone setters will not necessary mean an endorsement of the practice, but rather a way of making both the orthodox practitioners and the TBS to understand each other better.

The orthodox practitioners can build trust with the bone setters by organizing Seminars where TBS are invited to participate and provide their own experiences if possible. An interactive session with the TBS at such seminars can go a long way in fostering trust between the TBS and the orthopaedic surgeons. Importantly the recognition of TBS by orthodox orthopaedic surgeons as genuine primary healthcare providers for fracture management is necessary to get their maximum cooperation.

Through this interaction, the orthodox practitioners will gain more insight in to the activities of the bone setters and therefore will be able to stream line it. The collaboration is even seen to be more necessary taking in to consideration the level of trust and confidence these bonesetters enjoy. It will be very difficult to stop their activities and at the same time one cannot prevent clients from access their services.

The ability of bone-setters to satisfy their patients suggests that they offer quality services to bone-patients and this largely explains why planners of healthcare delivery should incorporate traditional bone setting services into the formal healthcare delivery system. Patients' satisfaction is an important indicator of quality of healthcare and it plays a very critical role in influencing patients' choice of health care providers.

The study also revealed that Traditional bonesetters are able to repair compound fractures and some are said to be so skilled in the art that they can heal fractures which

do not respond to treatment in modern hospitals. However, while some health care providers accept that traditional bonesetters could be useful in the health care delivery system, others maintain that such practitioners need to be trained to recognize fractures that are beyond their skill and this training can be successful when there is effective collaboration. This agreed with (Algorithm, 2008).

He indicated that the delivery of fracture care by the traditional bone setters may complement that of the orthodox practitioner and improve the overall delivery of services. The bone setters can serve as the first point of contact for many patients with simple fractures, reducing the burden on the orthodox orthopaedic surgeons. However, in order for this to be feasible, successful, and sustainable, the bone setters must be incorporated into orthodox medicine. The first step to achieving this is to identify the number of practicing bone setters in the community, their geographic distribution, and their level of ‘‘expertise.

Inventory on bone setters can be source from the Ghana Federation of Traditional Medicine (GAFTRAM) of which the bone setters are members. Substantial government participation would be required as well as participation by orthodox orthopaedic surgeons and the public.

CHAPTER SIX

SUMMARY OF FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

6.1 Introduction

This chapter contains the summary, conclusions and recommendations of the study

6.2 Summary of the findings

Orthodox treatment methods are the conventional "western" methods of managing fractures. These are the methods used by the conventional orthopaedic surgeon. While traditional treatment is that act of managing a fracture using traditional methods such as manipulation, massaging, splint, applying herbs and other traditional concoctions.

The demographic characteristics of the respondents in this study showed that 11.4% were teenagers and 27.3% respondents were in the age group of 31 to 35 years old.56 of the respondents were males representing 63.6%.

It were realized that, it takes an average of 1-3 month for a bone setter to treat a fracture. The treatment outcome will depend on the body part involved, age of the patient as well as the level of cooperation of the client. People patronized their services, because of the trust they have in them.

Almost all the patients who were interviewed on the perception of the quality of service of the TBS indicated that they had information regarding their services and that was what informed their decision to opt for them. Some of them said they were informed by friends and relatives about their good works and they knew they were going to be successful and indeed their expectations were indeed met.

From the study, generally, it was found out that the bone setters were believed to be playing a very important role in the primary health care of fractures and as a result enjoys a lot of trust and confidence from their patrons.

6.3 Conclusion

Bone setting is a specialist aspect of African traditional medicine and involves fixing of fractured bones and dislocated joints in a traditional manner. The continued use of TBS by Africans is based on the belief that it is cheaper, more available and results in faster healing than orthodox measures.

. TBS use pulling and /or massage, herbal bandage and wooden splints during the process. Majority of these practitioners have no knowledge of the existence or importance of orthodox fracture treatment and the role of X-rays in fracture diagnosis.

The study show that the traditional bone setters play a role so far as the management of fractures is concern despite the fact that their activities sometimes results in complications. Notwithstanding that, it will be very difficult to stop their activities taking into consideration the level of trust and confidence they enjoy from the public and at the same time one cannot prevent clients from accessing their services.

This is because, the ability of bone-setters to satisfy their patients suggests that they offer quality services and patients' satisfaction is an important indicator of quality of healthcare and it plays a very critical role in influencing patients' choice of health care providers.

6.4 Recommendations

Based on the conclusions in this study, the following recommendations are proposed as steps towards improving and streamlining the practice of TBS in order to derive the maximum benefit and at the same time reduce complication associated with the practice.

Integrating traditional bone setting into public health system

Integrating traditional bone setting with modern health care system presents an opportunity for accessible, affordable and culturally compatible health care service to be provided to the people of the Tamale metropolis and Ghana at large.

