UNIVERSITY FOR DEVELOPMENT STUDIES

THE ROLE OF TRADITIONAL BONE SETTING IN PRIMARY FRACTURE CARE IN THE UPPER WEST REGION: THE CASES OF JONGA, GWOLLU AND DOUNG BONE-SETTING CENTRES.

BY

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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:

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Supervisor's Declaration

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

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Abstract

For majority of people in rural areas, traditional bone setting is the first port of call as well as last resort if orthodox medicine fails. However, traditional bone setting has not been given its due recognition. For instance it is ignored in reports on the state of Ghanaian medicine. Also, some allopathic practitioners contend that traditional bonesetters do try and error and thus are without skills. This study examined the role of traditional bone setting in primary health care in the Upper West Region. The study, located in three Bone Centres in three districts within the Upper West Region adopted a mixed methods research approach. The study adopted a multi-stage purposive sampling technique. In the first stage, a typical case sampling technique was used to select the Bone-setting Centres. In the second stage, intensity sampling technique was used to select heads of bonesetters for in-depth discussions. All patients undergoing treatment at the centres were interviewed. At the institutional level, intensity sampling technique was used to recruit directors and other stakeholders of health care in the Upper West Region.

Findings of the study are presented and analysed by cases in the first stage. In the second stage cross-cases analysis is presented, drawing out similarities and contrasting findings among the three cases. Findings of the study include: people from all walks of life and all parts of the country rely on the services of the traditional bonesetters for orthopaedic health care needs; spirituality plays a seminal role, yet in varying degree in the collection of materials, treatment and healing processes of patients; and finally all bonesetters interviewed opposed any moves to integrate traditional bone setting into the primary health care system. This study therefore concludes that albeit criticisms from allopathic practitioners, TBS is highly patronised by the populace and thus contributes greatly to fracture care in the Upper West Region. Thus this study disagrees that the populace should be discouraged from the patronage of traditional bone setting. The study recommends sensitising and training of bonesetters by formal health care institutions as well as integrating traditional bone setting into primary health care systems for culturally acceptable health care service delivery.

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Dedication

To Mathias my husband, Michelle my daughter and Alice my only sister for their unflinching love and support

Table of Content

List of Figures

List of Acronyms

AIDS	Acquired Immune Deficiency Syndrome
CAMPAS	Comparing and Supporting Endogenous Development
CHPS	Community-based Health Planning and Services
ECCH	European Council for Classical Homeopathy News
GHAFTRAM Association	Ghana Federation of Traditional Medicine Practitioners'
GSS	Ghana Statistical Service
HBM	Health Belief Model
HIV	Human Immunodeficiency Syndrome
IDRC	International Development Research Centre
POP	Plaster of Paris
TBS	Traditional Bonesetter
TCAM	Traditional, Complementary and Alternative Medicine
UN	United Nation
UNICEF	United Nation's Children's Fund
WHO	World Health Organisation

CHAPTER ONE

INTRODUCTION AND STUDY PERSPECTIVE

1.1 Background to Study

Human resource capacity of a nation depends on the health of its population. Improved health is central to human happiness, well-being and development as a whole. Improved health also makes crucial contribution to economic progress because healthy populations live longer and are more productive and efficient World Health Organisation (WHO, 2010). The World Bank (1993) also posits that improved health contributes to economic development in diverse ways, including the use of natural resources that had been inaccessible due to diseases. According to the health belief model people's health seeking behaviour 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). The rational choice theory also contends that human beings behave in purely rational manner (Scott, 2000). Thus the choice to seek traditional or western allopathic medical service according to this theory is purely rational

Traditional medicine has been practiced in the developing world and in Africa in particular since time immemorial (WHO, 2008). The WHO (2005) notes that the use of traditional medicine is wide spread in the developing world while complementary and alternative medicine is increasing rapidly in the developed world. For most Africans traditional medicine is the first port of call before orthodox medicine as well as the last resort when all orthodox efforts do not succeed (Peter, 2003). Traditional medical systems coexist and complement orthodox medicine all over Africa, Asia and Latin America (Good, 1977; Omololu, Ogunlade & Gopaldasani, 2008). Good (1977) writes that about 56% of the world's population depend upon traditional medical practices and healing techniques for a wide range of physical and mental illnesses. A more recent viewpoint is that of the WHO which places the percentage higher. The WHO

(2008) observes that in some countries traditional medicine is used by up to 80% of the population to realise primary health care needs in the developing world.

The continuous reliance on traditional medicine may be attributed largely to its reputation for being flexible, diverse, accessible, acceptable, available and affordable (WHO, 2005). In most developing countries orthodox medical service is inaccessible to majority of the populace (Good, 1977). Good further states that this situation is likely to persist for a long time, and collaboration with traditional practitioners may be a way of expanding primary health care in the modern health sector. In recognition of the significant role traditional medicine plays in primary health care the WHO-UNICEF (United Nations Children's Fund) Alma Ata Declaration identified traditional medical practitioners as central to primary health care at the local level in their goal 'health for all' (United Nations Commission on Human Rights, 2005). Also, emphasising the importance of traditional medicine, the African Union (AU) declared 2001 to 2010 the decade of traditional medicine, noting that traditional medicine is the health care system accessible and affordable for majority of rural populations in African AU cited in International Development Research Centre (IDRC, 2001). On its parts, the IDRC (2001) observes that due to lack of resources and lack of modern health infrastructure African populations depend largely on traditional medicine and medicinal plants. In some African countries about 80% of the population depends on traditional medicine for primary health care (IDRC, 2001). Nonetheless, in Ghana the WHO (2001) informs that 70% of the populace depends exclusively on traditional medicine for their health care needs. Thus the contribution of traditional medicine to primary health care systems in developing countries cannot be ignored. Traditional medical practices in Ghana include traditional bone setting as is the case in other parts of Africa (WHO, 2005). The ensuing section gives an overview of traditional bone setting in the developing world and in Ghana in particular.

Traditional healers such as bonesetters play remarkable role in health care systems of most developing countries. According to Onuminya (2006), traditional bonesetters are highly patronised by local people. He thus writes that "over 70%

of the rural population relies on traditional bone setting for fracture treatment" (Onuminya, 2006:320). In similar vein Omololu et al (2008) emphasise the importance of traditional bone setting when they assert that about 85% of patients with bone fractures visit traditional bonesetters before going to the hospital. Consequently the importance of traditional bone setting in developing countries is apparent.

In Ghana, as in other parts of the developing world, one factor that drives fracture victims to first present to traditional bonesetters is the general belief among the populace that the traditional bonesetter is better at fracture care than orthodox practitioners (OlaOlorun, Oladiran & Adeniran, 2001; Peter, 2003). In addition, according to the Ministry of Health (2000) in rural Ghana one doctor (general practitioner) serves 40,000 people whereas one surgeon serves 300,000 people. Also, Todaro and Smith (2006) observe that 60% of Ghanaian doctors now practice outside. The shortage of medical doctors could be gloomier in the area of the study-the Upper West Region because the region is generally noted for acute shortage of doctors due to a myriad of factors. These factors include but are not limited to refusal of newly trained medical doctors to accept posting to the Region (Akurugu, 2009). Also, in the Upper West Region traditional bone setting is widely practiced (GSS, 2005) and accepted by the people. Peter (2003) asserts that traditional healers have achieved tremendous successes in the area of orthopaedics to the extent that even western orthodox medical practitioners have had to acknowledge that traditional bonesetters are better. This perception may constitute an additional reason for peoples' reliance on traditional bone setting for primary fracture care.

This study seeks to explore and document the practice of traditional bone setting in the Upper West Region, methods and procedures and the successes achieved (and challenges) with the intention of examining ways of integrating traditional bone setting into the national or sub-national health care system as a sustainable way of providing accessible, affordable, quality and effective primary orthopaedic health care delivery.

1.2 Problem Statement

In spite of the pivotal role traditional bone setting plays in the entire health care systems of many developing countries including Ghana, it is largely unrecognised. According to Sy (2000) its roles are broadly defined and informally assumed. Aries, Joosten, Wegdam and Greest (2007) in their study on bone setting in central Ghana note that the presence of traditional medicine and its contribution to overall health care is ignored in publications on the situation of Ghanaian medicine. However, in Africa more than 80% of the population depends upon traditional medicine for health care. In addition, because of insufficient income, inadequate modern health infrastructures and traditional customs, traditional medicine is a major asset (IDRC, 2001; WHO, 2002) in Africa. In relation to traditional bone setting, between 75% and 80% of patients with fracture first present to a traditional bonesetter in far-flung areas (Onuminya, 2004; Omololu, 2008).

In a study of Traditional, Complementary and Alternative Medicine (TCAM) practitioners, Oppong-Boachie (1999) cited in Ong, Bodeker, Grundy, Burford & Shien (2005) observes that 5.8% of TCAM practitioners in the three northern regions of Ghana are traditional bonesetters. Shortage of well-established orthodox orthopaedic centres and health workers coupled with concentration of health workers and facilities in urban centres impel orthopaedic health seekers to resort to traditional bone setting. Also, as a result of shortage of basic medications, lack of adequate health services and high cost of drugs against the backdrop of diversity and flexibility; accessibility and affordability of traditional medicine, most of the population, particularly in rural areas fall back on traditional medicine and healers, including traditional bone setting (WHO, 2005; Aries et al, 2007; Omololu et al, 2008).

Unfortunately, this centuries old traditional knowledge is being eroded (IDRC, 2001) as it is largely not accorded its place in national policies. While some researchers assert that traditional healers have achieved tremendous successes in the area of orthopaedics to the extent that even western orthodox medical

practitioners have had to acknowledge that traditional bonesetters are better (Peter, 2003), traditional bone setting practice sometimes leads to a myriad of problems which include but are not limited to: unequal length in healed limbs; mal-union; nonunion; fixed knee flexion deformity; sepsis; toxemia, traumatic osteomyelitis, quadriparesis; toes pointing inwards or outwards and obstruction of blood flow in the course of trying to keep fractured limb still. These complications sometimes result in limb gangrene; limb amputations and death due to mismanagement of fractures by traditional bonesetters (OlaOlorun et al, 2001; Omeonu, 2003; Onuminya, 2004; Onuminya, 2006; Omololu et al, 2008; Olori, 2010; Hag and Hag, 2010). These problems are also a consequence of late referral of complications to orthodox orthopaedic centres; ineffective regulation of traditional bone setting practices; ignorance on the part of traditional bone setting practitioners as well as the general public; lack of adequate sound scientific evidence concerning efficacy; quackery; problems in ensuring proper use of traditional bone setting medication; lack of integration and/or collaboration between traditional bonesetters and allopathic medical practitioners (OlaOlorun et al, 2001; Omeonu, 2003; WHO, 2002). The problem to be addressed in this study is the lack of integration of traditional bone setting into the primary health delivery system.

1.3 Research Questions

Following the research problem presented above, this section raises a number of questions to be answered in order to address it. The section starts with the main research question followed by the specific research questions that are required to enable the study find answers to address or solve the problem of the study.

1.3.1 Main Research Questions

The main research question is what role does traditional bone setting play in primary fracture care?

1.3.2 Sub-Research Questions

Specifically this study seeks to find answers to the following questions.

- What successes have traditional bone setting
- What are the knowledge base, attitudes and practices of traditional setting practice?
- What factors influence patients' decision to seek treatment by bonesetters?
- What are patients' perceptions about traditional bone
- What are patients' experiences with traditional bone
- How can traditional bone setting be integrated into the primary system?

1.4 Research Objectives

In this section, objectives of the study are presented. A wide range of sociocultural issues have been raised in this study. To be able to appreciate the repertoire of traditional bone setting as well as the socio-cultural and economic dynamics that influence health seeking behaviour among the people of the Upper West Region, the study's objectives are designed and tailored towards answering the research questions raised above. The section begins with the main objective of the research followed by specific objectives of the study.

1.4.1 Main Research Objective

The overall objective of the study is to critically examine the role of traditional bone setting in primary fracture care.

1.4.2 Sub-Research Objectives

Specific objectives of the research are:

- To examine successes achieved by traditional
- To explore and document traditional bone setting knowledge attitudes and practices and strategies;
- To examine factors influencing patients' decision to seek traditional bone setting;
- To analyse patients' perception of traditional bone

To analyse patients' experiences with traditional bone setting and

To explore ways of integrating traditional bone setting into primary health care system.

1.5 Scope of the Study

This study is concerned with the contribution of traditional bone setting to health care delivery, traditional bone setting knowledge, attitude and practice as well as patients' perceptions and experiences with traditional bone setting within three districts of the Upper West Region of Ghana, namely Wa Municipality, Nadowli District and Sissala West District. The study also discusses ways of integrating traditional bone setting and allopathic medical practice with the intention of improving traditional bone setting practice. The study also assesses ways of integrating traditional bone setting into orthodox health care system.

1.6 Justification of the Study

Good health is sine quo non for human happiness and well-being. The health of a populace also makes an essential contribution to economic progress, because healthy populations live longer, they are more productive and more efficient (World Bank, 1993).

The significance of this study stems from the fact that traditional bone setting, an aspect of health care is almost forgotten. Also, most of the studies on traditional bone setting are conducted by orthodox orthopaedic surgeons who rely on data on complications resulting from TBS practice (see OlaOlorun et al, 2001; Omeonu, 2003; Onuminya, 2004; Onuminya, 2006; Omololu et al, 2008; Olori, 2010; Hag and Hag, 2010). This study, from a social science perspective however seeks to explore and document the practices of traditional bone setting and its contribution to fracture care. This study is also justified given that it addresses an issue crucial to the entire health care system of Ghana: integration of traditional bone setting into primary health care system.

Integration of traditional bone setting into allopathic health care system is deemed imperative for two reasons: one, up to 80% of victims of fracture in the developing world, including Ghana first present to a traditional bone-setting centre (Onuminya, 2004; Omololu, 2008) and secondly traditional bonesetters are considered as untrained quake practitioners whose activities sometimes lead to complications such as limb gangrene and even death (Agarwal & Agarwal, 2010).

Within the context of a country where a combination of socio-cultural factors, accessibility and affordability issues and shortage of allopathic practitioners lead to majority of the population resorting to traditional bone setting for orthopaedic health care (Onuminya, 2004; Omololu, 2008), it is hoped that this study would contribute greatly to first of all efforts to document traditional bone setting repertoire in Ghana; and secondly it would create room for engagement of stakeholders leading to effective ways of integrating traditional bone setting into health care delivery system as it has been done for traditional birth attendance.

1.7 Organisation of the Study

This work has been organised into five chapters. Chapter one represents an introduction to the study, problem statement, research questions, research objectives, scope of the study and justification of the study.

Chapter two comprises review of existing literature pertinent to traditional medicine and traditional bone setting. This chapter critically examines concepts and theories relevant to the study and by so doing puts the study in context.

Chapter three represents the methodology used to carry out the study. The social context of the study area has also been reviewed.

Chapter four constitutes presentation and analysis of data. Scientific Package for Social sciences (SPSS) version 16.0 was used to process quantitative data while qualitative research have been presented in prose.

Chapter five presents summary of findings, conclusions and recommendations of the study.

1.8 Conclusion

From the foregone, a number of conclusions can be drawn. First all traditional medical practices in Africa and in Ghana predate allopathic health care systems. Traditional medical systems coexist and complement orthodox medicine all over Africa, Asia and Latin America (Good, 1977; Omololu, et al, 2008). Also, traditional medicine is the only source of health care service available for up to 70% of the populace in Ghana (WHO, 2001). Secondly, traditional bone setting is a component of traditional medicine, and over 70% of rural population relies on traditional bone setting for primary fracture treatment (Onuminya, 2006). The reliance on traditional bone setting is partly attributed to inadequate orthopaedic health care services as well as skewed distribution of health facilities. Yet traditional bone setting practice is not without problems, some complications arising from traditional bone setting practices lead to death. Also, there is lack of adequate formal recognition and/or integration of traditional bone setting into the

primary health care system of Ghana. Nevertheless, to contend that due to the complications associated with traditional bone setting, its patronage should be discouraged (Memon et al, 2009) means to disregard its contribution to primary fracture care in outlying areas and also to ignore the consequences of the practice. Thus this thesis contends that integrating traditional bone setting into modern health care system is imperative.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This section is basically a secondary data review chapter. Literature review is critical analysis of existing research. This study explored existing literature relevant to the study. It compared and contrasted findings of other works in order to acquaint itself with the theories, concepts and praxis of traditional medicine and health research. Literature review helped the researcher to fine tune the entire research as well as identify gaps in the field of traditional bone setting and also developed conceptual and theoretical frameworks for the research. Theories, concepts, major issues and debates of traditional medicine and traditional bone setting have been critically examined and contextualised.

2.2 Conceptual Overview

This section presents overview of concepts relevant to this study. The concepts are traditional medicine, traditional healing, traditional bone setting, fracture, spirituality and traditional medicine. Traditional medicine and the Millennium Development Goals (MDGs) have also been discussed.

2.2.1 Traditional Medicine

The World Health Organisation 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). According to the World Health Organisation, globally, traditional medicine eludes precise definition and description due to its diverse and sometimes conflicting features. Nonetheless the WHO (2000) defines traditional medicine as:

> 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, 2000:1).

This definition of traditional medicine acknowledges the fact that traditional medicine is culturally defined and requires indigenous knowledge, art and experience, which may be explainable or not. These attributes have diverse uses, including preventing, diagnosing, improving or treating a variety of health conditions. Traditional medical practices may not be written down but they still have theories governing their rules. While agreeing with this definition in part, on the above components of traditional medicine, the definition however falls short of the spiritual and/or supernatural dimension of most traditional medicine practices as some practitioners tend to call upon supernatural mediums for spiritual assistance (Little, 1954; Dime, 1995) cited in (Peter, 2003); (COMPAS, 2007). This shortcoming buttresses WHO's claim that TM lacks a clear-cut definition (WHO, 2002).

Another definition of traditional medicine provided by the WHO (2002:7) is as follows: traditional medicine includes:

> ... diverse health practices, approaches, knowledge and beliefs, incorporating, plant, animal and or mineral based medicines, spiritual therapists, manual techniques and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness.

This definition, very elaborate and all-encompassing implies that traditional medicine involves traditional healers, traditional bonesetters, herbalists, diviners, sorcerers, witchdoctors, traditional birth attendants and all other forms of non-allopathic medical practices. It also intimates the diverse modes and ways of practices of traditional medicine. The definition is however silent on the mode of transmission of traditional medical practices and this reinforce the view that TM lacks a precise definition (WHO, 2002).

In defining traditional medicine, Bodeker, Kronenberg and Burford (2005) write that traditional medicine refers entirely to the indigenous health traditions of the world in their natural settings. In this view, emphasis is on local people's knowledge and practices within their specified location. Without any attempt at deemphasising the importance of indigenous traditions and setting, this definition tends to over summarise the concept indigenous.

Following from discussions above and adopting WHO (2002:7) traditional medicine may be defined in this study as:

> ... including varied traditional health practices, approaches, knowledge and beliefs, incorporating, plant, animal and or mineral based medicines, spiritual therapists, manual techniques and exercises applied singularly or in combination to maintain well-being, as well as to treat, diagnose or prevent illness.

In addition, traditional medicine may be described as an art of applying herbs and other substances, or techniques based on religious and socio-cultural principles, as well as beliefs to treat the physical, mental and social health conditions within a particular locality. Traditional medicine is described as an art because the practitioner employs skills and procedures and knowledge to administer it. These skills and knowledge are acquired mostly through apprentiship (Ogunlusi et al, 2007; Omololu et al, 2008; Hag & Hag, 2010) and according to Aries et al (2007) traditional medical practitioners are specialists.

Traditional Medicine is highly patronised by populations of Asia and Africa. About 80% of the people in Africa, and in Ghana to be specific, 70% of the population depends on traditional medicine for health care European Council for Classical Homeopathy News (ECCH, 2007); (WHO, 2002; WHO, 2008; Mantey, 2009; Omololu et al, 2008; Peter, 2003; Shetty, 2010). In Ghana, nationally, there is one traditional healer per 200 patients compared with one medical doctor per 20,000 patients (ECCH, 2007). These figures may be highly conservative given that the Ministry of Health (2000) informs that in rural Ghana, one doctor served

a population of about 40,000 in 2000 while one surgeon was available to 300,000 inhabitants. Practices of TM differ from one country to the other and from one region to the other due to variations in culture, history, personal attitude and beliefs (WHO, 2000).

Describing the range of practitioners considered as traditional medicine practitioners, the WHO (2002) writes that, traditional medicine practitioners are generally understood to be traditional healers, bonesetters, herbalists, and include traditional medicine practitioners and orthodox medicine professionals who use TM/CAM therapies to treat their patients.

In Ghana two types of TCAM are practiced and they are traditional medicine and alternative medicine. A traditional medicine practitioner according Bodeker et al (2005:21) is "a person who possesses the knowledge and skills of holistic health care, and who is recognized and accepted for health care based on indigenous knowledge systems". This view of traditional medicine practitioners as knowledgeable and skilled in indigenous practices runs counter to the view that they are quack and unskilled (Omeonu, 2003; Agarwal & Agarwal, 2010). 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 and surgeons (e.g. incisors of tribal and disease prevention marks on the body)" (Bodeker et al, 2005 :21).

2.2.2 Traditional Healer

In defining a traditional healer, Aries et al write that:

> a traditional healer can be defined as a person who is recognized by his/her community as competent enough to provide healthcare by using herbs, animal and mineral substances, or other methods. These methods are based on social, cultural and religious principles, including knowledge, attitudes and beliefs regarding the physical, mental and social well-being that are prevalent in their community -- some herbalists have specialized in

> treating fractures and dislocations, and are called bonesetters (Aries et al, 2007:564).

Onuminya (2004) corroborates the view that traditional healers are highly recognised in the communities in which they live. While supporting this viewpoint, Hag and Hag (2010:401) in their study on complications of fracture treated by traditional bonesetters add that: " ... they [traditional bonesetters] are quite popular in the community, especially among laborers, illiterates, those coming from rural areas and those of low socioeconomic classes who cannot afford professional care"

However, in sharp contrast, Agarwal and Agarwal (2010) inform that Thanni (2000) observes that the educational background of respondents did not appear to influence their patronage and belief in traditional bone setting.

According to the African Conservation Foundation (2007) cited in Association of Church-Based Development NGOs (ACDEP, n.d.) about 45,000 traditional healers are operating in Ghana and most of them are recognised and licensed. Those traditional healers recognised and licensed fall under the Ghana Federation of Traditional Medicine Practitioners' Association (GHAFTRAM). Pertinent to this study is the practice of traditional bone setting as a branch of traditional medicine. The ensuing part describes traditional bone setting.

2.2.3 Traditional Bone Setting

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; Ogunlusi, Okem & Oginni, 2007; Agarwal & Agarwal, 2010). This practice is fast gaining recognition in developed as well as developing world. In the developing world including Ghana, there has been a steady increase of traumatic injuries because of rapid urbanisation and increasing dependence on motor vehicles (Aries et al, 2007). Consequently there has been considerable increase of fractures with varying degree of complexity. Within the context of limited availability and skewed distribution of orthopaedic surgeons (IDRC, 2010; Aries et al, 2007;

ECCH, 2007; WHO, 2002) and the belief among the general population that traditional bone setting heals faster than the orthodox medicine (Udosen et al, 2006; Peter, 2003; Salati & Rather, 2009) the traditional bonesetter comes in handy.

Traditional bone setting does not lend itself to a precise definition worldwide. However, various researchers in the field of traditional bone setting have described traditional bone setting differently. Some writers focus on the mode of acquisition of the art while others emphasise the procedures of treatment. In the view of Homola (1963) bone setting may be described as treatment as well as replacement of joints. In this view bone setting is considered as treating joints instead of setting bones. In describing traditional bone setting, with emphasis on the art, Mume (1973:10) cited in Peter (2003:4) notes that:

> bone-setting is a specialized aspect of African traditional medicine. It may be true that some traditional healers dealt in all aspects of cure but some specialized in only certain aspects of human treatment and they involved themselves in no other aspects. Many bone-setters are specialists whose only medical interest revolves around orthopedics. 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 are better. ... hopeless cases are often referred from hospitals manned by orthodox physicians to traditional bone setters. Positive results are often achieved by these traditional bone-setters.

Central to this description is the fact that traditional bone setting is a specialised field, requiring some skills. While this view is corroborated by Omololu et al (2008) and Aries et al (2007), it contradicts the opinion held by other researchers that traditional bonesetters are quack and unqualified practitioners who take up cases and mismanage them (Omeonu, 2003; Agarwal & Agarwal, 2010). Inherent in this view is also the general belief in the developing world that traditional bone setting practitioners achieve better results compared with orthodox orthopaedic surgeons. On their part, Agarwal and Agarwal (2010) note that there are reports of

several bone setting practices which are better or equivalent to orthodox practice. They add that Shang et al (1987) used the Chinese method of boneseperator pad and splint immobilisation method in 2,221 forearm fractures and found that the method is simple, economical and cost effective, as well as eradicates prolonged union or non-union. In addition, in a study of the role of traditional bonesetters in Africa within eight bone setting centres in Calabar, Nigeria, Udosen et al (2006) observe that all patients, 100% assessed the outcome of treatment as satisfactory, claiming that traditional bone setting is more effective than orthodox.

