SPATIAL DISTRIBUTION AND REASONS FOR PATRONIZING TRADITIONAL BONE SETTERS, IN KANO METROPOLIS

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MARCH , 2017

DECLARATION

I hereby declare that this work is the product of my own efforts, which was undertaken under the supervision of Professor Yusuf Muhammad Adamu. All sources have been duly acknowledged.

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CERTIFICATION

This is to certify that the research for this dissertation and subsequent preparation of this report by MUHAMMAD IBRAHIM HUSSEINI SPS/11/MGE/00050 was carried out under my supervision.

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APPROVAL PAGE

This dissertation has been read and found worthy of approval having met the requirement specified by the Department of Geography, Bayero University Kano, for the award of Master of Science Geography (M.Sc. Environmental Management)

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DEDICATION

I dedicated this Piece of work to my beloved grandmother late Hauwa'u Adamu (Inna) may her gentle soul rest in perfect peace, amen

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ABSTRACT

Traditional bone setting is an age old practice found almost in all communities of the world. The tradition has been practiced in Kano metropolis and its surrounding areas for a long time and there is a high degree of confidence in the services of traditional bonesetters. The World Health Organization had recommended the integration of traditional and modern medicine. However traditional medicine as well as traditional bone-setting had received poor recognition in Nigeria. This notwithstanding traditional bonesetters still enjoys patronage from the populace in Kano metropolitan and the practitioners abound in almost every part of the metropolis. This study focused on the spatial distribution and reasons for patronizing traditional bone setters in Kano metropolis. The study adopted both the quantitative and qualitative methods in data collection, two hundred and fifty two (252) respondents were randomly selected; based on the population of the eight metropolitan local government areas-for an in depth interviews Thirty (30) traditional bone setters were selected and interviewed, using purposive sampling method. Quantitative data was analyzed using descriptive and inferential statistical tools like tables, percentages, frequency distributions. While the Chi-square test (Goodness of fit) for testing the relationship between socio-demographic characteristics and patronage would be used. In analyzing qualitative data, views expressed by some traditional bone setters were quoted. Findings revealed that, traditional bonesetters are well patronized and found to be relevant in the treatment of bone related cases especially in Kano metropolis and in other communities in Nigeria. The study recommends maximum support and funding from governments in the training of traditional bone-setters in Nigeria. Integration of traditional medicines as well as traditional bone-setting with modern medicine should be encouraged in Nigeria.

CHAPTER ONE

GENERAL INTRODUCTION

1.1 BACKGROUND OF THE STUDY

The Western medical care puts more health care services out of the reach of large percentage of people in African populations. Instead they rely more on traditional medicine and medicinal plants to meet their health care needs this is due to cultural belief of the people. In Sub-Saharan Africa for instance more than 80% of the population relies on medicinal plants and traditional medicine as their primary source of health care (Darimani, 2007).

Traditional medicine is easily available and affordable in low-income countries. But there are some obstacles that hamper the rational use of traditional medicine, which make it difficult for national authorities and consumers to identify qualified providers (Darimani, 2007).

According to Darimani, (2007) Traditional medicine refers to health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illness or well-being. It relies exclusively on practical experience and observations handed down from generation to generation whether verbally or in writing.

World Health Organization (WHO) set up strategies for traditional medicine for the period 2002-2005. The objective of the strategy was to discuss the role of traditional medicine in health care systems. The strategy had four main objectives. In view of the importance of traditional medicine in the general health care delivery system, the plan was to incorporate traditional medicine in national health care delivery programs.

The objectives of the strategic plan were to:

- ✓ Integrate relevant aspects of traditional medicine within national health care system by framing national traditional medicine policies and implementing programs.
- ✓ Promote the safety, efficacy and quality of traditional medical practices by providing guidance on regulatory quality assurance standards
- ✓ Increase access to, and affordability of medicine (WHO, 2002).and
- ✓ Promote rational use of traditional medicine.

According to WHO fact sheet no. 271, June 2002, up to 80% of the people in developing and poor countries use traditional or complementary/ alternative medicine (TM/CAM) as part of primary health care. Traditional medicine has been fully integrated into the health care systems of many Asian countries including China, North and South Korea and Vietnam.

In Western Europe, a growing number of the patients rely on alternative medicine for preventive health care. In France, 75% of the population has used complementary medicine at least once. In Germany, 77% of pain clinics provide acupuncture. The global market for traditional therapies stands at US$60 billion a year and is steadily growing (Enwonwu, 2003).

About 25% of modern medicines are descended from plants first used as traditional medicine. As of 2000, only 25 countries were reported as having a national policy for traditional medicine, even though regulation or registration procedures for herbal products exist in nearly 70 countries. Many consumers use traditional medicine as self-care because there is a wide misconception that “natural” means “safe”. They may be unaware of potential side-effects, and how and when herbal medicines can be taken safely. Although traditional medicine has long been used, there is little evidence

regarding its safety and efficacy. The evolution of traditional medicine has been influenced by cultural and historical conditions, making systematic evaluation difficult, since factors such as the philosophy and theories, which underlie its use, must be taken into account (Darimani , 2007).