Recognizing the contribution of TBS in fracture management by orthodox orthopaedic surgeons should be the first point of call as this would go a long way in fostering trust between the TBS and the orthopaedic surgeons.

Also studies should be undertaken to understand the type of fractures that bone setters are able to handle well and their associated complications emanating from the care. With this knowledge, health care policy makers can identify fractures that can easily be managed by bone setters. With that, referral system can be instituted such that TBS will be encouraged to refer cases which are beyond their expertise to the health facilities.

Sensitizing and training bonesetters

In order to improve on the quality of services as well as reduce complications resulting from the practice of traditional bone setting, there is the need for Ghana Health Service, through its regional and district outfits to organize intensive training programmes for bonesetters. These trainings should focus on infection prevention and

bandaging which is a major concern affecting the treatment outcome. As part of the training, the TBS should be taking through how to keep proper records and how to identify common complications of fractures and the need for timely referrals.

Enforcement of Laws on Traditional Medicine

The law enforcing agencies should strictly implement laws to ensure strict adherence regarding traditional medicine practice, including quality standards. Also certificates and licenses should be issued to qualify TBS in order to maintaining some form of standard in provision of TBS services at the primary healthcare level in the country. This would help weed out quack bonesetters as well as encourage competent practitioners to observe all protocols of traditional medicine.

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APPENDIX 1

QUESTIONNAIRE

THE BONE SETTER

Socio-demographic characteristics

1 How old are you?.....

2 What is your level of education?.....

3 How did you get your training?.....

4 what other occupation do you have apart from the bone setting?.....

Perception on quality of care

5 How many clients do you receive in a month?

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6 How long does it take for you to treat a fracture?

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7 Fractures are very painful especially when reducing it, how are you able to manage the pain?

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8 Why do you think people come to you for treatment instead of the hospital?

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9 What is your opinion about patients' level of satisfaction?

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Challenges

10 What challenges do you face in the course of your profession?

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11How do you think these problems can be solved?

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Treatment outcome

12 How often do your clients develop complications?

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13 generally what can you say about the treatment outcome of your clients

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14 What do you think should be done in order to improve on the treatment outcome?

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Need for collaboration

15 Have you encountered complications that are beyond your abilities in this Centre?

If yes

16 How do you deal with such complications?

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17 Do you think there is the need for any collaboration between you and the hospitals?

If yes

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18 In what form do you think the collaboration should take?

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17 What problems do you foresee (if the two systems are to be integrated)?

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THE HEALTH CARE PROVIDER

Perception on quality of care

1 What is your view about traditional bone setting practice in general?

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2 Do you think the bone setters are important in any way to primary health car of fractures?

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3 How often do you receive complications from the bones setters?

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4 under what circumstance will you advice your client to go for the services of the TBS?

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5 Do you think TBS should be allowed to continue practicing?

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Need for collaboration

5 Do you think there is the need for any collaboration between the TBS and the hospitals? If yes……

In what form do you think the collaboration can take?.....

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PATIENTS WHO ARE STILL RECEIVING TREATMENT IN THE FACILITIES

Socio-demographic characteristics

1 Age range: 01. = 18-27 02. = 28-37 03. = 38-47 04. =48-57 05. = 58 and above

2 Sex: 01. = Male 02. = Female

3 level of education: 01. = Never attend school 02. = primary level 03. = JHS 04. = SHS 05. = Tertiary level

4 Occupations: 01. = Civil servant 02. = Farmer 03. = Business man 04. = Student 05. = Others (Specify)

Perception on quality of care

5 Prior to coming here, what was your perception on the services of the bone setter?

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6 What motivated you to come here instead of the hospital?

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7 Was this bone-setting clinic your first port of call after the injury? 01 = Yes 02 = No. If No which other place(s) did you go before coming here?

8 Per your assessment, did you see any improvement in your condition?

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9 how were you able to cope with the pains during the procedure?

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10 Do you know any patient who has undergone treatment successfully in this facility?

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9 From the treatment received so far, what is your assessment on the service of the bone setter?

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Challenges of the bone setters

11 What do you think the bone setters do very well?

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12 What do you think are their challenges?

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13 What do you think should be done in other to improve on the quality of traditional bone setting?

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Need for collaboration

14 Do you think there is the need for any collaboration between the TBS and the hospitals? If yes

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In what form do you think the collaboration can take?

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PATIENTS WHO HAVE COMPLETED THEIR TREATMENTS

Socio-demographic characteristics

1 Age range: 01. = 18-27 02. = 28-37 03. = 38-47 04. =48-57 05. = 58 and above

2 Sex: 01. = Male 02. = Female

3 level of education: 01. = Never attend school 02. = primary level 03. = JHS 04. = SHS 05. = Tertiary level

4 Occupation: 01. = Civil servant 02. = Farmer 03. = Business man 04. = Student 05. = Others (Specify)

Perception on quality of care

5 Were your expectations met for assessing the services of the bone setters? 01. Yes 02. = Somehow 03. = No

Explain your choice above

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6 why did you opted for the services of the TBS?