While concurring on the account of traditional bone setting as a specialised field and a field that has achieved some successes over the years; it is also the case that traditional bone setting has sometimes led to complications and even death in extreme situations (OlaOlorun et al, 2001; Omeonu, 2003; Onuminya, 2006; Omololu et al, 2008; Hag & Hag, 2010). As a result, there may be a risk of fetishism to assert that due to the successes achieved by traditional bonesetters they are better than allopathic medical practitioners to the extent that the latter have acknowledged that the former are better than the latter. In fact some writers, Hag and Hag (2010) opine that traditional bonesetters are quack, without any skills, who rely on try and error methods.

Describing traditional bonesetters, with emphasis on the procedures of treatment Agarwal and Agarwal (2010:2) contend that a "traditional bonesetter is a lay practitioner of joints manipulation. He or she is the 'unqualified practitioner' who takes up the practice of healing without having had any form of accepted medical procedures"

This assertion is not consistent with their (Agarwal & Agarwal, 2010) view that traditional bone setting is an art. To perceive of traditional bone setting as an art intimates that the practitioner requires a skill to be able to apply the art. Furthermore, using orthodox medical standards to judge traditional bone setting may be problematic since the two systems are very divergent.

In contrast, Onuminya (2004:1) describes traditional bonesetter as "a person who is recognized by the community in which he lives as competent to set bones." This description implies that the clients who are also members of the same community are the evaluators of the qualifications and the ability of the traditional bonesetter. What is however intriguing in this view is that the assessment is a value-based one because what constitutes measures of competence is based on subjective judgment of the community members. This also corroborates the assertion that traditional medicine in general is culturally defined (WHO, 2002).

In their view, Aries et al (2007) contend that bonesetters are herbalists who have specialised in treating fractures and dislocations. Again this description emphasises the skill of the practitioner.

In this context traditional bone setting may be described as the art of joints manipulation and bone setting by a bonesetter using methods, skills and/or beliefs as well as integrating elements of animals and plants that may be indigenous to a particular locality. Traditional bonesetters use manipulation as a method of setting fractures, reducing dislocations, and restoring mobility to an injured or a fractured bone (Homola, 1963). Before the arrival of modern orthopaedic services such as chiropractics, osteopaths and physical therapies, traditional bone setting was the major provider of joint manipulation. Traditional bone setting practice is a highly specialised form of traditional medicine and more often than not it is passed from father to son; however outsiders can acquire the art via apprenticeship in some cases (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010). Traditional bonesetters are highly respected in the locality within which they operate, according to Hag and Hag (2010), especially among low socioeconomic classes, illiterates and rural folks. Ghana has experienced an upsurge of traumatic injuries due to increasing urbanisation and an emergent reliance on motor vehicles. Consequently there is a remarkable increase of fractures with some patients leaving formal health facilities to seek treatment from traditional bonesetters (Aries et al, 2007) and others reporting at bone setting centres outright.

2.2.4 Fracture and Dislocation

A fracture may be described as a break in a bone. 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 (American Academy of Orthopaedic Surgeons, n.d). The aim of fracture treatment by orthopaedic surgeons is to achieve anatomic reduction, fracture union and functional outcome of injured part close to normal as possible, to 100% of the pre-injury level (OlaOlorun et al, 2001; Memon, Saeed, Fazal, Bhutto, Laghari, Siddique & Shaik, 2009). Fractures are a result of motor accidents, falls or sports injuries. Agarwal and Agarwal (2010) inform that between 10-40% of fractures worldwide are managed by unorthodox practitioners. Meaning, worldwide, traditional bonesetters could be treating up to 40% of fractures.

2.2.5 The Role of Spirituality in Traditional Bone Setting

The notion of medicine in Africa seems unique as Africans tend to view medicine as a holistic entity. The physical body, mind, soul, spirit and emotion work together in harmony to ensure good health. Good health or ill health is also believed to be influenced by the interaction between the cosmos, nature and human beings Comparing and Supporting Endogenous Development (CAMPAS, 2006). As a result, many folk healing practices include spiritual elements such as offering of sacrifice, prayers, and "auspicious timing of treatment" and collection of materials for treatment (COMPAS, 2007:83). In the view of Bodeker (2006) indigenous health systems are founded on cosmovisions that take into consideration spiritual, physical, mental, social and ecological dimensions of health and well-being. Also, these aspects place emphasis on the concept of balance within the individual and between the individual and the social world, the spiritual world as well as the natural world. Discomfort and disease occur when there is an imbalance as a result of breaking of the interconnectedness that exists among the three worlds. In a study of 50 traditional healers in southern India, CAMPAS (2007) reports that all healers ask for permission from god before administering treatment to their patients. The healers believe that without divine guidance from god they will not be

able to treat patients, using plants and animals alone. Thus spirituality plays a very instrumental role in traditional medicine as a whole and bone setting in particular. In the parlance of Onuminya (2004:652) "thaumaturgy" plays a central role in the practice of traditional bonesetter treatment of fractures. Little (1954) cited in Peter (2003:2) states that:

> ... it (medicine) represents a special kind of supernatural power or quality which becomes attached to the object through the influence of Ngewo (God) because a connection with Ngewo is implicit in the notion of hale (medicine)... mushandling [mishandling] of it may bring down harm on its manipulator and those associated with him. The more powerful medicine might be compared to electric batteries with high voltage: they are charged with energy.

Embedded in this definition is the fact that Africans perceive of medicine as a living entity and the healer is only a medium chosen by god(s) to administer treatment. The practitioner and/or his or her family may suffer harm if the medicine is misapplied.

Another opinion on African traditional medicine which borders on spirituality is provided by Dime (1995:64) quoted in Peter (2003:2). He opines that the African notion of medicine is based on belief and he writes: "the natural resources have (1) active therapeutic ingredients that heal, (2) occults/supernatural powers, (3) power to change active principles which can be manipulated by those who know how to produce marvelous results"

This view of African medicine could be appreciated more if we consider the fact that ill-health in African is almost invariably attributed to other factors such as witchcraft, breaking of taboos, curses and sorcery rather than pathogens. Dime (1995:66) elaborates:

> ... the medicine-man does not see his medical preparations [i]n isolation. His medicine is in the realm of religion, perhaps with some element of magic. In many cases, when [t]he goes to collect leaves or barks or roots

> of trees for his medicinal preparation, he performs some rituals he usually involves the spirit in the tree or herb, Nile breaks kolanuts and, at times cowries or money are offered to the spirits; he pours libation and at other times offers sacrifice.

According to Peter (2003) the sacrifices and chants articulated by the traditional healer are supposed to prevent evil spirits that may work against the efficacy of the cure. He adds that in Africa there is the belief in divine dimension to infirmity and healing.

What is interesting to note in the views of Little (1954), Dime (1995) and Peter (2003) about spiritual dimensions of African medicine is the greater emphasis on the role of spirituality and/or religion in healing on the one hand and the lack of distinction between religion as a sect and spirituality as a deeper or inner relationship between individuals and their god(s). Though this research acknowledges that in Africa spirituality plays seminal role in ill-health and healing, different traditional healers based on their worldviews rely on different strategies to seek divine assistance. For instance in a study of 50 traditional healers, COMPAS (2007) reports that some of the traditional healers recite some verses in the Quran before administering treatment. Yet, some traditional healers rely solely on the skills and knowledge of traditional resources passed down orally from one generation to the other to treat diverse kinds of ailments, including bone setting. Perhaps the view of Mbiti (1995:31), quoted in Peter (2003:3) explains it all.

> Africans built their world view after careful observation of the myriads of life-forms, animals, insects, and plants etc. They observed the strengths and weaknesses of human beings. They observed what animals used to treat themselves when injured or pregnant, and came to the conclusions that same may be useful to humans. When tried out on humans if successful it was adopted.

This view suggests that traditional bone setting could be a consequence of a careful and systematic observation of the interaction between nature and living beings. The view of Aries et al (2007) that bonesetters are herbalists who have specialised in treating fractures and dislocations implies that traditional bone setting could be considered exclusively as an art, without necessarily invoking spirit mediums. The assertion of a 36-year old female traditional bonesetter that "rituals are not needed to be performed because bonesetters are no fetish priests" cited in Aries et al (2007:570) supports the argument that traditional bonesetters can operate devoid of spiritual dimensions.

2.2.6 Traditional Medicine and the Millennium Development Goals (MDGs)

Strengthening health care systems is critical to achieving the health-related MDGs. In the developing world, traditional medicine contributes greatly to development agenda, serving as the only source of primary health care for many people. In Ghana, for thousands of rural folks traditional medicine constitutes the main or only source of primary health care. 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 (WHO, 2002). In efforts to meet the health-related Millennium Development Goals, promoting traditional medicine, including bone setting may present great potentials. All stakeholders, including national governments and international organisations need to come to terms with the seminal role of traditional medicine as an alternative source of primary health care.

2.3 Theoretical Framework

According to Ward et al (1996) quoted in Ahmed (2005:14) health seeking behaviour "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 behaviour models pertinent to this study form the framework for explaining sociocultural and economic factors determining people's choices of traditional bone setting 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 (Bagah, 1995). Indeed, Mckinlay (1972:140) cited in Bagah (1995:71) contends that "seldom do researchers in the area of utilisation behaviour adopt only one approach to the exclusion of all others, although one may be given greater emphasis". As a result, researchers in this field have tended to either identify the effects of specific variables or provide an important basis for classifying the determinants of health care utilisation into macro-sociological and micro-psychological perspectives (Bagah, 1995). The Health Belief Model (HBM), the Health Care Utilisation Model and the Four As Model fall under the psychological perspectives (Bagah, 1995). The ensuing section describes HBM and how it relates to this study.

2.3.1 The Health Belief Model

The Health Belief Model, a popular model in public health utilisation seeks to explain factors that influence health-related behaviours by focusing on the attitudes and beliefs of individuals. The model has been applied to a wide range of health behaviours and subject areas and for planning interventions in health care (Becker & Rosenstock, 1984) cited in (Turner, Hunt, DiBrezzo & Jones, 2004). According to Hochbaum (1958) as cited in (Turner et al, 2004) the fundamental concept of the original model is that health behaviour is determined by personal beliefs or perceptions about the disease and the strategies available to reduce its occurrence. In this study, the HBM has been used to explain individuals' worldviews about bone setting and strategies and options available to effectively manage and/or treat fractures and dislocation. According to Sheeran and Abraham (1995) quoted in Hausmann-Muela, Ribera and Nyamongo (2003) action in the Health Belief Model is guided by:

Perceived threat, that is, beliefs about the impact of illness and its consequences. Perceived threat depends on the beliefs about how susceptible a person considers himself or herself with regards to a health problem. It also depends on perceived seriousness of illness or health problems and its consequences;

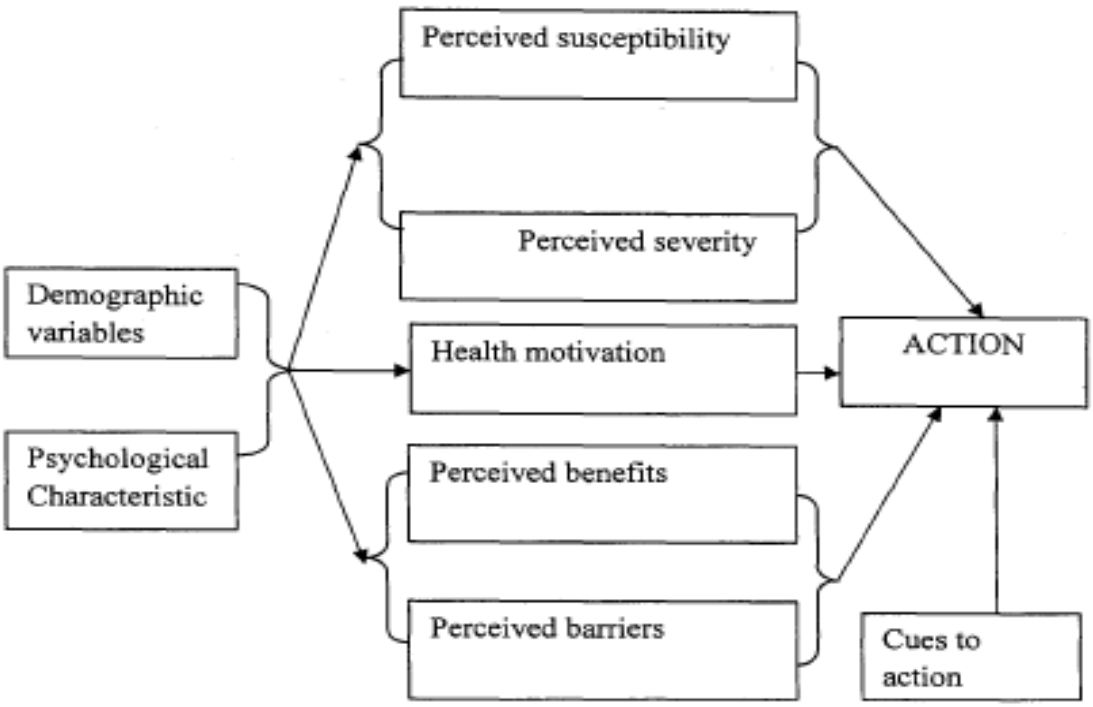
Health motivation, that is readiness to be concerned about health matters;

Beliefs about the consequences of health practices, which deals with behavioural evaluation. The behavioural evaluation depends on perceived benefits and perceived barriers of preventive or therapeutic health practices. Perceived benefits describe an individual's assessment of the value or the significance of a new behaviour in reducing risk of developing a disease. That is the positive outcome of adopting behaviour. Perceived barriers on the other hand deal with a person's opinion of the real and emotional cost of the advised action;

Cues to action, which includes external and internal influences that promote the desired behaviour, such as events, people, media communications, and personal experiences;

Beliefs and health motivation are influenced by socio-demographic and psychological variables such as educational level, culture, past experience and skills which influence personal perception. Below is a diagrammatic representation of the Health Belief Model.

Figure 2.1 The Health Belief Model



The HBM as presented by Sheeran and Abraham (1995) cited in Hausmann-Muela et al (2003).

In the view of Bagah (2005:72) the usefulness of this model is in its emphasis on environmental and cognitive elements of behaviour. For example it recommends "reduction of barriers such as cost, long distance to health care centres and inconvenient service hours". According to Sheeran and Abraham (1996) cited in Mackian (2001), three broad areas of preventive health behaviours, sick role behaviours and clinic use are used to categorise the range of behaviours that have been examined using the Health Belief Model. However the focus of the model on these three areas forms the basis for its criticism.

The Health Belief Model has been criticised for among other things its application to major contemporary health issues, Sheeran and Abraham (1996) cited in Mackian (2001) in spite of the fact that many studies have emphasised patients'

preference for traditional medicine, including traditional bone setting over allopathic services in the developing world. Mackian (2001:5) asserts that "...a consistent finding in many studies is that, for some illnesses, people will choose traditional healers, village homeopaths... above formally trained practitioners or government health facilities". She further elaborates:

> despite the ongoing evidence that people do choose traditional and folk medicine or providers in a variety of contexts which have potentially profound impacts on health, few studies recommend ways to build bridges to enable individual preferences to be incorporated into a more responsive health care system (Mackian, 2001:6).

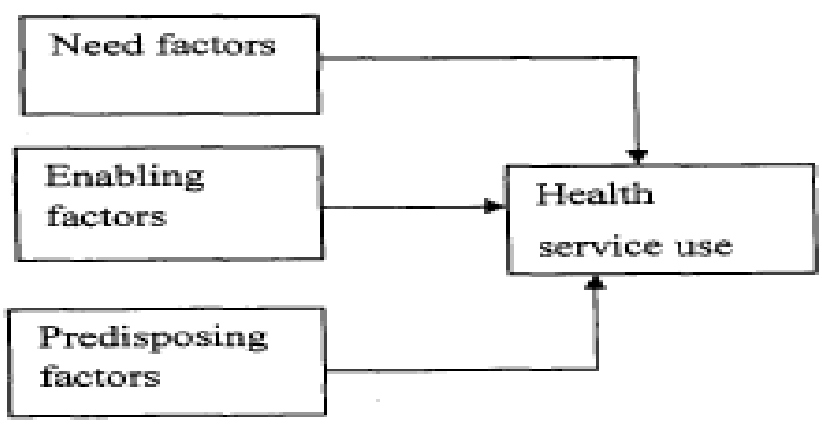
Indeed in Africa and in Ghana, the choice to seek treatment from allopathic source or traditional medicine is based on perception of the cause and origin of sickness, the patient's interpretation of illness symptoms or manifestations of the illness because the three worlds of spiritual, natural and social interact to produce good health or otherwise (Peter, 2003; COMPAS, 2006). For instance for health conditions like bone setting, majority of people in far-flung areas such as the study communities prefer TBS. Within the context of a traditional social structure where there is more tendency for people to gravitate towards traditional medicine (Bagah, 2005), coupled with acute shortage of orthopaedic surgeons and high cost of allopathic health care, traditional bone setting comes in handy. Whether health-related behaviour of patients undergoing treatment at the bone-setting centres under study is influenced by socio-demographic and psychological variables such as educational level, culture, past experience and skills which influence personal perception as proposed as motivation for action by the HBM is the subject matter of this study.

2.3.2 The Health Care Utilisation Model

Another health seeking behaviour model relevant to this study is the Health Care Utilisation model, also known as the Socio-Behavioural Model. According to Hausmann-Muela et al (2003), in the Health Care Utilisation Model three groups

or categories of factors which influence health-related behaviour are grouped into a logical sequence of predisposing, enabling and need factors. However, health-related behaviour is complex and could be influenced by a wide range of individual factors, including predisposing factors such as education and age; enabling factors such as availability and affordability and need factors such as perception of severity of the health condition. Consequently these factors should not necessarily be seen in a logical sequence. Figure 2.2 depicts the author's construction of the different categories of the Health Care Utilisation Model. Though the model was particularly developed to investigate the use of biomedical health services, it has been extended to include other health care sectors, including traditional medicine (Hausmann-Muela et al, 2003).

Figure 2.2 The Health Care Utilisation Model



The Health Care Utilisation Model adopted and modified from (Hausmann-Muela et al, 2003)

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 (Hausmann-Muela et al, 2003; Ahmed, 2005). The enabling factors consist of availability of services, affordability of the services, health insurance and social network support (Hausmann-Muela et al, 2003; Ahmed,

2005). 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 (Hausmann-Muela et al, 2003; Ahmed, 2005). Finally health service utilisation includes treatment actions such as home remedies, pharmacy, over the counter drugs from shops, traditional healers, private medical facilities and public health services (Hausmann-Muela et al, 2003).

This model has also been used for gaining evidence on the weight of different factors for health service use (Hausmann-Muela et al, 2003). This study is therefore interested in whether the determinants of health-related behaviour proposed by this model are applicable to TBS as a field of traditional medicine within the context of the study area.

2.3.3 The Four As Model

In similar vein, the Four As Model has become popular among researchers. It uses different categories which group key determinants of health-seeking behaviour into "Four As", namely:

> Availability, which refers to the geographical distribution of health facilities and pharmaceutical products;
> Accessibility, which includes access to transport and roads;
> Affordability, which includes costs of treatment for the individual, household or family. In relation to affordability, a distinction is often made between direct, indirect and opportunity costs of health services. Acceptability relates to socio-cultural distance. This primarily deals with the characteristics of the health providers — health workers' behaviour, gender of health workers and excessive bureaucracy (Hausmann-Muela et al, 2003; Ahmed, 2005).

The model of the Four As has been extensively used by epidemiologists, anthropologists and medical geographers who mainly emphasise distance, that is social and geographical as well as economic aspects as key factors for access to treatment (Hausmann-Muela et al, 2003). The main advantage of the Four As is

the easy identification of key potential 'barriers' for adequate treatment (Good, 1987) cited in (Hausmann-Muela et al, 2003; Ahmed, 2005). Against the background of a region described as largely rural with acute shortage of allopathic health care facilities in general and orthopaedic surgeons in particular on the one hand, and readily available bone-setting centres that provide socially acceptable orthopaedic services, factors such as availability, accessibility, acceptability and affordability as proposed by this model cannot be down played as determinants of health-related behaviour.

2.4 Integrating Traditional Medicine and Allopathic Medicine

This section discusses integration of traditional medicine, including traditional bone setting and allopathic medicine. Since 1978 when the WHO officially endorsed traditional medicine, interests in integrating it into health care systems have been mounting. Integration in ethnomedical literature normally refers to incorporation of components of traditional medicine into national health care systems in a manner that is acceptable to modern medicine Correa (2002). At present it is a fact that interests in traditional medicine is rapidly increasing all over the world with stakeholders, including policymakers, health professionals and consumers demanding for evidence of efficacy and safety and integration of traditional medicine into allopathic health delivery systems. In addition, there are demands for public sector support for traditional medicine as well as national policies for an area of medicine that has in the past been demand-driven. The WHO's 2008 Declaration in Beijing signified a landmark in recognising the importance of integrating traditional medicine into national health care systems (WHO, 2008). However, the policies in most countries tend to be what Chi (1994) has called policy of coexistence rather than integration. Asian countries including India and China have achieved some successes in the field of integrating

traditional and allopathic medicine due to recognition of the great potentials traditional medicine offers for cost effectiveness, accessibility and import

opportunities (Ong, Bodeker, Grundy & Burford, 2005). In Africa and most of the developing world up to 80% of the populations depend on traditional medicine for

their primary health care needs rather than allopathic medicine (WHO, 2002; WHO, 2005; ECCH, 2007). In Ghana, for instance, in the Kwahu District of the Eastern Region, Rukangira (2001) cited in ACDEP (n.d.) reports a ratio of one traditional healer per 224 persons while one allopathic practitioner attends to about 21,000 persons. This situation is not peculiar to the Kwahu area but could actually be gloomier in the case of northern Ghana and Upper West Region to be specific. Consequently the integration of traditional medicine to health care systems is imperative as it has the potential to improve access and quality of health care.

The WHO (2002) has defined three types of health systems to describe the extent to which TM/CAM is a formally recognised component of health care. These are integrative system, inclusive system and tolerant system. An integrative system officially recognises and incorporates TM/CAM into all spheres of national health care system. Hence TM/CAM is part of the country's drug policy, with products and providers registered and regulated. TM/CAM therapies are offered in both public and private health facilities. Also, national health insurance covers TM/CAM medicines. According to the WHO (2002) only countries like China, Viet Nam and Democratic Republic of Korea have achieved an integrated system. In an inclusive system, there is recognition for TM/CAM but it is not yet fully integrated into all components of national health care system, that is, in relation to health care, regulation or education and training. There might be available services of TM/CAM in all health facilities and health insurance might not cover TM/CAM treatment. However, there might be work on policy, regulation, practice, health insurance coverage, research and education. In West Africa, countries operating inclusive system are Nigeria and Mali, which are making frantic efforts to attain integrative status ultimately (WHO, 2002). In a tolerant system, health care delivery is based on orthodox medicine however TM/CAM practices are allowed by law. Integrating traditional and modern health care systems as Chi (1994) has noted would enhance efficient use of local medical resources and promote self-reliance in health development for less endowed

countries such as Ghana. The following section discusses framework for traditional medicine in Ghana.

2.4.1 Framework for Traditional Medicine in Ghana.

In Ghana, according to the ECCH (2007) TCAM is better integrated into the health system than in other African countries. However, from discussions above one could infer that Ghana is operating a tolerant health care system, yet there are efforts to move towards an inclusive system. In recognition of the overarching role of traditional medicine, a number of associations of traditional medicine have been formed. The Ghana Psychic and Traditional Medicine Practitioners' Association was formed in 1961. Also, the Medical and Dental Decree which was established in 1972 as well as the Nurses and Midwives Decree, formed in 1972 permit natives of Ghana to practice traditional medicine, provided their practices are not injurious to human lives. In addition to the above, in 1975 a national research institute on herbal medicines, the Centre for Scientific Research into Plant Medicine was instituted. Besides research, the Centre runs a hospital which offers allopathic and traditional medicine (WHO, 2001). In addition, laws and regulations on TM/CAM were issued in 1992 in Ghana. The Ministry of Health has also established a Traditional and Alternative Medicines Directorate at the Ghana Health Service since 1999 which has organised all traditional medicine practitioners into an umbrella body known as the Ghana Federation of Traditional Medicine Associations (GHAFTRAM) (WHO, 2001). The Directorate has been mandated to bring together all practitioners of traditional medicine under one national body, prepare guidelines for standards of practice and ethics, and training manual for TM/CAM as well as monitor to ensure that traditional medicine products are safe, efficacious and quality. In addition, the traditional medicine practice ACT 2000, (575) has been passed. Also, a National Policy on TM/CAM was issued in 2002 (WHO, 2005). Traditional medicine practice in Ghana has also been registered and regulated by the Traditional Medicine Practice Council (TMPC) to ensure conformity to standards of TMPC. In addition, TM is subject to Food and Drugs Board Regulation (Ghana National Drug Policy, 2004). In spite

of these provisions not much has been achieved with regards to integrating traditional medicine and allopathic medicine. According to the WHO (2005) while 340 registered herbal medicines exist in Ghana; none is included on the national essential drug list.