World Health Organization (2002) describes Traditional Bone Setting as that health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to diagnose and treat fracture in human body.

In Nigeria, traditional bonesetters account for about 70% to 90% treatment of fracture care in certain areas. A traditional bonesetter takes care of sprains, dislocations, simple to complex fractures. He often manipulates the bones and applies splints to the area around the fracture or wound and applies medicines by blowing, incantations to the affected area. Sometimes the healer may include specific actions in order to alleviate the underlying cause of the ailment. Although bone setting is associated with pain and joint stiffness, people still prefer this method of treating fractures (Onuminya, *et. al.* 1999).

In Nigeria, there are traditional medical practitioners such as herbalists, bone setters and religious practitioners. In the main, traditional healers and bonesetters were practicing long before orthodox medicine was introduced to the developing world (Oweseni *et.al*, 2013). Basically, in Nigeria, the TBS are said to enjoy more confidence and patronage from people than any other group of traditional care givers (Thanni and Oginni, 2000).

In Nigeria, with high level of accidents recorded every day, the traditional care givers still remain popular despite the high level of education and the existence of modern health care facilities. Modern day healthcare service has evolved greatly following

advances in technology and medical research. Despite the availability of these services, traditional bone setting (TBS) has continued as an alternative health care service. It is practiced in many communities of the world, especially in developing countries in the continents of Asia, South America and Africa with less developed modern healthcare resources and still plays an important role in their healthcare delivery system (Orjioke, 2005).

TBS which is an aspect of traditional medicine is as old as the existence of man and is practiced in almost all societies of Africa (including Nigeria) where there is a high degree of confidence in the bone setters. On the whole, the traditional bonesetter's practice is a highly specialized form of traditional medicine. It is usually passed from father to son but some outsiders also receive their training through apprenticeship. Bone setting as an alternative health care service, is an old practice in African societies that is available and accessible to people in both rural and urban centers (Oyebola, *et. al*, 2008).

Traditional bone setting is an old practice found almost in all communities of Nigeria especially in the rural communities. Traditional Bone setting (TBS) is popular in Africa because its practitioners lay claims to supernatural influences (Udosen, Ugare and Ekpo, 2005).

According to Green (1999) A Traditional bone setter is a practitioner of joint manipulation. He or she is a practitioner who takes up the practice of healing without having had any formal training.

According to Chris (2011), also bone-setting is practice of re-setting joint and treating sprains, dislocations and other simple or complex fractures. It includes manipulation of the bones, application of splints to the area around the fracture or wound and application of material such as herbs and utilization of learned skills to ensure healing

of bone-related injuries and fractures. In some instances, incantations are made on the affected area as a way of invoking the spirit of the ancestors for divine intervention and healing.

In Nigeria however many people believe that TBS know more about bone disorders than orthodox practitioners probably due to cultural beliefs, ignorance and poverty; as such a good number of patients that cut across class, profession and religion patronize them irrespective of age and gender. Up to 85% of patients with fractures present first to the TBS and therefore this mode of care delivery cannot be over- looked in Nigeria (Omolulu *et. al*, 2008).

Contemporarily, both orthodox and traditional medicines are coexisting side by side and both are patronized by patients (Ogunlusi, Okem and Oginni , 2007).

Despite criticisms on the efficacy of TBS which includes reported cases of complications, complaints about unsatisfactory results, pains/discomfort etc among patients treated by traditional bone setters (Nwadiaro. *et.al*, 2006),

The continuous use of TBS by Africans is based on the belief that it is cheaper, more available and results in faster healing than orthodox measures. In Nigeria, as pertained to other developing countries between 70-85% of the population Patronize traditional medicine practitioners (Olaolorun, *et al,* 2001).

The word"magani" originated from Hausa phrase "ma yi ma gani" as alleged by Hausa traditionists. However, the term "magani" has many semantic connotations in Hausa language. Generally, the term is used to indicate "medicine" of all categories. Moreover "magani" means as "all efforts and logic used in destroying, suspending, or weakening germs that are likely to cause ill-health in human. In addition to that, medicine may mean:" Application of supernatural forces in obtaining ones needs or

repelling unwanted things or protection against evil eyes, magic, witchcraft and others (Bunza, 2003).

According to medical history, Hippocrates was the first Greek to regard medicine as a Science and he is now regarded as the father of medicine. Born in 460 BC on the island of Kos of the coast of Asia Minor, he was a distinguished physician who traveled regularly into foreign countries practicing and researching into medicine. His research consisted essentially of herbal recipes, some 400 simple remedies having been compiled and described by him. In the middle ages the writings of Galen (born in Pergamos in Asia Minor about AD 131) became popular. He treated diseases essentially by the use of herbs, and those who followed his methods eventually developed the sect known as "Eclectics" who employed herbal as well as mineral substances in treating the sick.