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7 Will you advice anybody to access the services of the bone setters? 01.= yes 02. No

8 What can you say about pain management of the bonesetters during your treatment?

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9 Do you think they should continue to practice?

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Treatment outcome

10 Do you think your fracture is properly treated? 01. Yes 02. No

11 do you still have any concern regarding the fracture? If yes

Explain……

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Challenges of the bone setters

12 What do you think the bone setters do very well?

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13 What do you think are their challenges?

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14 In which way do you think the bone setters can improve their service?

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Need for collaboration

13 Do you think there is the need for any collaboration between the TBS and the hospitals? If yes

In what form do you think the collaboration should take?

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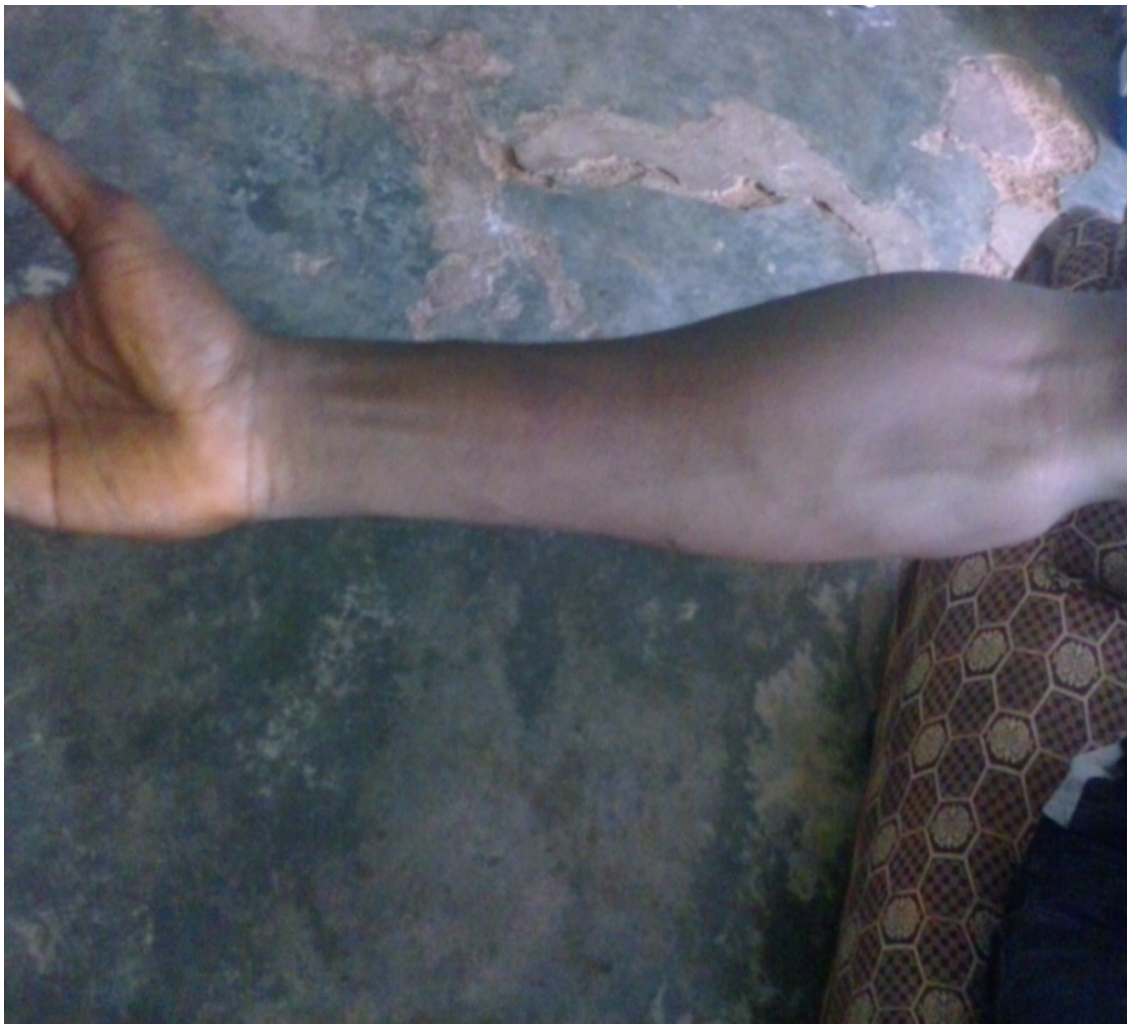
APPENDIX 2

PHOTOGRAPHS OF SOME PATRONS OF TRADITIONAL BONE SETTERS



A photograph of a client who completed treatment successfully

A photograph of an in-patient in her first week of treatment