At the West African Health Organisation (WAHO) Day 2010 and the launch of Traditional Medicine Documents in Accra, the Vice President of the Confederation of West African Traditional Medicine Practitioners Association called on allopathic medical practitioners to cooperate with traditional medicine practitioners to improve health care delivery in Ghana (Ghana News Agency, 2010). The documents launched were Policy and Administrative Guidelines on Complementary and Alternative Medicine Practice, Policy on Traditional Medicine Development and Strategy for Final Institutionalisation of Plant Medicine Services, Medical Herbalism and Complementary Medicine in Ghana. At the launch, a Minister for Health informed that plans were afoot to implement the integration of selected traditional medicines approved by Food and Drugs Board into the national drug list. It is refreshing to note that the Ministry of Health has intentions of implementing the integration of scientific herbal medicines into health care delivery system of the Country. However traditional bone setting as a component of traditional medicine remains unattended.

2.4.2 Integrating Traditional Bone Setting into Primary Health Care

Various researchers of traditional bone setting have underscored the importance of integrating traditional bone setting into primary health care systems in the developing world (Bagah, 1995; Onuminya, 2006; Udosen et al, 2006; Aries et al, 2007). For instance, in a study of health services utilisation among the Manlarla of the Upper West Region, Bagah (1995) asserts that integration of modern allopathic health care and traditional medical systems that are based on the cosmology of the people is an effective way of providing socially acceptable health care services as well as promoting patronage. In the view of Onuminya (2006), training and integrating traditional bone setting into allopathic health care is very crucial to achieving effective fracture treatment. Integrating traditional

bone setting is particularly imperative in a country with shortage of general medical practitioners and surgeons in particular. Also, integration is imperative within the context of a region (Upper West Region) with numerous bone setting centres (GSS, 2005) with the potentials of meeting the demands for fracture care. Integrating traditional bone setting and modern health care system thus have the potential to facilitate more efficient and effective use of bone setting as an art, weed away quack practitioners of bone setting and enhance self-sufficiency in health care at regional and national levels. According to Onuminya (2004) integrating traditional bone setting and modern methods of health care offers distinctive opportunities for the two systems to relate cordially. This relationship could eliminate the rivalry and misgiving that exist between the two systems, which in the long run could lead to enhanced health care service. This view however runs counter to the recommendation by Memon et al (2009:63) that "there is the need for sustainable health education to discourage patronage of TBS". To be able to discourage patronage of traditional bone setting through education first of all requires well established, accessible, available and affordable modern orthopaedic centres throughout the Country as well as massive education of the general public. Consequently, while this target may be laudable, it is very difficult to attain within a resource constrained country. Thus improving upon traditional bone setting practice as well as integrating it into the main health care system seems an easier and a more practicable option. However, education and training of traditional bonesetters are first required to enhance the efficacy of their practices and methods.

2.5 Conclusion

In this chapter, concepts, theories and existing literature pertinent to this study have been critically examined to provide a framework for the research. Specifically three types of health-seeking behaviour theories have been examined. They are the Health Belief Model, the Health Care Utilisation Model and the Four As Model. Focusing on attitudes and beliefs of individuals, the Health Belief Model, seeks to explain and predict determinants of health-related behaviours.

Though the Health Belief Model has been used widely in allopathic health services Sheeran and Abraham (1996) cited in Mackian (2003), it has been used in this study to explain patients' beliefs, perception and attitude towards traditional bone setting. The Health Care Utilisation Model categorises factors which influence health-related behaviour into predisposing, enabling and need factors. Originally developed for biomedical health services, the model has been extended to include other health care sectors, including traditional medicine (Hausmann-Muela et al, 2003). In this study it has been used to explain driving force(s) for patronage of traditional bone setting. The Four As Model, a popular model among researchers uses different categories to group key factors for health-seeking behaviour into "Four As", namely availability, accessibility, affordability and acceptability. In a resource constrained region like the Upper West Region, these factors cannot be ruled out as determinants of health-related behaviour. Traditional Medicine, including traditional bone setting is highly patronised by populations in the developing world, Africa, Ghana and the Upper West Region in particular due to a myriad of factors. Consequently integrating traditional bone setting and biomedical services is imperative. In addition, this section concludes that though there are legal instruments for TM/CAM, their operationalisation leaves much to be desired. In relation to the MDGs, integrating TM/CAM and modern allopathic systems offers great potentials to achieving the health related MDGs.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Introduction

According to Laverty (2003:9) a methodology is " … a creative approach to understanding, using whatever approaches are responsive to particular questions and subject matter." Following the above, this chapter offers an outline of the epistemological and ontological grounds of the approach to research, the research design, the study area, sampling procedures and techniques, data collection techniques, data presentation and analyses techniques. A mixed research approach has been adopted giving that it blends the strengths of both quantitative and qualitative approaches to social research (Rossman & Wilson, 1985) cited in (Johnson, Onwuegbuzie & Turner, 2007). The methods and techniques of data collection and analyses, in addition to reasons for the respective choices have also been discussed in the ensuing section.

3.2 Qualitative Research

According to Kreuger and Neuman (2006) qualitative approach to research is often referred to as an interpretive approach to research. In qualitative research, social reality is created in the form of meanings and interpretations, which are based on lived experiences of people. According to Morgan (2007:73) qualitative research is a research that lays emphasis on an "inductive—subjective—contextual approach". In defining interpretive approach, Kreuger and Neuman (2006:78) write that interpretive approach is:

> the systematic analysis of socially meaningful action through the direct detailed observation of the people in natural settings in order to arrive at understandings and interpretations of how people create and maintain their social worlds.

From this point of view an interpretive research seeks to learn things that are meaningful to the research participants from their perspective. Thus social reality is created or exists as people give meaning to it (Kreuger & Neuman, 2006).

In defining qualitative research Dooley (2007:248) places emphasis on the setting of the research as well as the absence of statistics and he writes that qualitative research, often referred to as field research refers to "social research based on field observations that are analyzed without statistics. " While this view of qualitative research is acceptable on its assessment about field observation, it contradicts the position of Kane (1995) that qualitative research, which involves qualitative data can be analysed with statistics. Depth rather than breadth is emphasised in qualitative research.

The strength of qualitative research includes its relatively less structured nature, which allows for flexibility. Also the "observer who looks, listens and flows with the social setting can acquire perceptions from different points of view." (Dooley, 2007:249). However, there is also the tendency for the researcher to get drawn into the research which has the potential of threatening the reliability and validity of the study. The strengths of qualitative approach have been combined with quantitative approach to maximise validity. The following section describes quantitative research.

3.3 Quantitative Research

Quantitative research uses numerical and statistical processes to find solution to specific problem. In differentiating quantitative research from qualitative research, Morgan (2007:73) writes that quantitative research lays emphasis on a "deductive—objective—generalizing approach". According to Kane (1995) quantitative approach to research yields results in number form. Quantitative research produces statistics through the use of survey research, using methods such as questionnaires or structured interviews. In this study, structured interviews were administered to patients in the three bone centres under study.

In spite of the above distinction, researchers are bound to encounter problems by viewing quantitative and qualitative approaches as fixed, with distinct defining features. The problem becomes even worse when researchers ignore the likelihood of working between the two extremes (Schwandt, 2000), cited in (Johnson et al, 2007). Thus, a mixed methods approach offers an effective option through its emphasis on combination of both quantitative and qualitative methods.

3.4 Research Location

According to Teddlei and Yu (2007) purposive sampling refers to selecting the units of a study based on specific aim with regards to answering a study's questions. The Upper West Region of Ghana was purposively sampled for the study. The Upper West Region was chosen because the region is noted for high prevalence of traditional healing facilities and by implication traditional bone setting; high (73.4%) illiteracy level and highly (82.5%) rural (GSS, 2005). The research was located in three communities within three districts of the Upper West Region.

3.4.1 Geographical Location and Size of the Upper West Region

The Upper West Region is one of ten administrative regions in Ghana, which was created in 1983. The region covers about 18,478 square kilometers, which is about 12.7% of Ghana's total land area. To the north, the region is bordered by Burkina Faso, Upper East Region to the east, Northern Region to the south and to the west, the Region is bordered by Cote d'Ivoire (GSS, 2005).

3.4.2 Geophysical Characteristics of the Upper West Region

The Upper West Region is situated within the guinea savannah vegetation zone. Characteristic features of the vegetation include elephant grasses, drought resistant scattered trees like neem, shea, and baobab, with wide range of cultivated and wild medicinal plants. The wide diversity of tree species and grasses provide for herbal medicines, fuel needs, construction of dwelling places for humans and livestock and fodder for the animals (GSS, 2005).

3.4.3 Socio-Demographic Characteristics

This section presents information on components of socio-demographic characteristics that are pertinent to the study, including demographic features such as the population size of the region, sex composition and rural-urban composition. It also deals with social characteristics such as religion, literacy levels and health facilities.

3.4.3.1 Population Size, Sex Composition and Rural-Urban Composition.

According to the Ghana Statistical Service (2005) in 2000 the region's total population size stood at 576,583. In all districts of the region females make up more than 50% of the population. With a regional average of 52.1%, the Wa Municipal, the then Sissala District (out of which Sissala West was created) and the Nadowli District have 51.1% females compare with 48.9% males, 51.8% females compared with 48.2% males; and 52.4% females compared with 47.6% males respectively (GSS, 2005). The Upper West Region is the least urbanised region in Ghana, with only 17.5% of its population living in the urban areas. Wa Municipality, within which the Regional capital is located, is the most urbanised, while Nadowli and Sissala West are described as rural (GSS, 2005).

3.4.3.2 Religious Affiliations of the People of the Upper West Region

Three religious groups are dominant in the region. That is, 35.5% of the inhabitants are Christians, 32.2% are Muslims, with 29.3% belonging to the African traditional religion (GSS, 2005). Thus about 97% of the people of the Upper West Region belong to one religious sect or the other. This implies that religion may play a role in shaping the worldviews of the people, including their perspectives on health, both allopathic and traditional.

3.4.3.3 Literacy Levels

Literacy levels in the Region are very low. Proportion of the population aged 15 years and above that is literate in any language at the regional level is 26.6%. That is, illiteracy level in the Region is 73.4%, which is over and above the national average of 42.1%. At the districts level the situation is even worse for some

districts, including two of the study districts. In no any particular order, total illiteracy in the Wa Municipality is 73.4%, 77.2% in Nadowli District and 79.2% in Sissala District. A gender analysis of illiteracy in the region points to gendered illiteracy levels, with 78.8% of women being illiterates compared with 66.9% of men (GSS, 2005).

3.4.3.4 Health Facilities

In the Upper West Region, as it obtains in other parts of the Country orthodox medicine and traditional medicine complement each other. With regards to health facilities the Wa Municipality has three hospitals. That is, one public hospital, one mission hospital and one private hospital. In addition, there are 18 health centres and one health post. In Nadowli District there is one government hospital, one mission hospital and 13 health centres (GSS, 2005). However, the Sissala West District has currently no district hospital, but there are some health centres. The situation above is one of skewed distribution of health facilities with the outlying districts highly under resourced. The entire region is faced with acute shortage of medical doctors with a doctor to patient ratio of one to 44,353, and this is higher than the national average of one doctor to 40,000 people (GSS, 2005). According to the Ministry of Health's accessibility standards, a health centre should be provided for every distance of not exceeding 8 km yet the skewed distribution of health facilities means that residents of outlying communities may have to cover distances more than 8 km to be able to access orthodox health care.

Discussions above therefore show poor access to health care facilities in the region and the study areas to be specific. While there is a traditional healing facility in almost all localities, less than 2% of localities in the region have a hospital within them. In addition, there is a clinic or maternity home facility in only 11% of localities (GSS, 2005).

Within the context of acute shortage of medical officials and readily available traditional health facilities, coupled with poor access to formal health facilities in

the region, the only option left for majority of the populace is traditional health facilities, including traditional bone setting.

3.5 Selecting the Study Districts and Cases

Three bone-setting centres located in three communities within three districts, namely Wa Municipality, Sissala West District and Nadowli District were purposively selected (see Teddlei & Yu, 2007) for this study.

3.5.1 Geographical Location and Size of Study Districts

This section discusses profiles of the three communities selected for this study and the Districts within which they are located. Specifically it focuses on geographical location and size of the Districts within which the study is situated.

3.5.1.1 Jonga

The Jonga Bone-setting Centre is located within Jonga in the Wa Municipality. The Wa Municipality is the only Municipality out of nine districts in the Upper West Region. To the north the Municipality is bordered by the Nadowli District, to the east it is bordered by Wa East District, to the west by Wa West District and to the south it is bordered by both Wa East and West Districts. The Municipality lies within latitudes 1°40'N to 2°45'N and longitudes 9°32' to 10°20'W. The population of the Wa Municipality is 98,675 (GSS, 2005). The Regional Hospital, located within the Municipality serves as the first referral point since there is no district hospital in the Municipality (Wa Municipal Assembly, 2006).

3.5.1.2 Health Facilities in the Wa Municipality

There are six public and six private health facilities (five clinics and one private maternity home) in the Wa Municipality. According to the Wa Municipal Assembly (2006) traditional medicine is widely practiced in the Municipality, especially in the far-flung parts where there is relatively poor access to formal health services. It further reports that severe diseases such as cerebral malaria and pneumonia are sent to the traditional healers as well (Wa Municipal Assembly, 2006). The Jonga Bone-setting Centre has been chosen because of its location in the Regional capital. As a regional capital and cosmopolitan relative to the other

districts in the region, it offers some level of heterogeneity and diversity, thus a good opportunity for comparison.

3.5.2 Doung

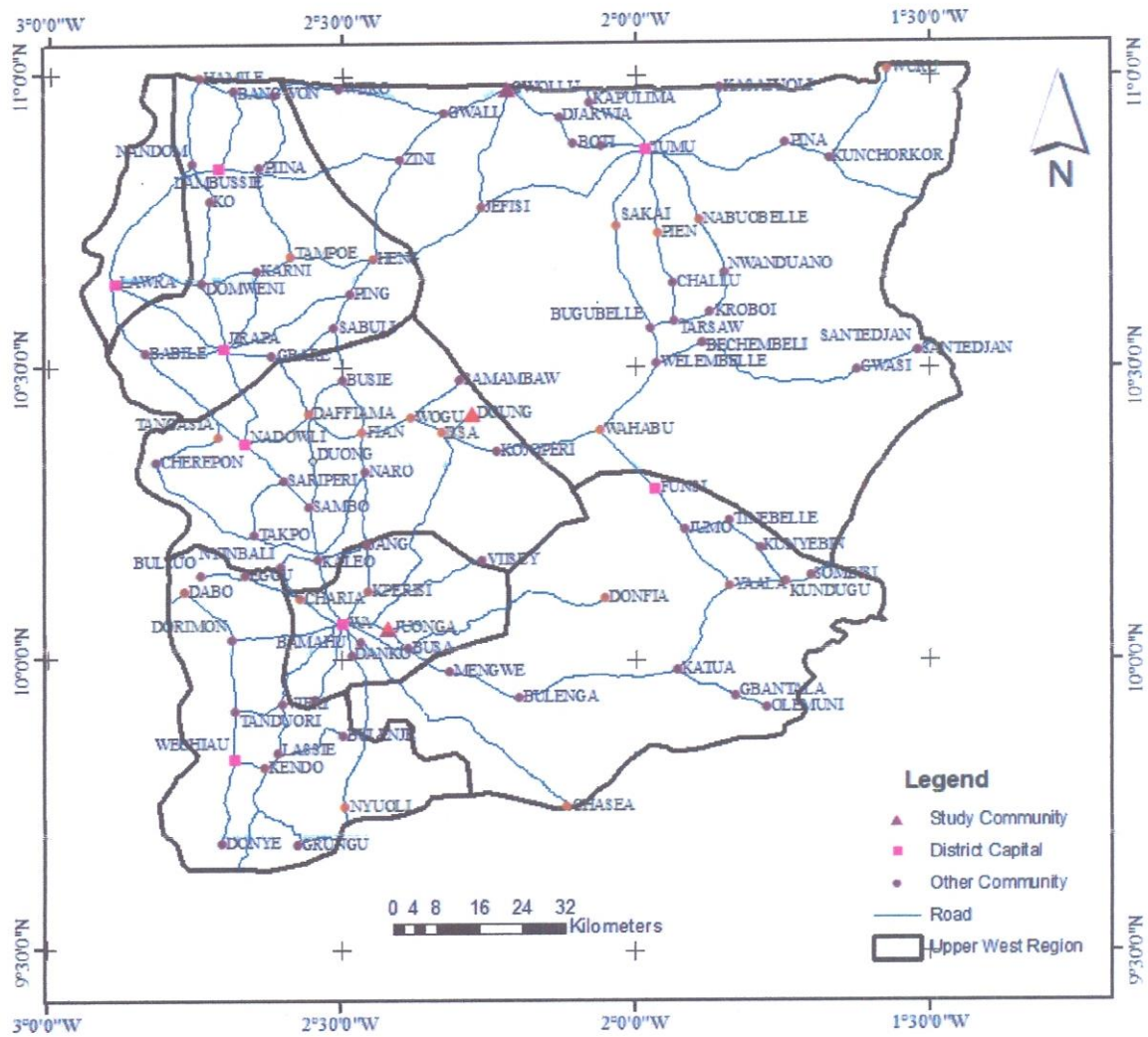
The Doung Bone-Setting Centre is located within Doung in the Nadowli District. Nadowli District is located at the centre of the Upper West Region of Ghana. The District lies between latitude 11' 30' and 10' 20' north and longitude 3' 10' and 2'10' west. To the north it is bordered by Jirapa District, south by Wa Municipality, it is bordered to the east by the Sissala Districts and to the west by Burkina Faso. The Nadowli District covers a total land area of 2,742.50km^2 and extends from the Billi Bridge, which is 4km from Wa to the Dapuori Bridge, which is almost 12km from Jirapa on the main Wa - Jirapa -Hamile road. Also, from west to east the District extends from the Black Volta to Wahabu and the distance between the District and the Regional capital is about 40 km (Nadowli District, 2006). The Doung Bone-Setting Centre has also been selected to create room for comparison with the Jonga Bone-setting Centre and the Gwollu Bone-setting Centre, with the latter being a centre that has achieved wide popularity through out the Country and beyond.

3.5.3 Gwollu

Gwollu Bone-setting Centre is located in Gwollu, the District capital and one of four Area Councils in the Sissala West District (Sissala West District, 2006). The Sissala West District is located in the north-eastern part of Ghana. The district lies approximately between Longitude 2:13w to 2:36w and Latitude 10:00N 11:00N. It shares boundaries with the Jirapa-Lambussie District to the west, Sissala East District to the east, Burkina Faso to the north and Wa East District to the south. It covers a total land area of 4,11289km, which is about 25% of the total landmass of the Upper West Region. The District's population stood at 44,440 according to the District Assembly. The Sissala West District has four orthodox health facilities, all offering Level '13' services to the population. There is no hospital in the District. The Gwollu Bone-setting Centre has been selected because it has achieved great feat of popularity in spite of its location and as such this study

wanted to find out the 'secret' of its popularity as well as compare findings with that of the other two centres. Figure 3.1 represents study communities in the context of Upper West Region of Ghana.

Figure 3.1 Study Communities in the Context of Upper West Region of Ghana



Source: author's construct

3.6 Research Design

This section briefly describes the research design of the study. According to VanWynsberghe and Khan (2007:82) a research design is:

> an action plan that guides research from the questions to the conclusions and includes steps for collecting, analyzing, and interpreting evidence according to pre-established propositions, units of analyses, a logic for linking the data to the propositions, and application of set criteria for interpreting the findings

This means that a research design is an overall outline which provides guidance on how to carry out the research with regards to the kind of data to collect, sampling techniques, data collection techniques and data analysis and interpretation techniques.

3.6.1 Case Study

This study adopted a case study approach as its main research tool. According to VanWynsberghe & Khan (2007) case study is relevant regardless of the research paradigm. Yet what constitutes a case and a case study has become a conundrum among researchers. Babbie (2007) writes that what constitutes a case is still a matter for debate among researchers. Yet Creswell (1998) describes a case as an event, a programme, an activity or individuals. According to VanWynsberghe and Khan (2007) different definitions of case study with emphasis on different focus and direction have been produced by scholars over the last thirty years. Some writers, for example Merriam (1988) cited in VanWynsberghe and Khan (2007) view case study as a method while others consider a case study as a methodology. Yet some others see case study as a research design Gerring (2004) cited in VanWynsberghe and Khan (2007).

In defining case study however Creswell (1998:61) contends that a case study is "an exploration of a 'bounded system' or a case (or multiple cases) over time through detail, in-depth data collection involving multiple sources of information rich context". In explaining what is meant by bounded system he writes that it refers to the place being studied as well as the time of the study. This point of view therefore implies that a case study is location specific and time bound. According to Yin (2003:13) a "case study is an empirical inquiry that investigates

a contemporary phenomenon within its real-life context, especially when the boundaries between phenomenon and context are not clearly evident. This efinition views a case study as a naturalistic entity and challenges the researcher to clearly demarcate the boundaries between the phenomenon and its context. In emphasising the depth of the study, Babbie (2007:298) defines a case study as " … in-depth examination of a single instance of some social phenomenon, such as a village, a family or a juvenile gang." In addition to the depth, this view presents case study as a single unit which does not conform to Yin's typology of multi case study.

In their opinion however, VanWynsberghe and Khan (2007) contend that "it appears that case study is not a method, a research design, or a methodology" (VanWynsberghe & Khan, 2007:82). They present a prototype view of case study instead. Accordingly a prototype of case study outlines the features that are necessary, but are not sufficient for a research to be categorised as case study. These include: case study requires intensive and in-depth focus on specific units of analysis; contextual detail, that is case study provides readers a sense of being there; natural settings; boundedness, it describes specific temporal and spatial boundary; working hypotheses and lessons learned, it can generate a working hypothesis; multiple data sources and extendability (VanWynsberghe & Khan, 2007). They therefore describe case study as "a transparadigmatic and transdisciplinary heuristic that involves the careful delineation of the phenomena for which evidence is being collected (event, concept, program, process, etc.)." (VanWynsberghe & Khan, 2007:80). That is, case study transcends paradigms and disciplines respectively and encourages experiential learning.

In this study a case study is described as an in-depth investigation that examines a case or cases in its or their natural setting, bounded by time and space. In the typology of case study presented by Yin (2003) this study is a representative or typical case. According to Yin (2003) representative or typical case, also known as exemplifying case deals with circumstances of a situation. In this study the circumstances, the practices and the skills of bone setting practice as well as

patronage, the whole repertoire of bone setting were examined. The ensuing section discusses the context of the cases.

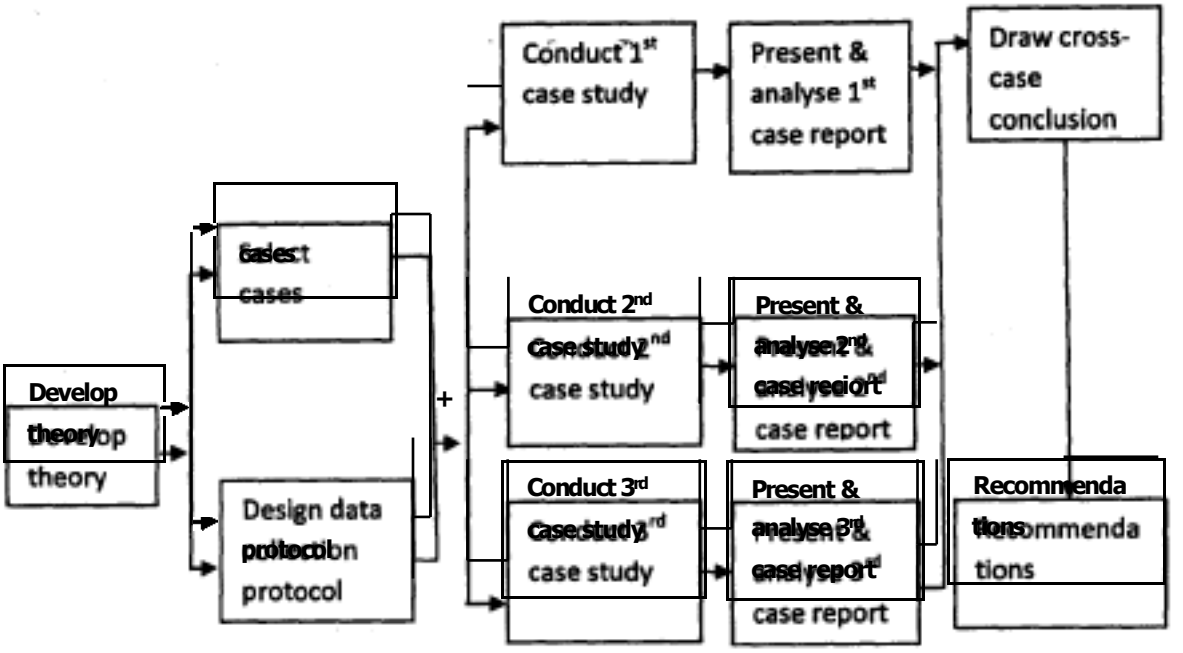
3.6.1.1 The Context of the Cases

The context of a case involves situating the case within its social, physical and /or it economic setting Creswell (1998). In line with Stake (1995) cited in Creswell (1998) this study is a collective case study, that is, it was conducted in three bone-setting centres which are multi-sited. In the fashion of Yin (2003) it is a multiple case study. Multiple cases are selected to maximise opportunity to unearth variety of responses and also to be able to compare responses.