Pliny the elder (born in Verona AD 231) was one of the first Roman naturalists. The early Christians had little use for medicinal cures as they believed mainly in the healing power of the Holy Church. St. Basil of Caesaria founded one of the earliest Christian Hospitals in AD 372 but even he denied that illness and disease were of natural origin.

The use of many medicinal plants in the 14th century in Europe was based on the doctrine developed by Paraclsus (1490-1541), a Swiss physician. According to this doctrine the herbs have features made by God identifying the plant with a specific disease or part of the body. For example, plants with heart-shaped leaves were good for treating heart diseases; those with liver-shaped parts were prescribed for bilious disease, and plants exuding a milky juice were believed to increase lactation in women.

1.2 STATEMENT OF RESEARCH PROBLEM

In Nigeria, as in other parts of the developing world, there are traditional medicines. In one report from eastern Nigeria, 85% of patients who presented with fractures to an orthopedic hospital had been to Traditional Bone Setters (TBS) prior to going to the hospital. There is widespread belief in our society that TBS are better at fracture treatment than orthodox practitioners. It further noted that TBS has been in Nigeria for centuries and that up to 85% of patients with fractures present first to the TBS before coming to the orthopedic hospital. Similarly, Dada, Yinusa and Giwa (2011) argued that the practice of TBS is extensive in Nigeria and it enjoys enormous patronage by the populace but that the outcome is usually poor. It should however be noted poor outcome of a practice does not justify discarding the practice, it only calls for how to improve the practice as it is most often done in modern medicine.

Serious challenges continue to exist in TBS ranging from Lack of enough number of orthodox facilities to cater for bone setting, poor outcome, lack of documentation of the practice, lack of formal training by the healers, little or no government intervention, criticisms on the efficacy which includes reported cases of complications, complaints about unsatisfactory results, pains/discomfort.

Kano metropolis is the second largest industrial and commercial center in Nigeria after Lagos. It is therefore experiencing rapid growth rate, but Estimate of its population growth vary widely. In 1935-83,000, 1958-131,361, 1963-330, 000, growth rate of 7.7% between 1952 to 1963 according to provisional result of the 1991 census, Kano metropolis has a population of 1.6 million (Faruq, 2009). However, the

present population data shows that in 2003 it had 2,307,491 and 2006 it had 2,826,307.With this population Kano metropolis has only one known as National orthopedic Hospital (Dala) treating the bone related problems, but numerous bone cases are recorded every day.

A review of the available literature of bone setting practices in Nigeria shows that much needs to be done especially with the wide practice and patronage is borne in mind. Most of the literatures found in this research are on the practice in China and India with few in Nigeria and little or nothing from the Kano metropolis.

However, addressing the above mentioned problems requires a detailed knowledge. This research therefore intends to put TBS as complementary health care service by considering its patronage.

1.3 RESEARCH QUESTION

- What is the spatial distribution of traditional bone setters in Kano metropolis?
- What are the factors that affect patronage of traditional bone setting in Kano metropolis?
- How efficient is the traditional bone setting services in Kano metropolis?
- What are the problems faced by traditional bone setters in Kano metropolis?

1.4 AIM AND OBJECTIVES

The aim of the study is to examine the spatial distribution and patronage of traditional Bone Setters in Kano Metropolis. The study is expected to shed more light on the patronage of traditional bone setting and socio cultural determinants as well as

effectiveness of traditional bone setting in Kano metropolis. The specific objectives are to as follows:

1. Show the spatial distribution of Traditional Bone Setters Kano metropolis.
2. Identify the level of patronage of Traditional Bone Setting services in Kano metropolis.
3. Asses the efficacy of traditional Bone Setting services in Kano metropolis.
4. Identify the problems associated with the traditional Bone setting and make recommendations.

1.5 RESEARCH HYPOTHESIS

H1: There is no significant relationship between other socio-demographic characteristics such as religion, age, level of education, occupation and patronage of traditional bone setters.

H2: There is no significant relationship between ethnicity and patronage of traditional bone setters.

1.6 SIGNIFICANCE OF THE STUDY

The significance of this research is to highlight challenges posed by the use of traditional bone setting. And their impacts on Kano metropolis, and to suggest lasting solutions to the problems by making recommendations, that will help control the situation. It is hoped that the outcome of the study would assist the government in tackling bone setting problems since it receive highest patronage among the people in Kano metropolis, and also serve as a source for future study. Again, Private Health Institution Registration Unit (PHIRU) face challenges when making decisions about the effectiveness and quality of services by traditional medical practitioners including

bone setters. Quality due to lack of initial background knowledge of the practitioners. Hence, the result of this study will help the institution at state level to determine the type of traditional medical practitioners that would be given license. Finally, the result will help the Government to develop appropriate legislation that would integrate traditional bone setting with the contemporary orthopedic care service.