This section began with a within-case analysis as recommended by Creswell (1998). He describes a within-case analysis as an in-depth description of each case, together with the themes within it. As a systematic process, the second level of analysis was what Creswell (1998) calls a cross case analysis, which entailed an analysis of the various themes across cases. Finally lessons learned have been reported, (Lincoln & Guba, 1985) quoted in (Creswell, 1998).

Three traditional bone-setting centres were visited and bonesetters operating in the centres were interviewed extensively about their methods of diagnosis and treatment of fractures. In addition, all patients undergoing treatment at the centres were interviewed about their experiences and perspectives on TBS practice. Treatment sessions of bonesetters were attended by the researcher and some aspects of their management filmed in Jonga and Gwollu Bone-setting Centres. In all centres, all patients were interviewed, while in-depth discussions were held with a head of bonesetters in Jonga and Gwollu and a team of bonesetters at Doung. All these discussions were recorded. Findings from the three bone-setting centres have been compared and cross analysed and also compared with bone setting as practiced elsewhere in Ghana, Africa and beyond Africa. Figure 3.2 is a diagrammatic presentation of the summary of steps of the study.

Figure 3.2 Doing a Multi Case Study.



Source: Adapted and modified from Yin (2003)

3.7 Sampling Procedures and Techniques

The ensuing section discusses in detail the sampling design and techniques that were used to sample research participants for this study. The strengths and weaknesses of the techniques are also discussed. The sampling design adopted for this study was a mixed methods sampling design as the general approach to this research was a mixed methods one.

3.7.1 Sampling Frame

According to Mason (2002:140) quoted in Teddlie and Yu (2007:83) a sampling frame is "a resource from which you can select your smaller sample". In this case the sampling frame for the structured interviews for each bone-setting centre consists of all patients within that centre.

In a mixed methods research such as this, Collins et al (2007) suggest that the sampling scheme and sample size must take into account both the qualitative and quantitative phases of the study. They describe mixed methods sampling design as

"the framework within which the sampling occurs, including the number and types of sampling schemes, as well as the sample size" (Collins et al, 2007:271).

3.7.2 Sampling Scheme

This study adopted a multistage purposeful sampling scheme to reach key informants, including stakeholders of allopathic health care service and bonesetters for in-depth interviews. In describing multistage purposeful sampling Collins et al (2007) state that multistage purposeful sampling involves selecting the units of the study representing a sample in two or more stages and the stages reveal purposeful sampling of participants.

3.7.3 Purposeful Sampling Schemes

With purposeful sampling there is an object in selecting particular units for the study. Teddlei & Yu (2007:77) define purposeful sampling as "selecting the units (e.g., individuals, groups of individuals, institutions) based on specific purposes associated with answering a study's questions" (Teddlie & Yu, 2007:77). In the view of Maxwell (1997:87) cited in Teddlie & Yu, (2007:77) purposeful sampling is defined as a kind of sampling in which, " particular settings, persons, or events are deliberately selected for the important information they can provide that cannot begotten as well from other choices". In this study purposeful sampling techniques were used to select three heads of bone setting centres in Jonga and Gwollu while the whole team of bonesetters in Doung was engaged in-depth interview. Specifically, typical case sampling, a type of purposeful sampling was adopted in the first stage. The ensuing section presents a brief description of typical case sampling.

3.7.4 Typical Case Sampling

Typical case sampling was used in the first stage sampling to select three bone-setting centres. Patton (1990:169-83) cited in Kane (1995:87) defines typical case sampling as a type of purposeful sampling in which people are ... studied in greater depth to illustrate what you have found to be 'typical'. Typical case sampling was used because the bone-setting centres selected for this study are

three out of many bone-setting centres in the Upper West Region (GSS, 2005). This study also selected the three bone setting centres, bearing in mind the observation by Creswell (1998) that multiple cases lack depth. However the opportunity to compare the three cases means more opportunity for greater insights.

3.7.5 Intensity Sampling

In the second stage, Intensity sampling was used to select key informants, mainly heads of bone-setting centres for in-depth interviews. Collins et al (2007:272) define intensity sampling as "choosing settings, groups, and/or individuals because their experiences relative to the phenomena of interest are viewed as intense ... " This technique allowed for detailed discussions with the heads of the bone-setting centres as they have diverse experiences in the knowledge, attitude and practices of traditional bone setting.

In relation to recruiting patients for interviews, all patients undergoing treatment at the three bone-setting centres were interviewed. This was because at the time of visit, all bone-setting centres had less than 20 patients undergoing treatment.

3.7.6 Sample Size

The sample size for in-depth interviews comprised heads of bone-setting centres, district directors of health service, a medical director at the Wa Regional Hospital and a regional director of health service. This study also administered structured interviews on all patients in each of the three bone-setting centres selected for this study.

3.7.7 Target Population

According to Amedahe (2004) it is necessary for the researcher to clearly distinguish between target population and accessible population. The target population refers to the total number of cases about which the researcher intends to make generalisation. On the other hand, the accessible population connotes the aggregate of cases that conform to the chosen criteria that are available to the researcher as a pool of participants for study. Thus the target population for this

study is aggregate of users of traditional bone setting in the Upper West Region while the accessible population is the aggregate of victims of fracture and dislocation undergoing treatment in the three bone-setting centres.

3.7.8 Sampling Units

Sampling units were purposively selected for interviews. The sampling units at the institutional level include a regional director of health service, and district directors of health services for Wa Municipality, Sissala West and Nadowli Districts as well as a medical director at the Regional Hospital. In addition, an official at the office of the Upper West Traditional Healers Association and Medicinal Plant Growers was interviewed. These were selected because of their experiences and their role in health care delivery in the Region. At the community level, that is the bone-setting centres, a head of bone-setting centre in Jonga, and in Gwollu and Doung a three-member team of bonesetters were selected for in-depth interviews. At the time of the study, 13 and eight patients were on admission at Doung and Gwollu Bone-setting Centres respectively while on the particular Friday data was gathered at Jonga only 7 patients were in attendance. All these patients were interviewed.

3.8 Generalisability

As mixed methods research uses both quantitative and qualitative research approaches, making appropriate generalisations become very complex Collins et al (2007). In corroborating this view Onwuegbuzie & Johnson (2006) quoted in Collins et al (2007:269) contend that "the challenge of legitimation is greater in mixed methods studies than in monomethod studies" they explain the challenge of legitimation as the "difficulty in obtaining findings and/or making inferences that are credible, trustworthy, dependable, transferable, and/or confirmable" However, some kind of generalisation is possible. This study thus identifies with Collins et al (2007) that small and purposive samples such as the one for this study tend to facilitate analytical generalisations and case-to-case transfers. Curtis et al (2000:1002) cited in Johnson et al (2007:273) describe analytical generalisation as ."applied to wider theory on the basis of how selected cases

`fit' with general constructs". Case-to-case transfer " ... makes generalizations from one case to another similar case" (Kennedy, 1979; Firestone, 1993) cited in (Johnson et al, 2007:273). In this study, findings have been compared and contrasted among the three cases and other similar cases in Ghana, Africa and beyond. Thus tentative generalisations have been made beyond the cases themselves (VanWynsberghe & Khan, 2007). This study also identifies with Johnson et al (2007:115) that in mixed methods research, quantitative data can facilitate the assessment of generalisability of the qualitative data during data analysis stage in order to shed new light on qualitative findings while qualitative data can play an important role by interpreting, clarifying, describing, and validating quantitative results.

3.9 Data Sources and Data Collection Techniques

According to Pennerselvam (2007) there are two main sources of data for analysis. These are primary and secondary sources.

3.9.1 Primary Sources

Primary data was generated from in-depth interviews and structured interviews held with bonesetters and patients of bone-setting centres respectively. At the institutional level, a regional and three district directors of health service and an administrator of the Upper West Traditional Healers Association and Medicinal Plant Growers in addition to a medical director at the Regional Hospital were interviewed.

3.9.2 Secondary Sources

Secondary data was gathered from articles from journals, magazines, books and related sources within Ghana and across and beyond Africa.

3.10 Data Collection Techniques

Survey constituted the main source of quantitative primary data collecting technique while observation and in-depth interviews were used to generate qualitative primary data.

3.10.1 Survey

According to Kane (1995) survey is one of two data collecting techniques that have dominated social science research. Survey refers to standardised set of questions put to respondents. Surveys produce results in number form; they are thus described as quantitative. Kane (1995) further writes that surveys take the form of questionnaire or structured interviews. In this regard, this research employed structured interview to collect data from patients of three bone-setting centres under investigation. The ensuing section briefly discusses structured interview.

3.10.2 Structured Interview

Structured interview is chosen over questionnaire because within the context of a rural region, with illiteracy rate of 73.4% (GSS, 2005) questionnaire which is a self-administered instrument technically leaves out people who cannot read and write (Kane, 1995). An added advantage of structured interview is that it offers an opportunity to assist clarify issues that may be confusing to the respondents. Structured interview also encourages empathic research which is in line with endogenous development research. In this study nonresponse was nonexistent with the presence of the researcher in all centres. An added advantage of structured interview according to Twumasi (2001) is that the researcher can assess the mood of the research participant and hence assess the validity and reliability of the responses. One challenge of structured interview is that it may encourage interviewer and interviewee bias. As a way out and in line with the suggestion of Twumasi (2001) efforts were made to remain objective by following specific instructions set out in the schema. Structured interviews were used to collect data on perceptions and experiences of people undergoing treatment in bone-setting centres as well as factors influencing the choice of traditional bone setting over allopathic treatment. In addition, structured interview was used to assess the quality of services rendered as well as general performance of traditional bonesetters at the various centres.

3.10.3 In-depth Interview

In describing in-depth interview Mack, Woodsong, Macqueen and Namey (2005) observe that an in-depth interview is a technique for data collection which seeks to create a clear picture of the research participant's perspective on the research topic. In this study, in-depth interviews were conducted face-to-face, focusing on one research participant at a time, except in Doung where a three-member team was interviewed. In-depth interviews made it possible for the researcher to learn everything the research participants were willing to share (Mack et al, 2005). Also, in-depth interviews were conducted with a regional director of health services, medical director at the Regional Hospital and district directors of health services in the three districts selected for this study. This enabled eliciting of views and opinions on the practice of traditional bone setting, the role of traditional bone setting and integration of traditional bone setting and modem orthopaedic health care systems.

In addition to structured interviews and in-depth interviews, this study adopted direct observation to collect data on body language and other issues that respondents may not easily talk about as well as observe the adequacy and hygiene level of surroundings, facilities and materials used for treatment. The ensuing section describes observation as a data collecting technique.

3.10.4 Observation

Observation is a technique for collecting qualitative data. Observation may be described as being around a social setting in order to study it. Guyo (2009:13) citing Marshall and Rossman (1995) write that observation "entails the systematic noting and recording of events, behaviours and artifacts in a social setting." Thus observation in social science research concentrates on gathering data on what the research participants really do as oppose to what they say they do. Note taking is an important component of observation and this study relied extensively on it.

3.11 Data Analysis Techniques

Twumasi (2001) describes data analysis as a critical examination of data so as to understand its components and relationships and to find out the patterns that exist among the components. Data analysis was a continuous process, involving many stages as the study is a mixed methods one. Also, in this study the principal concepts of the objectives were used to critically examine the data (Twumasi, 2001) for regularities, paradoxes and irregularities. Data collected were first organised by creating themes. As part of the analysis, coding which involves "generating concepts from and with our data" (Coffey & Atkinson 1996:26) was used to create or generate the concepts. In Kane (1995:248) the stages of data analysis are as follows:

> Data collection of material in words; data reduction, structuring, organizing, and streamlining the material; looking for groupings and relationships, trying to figure out what you have; using visual data displays to clarify groupings and relationships and drawing conclusions, pulling it together, and verifying, or satisfying yourself (and others) that your findings are valid.

Quantitative analysis was done using Statistical Package for Social Sciences (SPSS) software version 16.0 to draw relationships between variables in the structured interviews held with patients of the three bone centres. SPSS was used because of its ability to clearly depict relationships between variables in the form of percentages, frequencies and cross-tabulations. Qualitative data was mainly presented in prose to allow for research participants, mainly key informants' experiences, perceptions and worldviews on traditional bone setting.

3.12 Quality Control for Reliability and Validity

Whereas some writers, for example Kane (1995) observe that triangulation is one way to increase validity, others such as Meetoo and Temple (2003) have contended that triangulation in itself does not enhance validity. They posit that, in spite of the fact that findings from different methods may corroborate each other, researchers rarely spell out any differences between findings and almost never

bring out the contradictions. However, the strengths of different methods were used to triangulate, verifying responses from the patients and the bonesetters as well as bonesetters and allopathic health administrators in this study. In this study observation, in-depth interviews and structured interviews were used to ensure validity as well as to cross-check for accuracy. For instance, discussions with patients in all the centres revealed issues such as death of patients at the centres, referral of patients to other centres and fee charged for treatment, which are issues the bonesetters were not frank with.

Kane (1995) describes reliability as getting the same results on subsequent occasion. In the view of VanWynsberghe and Khan (2007), unreliability of data may stem from numerous sources, including interviewer error or improper implementation of sampling procedures. To avoid this, the research team was trained to religiously follow and implement the sampling procedures.

3.13 Documentation and Management of Data

According to Mack et al (2005) after data has been collected it has to be managed. Data management is an overwhelming task in a multisite study such as this. Data archiving process was organised along the lines of: on the field; after the fieldwork; translating and transcribing data and safekeeping of materials. In the field, tape recorders and a video camera, field notes and related materials were all labeled. In addition, after data collection, all materials were put into a large envelope for safety. After the fieldwork all materials, including field notes were returned by research assistants to the researcher as soon as possible for safe keeping. The materials were in turn stored in a secured location. Recorded interviews were translated and transcribed and added to the envelop and returned to the secured data storage for safety (Mack et al, 2005).

3.14 Stages of Research

Three main stages of reconnaissance, main survey and analysis stages were involved in this research. The reconnaissance stage included examining wide-ranging issues on traditional medicine and traditional bone setting. This exercise offered me a deeper understanding into the discourses surrounding traditional

medicine in the developing world and in Ghana in particular and thus gave rise to the research problem. Also, preliminary visits were made to some bone-setting centres in the Upper West Region. These visits resulted in the choice of the three bone-setting centres for this study and then proposal writing, as well as pretesting of the structured interview instrument. The main survey entailed primary data gathering from bone-setting centres and health care institutions in the Region. Also this stage constituted the stage of preliminary analysis since analysis for mixed methods research begins with the onset of data collection. This took the form of daily reflections on responses, summarising field notes and debriefing. The final stage was the data analysis stage. That is, data collected at stage two was systematically analysed. The patterns and trends of relationships between variables were all examined. Analysis was also structured along the lines of the study objectives.

3.15 Summary

The following summary and conclusions can be drawn from discussions in this chapter. A mixed research approach was adopted giving that it combines the strengths of both quantitative and qualitative approaches to social research (Rossman & Wilson, 1985) cited in (Johnson et al, 2007). The Upper West Region was chosen because as a deprived region, with some districts (for instance Sissala West) without district hospital, the Region is noted for high prevalence of traditional bone setting facilities, in addition to high (73.4%) illiteracy level and highly (82.5%) rural in nature (GSS, 2005). The study adopted a Multisite case study technique to maximise opportunity to unearth variety of responses and also to be able to compare responses as well as do cross-case analysis. Purposeful and random sampling methods were used to ensure complementarity and validity. In relation to generalisability the study identifies with Collins et al (2007) that since mixed methods research uses both quantitative and qualitative methods, generalisations become very complex, nonetheless analytical generalisation is possible. Structured interviews and in-depth interviews constituted the main

primary data collecting instruments. Quantitative and qualitative techniques were used to present and analyse data gathered.

CHAPTER FOUR

DATA PRESENTATION AND ANALYSIS

4.1 Introduction

This chapter presents and analyses data collected from three bone-setting centres, in addition to institutional data gathered for this study. The chapter begins with a within-case analysis as recommended by Creswell (1998). In this regard in-depth description and analysis of each case (bone-setting centre), together with the themes within it are presented in line with the study's objectives in the first stage. A second level of analysis is what Creswell (1998) calls a cross-case analysis, that is, analysis of the various themes across the (three) cases (see figure 3.2). This is considered necessary to assist in comparing and contrasting findings of the study across the three cases. In the view of Good (1987) in different places, there are significant variations based on personal, ethnic and religious attributes that are responsible for unique expressions of the art of traditional bone setting.

4.2 Presentation and Analysis of Data on Case Study One (Jonga Bone-setting Centre)

The Jonga Bone-setting Centre is managed by a four-member team of bonesetters; comprising one leader and three other members. The ensuing section presents data collected from the Jonga Bone-setting Centre on history of bone-setting centre; socio-demographic characteristics of respondents; traditional bone setting knowledge base, attitudes, practices and strategies; materials used for treatment, preparation of materials used for treatment and treatment sessions; factors influencing patients' decision to seek treatment by traditional bone setting; patients' perception and experiences with traditional bone setting; the role of spirituality in traditional bone setting; successes achieved by traditional bonesetters and integrating traditional bone setting into health care system.

4.2.1 History of Jonga Bone-setting Centre

The Centre has been in existence for several generations. According to the Head of Bonesetters, they learnt from their fathers that bone setting was practiced by their ancestors, and thus handed down orally from one generation to the other, until their generation. In relation to how the Centre actually came into existence, the Bonesetter had no answer. This situation could be attributed to the notion in the Ghanaian traditional society that one does not question the status quo and must accept things as they are. Consequently great deal of useful information is lost as older generations fade away. One point noteworthy here is that the Centre has not been registered and does not also belong to the Upper West Traditional Healers Association and Medicinal Plant Growers yet has been fully functional for generations and even enjoying support from the District Assembly in the form a 5-unit block under construction. Commenting on the unlicensed state of his facility, the Head of Bonesetters explained that the Centre charges only GH¢0.05.00 and a fowl and thus finds it difficult to raised money for registration and other cost that

4.2.2 Socio-Demographic Characteristics of Respondents

The social and demographic data of respondents presented in this section are those of patients in the Jonga Bone-setting Centre. The data cover the age, sex and educational status of respondents.

4.2.3 Sex and Age Range of Respondents

In all seven, patients were interviewed at Jonga Bone-setting Centre. This is because at the time of visit only seven patients were in attendance. One characteristic feature of the Jonga Bone-setting Centre is that patients are not admitted to the Centre; instead they visit it only on Fridays. On specific reasons why only Fridays are consultation days, the Head of the Centre explained that bone setting for them was a calling and not a business venture, as such on all other days they go to farm. But on Friday, which is a day on which they go to the Mosque to pray they do not go to farm hence the scheduling of consultation days

on Fridays. Attendance at the Jonga Bone-setting was gendered as six out of seven respondents were males. Also, four patients were within the age cohort of 20-29 while one patient and two patients were within the age cohort of 30-39 and 40-49 respectively.

4.2.4 Level of Education of Respondents

Patients at the Jonga Bone-setting Centre had varied degree of education: in ascending order, three patients representing 42.9% of respondents had never been to school; two patients representing 28.6% of respondents had basic level of education while one and one patient representing 14.3% and 14.3% had senior high and tertiary levels of education respectively. The situation depicted here seems to run counter with the view of Hag and Hag (2010) that the clientele of traditional bonesetters are mostly illiterate populations.

4.2.5 Occupations of Respondents

A person's occupation, which is his or her livelihood, may expose him or her to risk of injury. Consequently an analysis of the occupations of respondents is necessary as it gives insights into the nature of clientele of bone setting. According to the data gathered, three patients were engaged in small scale mining; while one patient each was engaged in farming and petty trading. In addition, one patient each was engaged in pure water manufacturing and teaching.

4.2.6 Hierarchy of Bonesetters and Succession Plan

At the apex of the hierarchy is an elderly male of about 62 years old without any formal education, who is also the Head of Bonesetters, followed by three, relatively younger other bonesetters, also without any form of formal education. Seniority at the Centre is based on age, thus gerontocracy is the order of rule. Also, at the Centre, rules though unwritten were clear on who becomes the next head of bonesetters among the three other bonesetters in case of incapacitation or death of the present Head of the Centre. In that case, another member of the family would be nominated to assist the other two bonesetters. Consequently, at any point in time there are four bonesetters operating at the Centre.

4.2.7 Recruitment of New Traditional Bonesetters

In relation to how new bonesetters are recruited, the Head of Bonesetters at the Centre explained that the team of bonesetters had started training his children and the children of the other bonesetters at the Centre so that in the future they would eventually take over and then train other younger ones, thus the art of bone setting is passed orally from one generation to the other.

4.2.8 Traditional Bone Setting Knowledge Base, Attitudes and Practices and Strategies

In relation to the knowledge base of traditional bone setting, the Head of Bonesetters at the Jonga Bone-setting Centre informed that the knowledge, skills and ideas regarding bone setting are acquired through experiential learning. According to him, he started learning how to set bones at a tender age of about seven. In his own words: "I started learning how to become a bonesetter from my father when I was young; when I had not started wearing even under garments ... only members of my family can learn and practice bone setting here [in Jonga]".

Thus by observing his father and uncles treat fractured and dislocated limbs the bonesetter acquired the knowledge as well as the skills, attitudes and strategies; the repertoire of bone setting. The situation reported here conforms to the view that traditional bone setting is a family practice and learnt by observation (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010). However, in this case outsiders cannot learn the skill as opined by (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010).

4.2.9 Preparation of Materials for Treatment and Treatment Sessions

The main material used for treatment at the Centre according to the Head of Bonesetters at the Centre is an herb harvested from the bush. This herb, which he declined to name, is harvested, washed and dried, pounded, mixed with shea butter and then molded. Afterwards, it is ready for use. The same herb is used for treating all sorts of cases that report to the Centre, irrespective of the cause or

state. The affected area is first of all massaged and then the mixture is applied on it. It is then tied. In addition, splints are used to immobilise broken bones where necessary, while bandages are also used when necessary.

In relation to the type of cases treated at the Jonga Bone-setting Centre, the study found out that only closed wounds are treated. Thus people who report at the Centre with open wounds are referred to formal health facilities to get the open wound healed before the Traditional Bonesetters commence treatment. In addition, when new arrivals come, the Head of Traditional Bonesetters would normally enquire to find out if the patients have been to a formal health facility prior to visiting the Centre. Whether the person had visited a formal health facility or not, the person could be treated but as asserted by the Head of Traditional Bonesetters: "If the government [formal health facility] has not discharged the person, I do not treat him or her because I do not have anything to do with the government".

From the statement of the Bonesetter, the practitioners at the Centre seem to have a kind of recognition for their capabilities as well as what they do not have the capacity to treat. This however contradicts the opinion of a medical director that bonesetters do not know the differences between simple fracture, which they can treat and compound fractures, which they cannot treat.

4.2.10 Hygiene Level of Materials

According to the Bonesetter, materials used at the Centre are very hygienic because they are washed and prepared in a clean environment. Corroborating this, all (seven) patients opined that materials used at the Centre are very hygienic. Consequently, the level of education of respondents did not seem to have any bearing on their responses since all respondents, irrespective of their level of education described materials used for treatment at the Centre as very hygienic.

4.2.11 Factors Influencing Patients' Decision to Seek Treatment by Traditional Bone Setting

In relation to factors considered before opting for treatment at the Centre, all (seven) patients said they considered efficacy of the Bonesetters at the Centre. Thus other factors such as cost, distance, and socio-cultural factors as observed by the Health Belief Model, (Hausmann-Muela et al, 2003; Ahmed, 2005) and availability, accessibility, affordability and acceptability by the Four As Model as factors influencing health-seeking behaviour (Hausmann-Muela et al, 2003) do not apply here. However, it is instructive to note that six of the patients had their injuries within the Wa Municipality. Thus issues of availability and accessibility as proposed by the Four As Model and the Health Care Utilisation Model cannot be ruled out completely.

In attempt to find out why patients did not go to or left allopathic health care facility, varied responses were realised. Remarkable among them is that if the broken limb was sent to a hospital or it was sent to a hospital, but the hospital was going to amputate it hence they left the hospital. It is instructive to note that about three respondents held such view. The view of a 45-year old pure water manufacturer says it all: "I prefer the local treatment because it [the treatment] heals faster...it is an elbow injury and if I had gone to the hospital, they would have put a POP [Plaster of Paris] on it, which can cause it to rot". In addition, another three respondents opined that traditional bone setting is more effective in treating broken and dislocated bones compared with modern allopathic health care. A 34-year old male farmer informed that: "because it is a hip injury I don't have to go to the hospital, I have to go to the traditional bonesetters because the traditional bonesetters are better at treating hip injury". These views corroborate the assertion that among the general populace there is a belief that traditional bone setting heals faster than the orthodox medicine (Udosen et al, 2006; Peter, 2003; Salati & Rather, 2009). The views also support the assertion by Mackian (2001) that for some disease conditions people prefer folk and traditional medicine over allopathic health care service. In addition, the views expressed here fall in line

with the position of the HBM that perceived benefit of a course of action influences a person's health seeking behaviour (Sheeran & Abraham, 1995) cited in (Hausmann-Muela, Ribera & Nyamongo, 2003). In sharp contrast, a medical director argued that: "their [TBS] practices sometimes lead to limb gangrene and amputation of limbs", which is not different from views expressed by allopathic health care practitioners elsewhere (see OlaOlorun et al, 2001; Omeonu, 2003; Onuminya, 2006; Omololu et al, 2008; Hag & Hag, 2010).

Also, four patients at the Centre presented to the Bonesetters right after injury while three patients at the Centre were what Aries et al (2007) have referred to as leavers (patients who decide to leave the hospital for treatment by a bonesetter) of a formal health facility.

As a result, the finding here does not corroborate the position of Onuminya (2006) and Omololu et al (2008) that over 70% and 80% respectively of victims with bone fractures present to traditional bonesetters first.

4.2.12 Patients' Perception of the Bone-setting Centre Prior to Visit

Prior to visiting the Centre, all (seven) patients perceived the Bonesetters as effective, that is, able to yield good results. Thus the level of education of patients does not appear to matter since all, irrespective of their level of education perceived bonesetters as effective. In attempt to explain their choices, respondents had diverse opinions. A 37-year old male small scale miner asserted that: "growing up as a child all the people I saw, who came to this Centre have always been successfully healed". On his part, a 25-year old male small scale miner informed that: "my relatives and friends who advised me to come to this Centre showed me some of the people who had been successfully treated in this Centre." In the view of a 46-year old male pure water manufacturer: "I have brought about 10 people to this Centre in the past and all of them were healed very well. Even some of them went to the hospital but did not see any improvement so they left the hospital". In similar vein, a 38-year old male farmer explained that: "people who have been here have all been healed well". The situation depicted here supports the position of the HBM that cues to action include events, people and

personal experiences of the actors (Sheeran & Abraham, 1995) cited in (Hausmann-Muela, Ribera & Nyamongo, 2003).

4.2.13 Experiences of Patients at the Bone-setting Centre

In relation to experiences of patients at the Centre, all (seven) patients, irrespective of their socio-economic and educational background informed that their experiences were very good at the Centre. According to three of the respondents, when they were brought to the Centre they could not walk without assistance but after having undergone treatment at the Centre for some time, they could walk by themselves. In the opinion of a 36-year old male farmer: "when I was brought here, I could neither sit nor walk but after three months, I could stand up and walk by myself'.

4.2.14 Skills Level of Bonesetters

In relation to the levels of skills of the team of bonesetters at the Centre, all (seven) respondents contended that the bonesetters were competent. Standard for measurement of competence was however varied. While some respondents thought the practice of traditional bone setting was simply a celestial gift; others used their personal experience as yardstick for measurement. In justifying his assertion that the traditional bonesetters were competent, a 46-year old male pure water manufacturer asserted that: "it is a gift from god; no one has left here worse off. If they know that they cannot treat you, they would refer you to other bonesetters". On his part, a 45-year old male teacher with tertiary level of education who described the traditional bonesetters as competent contended that: "they [TBS] know what they are doing; when they feel the bone, they know where the problem is and how to go by it". This viewpoint sharply contrasts the assertion of a medical director that: "... they don't know the difference between simple fractures which they can treat and complex ones which are beyond their abilities". Another person, a 27-year old male small scale miner asserted that: "for example, when I came here, they [TBS] examined my leg by touching it and in

the process they realised that the wounded leg was shorter than the other one. So they pulled it and now both legs are the same ... they are competent".

Consequently bonesetters at the Centre are seen by their patients as competent and this corroborates the view of Onuminya (2004) that bonesetters are regarded as competent to render bone setting services. Appraising the general performance of bonesetters at the Centre, three respondents opined that their performance were excellent, while four patients maintained that the TBS were very good. However, it contradicts the contention of Hag and Hag (2010) that traditional bonesetters are quack, without any skills, who rely on try and error methods. The view of a medical director interviewed however falls in line with Hag and Hag (2010). Commenting on the competence of bonesetters he contended that:

> ... they [TBS] don't know anything about limb positioning...their actions lead to amputation of limbs...simple things they are able to treat but complex ones they are not able to handle. They use psychology to treat; they actually do try and error. They inherit the practice without any skill but since practice makes perfect with time they get use to doing it. They have no idea of the blood level of the patient they are treating; they don't know anything about the veins and the muscles and related things so they just do try and error.

While concerns about complications leading to limb amputations may be genuine concerns for all who have a stake in health, this opinion is internally inconsistent as it also acknowledges that as bonesetters practice for some time they become perfect. This also implies that as young family members observe and assist bonesetters to set bones, with time they become perfect, since practice makes perfect according to this view.

4.2.15 Level of Satisfaction of Patients

Contrary to views expressed by some writers such as OlaOlorun et al (2001); Omeonu (2003); Onuminya (2006); Omololu et al (2008) and Hag and Hag (2010) that traditional bonesetters practice lead to complications and by

implication dissatisfaction, all (seven) patients, with diverse educational background were satisfied with the performance of bonesetters at the Centre, which corroborates the findings of Udosen et al (2006) in their study of 92 trauma patients in eight traditional bone-setting centres in Calabar, Nigeria that all patients, 100% assessed the outcome of treatment as satisfactory, arguing that traditional bone setting is more effective than orthodox orthopaedic medicine.

4.2.16 Improving Quality of Services

With regards to quality of services provided by bonesetters at the Centre, opinions were varied and the level of education of patient does seem to have an effect in this direction. For instance, two out of three respondents who had never attended school saw the need to improve the quality of services, one out of two respondents who had basic level of education also opined that there was the need to improve quality of services while the only respondents (one each) with secondary and tertiary levels of education saw the need to improve the quality of services. Thus the relatively more educated respondents saw the need to improve quality of services at the Centre.

4.2.17 The Role of Spirituality in Traditional Bone Setting

Responding to the role of spirituality in traditional bone setting, the Head of Traditional Bonesetters at the Jonga Bone-setting Centre who is a Muslim informed that the Centre neither sacrifices nor performs rituals. In his words:

> we do not perform any rituals here before or after treatment. If we are unable to treat a particular patient, we normally advise the person to go back home to consult and find out, if there are any issues they have to resolve them and then come back before we can continue with the treatment but we don't perform any rituals ourselves.

Thus the bonesetters' background as Muslims may be responsible for nonperformance of sacrifices and rituals at the Centre. Yet, the Bonesetters do believe in the role of the supernatural in the healing of their clients at the Centre.

In addition, herbs are harvested at anytime of the day and month and are devoid of incantations or any other rituals. The situation reported here supports the view of a 36-year old female traditional bonesetter that: "rituals are not needed to be performed because bonesetters are no fetish priests", cited in Aries et al (2007:570). However, it contradicts the view of Dime (1995:66) cited in Peter (2003:3) that:

> … In many cases, when [t]he goes to collect leaves or barks or roots of trees for his medicinal preparation, he performs some rituals he usually involves the spirit in the tree or herb, [t]he breaks kolanuts and, at times cowries or money are offered to the spirits; he pours libation and at other times offers sacrifice.

Also, the concept of "auspicious timing of treatment" as opined by (COMPAS, 2007:83) does not apply in this case. Yet spirituality does play a significant role in the treatment of patients at the Centre. The head of Bonesetters explains: "...I don't sacrifice, I only call on my forefathers and say to them: if you have really reached your ancestors, give us power to be able to treat the person successfully; without any shame coming upon us"

Thus the Bonesetter believes in spiritual dimensions of the health condition of his patients and also the powers of his ancestors to heal the patients, implying that the Bonesetter does identify with the dead and believes in their power. This supports the position of Onuminya (2004:652) that "thaumaturgy" plays a seminal role in traditional bone setting. It also indicates the key role of what Millar (2005) has called ancestorcentrism, known as *saakumnu* in Dagaare.

4.2.18 Integrating Traditional Bone Setting into Primary Health Care System

Discussions revealed that there is no any form of formal collaboration between the Centre and the modern health care providers and administrators in the Municipality and the Region at large. Also, the Centre does not belong to the Upper West Traditional Healers Association and Medicinal Plant Growers. In throwing more light on the issue, the Head of Bonesetters at the Centre informed

that: "because I have no license, they don't know about me, and I have nothing to do with them. I have never been trained by anyone"

The Bonesetters who have never had formal education are unlicensed and yet practicing and even enjoying support from the Wa Municipal Assembly. However a director of health services claimed that: ... at the Regional level they [health administrators] have a desk officer who is taking care of all traditional practitioners such that before you even practice you have to identify with the officer and the district...

In similar vein, an administrator at the Upper West Regional Traditional Healers Association and Medicinal Plant Growers office claimed that all traditional healers practicing in the Municipality and the Region are registered with the Association and the Food and Drugs Board. The situation reported here raises issues about the gap between policies and laws beautifully formulated and the lack of commitment to enforcing them. Thus the claims above are the ideal but the reality is that the Jonga Bone-setting Centre may just be one out of thousands of unlicensed traditional healing facilities in operation without any regard for national legislations.

On integrating the Centre into the modern health care system, the Bonesetter fervently disagreed, but disclosed their willingness to collaborate with modern health care providers. He asserted that: ... we want to work with the Hospital so that if there is a complicated case, we can go to Wa and bring a nurse to come and inject the person before we start [treatment]... so that we don't have to refer open wounds to Wa anymore". On their part, six respondents responded in the affirmative regarding integrating traditional bone setting into modern health care system. Explaining his choice of answer, a 46-year old male teacher concerned about the state of hygiene of materials at the Centre said that: "because the hygiene aspect of traditional bone setting in not the best, when they are integrated with the modern health care, it would help improve on the hygiene". In his view, a 25-year old small scale miner who left the hospital for the Bone-setting Centre,

and who was concerned about convenience commented that: "for example, if the Traditional Bone-setters were at the Hospital , when I went to the Hospital they [Traditional Bone-setters] would have attended to me; without me having to travel all the way here". In sharp contrast to the views expressed above, a 46-year old male pure water manufacturer in disagreeing with any move to integrate the two systems contended that: "traditional medicine doesn't go with anything foreign"

On whether traditional bonesetters should operate from a formal health facility as is the practice in some parts of India and China, the Traditional Bonesetter responded in the negative, explaining that operating from a formal health facility means that patients would be charged some administrative cost and monetising the practice has the risk of killing its potency. Responses from respondents were however mixed as three of the respondents who were in favour of integration opined that traditional bonesetters should operate from the house, while the other three opined that traditional bonesetters should operate from the hospital premise. Furthering his argument in favour of integration, with traditional bonesetters operating from the house a 36-year old small scale miner opined that: "traditional bonesetters should operate from the house because if they go to the hospital, the hospital would not allow them to practice it the way they want to practice" Conversely, a 25-year old small scale miner opined that:

> they [TBS] should be provided with space at the Hospital located within the District within which they are operating to practice so that if someone has a broken limb, the traditional bonesetter can attend to him or her, and if there are other health conditions requiring medical services, the formal medical practitioners can treat them.

From views expressed above, there are definitely cases for and against integration of traditional bone setting into modern health care system on the one hand, and on the other hand among respondents who are in favour of integration regarding whether traditional bonesetters should be located within or without a health facility in the District within which the traditional bonesetter is located.

4.2.19 Successes Achieved by Traditional Bonesetters at the Centre

According to the Head of Bonesetters at the Centre, the Centre has achieved a lot of successes. He remarked that: "by the grace of god we have never failed in treating any case". Notable among the cases is the successful treatment of a middle aged man whose arm got broken into three pieces. The Head of Bonesetters at the Centre also claimed that: "We have treated three of such cases" On the most challenging task encountered at the Centre, the Bonesetter said these three cases were their most challenging tasks yet they were able to surmount them. The Bonesetter also claimed that there has never been death at the Centre. However, interactions with patients revealed that the Bonesetters sometimes refer cases beyond their capability to either Doung Bone-setting Centre or Gwollu Bone-setting Centre. This raises issues about trustworthiness of the Head of TBS at the Centre and his views on issues discussed with them. This notwithstanding, all other issues discussed were crosschecked with the patients.

4.3 Presentation and Analysis of Data on Case Study Two (Doung Bone-setting Centre)

The Doung Bone-setting Centre is managed by a four-member team; comprising one leader and three other members. All of them have never had formal education. In-depth conversation was held with three of them as the forth bonesetter was indisposed at the time of visit to the Centre. The ensuing section presents data collected from the Doung Bone-setting Centre on history of bone-setting centre; socio-demographic characteristics of respondents; traditional bone setting knowledge base, attitudes and practices and strategies; materials used for treatment, preparation of materials used for treatment and treatment sessions; factors influencing patients' decision to seek treatment by traditional bone setting; patients' perception and experiences with traditional bone setting; the role of spirituality in traditional bone setting; successes achieved by traditional bonesetters and integrating traditional bone setting into health care system.

4.3.1 History of the Doung Bone-setting Centre

On the issue of how the Doung Bone-setting Centre came into existence, the Head of Bonesetters at the Centre informed that traditional bone setting was practiced at the Centre by their great grandfathers. Thus it was passed down to his father and his father's brothers, some of whom are at present too old and weak to practice bone setting while others have joined their ancestors. Concerning how and when the practice was actually started at the Centre, the Bonesetter informed that he did not know. According to his father, the practice has been handed over from one generation to the other. The practice of traditional bone setting at the Centre is dully registered.

4.3.2 Sex and Age Range of Respondents

At the time of visit at the Doung Bone-setting Centre, 13 patients were on admission and 12 of them were successfully interviewed while one interview was truncated in the middle because the patient started experiencing an excruciating pain and could not continue to engage in the conversation. Just as in the case of Jonga, nine of the patients undergoing treatment at the Centre were males while three of them were females. In relation to age, four of the respondents each were within the cohorts of 20-29 and 30-39 while two each were within the cohorts of 40-49 and 50-59. From the situation presented here, risk of injury appears to be high among the youth.

4.3.3 Level of Education of Respondents

Even though illiteracy level of the people of the Upper West Region is high, 73% (GSS, 2005), the number of respondents without any form of formal education stood at five, representing 41.7% of total respondents. Also, five patients, representing 41.7% of respondents had basic education while one respondent each had senior high and tertiary levels of education. The situation here confirms the opinion of Hag and Hag (2010) that traditional bone setting is highly patronised by less educated segments of population.

4.3.4 Occupations of Respondents

Different kinds of occupations expose people to different kinds of hazards. Thus one's occupation may make him or her more or less prone to injury. Patients at the Centre engage in a wide variety of occupations, including three patients engaged in farming; two patients engaged in petty trading; two patients in small scale mining, and five patients engaged in other activities such as driving, charcoal burning and formal sector employment.

4.3.5 Hierarchy of Bonesetters and Succession Plan

In all there were four traditional bonesetters at the Centre and rules on succession, albeit unwritten were clear. In relation to who becomes the next head of bonesetters among the three other bonesetters in case of incapacitation or death of the present head of the Centre, it was revealed that the next oldest bonesetter, as the Head of the Centre was the oldest among the bonesetters at present. Therefore at any time, there are four bonesetters practicing at the Centre. One unique feature of the Doung Bone-setting is that at any point in time the Bonesetters have to treat to a patient, the team must have its full4compliment, bringing their ideas together.

4.3.6 Recruitment of New Traditional Bonesetters

With regards to recruitment of people to join the team of bonesetters, the bonesetters informed that at any point there is a patient, all their sons who are available are called upon to come and observe the practice. Thus with time these sons acquire the art of bone setting and hence one of them would normally be chosen to join the team of bonesetters when it becomes necessary to replace a bonesetter. This implies that learning at the Centre is by observation. It was also revealed that to qualify to learn the art as well as to be let into the secrets of the practice at the Centre you should be a family member. This finding supports reports that traditional bone setting is mostly a family practice (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010). In this case, it means that one cannot acquire the skill by apprenticeship as opined by (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010).

4.3.7 Traditional Bone Setting Knowledge Base, Attitudes and Practices and Strategies

With regards to the knowledge base, attitudes, practices, strategies and materials used for treating patients at the Centre, the Bonesetters revealed that they are acquired through experiential learning. That is, new members of the family start learning at a young age; starting by going to the bush to harvest the herb used for treatment. Therefore by the time they are recruited to join the four-member team, they would have mastered the skills and the repertoire of traditional bone setting. Thus, traditional bone setting requires some specialisation and skills to practice which confirms the position of Omololu et al (2008) and Aries (2007), yet contradicts the view of Omeonu (2003) and Agarwal and Agarwal (2010) that traditional bonesetters are quack who take up cases and mismanage them.

4.3.8 Preparation of Materials for Treatment and Treatment Sessions

At the Doung Bone-setting Centre, it was revealed that both open and close fractures, as well as dislocations are treated. The main material used for treatment at the Centre is an herb gotten from the bush and according to the Bonesetters *something* they collect from their elders. This herb is harvested from the bush, washed with fresh water-collected on that very day, dried, pounded, mixed, molded and then dried. Afterwards, it is ready for use. On the part of that *something* collected from the elders, the Bonesetters were not willing to disclose it, as well as the particular type of herb used for treatment, adding that Doung is a very large village but it is only their family that carries out the practice of bone setting because they have been able to guard against its secrets. Thus the practice of bone setting at the Centre is shrouded in some secrecy. But their unwillingness to disclose details about the substances used for treatment also points to the fears of indigenous people about patency of their indigenous knowledge and also about losing it to educated elites. The herb and the *something* are used for treating all sorts of cases (open and close) that report to the Centre, irrespective of the cause or state. According to the Bonesetters, they normally use the herb to clean open wounds but if they realised that the wound is not healing, they buy procaine, a

local anesthetic drug or any other drug used for treating open sores from chemical store and apply it. If the open wound still proves difficult to treat then they invite a community health nurse from the Community-based Health Planning and Services (CHPS) Compound, since the area is a CHPS zone to assist them in treating the open wound. The situation presented here raises issues about drug abuse and infection as sterilisation of instruments according to the patients was foreign to the Bonesetters at the Centre. In addition, splints are used to immobilise broken bones where necessary, while bandages are also used when necessary. Patients are positioned at fixed position, depending on the degree of injury for 30 days to 90 days and during this period patients cannot move about, until the Team of Bonesetters asks them to do so.

4.3.8 Hygiene Level of Materials

In the view of the Bonesetters, materials used for treatment and the general procedure of treatment at the Centre are very hygienic. This is because the herbs are washed with fresh water fetched on that same day and prepared within a hygienic environment. However, the views of patients at the Centre on hygiene level were divided. Corroborating the view of the Bonesetters, 10 of the patients were of the view that materials used at the Centre are hygienic while two patients decried the lack of regard of bonesetters for hygiene at the Centre-describing the bonesetters' practice as unhygienic or dirty. Explaining why he thinks the materials used for treatment at the Centre are hygienic, 37-year old small scale miner who has never been to school stated that: "I don't see anything dirty about it [the materials] as far as the herbs are concern and what matters to me is that I am getting better". Thus from this point of view, issues of infections are not a matter of concern. On the contrary, substantiating what he meant by unhygienic practices, a 27-year old diploma holder and an agricultural extension officer asserted that: " after treating one patient, they [Bonesetters] do not take time to really clean their hands before coming to [attend to] you ... ". On his part, 21-year old second cycle student informed that:"...because, at times without bathing or washing their hands after treating another person, they would just come with

soiled hands to treat you ". These patients are very cognizant of infections and their vulnerability as a result of the lack of observation of hygiene procedures by the Bonesetters at the Centre. In bid to find out why the patients who have concerns about the hygiene level at the Centre do not use the opportunity to educate the Bonesetters, a 27-year old agricultural extension officer lamented that: ... and you cannot do anything about it, if you complain they would tell you that if you are not pleased with their treatment and conduct then you can leave the Centre". Consequently, the level of education of patients seems to have a bearing on responses in relation to hygiene level of materials.

4.3.9 Factors Influencing Patients' Decision to Seek Treatment by Traditional Bone Setting

All 12 patients considered efficacy of traditional bone setting before opting for treatment at the Centre. In relation to choosing the Doung Bone-setting Centre, seven patients said they had previous experience at the Centre, while five patients said their choice was based on advice from friends and relatives. Explaining the basis for his choice, a 45-year old driver informed that: "I have been bringing people with serious cases here [to this Centre] and they do get well...so I knew what they [the Bonesetters] could do". On his part, a 29-year old small scale miner asserted that: "I have seen people who have been here for treatment and they have been healed very well...the people [here] produce good results". In similar vein, a 21-year old student informed that: "... know that they are specialised in bone setting". These views support the proposition of the HBM that health behaviour is determined by personal belief or perceptions about the disease and the strategies available to reduce its occurrence (Hochbaum, 1958) cited in (Turner et al, 2004). Other factors such as socio-cultural, cost, and distance proposed by the Four As Model and the Health Care Utilisation Model (Hausmann-Muela et al, 2003; Ahmed, 2005) do not apply in this case given that eight out of 12 patients acquired the injury outside the Upper West Region.

On reasons why patients either left hospital or went straight to the Bone-setting Centre, a 27-year old Agricultural Extension Officer, and what Aries et al (2007)

have referred to as a leaver claimed that: "at the Akomfo Anokye Teaching Hospital in Kumasi I was declared hopeless; dead... look at me **I** can sit and stand up with some support. I could not eat by myself, sit or stand when I was brought here". A 58-year old Assemblyman contended that: "I know that broken hands [limbs] are better treated by traditional bonesetters". The views expressed here corroborate the view of Mume (1973:10) cited in Peter (2003:4) that: " . . . hopeless cases are often referred from hospitals manned by orthodox physicians to traditional bonesetters. Positive results are often achieved by these traditional bone-setters"

This position is however inconsistent with the position of Omeonu (2003); Agarwal and Agarwal (2010) that traditional bonesetters are quack who take up cases and mismanage them. Responding to the view that traditional bonesetters are better than orthopaedic surgeons, a director of health services contended that:

> ...I think it is ignorance that lead people to think that traditional bonesetters are better because infection control is a factor...if you cannot control infection and the excruciating pain the person might have, and apart from that the complications that later on can come about leading to lose of lives or even deformities . . .

It was also observed that the Centre was the first port of call for only five patients representing 41.7% of respondents while seven patients representing 58.3% of the respondents had been to at least one formal health care facility before coming to the Centre. Consequently, the view expressed by Onuminya (2006) and Omololu et al (2008) that over 70% and 80% respectively of victims with bone fractures present to traditional bonesetters before going to hospital does not hold in this case.

4.3.10 Patients' Perception of the Doung Bone-setting Centre Prior to Visit

The study found out that 11 patients with varied level of education perceived of the Bonesetters at the Centre as effective prior to visit to the Centre, while only one patient thought they were not effective, but worth trying. Hence the level of

education of respondents did not appear to have a significant effect on patients' perception about the Bonesetters at the Centre prior to visit. It was not uncommon to hear patients say: "prior to coming here, I had heard a lot of success stories about this Centre" (Field Survey, 2010). On his part, a 58-year old Assemblyman and a resident of Doung asserted that: "as a small boy and growing up in this village, I just knew that this Centre was the best".

4.3.11 Experiences of Patients at the Doung Bone-setting Centre

In relation to experiences of patients at the Centre, four patients informed that their experiences at the Centre were excellent. Explaining what he meant by excellent experience, a 58-year old Assemblyman stated that: "I see that both hands of mine are the same; if I don't declare which one was broken no one would know". Another person who described his experience at the Centre as excellent remarked that: "I was brought here with a broken leg, when I was brought here, the bones in my leg were coming out but now my condition is better. I am only waiting for the approval of the Bonesetters to start walking; I can turn the leg well".

In addition, another patient, a 27-year old Agricultural Extension Officer claimed: "I came here like a log of wood; I couldn't do anything; I couldn't sit or get up but now I can sit, I can stand holding a wall or something...I think they are excellent". On the contrary, a 42-year old farmer who described his experience as bad claimed that: "five years ago it used to be better, for example, if you came here, after three weeks, you would be well and could go home but I have been here for two months; sitting at one place... they have monitised the treatment and because of that it is not like before"

In this sense, the emphasis is on the duration of the treatment rather than the potency of treatment, facilities and human relations at the Centre. The level of education of patients does not appear to have a bearing on their experiences as for instance; in the case of the group of respondents who described their experiences

as excellent, two of them have never been to school; one had basic level of education; and another one had tertiary level education.