1.7 STUDY AREA

This research is on Kano metropolis. Kano is the primate city of its economic region, the largest town in Northern Nigeria and the third largest town in the Federation of Nigeria. The early inhabitants settled around Dala hill from where the expansion started in the 14^{th} century. Islam and commerce became significant aspects in the life of the city state, and in the early part of the 19^{th} century. Kano became under the jihadist and thus became an emirate in Sokoto caliphate. It remained so until 1903 when the British conquered the caliphate and was turned to a province encompassing other emirate (Hadejia, and Gumel) later in 1967. It became a state and in . 1991 Jigawa State composed of Hadejia , Kazaure and Gumel Emirates was carved out of the then Kano State. Kano was therefore left with most of what was Kano Emirate (Adamu , 2010).

Metropolitan Kano encompasses all the eight local governments of Dala, Fagge, Gwale, Municipal, Nassarawa, Tarauni, part of Kumbotso and Ungogo. (Figure 1) this is in addition to part of local governments which were integrated in to local metropolis for planning purposes. It lies from latitudes 11^{o} 52'N to 12^{o} 7'N and longitude 8^{o} 22.5'E and 8^{o} 47'E is 1549metres above sea level.

1.7.1 People and Culture

Before the creation of Jigawa State, Kano state was once the most populous state in Nigeria. It is currently the second most populous state in Nigeria after Lagos according to the 1991 census with 5,810,340 peoples of 51%(2,958,736) are male and 49%(2,851,743) are females. The 1999 projection was 7,088,106 based on 1.03% population growth rate (Adamu, 2010).

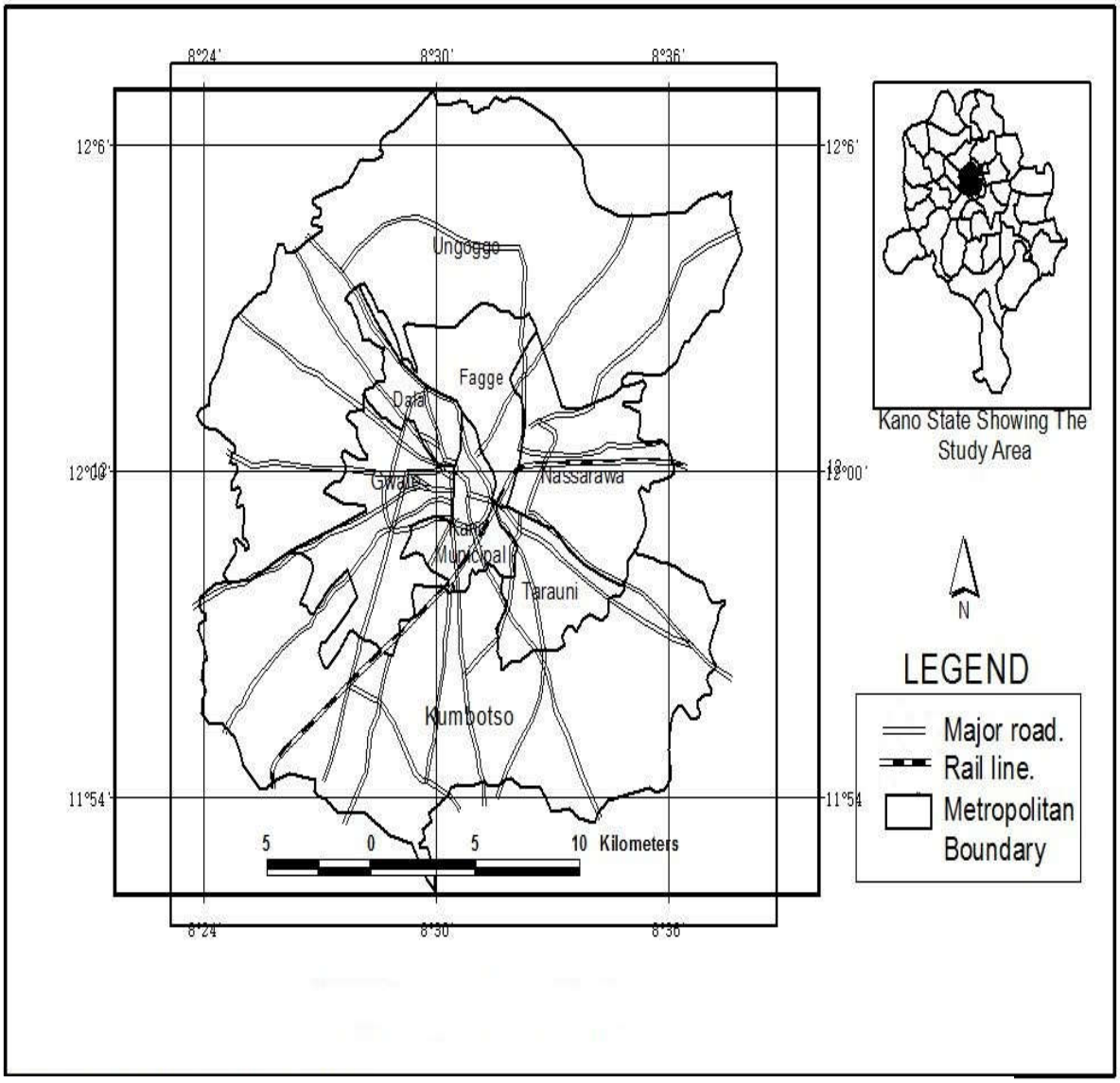
Hausa and Fulani ethnic groups predominantly peopled the state. Other dominant ethnic groups in Kano are the Yorubas and Ibo (accounting for the largest segment of the non indigenous population), Nupe, Tiv, Idoma, Igala and host of others. Islam was introduced by the Arabs since the 19th century, and is the dominant religion in the state (Adamu , 2010).

1.7.2 Health Care

When Kano State was created in 1967 there were only four (4)general hospitals, one infectious disease hospital, one dental hospital and eight clinics with a total bed capacity of 585 (Adamu , 2010). Due the effort of the Kano State Government, the number of public health facilities has gone up. There are presently ten specialist hospitals, 10 generals' hospitals, seven cottage hospitals and 592 health institutions of which 16 are primary health centers, 85 primary health clinics.243 dispensaries, 194 basic health post and 54 leprosy clinics. There are also over 170 private hospitals (Adamu, 2010).

As regards to medical personnel, there are 180 physicians, four dentists, 42 pharmacists, 1800 nurses and midwives. While hospitals bed rose to 3,576 in government owned health facilities (Adamu,2010). one feature of these health facilities is their concentration in urban areas. Most of the secondary and tertiary health facilities are concentrated in the metropolis; while the rural areas are served

with primary health facilities. Life expectancy for male is 48 and 50 years for female. The crude birth rate is 46/1000 and crude death rate is 16/1000.Infant mortality rate is 100/1000 (Adamu , 2010).



Source: Geography Department, BUK

Figure 1: Map Showing the Study Area

CHAPTER TWO

LITERATURE REVIEW AND CONCEPTUAL FRAMEWORK

2.1 INTRODUCTION

This chapter reviews the literature on the role of traditional medicine in the health care delivery systems of many developed and developing countries. It specifically deals with traditional bone setting as a traditional medical practice in Nigeria and other parts of Africa. It touches on various success stories of the tradition of bone setting and types of medications used for the treatment.

Traditional medicine has been practiced in Africa since time immemorial as part of its healthcare delivery system. According to the World Health Organization, the definition of traditional medicine may be summarized as "the sum total of all the knowledge and practices used in the diagnosis, prevention and elimination of physical, mental or socio-imbalances that rely exclusively on practical experience and observations handed down from generation to generations, whether verbally or in writing". In Africa traditional medicine plays an important role in the health care delivery system due to the difficulty in accessing modern health care systems in most developing countries. Traditional medicine has been relied upon as an alternative means of achieving primary health care for the majority of the people. Most African countries are endowed with vast resources of medicinal plants that could be tapped for the health care of the people. Countries in Africa, Asia and Latin America used traditional medicine to help meet some of the primary health care needs of their people. In Africa, up to 80% of the population uses traditional medicine for primary health care (onuminya *et. al,* 2005).

2.2 Origin of Bone Setting

Bone setting practices have its roots in most countries and may vary by name, art and place. As early as 1900 BCE in Babylon, King Hammurabi organized a code of laws to regulate medical practice and set penalties for failure. That code mentions specifically the "Gallabu" bonesetters who handled minor surgery, dentistry and slave branding (Bishop, 1960).

The first known written instructions for surgery and bone setting date to 1600 BCE. The Edwin Smith Papyrus, an American egyptologist, who described the appropriate treatment of fractures. By the fifth century ACE, the writings of Sustra in India offered instructions for limb amputation and concept of creating iron prosthetics. Hippocrates also wrote a treatise on fractures and dislocations known for its accuracy of anatomy and physiology, which addressed compound fractures, reduction, dressing and immobilization. After the descend of the Roman Empire, advances in medicine slowed. The Roman Catholic Church became the governing body for the social and religious activity. Church leaders believed that sickness was a penalty for sin and called for prayer and fasting (Paramvir *et al*, 2013)

2.3 Traditional Medicine in Nigeria

The various societies that make up the Nigerian State have for long relied on the indigenous health system which was developed as a response to their environment and it involves the use of locally available resources to prevent and cure diseases. It is a natural health care system which many generations of Nigerians have used. The practice transcends the maintenance of good health of the people as it also protects them from the menace of wild animals, evil spirits, accidents, provide bountiful harvest, good luck and other human activities (Osborne, 2007).