4.3.12 Skills Level of Traditional Bonesetters

In relation to the level of skills of the Team of Bonesetters at the Centre, opinions were varied; one patient opined that the Bonesetters were very competent; 10 patients contended that they were competent while one patient was of the view that they were incompetent. In justifying his assertion that the Bonesetters were competent, a 27-year old man with tertiary level of education and an Agricultural Extension Officer asserted that:"… because they don't look at X-rays; they only touch the affected area and they know whether it is a fracture or a dislocation...indeed they are skilled". However, the issue of not taking or examining X-rays constitutes a point for criticism in other quarters. A director of health services commented: "traditional bonesetters do it [bone setting] in a crude way; they don't examine X-rays to know exactly where the problem is …

On his part, a 28-year old small scale miner with basic level of education who had been at the Centre for one year and describing the Bonesetters as competent claimed that: "even some people come from the Wa Hospital while others come from Duah Yaw Nkonta Hospital; the Bonesetters would normally break the bones and reset them". Another person, a 21-year old student who had been at the Centre for 15 months and described the Bonesetters as competent asserted that: "at times they would bring someone [patient] here, the bone would be bent but these bonesetters can strengthen it". The bonesetters are thus seen by majority of their patients as competent and this corroborates the view of Onuminya (2004) that traditional bonesetters are regarded as competent to render bone setting services.

Explaining what he meant by incompetence, a 42-year old farmer argued that: "I have been here for two months yet I cannot get up; things have changed here [for the worse] … unlike before … I would have been healed by now"

As far as this viewpoint is concerned, the number of days spent at the Centre is of more concern rather than the skills of the Bonesetters. Also, the level of education of patients did not seem to have influence on respondents' view as opinions were varied regardless of level of education as presented above.

Appraising the general performance of the Bonesetters at the Centre, one respondent opined that their performance was excellent, to 10 of the respondents, the Bonesetters' general performance were very good, while only one respondent opined that their general performance were good.

4.3.13 Level of Satisfaction of Patients

Level of satisfaction of patients were varied, one respondent undergoing treatment at the Centre was very satisfied with the treatment at the Centre, while 11 patients with varied level of education described their level of satisfaction as satisfactory. Thus the level of education of patients does not seem to have a correlation with the level of satisfaction at the Centre. At the time of the study, no patient at the Centre was dissatisfied with treatment of the Bonesetters, in spite of the fact that some patients raised concerns about hygiene level at the Centre as presented earlier. The situation reported here corroborates the finding of Udosen et al (2006) in a study of eight traditional bone-setting centres in Calabar in Nigeria where 100% of patients described their level satisfaction as satisfactory.

4.3.14 Improving Quality of Services

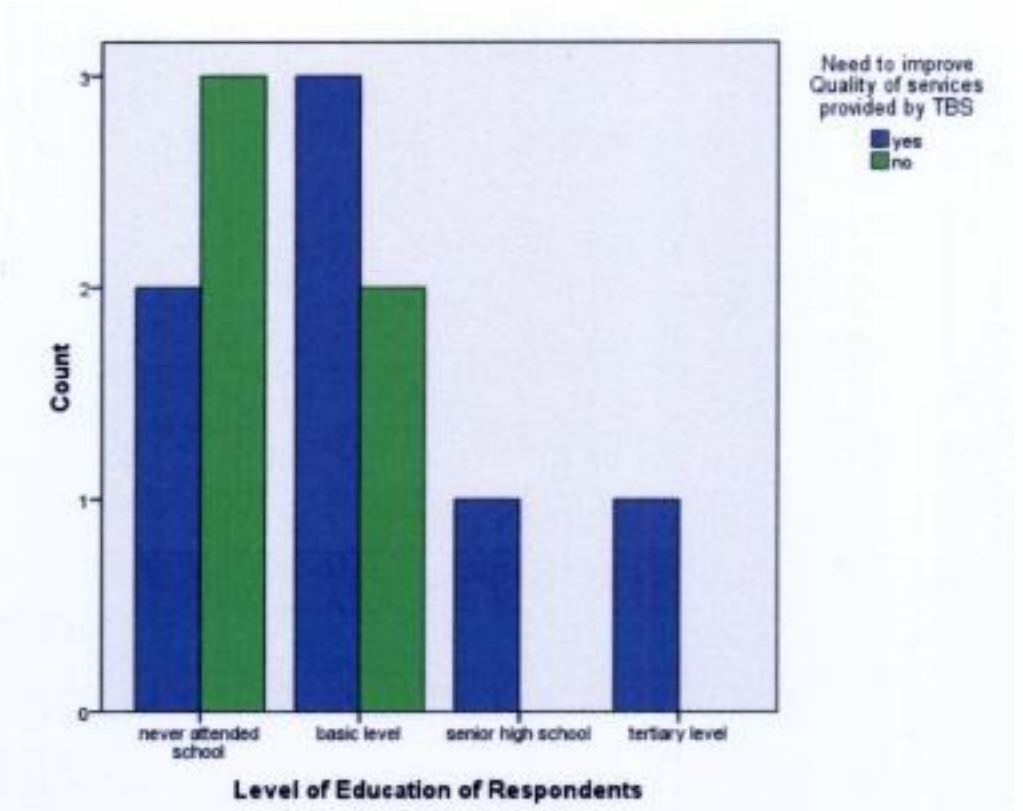
As far as quality of services rendered at the Centre is concerned, seven respondents opined that there was the need for improvement while five respondents were of the view that the quality of services rendered was simply enough. On the need to improve the quality of services rendered at the Centre, a 42-year old farmer argued that: "they need to improve upon their skills so that they can treat patients and discharge them faster". There seem to be correlation between the level of education of respondents and their opinions on the improvement of quality of services. For instance, three patients out of five who have never been to school were of the view that there was no need to improve

upon the quality of services provided at the Centre. Conversely, three out of five patients with basic level of education opined that there was the need to improve the quality of services provided at the Centre. Other views in this regard include the need to improve upon the intervals they attend to patients on admission. One patient alleged that:

> there is preferential treatment for the out-patients; when they come with any complain, they [Bonesetters] normally attend to them fast but those of us here, when they finish tying the limb, in a day or two they should come back to see how the limb is positioned but they don't come. After tying [the limb], unless a week's time...they don't care about what is happening to the patients here...they are four and you must get all of them before they can attend to you but it is difficult to assemble all of them (Male, 27 years old, Agricultural Extension Officer).

Still on the intervals, a 21-year old student commented that: "the intervals between one treatment and another needs improvement". However, substantiating his opinion that there is no need for improvement of quality of services rendered at the Centre, a 57-year old female farmer who had been at the Centre for three months asserted that: "the quality of work here is enough; if any one comes to this Centre with a broken limb, even if it is broken into pieces they are able to treat the person well … ". Figure 4.1 represents the level of education of respondents their views on the need to improve on quality of services.

Figure 4.1 Level of Education of Respondents and Need to Improve on Quality of Services



Source: Field Survey, 2011

4.3.15 The Role of Spirituality in Traditional Bone Setting

Discussions at the Centre revealed that spirituality plays very seminal role in collecting and preparing materials for treatment as well as in the healing process of patients undergoing treatment at the Centre. At the Centre, two bonesetters are Christians while two belong to the African traditional religion. In relation to collecting the herb from the bush, a 44-year old Bonesetter at the Centre noted that: "whenever we want to go for the herbs we go in the evening". This corroborates the idea of "auspicious timing" (COMPAS, 2007:83). In bid to find out why the Bonesetters go for the herbs in the evening, the Bonesetter said that: "that is how it is supposed to be done that is why we do that". In relation to preparations prior to going for the herbs, the Head of Bonesetters at the Centre

informed that: "when we are going for the herbs, we do not chant or sing because we know the herbs we are going for. However, we do offer libation to our ancestors to pave way before we go for the herbs". The situation at this Centre confirms the assertion by Dime (1995:66), cited in Peter (2003:3) that: ... the medicine-man ... performs some rituals he usually involves the spirit in the tree or herb, [t]he breaks kolanuts and, at times cowries or money are offered to the spirits; he pours libation and at other times offers sacrifice"

In furtherance, the Head of the Bonesetters informed that: "after harvesting the herb, there is something that we have to do...all of us doing the work here know how to do it, but not outsiders". Another Bonesetter, 44 years old added that in addition to the herbs collected from the bush, their elders give them *something* to add to it. In attempt to find out that *'something'* and other rituals that are performed to give the medicine its 'potency', a 44-year old bonesetter remarked:

> you see, Doung is a very large village but if anyone has a fracture or dislocation, they must come here for treatment...it is a family secret; only family members who are practicing bone setting are privy to it. ...People [patients] have different cases and each case has its specific requirements you don't treat the cases as if they were all the same.

The view expressed here again points to two things: first of all it confirms the view that the practice of traditional medicine is shrouded in secrecy as opined by a director of health services; secondly it reveals the fears of indigenous people, without any patent right to their knowledge, about losing their traditional knowledge to 'outsiders'.

On rituals performed by patients, the Head of Bonesetters at the Centre informed that:

> sometimes in the course of treatment you realise that another person has a hand [is responsible] in the patient's situation. In that case we usually invite his or her relatives to come and send the patient for [spiritual]

consultation back home so that if there is the need for some rituals to be performed, they perform them and then come back to us.

In addition to the above, the Head of Bonesetters asserted that: "normally after the patient is healed, we ask for something [money] so that we can offer sacrifices to our fathers...even if the patient does not belief in ancestral worship, because he or she is not the one doing it; we are offering the sacrifices; that is our belief'.

4.3.16 Taboos Observed at the Centre

The main taboo for the medicine according to the Team of Bonesetters interviewed is that the medicine does not cross the main road and if it does, it would lose its potency. On their part, while undergoing treatment at the Centre patients have to strictly adhere to the following taboos:

- Patients must not get close to fire, including cooking. Hence all patients at the Centre must have caretakers who also cook for them;
- No patient should bath with worm water;
- No patient should shave his or her hair; and
- No patient shall have sexual intercourse.

In attempt to find out why these taboos must be observed and what happens in case of default, a 44-year old bonesetter at the Centre asserted that: "everything has its own taboos, and these things have been passed down to us and our elders have told us that we should observe them as such we will not disobey them; for example if you are admitted to a hospital can you have sex there"?

Discussions in this section show that the practice of bone setting is heavily dependent on spirituality and the belief systems of the Bonesetters.

4.3.17 Integrating Traditional Bone Setting into Primary Health Care System

This study discovered that there is some form of collaboration between the Centre and the CHPS Compound in the village. A community health nurse at the CHPS compound is sometimes called upon to fix catheter for patients who cannot pass

urine normally. In addition, when the Centre admits open wounds that prove difficult to treat they normally ask for assistance from the community health nurse. Beyond these, there is no formal relationship between the Centre and the allopathic health care providers in the District and the Region at large. In relation to training, the Head of Bonesetters claimed that: "they only came here and asked us about the treatment we do here but they have never trained us ". This view does not support claims by two directors of health services that their respective outfits organise training sessions for bonesetters from time to time. One of the Directors claimed that: "we have had sensitisation meetings with a number of them [bonesetters]". The Bonesetters however indicated willingness and acceptance of collaboration, but quickly added that on condition that they practice from their Centre since their medication must not cross the main road. As far as patients were concerned, a whopping 11 out of 12 patients opined that traditional bone setting should be integrated into modern allopathic health care system. In justifying her viewpoint, a 39-year old female petty trader noted that: "in case there is another disease condition besides the facture or dislocation, the orthodox practitioners can treat that one ". Another respondent contended that: "so that if someone comes here and they cannot treat the person they would refer the person to the hospital and if someone goes to the hospital and they cannot treat the person, they would refer the person to the Bonesetters (Female, 58 years old, Farmer)". Other views expressed by respondents include:

> the two systems would work better if they are integrated; for instance if the Bonesetters were operating from the hospital I would not have had to come here...; if there is the need for infusion, the orthodox practitioners would do it; the Bonesetters do not have any instrument to examine us they only touch the affected area so if they work with the modern health practitioners, the modern health care practitioners will use instruments to examine patients; there may be times that a patient would need blood or drugs, in that sense integration would be beneficial (Field Survey, 2010).

These views are not different from that of directors of health service interviewed. On his part, a male director of health service commenting on quality of services rendered by bonesetters asserted that: ... integrating them [bonesetters] into the orthodox health care system would solve some of these problems"

A female director of health services expressing worries about the complications that sometimes result from bone setting practice contended that:

> … as a way out, I would suggest that there should be collaboration between bonesetters and orthodox medicine [practitioners]. So that the bonesetters upon seeing a case, they would first let them do X-rays or other control measures … integration is a good idea and it has happened somewhere before …

However, disagreeing with any moves to integrate the Centre with formal health care system, a 58-year old farmer contended that: "the Bonesetters' medicine does not cross the road; besides, it is shrouded in secrecy". In similar vein, a medical director contended that integrating traditional bone setting into allopathic health care system will not be feasible because bonesetters deal with black substances and they have no skills.

4.3.18 Successes Achieved by Traditional Bonesetters at the Centre

Success according to the Bonesetters is defined by the ability to treat complicated cases successfully. A 44-year old bonesetter claimed that:

> we have achieved a lot of successes; for instance, there is a young man here who comes from Wenchi. He has spent about three years here. He came here from Gee [Akomfo Anokye Teaching Hospital] [because] the Doctors said they could not treat him. When he first came here, he could not sit up or eat; he would normally be fed while lying down; he could not get up … now look at him by the wall, he can move about in a wheelchair.

This claim was corroborated by the 27-year old man and indeed he added that:

> sometimes you can't even tell whether it is some supernatural power they [TBS] use to treat patients or what. Sometimes they can bring a patient here in a very critical condition but the Bonesetters will just do some things and before you realise the person is getting better.

According to the Head of Bonesetters, instances such as the above are countless and come to the Centre from all over the Country and beyond. On the most challenging task the Centre has ever encountered, the Team of Bonesetters maintained that the case of the 27-year old man has been one of the most challenging cases at the Centre. The Bonesetters also claimed that for the past five years no one had died at the Centre. Meanwhile, respondents from one of the two wards informed that towards the middle part of 2010, a man undergoing treatment at the Centre lost his live.

4.4 Presentation and Analysis of Data on Case Study Three (Gwollu Bone-setting Centre)

The Gwollu Bone-setting Centre is managed by a nine-member team; comprising one leader, three other bonesetters and five other members who assist and are also under training. The ensuing section presents data collected from the Gwollu Bone-setting Centre on: history of bone-setting centre; socio-demographic characteristics of respondents; traditional bone setting knowledge base, attitudes and practices and strategies; materials used for treatment, preparation of materials used for treatment and treatment sessions; factors influencing patients' decision to seek treatment by traditional bone setting; patients' perception and experiences with traditional bone setting; the role of spirituality in traditional bone setting; successes achieved by traditional bonesetters and integrating traditional bone setting into allopathic health care system.

4.4.1 History of Gwollu Bone-setting Centre

Narrating how the Centre came into existence, a 55-year old Middle School Certificate holder and head of bonesetters at the Centre, affectionately called "Secretary", chronicled:

bone setting was started by our grandfather called Tiito at the Centre over 200 years ago. Tiito had two wives, who were bitter rivals. One day, when one of the women... went to farm... the other one at home...decide[d] to use the pestle of her rival to pound grains ... the pestle got broken. So when the rival returned from farm and met the pestle broken, she asked: who broke my pestle and they said it was your rival and she said ... mend my pestle for me. All attempts to replace it were turned down... As a result, the woman [who broke the pestle] prayed fervently to god and in the process she saw a vision and then she took the broken pestle and spat three times on the edges of each broken piece and put them together and it got mended miraculously; without traces of the breakage. After handing it over to her co-wife, she then said oh great god if you can let me mend broken sticks, let my grand children mend human bones. ...a boy fell down and broke his thigh ... This boy was brought, she commanded: go to the bush, bring the nearest herb that you can get; cook it; straighten the leg; massage it with the herb; apply shea butter and tie it. I shall make medicine. So as at now we believe that she is making medicine because how can a human being mend human bones if you cannot create? So this process was done, then every morning they would untie it, massage, apply the shea butter and tie it continuously for about three weeks the boy got up and was walking... When they [boy's family] came, they asked: how much is our charge? They [Tiito Family] said is free of charge because if you cannot create you cannot mend; it is a gift from god so there is no charge. ...the following day, they organised themselves and came to thank the family for the good work ...they brought a calabash of millet and some tobacco leaves and 1500 cowries, gathered the Tiito Family, they thanked them for what they had done and presented these items to them, and they willingly accepted them. So as at now if we heal a patient we always say bring millet, tobacco leaves and 1500 cowries.

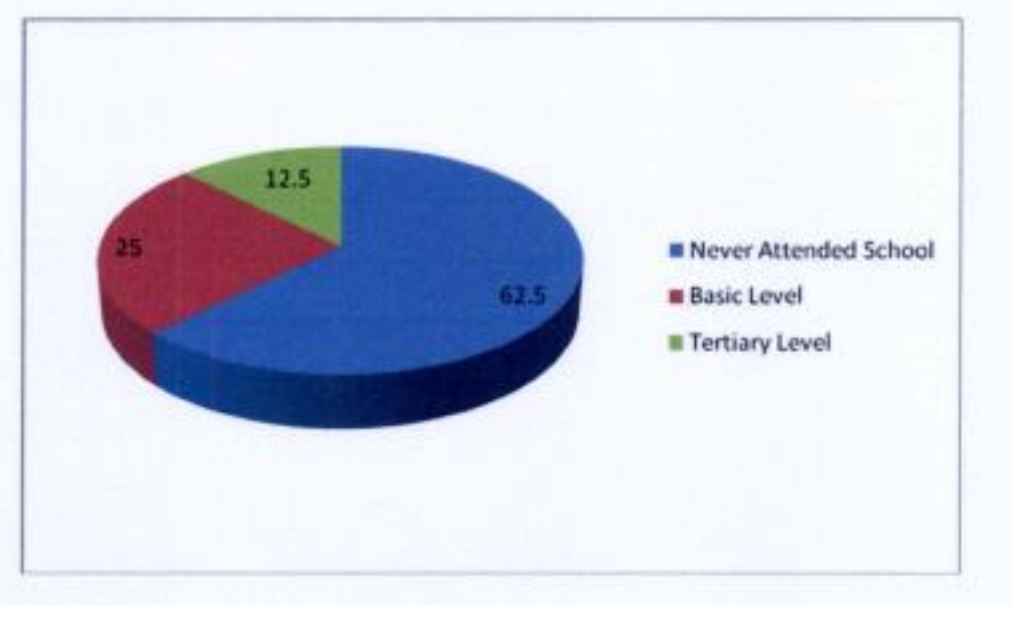
4.4.2 Sex and Age Range of Respondents

At the Gwollu Bone-setting Centre, in all eight patients were interviewed. Four patients were female while four patients were male. This situation looks different from that of the other two bone-setting centres: Jonga and Doung which were male dominant. Furthermore, four patients were within 30-39, while the other four patients were within 60+.

4.4.3 Level of Education of Respondents

According to the GSS (2005), in the Upper West Region, illiteracy levels are generally high (73%). The situation appears to have trickled down to the Gwollu Bone-setting Centre as five patients have never been to school while two patients and one patient had basic and tertiary levels of education respectively. Figure 4.2 shows the level of education of respondents at the Gwollu Bone-setting Centre.

Figure 4.2 Level of Education of Respondents



Source: Field Survey, 2011

4.4.4 Occupations of Respondents

Patients at the Gwollu Bone-setting Centre are engaged in diverse economics activities. However, fanning was predominant, as four patients were farmers while small scale mining and others such as construction work and petty trading

made up one and three patients respectively. Like the two other cases, patients were predominantly engaged in low income activities.

4.4.5 Hierarchy of Bonesetters and Succession Plan

According to the Head of Bonesetters at the Centre, the overall head of the Bone-setting Centre is the Head of the Tiito Family, who does not have any skills in bone setting and hence is not a practitioner of bone setting. However, at the Bone-setting Centre, the 55-year old Middle School Certificate holder is the Head of Bonesetters at the Centre, while there are eight others at the Centre. Among the eight other bonesetters, three are full practitioners, while five are assisting and also undergoing training. In event of incapacitation of the Head of Bonesetters, the Family would nominate one of the three Bonesetters to take over the headship.

4.4.6 Recruitment of New Traditional Bonesetters

On recruitment of new bonesetters to join the Team of Bonesetters, the Head of Bonesetters informed that from time to time younger members of the Tiito Family are selected to join the team of bonesetters. These young ones learn the art of bone setting by initially observing the way the bonesetters treat patients at the Centre and later assisting to set bones until they become well equipped to set bones themselves. "That is how we all learnt how to set bones" (Male, 55 years old, Head of Bonesetters). However like the other centres, to qualify to learn the art, you must be a member of the Tiito Family. This finding supports reports that traditional bone setting is mostly a family practice (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010). Consequently, one cannot acquire the skill by apprenticeship at the Centre as opined by (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010).

4.4.7 Traditional Bone Setting Knowledge Base, Attitudes and Practices and Strategies

The Head of Bonesetters at the Gwollu Bone-setting Centre informed that the knowledge, skills and ideas regarding bone setting are acquired through experiential learning. According to him, he started learning how to set bones

when he was young, alongside attending school. But along the line he travelled to southern Ghana for greener pasture. In 1997 he travelled home to visit his father, who was the Head of Bonesetters and realised that his father was old. As a result he decided to stay back home. When he stayed back, he claimed that: "so I always come out to sit [here] and watch what they are doing, asking questions; why not do it this way or that way? Until I became used to it [bone setting] and decided to go into it". Thus by observing his father and uncles treat fractured and dislocated limbs the Bonesetter acquired the knowledge as well as skills, attitudes and strategies; the repertoire of bone setting.

4.4.8 Preparation of Materials for Treatment and Treatment Sessions

At the Centre, both open and close wounds are treated. With regards to materials used for treatment, a head of bonesetters at the Centre disclosed that only one herb is used for treatment. The herb is gotten from a local tree known as *pipahoko,* which is located at a particular place, and a black substance prepared from a local tree known as *titoko*. *Pipahoko* is harvested, boiled and then used to massage the affected area while *titoko* is cultivated near the Centre. Figure 4.4 contains a pot of *pipahoko* herbs on fire. *Titiko* is cut, burned, pounded and then mixed with shea butter into a paste (of black substance) and it is applied to the affected place after the wound is healed to make the muscles flexible.

Commenting on the use of substances in traditional bone setting, a medical director contended that: … traditional bone setting practice also leads to infections because they put black substances into wounds …

It is interesting to note that while *pipahoko* can be harvested at any time of the year, month or day, *titoko* is harvested only once a year. This confirms the notion of "auspicious timing" stated by COMPAS (COMPAS, 2007:83). However, no reasons were given for the auspicious timing.

In relation to treatment procedures, the Head of the Centre informed that:

> first of all the affected area is massaged with the boiled herbs and if there are particles of bones in the flesh, they have to be removed because the

> flesh would not heal if there are any broken bones inside it. And if there is an open wound, you apply a paste made of procaine mixed with shea butter into the sore before applying a splint and then tie it up.

Commenting on modifications made to treatment at the Centre since he assumed headship, the Bonesetter claimed that:

> when I was a school boy, no matter how dangerous it [wound] was, they [Bonesetters] used shea butter. But now that the world is advanced, we try to adopt orthodox medicine... things like Procaine, pain killers and other things. We just have to mash our shea butter, open this procaine, pour it into the shea butter, mix it. So that after massaging the sore, you just apply the paste on cotton wool and cover the sore before you put your substances to tie it.

From discussions in this section, the fact that the head of bonesetters in this Centre is educated seems to have tremendous effect on practices at the Centre as well as information given about the practice of bone setting at the centre. Figure 4.4 contains some visuals on treatment sessions at the Centre.

4.4.9 Hygiene Level of Materials

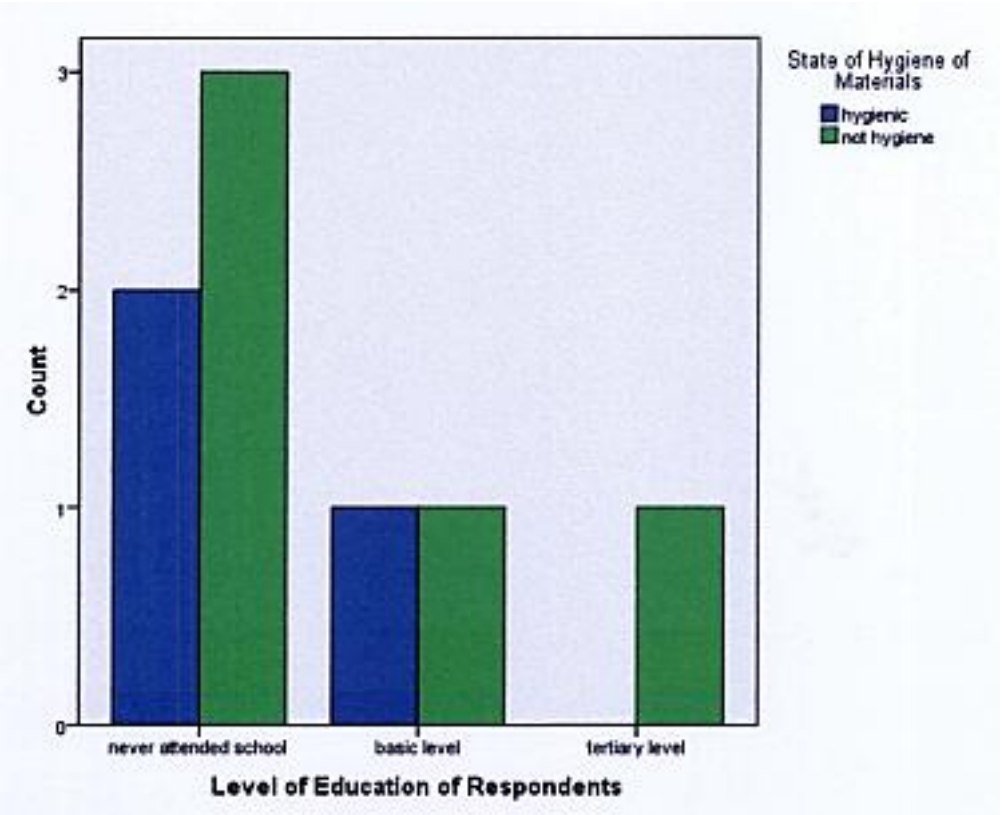
According to the Head of Bonesetters, the Bonesetters at the Centre are aware of vulnerability of open wounds to infections, including human immunodeficiency syndrome (HIV)/acquired immune deficiency syndrome (AIDS) as a result of two different sessions of training they have attended in the past. These training sessions were organised by the Sissala West District Directorate of Health Service. Consequently, the herbs, paste and other materials used for treatment at the Centre are prepared under hygienic conditions. Antiseptics are used to disinfect instruments used to treat one person before they are used to treat another person. Gloves are worn before attending to patients with open wounds. Interestingly however, interactions with patients revealed otherwise; five patients were of the view that materials used for treatment at the Centre are not hygienic,
while three patients opined that materials used for treatment are hygienic.

Supporting his assertion that materials used for treatment are hygienic, a 64-year old farmer who has not been to school stated that: "... the water here is pipe-borne ... it is clean; and that is what they use to cook the herbs, prepare other substances and massage us ". Yet a view that was eminent was the use of the same facilities for treatment and other domestic purposes, including culinary activities. Explaining what he meant by unhygienic practices, a 34-year old tertiary school leaver and an accountant asserted that:

> they [bonesetters] are lacking some facilities; for example, hand gloves; they use one towel for all the patients; the very buckets used for treatment and washing the bandages are used to wash cooking utensils...items are not sterilised. If health workers could come and educate the Bonesetters on hygiene, it would help.

From the views presented above, the level of education of respondents appears to have an effect on opinion about the state of hygiene of materials used for treatment. Figure 4.3 represents levels of education of respondents and state of hygiene of materials.

Figure 4.3 Levels of Education of Respondents and State of Hygiene of Materials



Source: Field Survey, 2011

4.4.10 Factors Influencing Patients' Decision to Seek Treatment by Traditional Bone Setting

As regards factors considered before opting for treatment by traditional bone setting, all (eight) respondents claimed that they considered efficacy of traditional bonesetters at the Centre. Consequently factors such as cost, distance and socio-cultural factors as proposed by the HBM, (Hausmann-Muela et al, 2003; Ahmed, 2005) and availability, accessibility, affordability and acceptability proposed by the Four As" Model as factors influencing health-seeking behaviour (Hausmann-Muela et al, 2003) do not apply in this case. However, it is instructive to note that five respondents had their injuries within the Sissala West District; two respondents had their injuries in other parts of the Upper West Region and only one respondent had the injury elsewhere in the Greater Accra Region of Ghana.

As a result, factors such as availability and accessibility as proposed by the Four As Model and the Health Care Utilisation Model cannot be ruled out entirely.

In all, four patients visited a modern health care facility prior to coming to the Bone-setting Centre while the other four came to the Centre right after the injury. In attempt to find out why patients did not go to or left allopathic health care facility, diverse responses were obtained. A 36-year old female farmer who did not go to hospital before coming to the Centre argued that: "I knew that this place [Bone-setting Centre] was better than the hospital. On his part, a 62-year old male farmer who came straight to the Bone-setting Centre after obtaining the injury claimed that: "prior to my accident I sent my son who had a broken arm to the hospital and they put POP on it. When he got healed, it was stiff … I did not want my leg to suffer the same thing that is why I came here"

Explaining the reason for his choice, a 36-year old leaver (of hospital) claimed that: "I went to the Tema General Hospital but after several weeks my condition was deteriorating so I decided to ask for release and then I came here ⋯ my condition is improving only after three weeks"

Inherent in the views expressed above is the perception that bonesetters are better than the orthodox practitioners. This view supports the contention that: … 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 are better … (Mume, 1973:10) cited in (Peter, 2003:4)".

In relation to how the Gwollu Bone-setting Centre was chosen, five respondents informed that they chose the Centre based on advice from friends and relations while three respondents informed that their selection of the Centre was based on previous experience. The finding here corroborates the idea of cues to action as proposed by the HBM. According to the HBM, action in health seeking is guided, among other things by cues to action, which includes previous experience and

advice from friends and relations (Sheeran & Abraham, 1995) quoted in (Hausmann-Muela, Ribera & Nyamongo, 2003).

4.4.11 Patients' Perception of the Bone-setting Centre Prior to Visit

Discussions revealed that before coming to the Bone-setting Centre, all (eight) respondents, with wide range of educational background perceived of the Bonesetters as effective in treating fractures and dislocations. Notable among reasons given is that the Gwollu Bone-setting Centre has already attained wide popularity not only in the Upper West Region but nationwide and beyond Ghana. In his own words, a 36-year old contractor who had his accident in the Greater Accra Region claimed that: "even in Accra the Centre is very popular; many people advised me to bring my injury here"

4.4.12 Experiences of Patients at the Bone-setting Centre

All respondents claimed that they had pleasant encounters at the Centre. For instance, three respondents described their experiences as excellent while five respondents described their experience at the Centre as very good. Substantiating his assertion of excellent encounters at the Centre, a 34-year old male tertiary school leaver and an accountant claimed that: "social interaction, the way the Bonesetters handle people here is really good; emotional stress is taken off before you are treated. When I came here I couldn't even stand up...now with the aid of crutches I can walk and even stretch my knee". A 36-year old contractor who described his experience at the Centre as very good asserted that: "the Bonesetters are very cooperative and they care for us all; I am always happy". In this regard, the Bonesetters provide socially acceptable services to their clients.

4.4.13 Skills Level of Traditional Bonesetters

With regards to the level of skills of the Bonesetters, three patients opined that the Bonesetters are very competent, while five patients thought they are competent. Thus on a whole, all respondents were of the view that the Bonesetters are competent. Consequently, the level of education of respondents does not appear to influence assessment of the level of competence of traditional bonesetters at the

Centre. Justifying her view, a 35-year old female farmer contended that: "they have the requisite skills". Other views expressed include remarkable improvement in injury situation since first visit to the Centre. A 60-year old visually impaired female farmer claimed that: "they are very competent because I have experienced great improvement since I was brought here". The situation here totally agrees with the assertion by Onuminya (2004) that traditional bonesetters are considered
the views of Hag and Hag (2010) and Agarwal and Agarwal (2010:2) who describe traditional bonesetters as quack, with no skills and 'unqualified practitioner' respectively. Hag and Hag (2010:401) contend that "traditional bonesetters develop their skills and experience by practice (trials and errors)." And indeed similar views were expressed by two directors of health. A medical director contended that: "they use psychology to treat; they actually do try and error ". Similarly, a director of health services argued that: "they do try and error. After all, in first aid if you put splint on somebody and you tie and you leave the person over a period, the person recovers …having practiced for sometime they would definitely have some skills …
Commenting on the skills level of traditional bonesetters, a medical director on his part asserted that:

> … they inherit the practice without skills but since practice makes perfect, with time they get used to doing it...their practice sometimes lead to limb gangrene and amputations...they don't know the difference between simple fracture which they can treat and complex ones which are beyond them.

What is interesting to note in the views expressed by Hag and Hag (2010), the Medical Director and the Director of Health Service interviewed is the fact that all of them do acknowledge that since traditional bonesetters practice for some time they do acquire some skills. This intimates that traditional bonesetters do have some skills. Yet it points to the lack of regard by allopathic health care providers

for traditional medicine. However, on his part, the 55- year old Head of Bonesetters at the Centre contended that:

> We [bonesetters] are the best; if people are discouraging [patronage of] traditional bone setting they are wrong because one: hospital says amputate but we say no; two: traditional bone setting heals faster than hospital... I will say we are better than hospital... traditional bonesetters have qualities. If we say traditional medicine is not good we are lying to ourselves. There are some bonesetters who are corrupt; assuming we were charging people...but we always want the truth. If you come with an old case and we see that we cannot treat it, we would tell you...

The view of the Bonesetter that their treatment heals faster supports the assertion that there is a belief among the general populace that traditional bone setting heals faster (Udosen et al, 2006; Peter, 2003; Salati & Rather, 2009). In relation to concerns raised about unequal length in healed limbs; mal-union; nonunion; fixed knee flexion deformity and limb amputations raised by (OlaOlorun et al, 2001; Omeonu, 2003; Onuminya, 2004; Onuminya, 2006; Omololu et al, 2008; Hag & Hag, 2010; Olori, 2010) the Bonesetter further elaborated: "We will never treat a person for the person to be deformed; deformation means that the bones were not well set. That is the main reason why everyday we open it [wound] to observe so that if it is not correct we will correct it".

On death of patients at the Centre, the Bonesetter informed that for some time now the Centre has not recorded any. He explained further that: "… the rule here is that if we treat someone [for] three to four weeks and there is no improvement we refer the person to the hospital". Appraising the general performance of bonesetters at the Centre, four patients said that general performance was excellent while the other four thought they were very good.

4.4.14 Level of Satisfaction of Patients

On a whole, all (eight) respondents with diverse educational background described their level of satisfaction as satisfactory; four patients disclosed that

they were very satisfied while four maintained that they were satisfied. Therefore the level of education of patients does not appear to have a linkage with the level of satisfaction of patients at the Centre. At the time of the study, no patient at the Centre was dissatisfied with the treatment and general conduct of the Bonesetters albeit concerns about the hygiene level of practices at the Centre as presented earlier on. The finding here corroborates the finding of Udosen et al (2006) in a study of eight traditional bone-setting Centres in Calabar in Nigeria where 100% of patients assessed their level of satisfaction as satisfactory.

4.4.15 Improving Quality of Services

In relation to quality of services rendered at the Centre, three patients argued that there was the need to improve upon it. On the contrary, five patients maintained that quality of services offered at the Centre was just enough and thus there was no need to improve upon it. All respondents who opined that there was the need to improve on quality of services were concerned with hygiene and not the method of treatment and the materials used for treatment. A 36-year old male Contractor explained that: …especially the hygiene aspect needs improvement". On the part of the respondents who maintained that the quality of service was enough, it was not uncommon to hear: "I think it is just sufficient because I am getting better". A 62-year old male farmer expatiated: "... because I am getting well I think there is nothing to improve upon here". The level of education of patients seems to have an effect on the opinion about quality of service rendered. For instance, three out of five respondents who had never had formal education maintained that there was no need to improve upon the quality of service rendered at the Centre, while the only patient with tertiary level of education opined that there was the need to improve on the quality of services offered at the Centre.

4.4.16 The Role of Spirituality in Traditional Bone Setting

Spirituality does play very influential roles in collecting and preparing materials for treatment as well as the treatment and healing process of patients undergoing treatment at the Centre. On collecting one of the herbs, *titoko*, a 55-year old head of Bonesetters at the Centre asserted that: "it has a particular day, not that anytime

at all you like you just go and cut and you start burning. Thus the idea of "auspicious timing" (COMPAS, 2007:83) applies here. In bid to find out what would happen if they go for the herbs before the slated day, the Bonesetter said that:

> well, that one I cannot explain because this is what I saw... but we have tried it in another way: when we have a stock and see that it is about to finish, and yet it is not time to harvest, we normally harvest some, burn it and add it to the old one. That is the only way we can do it but if it is completely finished we have to wait for the date …

In relation to preparations prior to going for the herbs, the Head of Bonesetters at the Centre informed that: "when we are going for the herbs, we do not chant, sing or perform any rituals because there are no sacrifices under [in] this Bone-setting Centre. Even the fowl we collect, we don't kill it; we don't sacrifice it; we leave it".

The situation depicted here however does not support the assertion by Dime (1995: 66), quoted in Peter (2003:3) that:

> … in many cases, when [t]he goes to collect leaves or barks or roots of trees for his medicinal preparation, he performs some rituals he usually involves the spirit in the tree or herb, the breaks kolanuts and, at times cowries or money are offered to the spirits; he pours libation and at other times offers sacrifice.

Yet the situation confirms the assertion of a 36-year old female traditional bonesetter that "rituals are not needed to be performed because bonesetters are no fetish priests" cited in (Aries et al, 2007:570).

However, prior to commencement of treatment, the fowl that is offered as part of items required for treatment is given to the patient or his or her caretaker to make a wish on the fowl. Afterwards, an elder of the Centre would catch the fowl, get closer to the patient and spit on the ground and then the patient would also spit on

the ground too. This is done three times for a male patient and four times for a female patient, and then the fowl is left to move about. And according to the Head of Bonesetters: . . . and before I start the treatment what I say is: in the name of Almighty Allah". Commenting on visions and trances as pertain elsewhere, the Bonesetter claimed that:

> we see visions; we see visions in the sense that if you come with a broken limb and we tie it, in two, three days' time, if there is a problem, there would be a sign, which is showing that there is a problem. We would force you to give us all your views and we will look through [analyse] all your views and solve the problem before your limb can be healed. Maybe you have disobeyed your husband … if you come and we do [treat] it, it would never work [heal].

4.4.17 Taboos Observed at the Centre

According to the Head of Bonesetters at the Centre, there are no taboos for the medicine; apart from the fact that *titoko* is harvested at a specified time. However, on their part, while undergoing treatment at the Centre patients, together with their caretakers have to strictly adhere to the taboo of no sexual intercourse.

In attempt to find out why patients and their caretakers should not indulge in sexual relationship while at the Centre, the 55-year old Bonesetter explained that: "no sex because the Centre came about as a result of rivalry between co-wives and the rivalry was over a man ". In case of default, he asserted that:

> if someone does that [sex] even in secret he or she would have to confess if not he or she would never get healed. And there are some rituals you would perform: you would buy a white ram, a white fowl and some money. But because we don't have juju to sacrifice, the elders just say in the name of Allah, read the Holy Quran and sacrifice it.

Thus sacrifices are performed to appease god under certain circumstances. The views expressed here point to the fact that socio-cultural and religious background

of the team of Bonesetters at the Centre play instrumental role in their work at the Centre.

4.4.18 Integrating Traditional Bone Setting into Primary Health Care System

This study discovered that there is some form of collaboration between the Bone-setting Centre and the Health Centre at Gwollu and the Tumu Hospital. In relation to integrating the Centre into modern health care system, views were varied. Five respondents opined that the Centre should not be integrated with modern health care system. On the other hand, three respondents were of the view that the Centre should be integrated into modern health care system. Underscoring a case for no integration, a 36-year old Contractor maintained that: "two masters cannot be in one ship; the modern health practitioners would want to control the traditional bonesetters". Another point for no integration was expressed by a 64-year old farmer as: "if traditional bone setting is integrated into modern health care system, it would become expensive and thus out of reach of poor people like me ". On the contrary, a 37-year old female farmer argued that: "integration would help the patients in the sense that the modern health care providers would treat open wounds, complex cases and other diseases". Also, another patient opined that: "the traditional bonesetters and modern health care providers have a common objective; treating sick people". Yet on his part the Head of Bonesetters at the Centre vehemently opposed integration but hastily added that they want to continue to work with formal health care providers. He asserted:

> that one I will say no because our father didn't accept it . . . the District Assembly gave us a quarters at the Hospital … but his fears were that the practice is a family thing, if we carry it out of the family maybe it would not work. But we have been appealing for a nurse from the Hospital …

He further elaborated on the relationship between the Centre and the Health Centre as: "the Hospital [Health Centre] do [es] refer people to this place. If an accident happens and they rush the victim to the Hospital, if they see that there is a broken limb, they themselves do bring the patient here"

The Bonesetter also informed that whenever a patient is brought to the Centre, without going to a formal health facility before, he normally asks the caretaker of the patient to take him or her to the Health Centre for tetanus injection before commencement of treatment.

4.4.19 Successes Achieved by Traditional Bonesetters

The Head of Bonesetters alleged that the Centre has achieved a lot of successes. He elaborated that: "we have had so many dangerous ones that would have been amputated if [they were] taken to the Hospital... we have been able to treat all successfully and discharge them. Secondly we had an award and so many things"

On the issue of referral of cases that are beyond their ability the Bonesetter claimed that:

> they are things that have kept long [old cases]. We are even doing better than our forefathers; during their time, if it [the wound] was older than three weeks and you brought it, they would reject it. But we try if it is not more than two years and sometimes we succeed ..... But I have never seen a fresh patient who has been brought here that has not been successfully treated.

4.5 Traditional Bone Setting: A Business or a Calling?

The bonesetters at the Jonga Bone-setting Centre earn their living from peasant farming. The Head of Bonesetters informed that bone setting for them was a calling, adding that monetising the practice had the risk of killing its potency. Consequently, patients who visit the Centre for treatment are not charged, beyond one fowl and GH¢ 0.5.00 before commencement of treatment and GH¢ 1.00 after the wound is healed. They however accept gifts offered as sign of appreciation of their good work. This was corroborated by patients at the Centre.

At the Doung Bone-setting Centre however, the situation was different. Though the bonesetters claimed that they only take a token from patients ranging between GH¢ 14.00 and GH¢ 60.00 depending on the degree of injury, discussions with

patients revealed that patients paid amounts over and above the range given. Patients paid rates ranging from GH¢150.00 to GH¢400.00 before commencement of treatment and whatever amount one pays before treatment; upon healing the person pays the same amount. For instance, a 21-year old second cycle student informed that he paid GH¢ 250.00 before he was admitted to the Centre in 2009. Bonesetters also informed that their daily needs were met from the proceeds of their work at the Centre. Consequently, though the bonesetters claimed that bone setting was a calling, bone setting is a lucrative business for them at the Centre.

The situation in Gwollu was slightly different as the bonesetter claimed that charging their clients would render the practice ineffective. All the bonesetters at the Centre earn their living from peasant farming. In most cases they attend to the patients very early in the morning and then leave for their farms. Prior to commencement of treatment, a new arrival is expected to provide certain items, including a fowl, a pot and two calabashes. Since people report at the Centre in pain, the Bonesetters have converted the items into GH¢ 15.00.00 so that after payment patients do not incur any other cost prior to treatment. However, after healing, the patient is expected to offer a bowl of millet, some tobacco leaves and 1500 cowries. But the 1500 cowries have been converted into GH¢ 2.5.00 due to scarcity of cowries. These were the items offered as gift to their great grandfathers some 200 years ago when they successfully treated their first patient.

4.6 Lying Informants?

In all three centres inconsistencies were discovered. While all bonesetters did not hesitate to assure the researcher of their frankness, the study discovered that at each centre there was at least one untruth. For instance, in Jonga the head of Bonesetters claimed that by the grace of god they had never failed in treating any patient at the Centre. Thus they have never referred any client to any other bonesetter, adding that other bonesetters refer patients to them instead. However, discussions with patients at the Centre revealed that on numerous occasions the Bonesetters had referred patients to Doung and Gwollu Bone-setting Centres.

Findings at Doung and Gwollu Bone-setting Centres confirmed this. Especially in Gwollu where records and case histories, including previous facilities visited by patients were available.

Similarly at the Doung Bone-setting Centre, claims by the Bonesetters about their ability to treat all cases that report to the Centre were refuted by patients, informing that some patients have been referred to Gwollu Bone-setting Centre and other spiritual centres. Secondly, claims by the Bonesetters that they charge only a token ranging from GH¢14.00 to GH¢60.00 was also refuted as some patients pay as much as GH¢800.00 in all at the Centre. That is, GH¢400.00 at the beginning of treatment and GH¢400.00 at the end of the entire process. Finally, a more sensitive issue revolves around loss of lives at the Centre. According to the team of Bonesetters, for the past five years there had not been any death at the Centre. However, findings revealed that in mid-2010 a male patient undergoing treatment at the Centre met his untimely death at the Centre.

The Gwollu Bone-setting Centre had its own share of untruths. The literate head of Bonesetters was seemingly very cooperative and forthcoming with information in comparative terms. He also had a vivid understanding of the vulnerability of, especially open wounds to infection and thus claimed that bonesetters at the Centre use one towel per patient per session. Again, findings pointed to the contrary; one towel is used for all patients and equipment used at the Centre are not sterilised before and after they are used.

The position of Pritchard (1940) cited in Bleek (1987) that respondents become increasingly apathetic and reluctant to cooperate as the subject for discussion gets more intimate and embarrassing seems to apply in this study. This may result in lying. And according to Bleek (1987:314) "... there must be an awareness that people are lying". Due to the mixed methods research approach adopted in this study, these contradictions came to light. This also agrees with the assertion that complementarity does not mean that findings have to be identical, they can also be contradictory (Meetoo & Temple, 2003).

Even though all patients undergoing treatment at the three bone-setting centres had pleasant impressions about the competences and general conduct of the bonesetters, in attempt to present themselves as perfect bonesetters who are dexterous, all bonesetters interviewed told one lie or the other. Far from rendering the study invalid, these inconsistencies as well as their discovery enriched the study. The situation here also reinforces the fact that social science research is complex because it deals with research participants who are subject to changes.

CHAPTER FIVE

SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATIONS

5.1 Introduction

This chapter presents summary, conclusion and recommendations of the study. The chapter starts off comparing and contrasting findings from the three Bone-setting Centres, bringing out similarities and differences and drawing conclusions therefrom. It starts with the various themes in this study, including socio-demographic characteristics of respondents, traditional bone setting knowledge base, attitudes and practices and strategies, factors influencing patients' decision to seek treatment by traditional bone setting, patients' perception and experiences with traditional bone setting, the role of spirituality in traditional bone setting, issues on integrating traditional bone setting into primary health care system and successes achieved by traditional bonesetters. Finally recommendations are presented.

5.2 Socio-Demographic Characteristics of Respondents

Attendance at the Jonga Bone-setting Centre was gendered as six out of seven respondents were males while only one respondent was female. Similarly, nine patients undergoing treatment at the Doung Bone-setting Centre were males while three of them were females. Findings at the Gwollu Bone-setting Centre were however unique because four patients were males while the other four were females. Thus the situations in Jonga and Doung may be attributed to greater involvement of males in high risk activities.

An age range analysis reveals that five patients were within the age cohorts of 20-29 and 30-39 in Jonga while 10 patients were within the cohorts of 20-29, 30-39 and 40-49 in Doung. This also points to the active engagement of the youth in high risk activities. However, in Gwollu four of the respondents were within the age group of 30-39, while the other four fell within 60+.

Educational levels of respondents were generally low, but varied across the three cases, and yet higher than the regional adult literacy of 24.4% (Core Welfare Indicators Questionnaire Survey, 2003). While four patients, representing 56.6% of respondents had been to school in Jonga, seven patients, representing 58. 6% of respondents had some form of formal education in Doung. However, in Gwollu only three patients, representing 37.5% of respondents had some form of education. Therefore, the situation depicted for the Jonga and Doung Bone-setting Centres does not support assertion of Hag and Hag (2010) that most of the clientele of traditional bonesetters are illiterate populations. However the case of Gwollu does support this assertion.

Majority of respondents in all three centres were engaged in low income occupations. In Jonga, five patients were engaged in small scale mining, farming and petty trading. In Doting 10 patients were engaged in low income activities such as petty trading, small scale mining and peasant farming among others. In similar vein, six patients in Gwollu were engaged in low income activities such as farming and small scale mining. This study therefore corroborates the view of Hag and Hag (2010) that traditional bonesetters are highly respected and patronised by people engaged in low socio-economic activities.

5.3 Traditional Bone Setting Knowledge Base, Attitudes and Practices and Strategies

Although in all the bone-setting centres rules of hierarchy and succession were not documented, they were clear. There was one head of each team of bonesetters and three other bonesetters in the cases of Jonga and Doung, and four in the case of Gwollu. Gerontocracy seems to be the order for leadership in the Centres as all three heads of bonesetters were above 50 years and the oldest in the respective teams. The cases also had similarities in relation to acquiring the repertoire of bone setting. The study found out that the bonesetter's repertoire is acquired through observation and experiential learning in all the Centres. Also, in all centres only family members can learn the art of bone setting. Traditional Bone-setting knowledge is therefore orally transmitted from generation to generation

(Tabuti, 2005). The study thus agrees with the assertion that traditional bone setting skills are acquired through practice (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010). It also identifies with reports that traditional bone setting is mostly a family practice (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010) yet in these cases, one cannot acquire the skill by apprenticeship at the Centres as opined by (Onuminya, 2004; Ogunlusi, 2007; Omololu et al, 2008; Hag & Hag, 2010).