In the main, before the emergence of western invention, every society stipulated methods of doing things even with relation to health. These methods are engrained in the culture and tradition of the people. As it is done in every other aspect, there are traditional means of treating the sick whenever there is the need to do so. African traditional medicine (Alternative medicine) therefore has an important place in the healthcare delivery system among Africans, especially in rural southwest Nigeria. Being widely known as alternative medicine, traditional medicines are utilized informs of treatment and also serves as last resort where other forms of treatment have failed (Omololu *et al*, 2008), traditional medicine has been the first port of call before western or orthodox medicine and a last resort when all orthodox efforts fail. From this assertion, it is indicated that African people firstly put traditional medicine into consideration, whenever they are to undergo any treatment before looking at western method (Omololu etal, 2008), On the whole, traditional healers were long practiced before orthodox medicine was introduced into the developing world. The first orthodox hospital was built in Nigeria (Lagos) in 1873. Before this, traditional medicine was the only available form of healthcare (Omololu, 2008). The art of traditional medicine is so wide that different experts have emerged to have their own area of specialization (Owumi and Jerome, 2012). There is therefore no disputing the fact that some aspects of trado-medical knowledge system is well structured and organized and has survived through generations to maintain harmony between body, mind and soul within its socio-cultural and religious context. However, different experts have emerged within their ranks including herbalists, bonesetters, psychiatrists, and traditional birth attendants among others (Owumi and Jerome, 2012).

2.4 The Practice of Traditional Bone Setting

Traditional medical practices involve a whole lot of specialists. Among these are traditional birth attendants, bone setters and herbalists. Bone setting is a specialized section of traditional medicine, which has been practiced since time immemorial. The origin of bone setting treatment and replacement of joints is lost in the mist of antiquity. Trying to trace the origin of joint manipulation and massaging would probably be quite impossible, for both have undoubtedly existed in one form or another since the beginning of the history of mankind. It is a natural tendency for one to massage and manipulate an aching muscle or limb. Everyone, at some time or another, has felt the urge to exercise his shoulders and relieve the binding of spinal fatigue. It is not too much to assume that the primitive man devised methods of accomplishing the instinctive tendency to massage and manipulate his fatigued and aching muscles and joints in order to maintain a desired flexibility. We have all had the experience of inadvertently snapping our joints while luxuriously stretching our fatigued frames (Darimani, 2007)

Bone-setting as an alternative health service, is an old practice in African societies that is available and accessible to people in both rural and urban centers. From a non-western standpoint, bone-setting as practice of joint manipulation of sprains, dislocations and simple to complex fractures, by manipulating the bones by applying splints to the area around the fracture or wound. In some instances, incantations are made on the affected area as a way of invoking the spirit of the ancestors for divine intervention and healing (Darimani, 2007).

The issue of cost effectiveness in terms of access for both lower and middle classes accounts for the prominence and prevalence of traditional bone-setting services in the

region. In fact, it was estimated that between 10 to 40 percent of patients with fractures and dislocations in the world are managed by bone-setters that are specialists in the practice of traditional medicine. Unlike orthodox medicine where there are prescribed fees, the situation is different with traditional bone-setters. In most situations, patients give what they can afford as an offering because there is a strong conviction and belief that the spirits will desert the treatment centres and make the medicine powerless, and in some cases, make the practitioners go mad or die when monetary rewards become the primary driver (Darimani, 2007).

In the case of Nigeria, there are presently three specialized National Orthopedic Hospitals (NOH) in Enugu, Lagos and Kano. Notwithstanding the setting up of these hospitals, it is widely accepted that there are traditional bone-setting centers located in both rural and areas than westernized orthodox medical services. Under this framework, efforts towards integrating the traditional and orthodox methods in the medical curriculum have been on ground in the last two decades ((Agarwal and Agarwal, 2010).

Experiences within the region shows that a significant number of patients see traditional bone-setters as a first resort, before seeking orthodox treatment. While they are patronized largely due to the fact that they offer cheaper and faster healing methods, ignorance and poverty are viewed as the basis for the in continued patronage despite the complications associated with the practice (Udosen, 2009).