While the Jonga Bone-setting Centre only attends to close wounds, the Doung and Gwollu Bone-setting Centres treat both open and close wounds. Consequently the risk of infection in relative terms is higher in Doung and Gwollu Bone-setting Centres. Also, in all Centres, only one herb is used for treatment irrespective of the cause and state of injury. While the Head of Bonesetters at Gwollu willingly disclosed the two types of herbs used at the Centre; one for treatment and the other applied after the wound is healed to enhance flexibility, the Bonesetters at Jonga and Doung jealously guarded against the identity of their respective herbs. This concealment points to fears about losing their indigenous knowledge to outsiders and issues on intellectual property rights of indigenous people's knowledge.

There was diversity in findings as far as hygiene of the practice of bone setting is concerned, though majority of respondents in various centres contended that materials were hygienic. In Jonga, all (seven) patients opined that materials used for treatment were very hygienic. In Doung, according to the Bonesetters, materials used for treatment and the general procedure of treatment at the Centre were very hygienic and 10 patients corroborated this view while two of the respondents decried the lack of regard of bonesetters for hygiene at the Centre-describing the bonesetters' practice as unhygienic or dirty. Yet in Gwollu, while the Middle School Certificate holder Head of Bonesetters seems to have a lot of insights about the implications of their conduct in relation to hygiene, including risk of HIV/AIDS, five patients opined that the practices were not hygienic. The study also found out that in Doung and Gwollu Bone-setting Centres, the level of

education of respondents had an effect on views about hygiene as the more educated ones had serious concerns about the level of hygiene at the Centres while most of the respondents without any formal education were comfortable with practices.

Figure 4.4 Treatment Sessions and Patients at the Bone-setting Centres

Injury of the lower limb immobilised

A scene at the Gwollu Bone Centre in a morning

A 60-year old man undergoing treatment at the Gwollu Bone Centre

A 55-year old Bonesetter treating a dislocated arm

A treatment session at the Gwollu Bone Centre

A pot of boiling herbs at Gwollu Bone Centre

Source: Field Survey, 2011

5.4 Factors Influencing Patients' Decision to Seek Treatment by Traditional Bone Setting

In all cases, efficacy of treatment offered by bonesetters in general and at the respective centres was the only deciding factor as all patients claimed that they considered efficacy of treatment at the various centres before making their

choices. Consequently, factors such as cost, distance, and socio-cultural factors as posited by the HBM, (Hausmann-Muela et al, 2003; Ahmed, 2005) and availability, accessibility, affordability and acceptability by the Four As" Model as factors influencing health-seeking behaviour (Hausmann-Muela et al, 2003) do not apply in this study. Nonetheless six out of seven patients at the Jonga Bone-setting Centre had their injuries within the Wa Municipality while in Gwollu seven out of eight respondents had their injuries in the Region. Thus factors such as availability and accessibility issues as proposed by the Four As Model and the Health Care Utilisation Model cannot be ruled out completely in these cases. However, in the case of Doung Bone-setting Centre, eight out of 12 patients had their injuries outside the Upper West Region. Consequently this situation is consistent with the assertion that the Centre was chosen based on perceived efficacy of bonesetters.

Also, three out of seven respondents at Jonga Bone-setting Centre either went to a formal health facility but left because of fear of amputation of limb or thought that if they went to the hospital they would have their limbs amputated. In the case of the Gwollu Bone-setting Centre, three patients left a formal health facility for the Centre while in Doung Bone-setting Centre; seven patients left a formal health facility for the Centre. This study therefore agrees with the assertion that among the general populace there is a belief that traditional bone setting heals faster than the orthodox medicine (Peter, 2003; Udosen et al, 2006; Salati & Rather, 2009).

In addition, four out of seven, five out of 12 and four out of eight patients at the Jonga Bone-setting Centre, Doung Bone-setting Centre and Gwollu Bone-setting Centre respectively presented to the Bonesetters right after injury. Therefore, the findings in this study do not corroborate the position of Onuminya (2006) and Omololu et al (2008) that over 70% and 80% respectively of victims with bone fractures present to traditional bonesetters prior to going to hospital.

At the Jonga Bone-setting Centre, four of the respondents had previous experience while three respondents were advised by friends and/or relatives to go to the Centre. In Doung Bone-setting Centre, seven respondents had previous

experience at the Centre, while five respondents chose the Centre based on advice from friends and/or relatives. In the case of Gwollu Bone-setting Centre, three of the patients had previous experiences at the Centre while five of them were advised by friends and/or relatives. This study therefore agrees with the HBM that health behaviour is determined by personal belief or perceptions about the disease and the strategies available to reduce its occurrence (Hochbaum, 1958) cited in (Turner et al, 2004). The findings also point to the seminal role of the significant others in health seeking behaviour.

5.5 Patients' Perception and Experiences with Traditional Bone Setting

Prior to visiting the Centres, all respondents in Jonga and Gwollu, with varied socio-economic and educational background perceived the Bonesetters as effective. In Doung however, 11 patients perceived of the Bonesetters at the Centre as effective prior to visiting the Centre. Thus almost all persons had a good perception of bonesetters before visit. This perception for most of them was a result of previous personal experience and advice from friends and relatives.

In similar vein, all patients had good experiences across the Bone-setting Centres. In all the Centres, all patients had very good experiences at the Centres. For instance, according to three of the respondents at the Jonga Bone-setting Centre, when they were brought to the Centre they could not walk but after having undergone treatment at the Centre for some time, they started walking by themselves

Again, in Jonga and Gwollu Bone-setting Centres, all respondents were of the view that the Bonesetters were competent while 11 of patients at the Doung Bone-setting Centre opined that the Bonesetters were competent. This study therefore agrees with Onuminya (2004) and concludes that Bonesetters are regarded as competent to render bone setting services. The study however disagrees with OlaOlorun et al (2001); Omeonu (2003); Onuminya (2006); Omololu et al (2008) and Hag and Hag (2010) that traditional bonesetter practice leads to complications.

Furthermore, all patients in all three centres, with diverse educational background were satisfied with the performance of bonesetters at the Centre, describing it as either satisfactory or very satisfactory. This study thus identifies with the findings of Udosen et al (2006) in their study in eight traditional bone-setting centres in Calabar, Nigeria where all patients, 100% assessed the outcome of treatment as satisfactory, arguing that traditional bone setting is more effective than orthodox orthopaedic medicine.

Opinions were varied with regards to improvement of quality of service offered at the Centres. At Jonga Bone-setting Centre, five patients saw the need to improve on the quality of services while two patients saw no need to improve the quality of services rendered. Similarly, seven respondents at the Doung Bone-setting Centre opined that there was the need for improvement of quality of services while five respondents were of the view that the quality of services was simply enough. On the part of the Gwollu Bone-setting Centre, five respondents did not see any need to improve upon quality of services at the Centre. The aspects of services that required improvement for most respondents were mainly the issue of hygiene and the interval between one consultation and another for Doung Bone-setting Centre, while in Jonga and Gwollu Bone-setting Centres the main concern was just hygiene.

On a whole, in each centre, all patients appraised the Bonesetters and their practices as excellent, very good or good. For instance, in Jonga, three and four respondents appraised the general performance of bonesetters at the Centre as excellent and very good respectively. In Doung nine and three respondents appraised general performance of bonesetters at the Centre as excellent and very good respectively. And finally in Gwollu, four and four respondents appraised general performance of bonesetters at the Centre as excellent and very good respectively. Following from the above, patients in all three Bone-setting Centres had pleasant perceptions as well as experiences at the Bone-setting Centres.

5.6 The Role of Spirituality in Traditional Bone Setting

Spirituality plays very important roles in treatment and healing process of patients in all three Centres. Yet there are marked variations in how spirituality applies in each case. First of all bonesetters belong to one religious sect or the other and this agrees with the assertion that "the African is incurably religious" (Mbiti, 1969) cited in (Kirby, 2005:135). The Heads of Bonesetters at the Jonga and Gwollu Bone-setting Centres are Muslims while the Head of Bonesetters at Doung Bone-setting Centre belongs to the Africa Traditional Religion. Their religious as well as cultural backgrounds have tremendous effects on practices relating to treatment in the respective centres. For instance the Muslims of Jonga and Gwollu Bone-setting Centres do not offer libation while the African Traditional Religious Bonesetter of Doung offers libation to his ancestors before going for herbs as well as when each client is healed successfully. In Jonga Bone-setting Centre neither sacrifices nor rituals are offered before, during and after treatment, yet at the point of treatment, the Bonesetter prays to his ancestors and Allah, asking for power to heal his client. In the case of Doung Bone-setting Centre, tho herbs used for treatment are normally harvested in the evenings while sacrifices are offered prior to harvesting them. In addition, other spiritual substances collected from other sources are added to complement the herbs. In the case of Gwollu Bone-setting Centre *titoko*, one of the herbs used for treatment is harvested at specified times.

In addition, in all centres, inability to heal a client successfully is attributed to either a sin of commission or omission by the client and therefore the client is normally advised to go back home and offer sacrifices or offer sacrifices at the Centre, depending on the circumstance to appease god. Thus this study identifies with Onuminya (2004:652) that "thaumaturgy" plays a key role in traditional bone setting and (COMPAS, 2007:83) on "auspicious timing of treatment" in the cases of Doung and Gwollu Bone-setting Centres while the situation in Jonga only conforms to the belief in miracles (Onuminya, 2004). In addition, the situation in Doung Bone-setting Centre agrees with Dime (1995:66) cited in Peter (2003:3) that:

> … In many cases, when Wile goes to collect leaves or barks or roots of trees for his medicinal preparation, he performs some rituals he usually involves the spirit in the tree or herb, Wile breaks kolanuts and, at times cowries or money are offered to the spirits; he pours libation and at other times offers sacrifice.

5.7 Integrating Traditional Bone Setting into Primary Health Care System

The Doung and Gwollu Bone-setting Centres are duly registered and licensed. They also belong to the Upper West Traditional Healers Association and Medicinal Plant Growers. However, the Jonga Bone-setting Centre is not registered under any body yet fully operational. This situation points to a lag between policies formulated and their implementation. There is some form of collaboration between the Doung Bone-setting Centre and the CHPS compound in Doung. The Gwollu Bone-setting Centre also has some form of relationship with the Health Centre in Gwollu while the Jonga Bone-setting Centre has no any form of relationship with any formal health care providers in the Municipality or Region. While all three heads of Bonesetters were not in favour of integration, enormous six out of seven respondents in Jonga and 11 out of 12 respondents in Doung responded in the affirmative regarding integrating traditional bone setting into modern allopathic health care system, arguing that it would enable patients to access treatment rendered by both systems. In Gwollu however, five out of eight patients opined that the Bonesetters should be allowed to go on with their practices, separately. Also, a medical director argued that integration would not be feasible because bonesetters use juju and black substances. Thus, from the foregone, there are bottlenecks to integrating traditional bone setting into formal health care system. This study concludes with the view of a director of health service that for traditional bonesetters to understand and appreciate the need for integrating traditional bone setting into formal health care system there is the need for massive education to dispel the myths they hold about their practices and the formal health care system. Notable difficulties to integration include secrecy on the part of bonesetters; the spiritual component of bone setting and lack of regard

for the competencies of bonesetters by orthodox practitioners. There is however the need for further research into the viability of integrating traditional bone setting into modern health care system.

5.8 Successes Achieved by Traditional Bonesetters

All heads of bonesetters claimed that they have achieved tremendous successes, asserting that they had never had any cases beyond their abilities contrary to reports elsewhere that bonesetters take up cases and mismanage them, leading to deformation and in some cases deaths (OlaOlorun et al, 2001; Omeonu, 2003; Onuminya, 2004; Onuminya, 2006; Omololu et al, 2008; Olori, 2010; Hag & Hag, 2010). However, the study found out that the Bonesetters in Jonga sometimes refer complicated cases to Doung and Gwollu Bone-setting Centres while Doung Bone-setting Centre also refers patients to Gwollu Bone-setting Centre. This situation therefore raises concerns about the credibility of the Heads of Bonesetters at the Centres.

5.9 Thesis Conclusion

From the foregone, a number of conclusions could be drawn in this study. This thesis concludes with Onuminya (2004) that notwithstanding criticisms and hostilities from allopathic medical practitioners, traditional bone setting is highly patronised by the populace and thus contributes significantly to primary fracture and dislocation care in the Upper West Region. This study therefore disagrees with the proposal of Memon et al (2009) that health education is required to discourage patronage of traditional bone setting. This is because within the context of acute shortage of orthopaedic surgeons in particular and general medical practitioners in the Upper West Region this proposal is practically not possible.

Most of the clientele of traditional bone setting are low income earners, intimating that cost as proposed by the Four As Model as one of the factor influencing health seeking behaviour (Hausmann-Muela et al, 2003) cannot be dismissed, even though all respondents claimed that efficacy of treatment was the basis for their

5.10 Revisiting Research Questions and Objectives.

The overall objective of the study is to examine the role of traditional bone setting in primary fracture care. To a large extent this objective has been achieved. The study found out that traditional bone setting plays a key role in fracture care. Clientele of bonesetters considered them competent and better than orthodox practitioners in terms of setting bones.

In relation to specific research objectives, and responding to first specific research question on successes achieved by traditional bonesetters, the study revealed that the bonesetters have achieved tremendous successes, surmounting seemingly insurmountable cases. Specifically there were claims of successfully healing of cases that had been declared irrecoverable by allopathic medical practitioners. The bonesetters consider themselves better than orthodox practitioners in relation to orthpaedics.

The second specific research objective focused on exploring and documenting traditional bone setting knowledge base, attitudes and practices and strategies. In this regard, the study revealed that the repertoire of bone setting is acquired through observation and experiential learning. Young family members start learning how to set bones by initially running errands at the centres and later assisting the older bonesetters until they perfect their skills. The bonesetter's repertoire is thus passed on orally from generation to generation.

The third specific research objective for the study was to examine factors influencing patients' decision to seek treatment by traditional bone setting. This objective was achieved by comparing responses to a specific question on factors considered before opting for treatment at the Centres with the percentage of respondents who had their injuries either within the Region or outside the Region. The study discovered that all patients considered efficacy of bone setting in general and in the respective bone-setting centres in particular before opting for treatment at the Centres. However, majority of patients had their injuries within

the Region, thus availability and accessibility factors may not be utterly ruled out as influencing factors.

The fourth objective was to analyse patients' perception of traditional bone setting and their experiences at the Bone-setting Centres. The study found out that prior to visiting the Bone-setting Centres, majority of patients had pleasant perceptions while their experiences at the Centres were splendid. Almost all patients appraised the general performance of the Bonesetters as very good or excellent. However, issues of hygiene were of grave concern to some patients.

In this study, the final objective was to explore ways of integrating traditional bone setting into primary health care system. The study discovered that integration is central to solving some of the problems associated with the practice of traditional bone setting such as limb gangrene and death resulting from quackery and delay at bone-setting centres. The study also revealed that orthodox medical practitioners have misgivings about competencies of bonesetters, while bonesetters did not welcome any plans to integrate the two systems. Further research is required if integrating traditional bone setting into allopathic health care system is to be realised.

5.11 Recommendations

Based on conclusions in this study, the following recommendations are proposed as steps towards improving the practice of traditional bone setting so as to situate it in a position that can maximise its benefits and minimise its costs.

5.11.1 Sensitising and Training Bonesetters is Imperative

In order to improve on the quality of services as well as reduce complications resulting from the practice of traditional bone setting, and as a matter of urgency, the Ghana Health Service, through its regional and district outfits should organise intensive training programmes for bonesetters. These trainings should focus on quality standards, hygienic practices, need to register bone-setting centres and need to refer complicated cases to formal health care facilities on time. In a study

of traditional bonesetters in Nigeria, Onuminya (2006) reports that training enhances performances of bonesetters. Indeed, he recommends that "TBS should be trained as a traditional orthopaedic attendant (TOA) for effective primary fracture care in developing countries" (Onuminya, 2006:322).

5.11.2 Enforcing Laws on Traditional Medicine

The law enforcing agencies should be resourced by the government and other stakeholders in health as well as monitored to strictly implement laws to ensure strict adherence to laws regarding traditional medicine practice, including adherence to quality standards and registration. This would help weed out quack bonesetters as well as encourage competent practitioners to observe all protocols of traditional medicine.

5.11.3 Integrating Traditional Bone Setting into Allopathic Health Care System

Within the context of shortage of general allopathic health care providers and acute shortage of orthopaedic surgeons, integrating traditional bone setting with modern allopathic health care system presents an opportunity to provide accessible, affordable and socially acceptable health care service to the people of the Upper West and Ghana at large. Yet due diligence is required to iron out conflicts between orthodox medical practitioners and traditional bonesetters.

5.11.4 Conclusion

Active collaboration and involvement of all stakeholders in health care service provision, including health administrators, medical practitioners and traditional bonesetters as well as institutions responsible for health policy formulation would first of all enhance quality of services provided by bonesetters in the interim. Secondly it would greatly enhance efforts at integrating traditional bone setting into allopathic health care system in the long run.

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APPENDIX I

UNIVERSITY FOR DEVELOPMENT STUDIES

SCHOOL OF GRADUATE STUDIES, TAMALE.

MPHIL IN DEVELOPMENT STUDIES

The role of traditional bone setting in primary fracture care in the Upper West Region: the cases of Jonga, Gwollu and Doung Bone-setting Centres.

Key Informant Interview Guide for Traditional Bonesetters

1. History of Bone-setting Centre

Could you describe briefly how this Centre came into existence?

2. Knowledge Base, Attitudes and Practices (KAPs) of Traditional Bonesetter Practice

What type of fractures/joints disorders do you treat?

What materials do you use to treat them (fractures/joints dislocation)?

How do you keep record of cases you treat?

When a victim comes to this Centre for the first time what steps does s/he take?

What is your opinion about patients' level of satisfaction?

Do you have a succession plan? If yes how is it?

How does one become a bonesetter? Is it by apprenticeship or how?

How many workers are there in this Centre?

What is the composition/background of the workers in this Centre?

How are the workers paid?

Is bone setting a way of life, a calling or a business venture for you?

How much does one pay to get treated in this Bone-setting Centre?

3. Achievements of Traditional Bonesetters

What would you say are the successes you have achieved since the inception of this Bone-setting Centre?

How do you measure your success?

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

How do you deal with complications that are beyond your ability?

What has been the most challenging task for you as a bonesetter?

Have you recorded any deaths in this Centre before?

4. Spirituality and Bone Setting

How did you become a traditional bonesetter?

Do you invoke any spirit mediums in the preparations of your treatment material?

Is there any particular time of the day, week or month that you go for the herbs?

Do you perform any rituals before, during or after going for the herbs?

When new arrivals come are any rituals performed before, during and after treatment?

Do your spiritual and/or religious beliefs play any other role in the discharge of your treatment?

How do you know which herbs to harvest and/or use for treatment?

5. Integrating Traditional Bone Setting into the National Health Care System.

Is there any form of relationship or collaboration between this Centre and the modern health facilities in this District?

How would you describe the relationship between you and the modern health care providers?

Have you ever been trained by the District Directorate of Health Service?

What do you think about integrating your Centre and the modern health facility? If integration, what form do you think it should take? Is it TBS referring complicated cases to health facilities or TBS operating from the health facilities? If no integration why?

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

Thank You for Your Time!

APPENDIX II

UNIVERSITY FOR DEVELOPMENT STUDIES

SCHOOL OF GRADUATE STUDIES, TAMALE.

MPHIL IN DEVELOPMENT STUDIES

The role of traditional bone setting in primary fracture care in the Upper West Region: the cases of Jonga, Gwollu and Doung Bone-setting Centres.

Key Informant Interview Guide for Health Administrators

1. Relationship between Traditional Bone Setting and Modern Health Institutions

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

How do you see traditional bone setting in this Region/District?

What kind of relationship exists between your outfit and bone-setting centres in the Region/District (if any relationship at all)?

Would you visit a bonesetter if you were to get a fracture or dislocation?

In your view why do people from this Region/District patronise traditional bone setting?

Do you know of any complications resulting from traditional bone setting practice?

2. Integrating Traditional Bone Setting into the National Health Care System

Is it possible to have traditional bone setting integrated into national or sub-national health care system just as Traditional Birth Attendants have been made part of the formal health care system?

What challenges do you envisage in relation to the integration? What is the way forward?

Thank You for Your Time!

APPENDIX III

UNIVERSITY FOR DEVELOPMENT STUDIES

SCHOOL OF GRADUATE STUDIES, TAMALE.

MPHIL IN DEVELOPMENT STUDIES

The role of traditional bone setting in primary fracture care in the Upper West Region: the cases of Jonga, Gwollu and Doung Bone-setting Centres.

Structured Interview for Patients of Traditional Bone-Setting Centres

Name of Bone-setting Centre.....

1.0 General Information

1.1Name of Respondent (optional).....

1.2 Home Town.....

2.0 Socio-Demographic Characteristics

2.1 Age Range of Respondents: 01 = 20-29 02 = 30-39 03 = 40-49 04 = 50-59 05 = 60+

2.2 Sex of Respondents: 01 = Male 02 = Female

2.3 Level of Formal Education: 01 = Never Attended School 02 = Basic Level (JHS) 03 = Vocational/Technical Level 04 = SHS 05 = Post Secondary 06 = Tertiary Level

2.4 Occupation: 01 = Farming 02 = Hunting 03 = Charcoal Production/Fuel Wood Hewing 0 4= Petty Trading 05 = small scale mining 06 = Other (specify) .....

3.0 Factors that Influence Patients' Decision to Seek Treatment by Traditional Bone Setting.

3.1 How long have you been in this Centre?.....

3.2 How did you get the injury/health problem? 01= Road Accident 02 = Farm Accident 03 = small scale mining 04 = Domestic Accident 5 = Other (Specify)

.....

3.3 Where did you get the injury/health problem? 01 = Within the District 02= Within the Region other (Specify) .....

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

3.5 How did you get to know about this Centre? 01 = Previous Experience 02= Advice from Relatives/Friends 3 = Other (Specify)

3.6 Why did you not go to or leave a modern health facility?
……
……
……

3.7 What factors did you consider before opting for treatment by traditional bone setting?

01 = Cost 02= Distance 03 = Socio-cultural 04 = Efficacy of TBS 05 = All 06= Other (Specify)

Explain choice above.
……
……
……
……

4.0 Patients' Perception of Traditional Bone Setting

4.1 Prior to visiting this Centre what was your opinion about traditional bone setting?

01 = very effective 02 = effective 03 = not effective

Explain your choice.....

.....

.....

.....

5.0 Patients' Experiences with Traditional Bone Setting

5.1 How would you describe your experiences in this bone Centre?

01 = Excellent 02 = Very good 03 = Good 04 = bad

Explain.....

.....

.....

.....

5.2 What is your assessment of traditional bone setting practice here?

01 = Very Satisfactory 02 = Satisfactory 03 = Not Satisfactory 04 = Bad

5.3 On a scale of four how would you describe the state of hygiene of materials used for treatment here?

01 = Very Hygienic 02 = Hygienic 03 = Not Hygienic 04 = Dirty. Please explain your choice.

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5.4 What is your opinion about the skills level of the traditional bonesetters?

01 = Very Competent 02 = Competent 03 = Not Competent 04 = Quack? Please explain your choice .....

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5.5 Have you ever witnessed any case(s) referred from here to another health facility before?

01 Yes 02 = No

If yes where was it transferred to 7

5.5 Have you ever witnessed death of any patient here?
01 = yes 02 = no

If yes how many deaths 9

6.0 Integrating Traditional Bone Setting into the National Health Care System

6.1 Do you think that traditional bone setting should be integrated into modern health care system? 01 = Yes 02 = No

Why? .....

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6.2 If yes how should this integration be done?

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6.3 What challenges do you foresee in integrating the two systems?

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6.4 How can these challenges be resolved?

7.0 Improving the Quality of Traditional Bone Setting and Ensuring Quality Standards

7.1 Do you think there is any need to improve the quality of services rendered by the bonesetters? 01 = Yes 02 = No

Explain

7.2 What should be done to improve the quality of traditional bone setting?

7.3 What measures should be put in place to ensure that quality standards are followed strictly?

7.4 What problems confront patients undergoing treatment in this Bone-setting Centre?

7.5 How can these problems be solved?

7.6 Using a scale of 1 to5 appraise the general performance TBS, with 1 being excellent and 5 being very poor. Please tick

1	2	3	4	5

8.0 Recommendations

8.1 What recommendation(s) will you make to enhance quality of traditional bone setting in the Centre?

Thank You for Your Time!