2.5 Causes of Fracture

The fracture pattern differs depending on geographical location, variations in the activities of daily life and in the nature of work, especially between urban and rural population. This indicates that the environment where one lives, one‘s place of work,

e.t.c. can determine the fracture pattern of an individual. For instance, it will be very difficult to have record of patients living in Government Reserved Areas suffer fractures as a result of street fight while this may be the norm among the inhabitants of Central Business Districts. Also workers in the University of Ibadan are less likely to have high rate of occupational injury except for those who works in the laboratories, compared to those who work in the industrial companies. This implies that one‘s geographical location influence the pattern of fracture (Saw, Sallehuddin, Chuah and Ismail, 2010)

The road traffic accidents (17.5%), falls (12.2%), violence (10.1%) and self-inflicted injuries (9.7%) are the main injury-related causes of disability. This implies that road traffic accidents is the major cause of injuries. This finding is important in Nigeria when the rate of road traffic accidents being recorded in the country is put into consideration. Bad roads, activities of the policemen as a result of road blockages, highway robberies e.t.c. are some of the reasons for high rate of road traffic accidents in Nigeria (Krug, Sharma and Lozano, 2000) as reported by (David, 2003)

The road traffic injuries are the 9th leading cause of disability adjusted life years in the world, and are projected to rank 3rd by the year 2020. They found out that ninety percent of these accidents occur in the developing countries and those who are prone to be affected are pedestrians, passengers, and cyclists (Nantulya and Reich, 2002)

The overall rate of fracture was higher in men (75.3%) as against the women (24.7%) while the nature of their daily activities, the relative amount of travel, and the traditional role of women as house wives were given as the reasons for these differences. This is possible mostly because larger percentage of women in Nigeria is not career-oriented. They usually get involved in businesses that are less stressful and

therefore have lower rate of fracture records compared to their male counterparts (Saw *et al*, 2010)

Gunshot injuries as a major cause of violent injuries and the most vulnerable groups are between 20 and 40 years while armed robbery dominated the major cause of gunshot injuries. In the study carried out, 80% of the gunshot injuries were due to armed robbery attack, while accidental discharge account for 10%. While there are several causes of fractures among patients, different literature reviewed showed that road traffic accident is a major cause of fractures among patients (Umaru, Ahidjo and Madziga, 2006)

2.6 Patronage of Traditional Bonesetters

There are varieties of reasons why patient patronize traditional bone-setters, some of the reasons include cheaper fees, easy accessibility, quick service, cultural belief, utilization of incantations and concoction, pressure from friends and families. The belief that diseases and accidents have spiritual components that needs to be tackled along with treatment account for one of the reasons for the patronage. The widespread belief in our society that traditional bonesetters are better at fracture treatment than orthodox practitioner makes them patronize the bonesetters (Olaolorun *et al*, 2001).

The belief in our community that sickness and afflictions usually have spiritual aspects that need to be cured with traditional like the use of incantations and concoctions are reasons for the patronage of traditional bone setters by patients (Dada *et al,* 2011).

The services of the practitioners are relied upon by people because of the belief that the practitioners are well vast while treating physical illnesses as well as psychological and spiritual comfort (Adefolaju, 2011).

There is another belief among the people especially those far away from the cities as identified by (Omololu et al, 2002) which is the belief by those people who have fractures that amputation is imminent once a person is referred to a teaching hospital. The erroneous belief in traditional Africa that the only available option for the treatment of fractures in hospital is amputation and that the application of Plaster of Paris (POP).

Usually results in atrophy and gangrene of the affected limbs (Omololu et al, 2002).

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

The cost involved is another factor that makes the patronage of traditional bonesetters to be on a higher side. Traditional bonesetters, unlike the modern hospital charges lesser fees. The continuous use of traditional bonesetters by Africans is based on the belief that it is Cheaper, more available and results in faster healing than orthodox measures. In Nigeria, as pertained to other developing countries, between 70-85% of the population Patronize traditional medicine practitioners (Olurum et. al. 2001).

2.7 Methods of Traditional Bone Setting

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. In Nigeria 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. The Ijaw people of Nigeria (who perhaps started bone setting) have excelled in this area (Mume, 1976).

Uzo massage is suspected to have started with the Uzos (one of the ethnic groups in Nigeria) but its origin maybe also be attributed to other riverine dwellers in Nigeria, what the massager does is to use the fingers to trace where the problem is. This kind of treatment is effective in the treatment of muscle and bone problems and the proper functioning of the nerves (Dime, 1995).

2.8 Problems of Traditional Bone Setting

In most developing countries where Traditional bone setting is practiced, many failures of bone setting procedures have been reported due to the use of irrational methods adopted by Traditional -bonesetters (TBS) that are not scientifically based. These methods of treatment lack the knowledge of anatomy, physiology, radiology and basic principles of infection prevention/control and soft tissue care which have led to limb and life threatening complications (Omolulu, 2008).

Many complications from mismanaged fractures by TBS have been reported in various parts of Nigeria (Omolulu, 2008). The complications account for about 50-60% of limb gangrene necessitating amputation in our hospitals (Onuminya, 2004).

A study in Ilorin, Kwara State highlighted eight cases mismanaged by TBS in which four of the cases were children under ten years. Out of the four children, three of them lost their right upper limb through above elbow amputation while the fourth child lost his right lower limb through above knee amputation. The other four were young

adults; two of which lost their lower limbs through above knee amputation and the other two who did not lose their lower limbs were in the hospital for several months and one later died of gas gangrene and septicemia (Agaja, 2005).

The health and socioeconomic effects resulting from the cultural practice is enormous. Despite the shortcomings of the TBS practice, more than 70% of the Nigerian population at present live outside the vicinity of modern hospitals and rely almost exclusively on the traditional medicine healers for their healthcare services (Onuminya, 2005).

2.9 CONCEPTUAL FRAMEWORK

Conceptual framework is a network or a "plane", of interlinked concepts that together provide a comprehensive understanding of a phenomenon or phenomena (Jabareen, 2009). The concept that constitutes a conceptual framework supports one another, articulate their respective phenomena, and establish a framework-specific philosophy. Conceptual frameworks possess ontological, epistemological and methodological assumption, and each concept within a conceptual framework plays an ontological or epistemological role. The ontological assumptions relates to knowledge of the "way things are" , "the nature of reality" "real" existence and "real" action (Jabareen,2009).The epistemological assumptions relate to how "things really are" and "things really work" in an assumed reality. The methodological assumptions relate to the process of building the conceptual framework and accessing what it can tell us about the "real world" (Jabareen, 2009).

FUNCTIONALISM THEORY

Functionalism sees society as an organic whole, with each of its parts working to maintain the others. This is similar to the way in which parts of the body work to maintain each other and the body as a whole. Functionalist thought was originally

pioneered by Comte who saw it as closely bound up with his overall view of sociology. Durkheim also regarded functional analysis as a key part of his formulation of the tasks of sociological theorizing and research. Radcliffe-Brown and Malinowski both assert that we must study a society or culture as a whole if we are to understand its major institutions and explain why its members behave the way they do. Anthony Giddens, 1993).

The most important features of functionalism are the concepts of structures and functions. To the functionalists, behaviors of people in the society are structured, that is, relationships that exist between members in such society are organized in terms of rules. This structure is viewed as the sum total of normative behavior, consisting of the sum total of social relationships which are governed by norms. Thus, the main parts of the society, its institutions, become major aspects of the social structure. To study the function of a social practice or institution is to analyze the contribution which that practices or institution makes to the continuation of the society as a whole. The best way to understand this is through organic analogy; to study a bodily organ, we need to show how it relates to the other part of the body. Also, an understanding of any part of the society should also involve an analysis of its relationship to other parts especially its contribution to the maintenance of the society. Just as the survival of an organism depends on the satisfaction of certain basic needs, society equally requires that some basic needs be met for its continued existence. Similarly, analyzing the function of a social item means showing the part it plays in the continued existence of the society. This indicates that a social item will continue to be relevant, when it has a function that is being played toward the continued existence of the society. That a structure exists presupposes its continued functioning and therefore, relevance to the existence and survival of the whole system. Immediately it has no relevance to the

continued existence of the society, it will cease to exist. Functionalist perspective on health and medicine was formulated largely by Talcott Parsons. He explained that a healthy population is essential to the society. Healthy people can perform the social roles that are necessary to keep the society function optimally. Illness, then, is dysfunctional as it prevents people from performing their social roles, at least temporarily. Thus, the traditional bonesetters play a vital role in the overall functioning of a society by making members who have fractures regain their health. If those who have fractures are not treated, just like the organic analogy as explained by the functionalist, it will hamper the continued existence of the society, as the role they are suppose to play toward the survival of the society will be affected. The practice of traditional bone settings have though existed for centuries, there has however been campaigns against its patronage, especially by the orthodox practitioners. Despite this campaign, it still survives till today. This indicated that the practice of traditional bone setting has an important role that it is playing in the society, to have continued to exist. It would have ceased to be in existence, if it has no role that it is played in the society. The functionalists explained that the society comprises of structures with each part playing different role toward ensuring the continual survival of the society. They used the organic analogy to explain this whereby organism contains different part, with each part carrying out a particular function toward the sustenance of the organism. The organism will continue to exist when each part perform its role and they explained that the different structures that make up the society has specific role to perform, so as to ensure the survival of the society. It therefore indicates that a structure will cease to exist when it has no function that it performs in the society again. Though the functionalist perspective identified the social institution bone setting as being vital toward the overall functioning of the society by making the

members healthy, the failure to recognize that there may be better ways of managing fractures, due to their rigidity and maintaining status quo therefore led to the need to another theory to explain this study. Hence, the modernization theory.

MODERNIZATION THEORY

The modernist theorists on the other hand look at how society evolves from tradition to modernity. They explained that societies will join the developed‖ world when they do away with their traditions and adopt modernity as a way of life. In constructing their accounts of development, they drew on the tradition-modernity distinction of classical sociologists. They placed most emphasis on norms and values that operate in these two types of society. They argued that the transition from the traditional to modernity depended on a prior change in the values, attitudes and norms of people. They called for the total abandoning of the old form of doing things, for the adoption of the western ways. To synthesize these theories, functionalism and modernization theory, have a common perspective on the importance of ensuring that people who have fractures are treated and continue to contribute their own quota toward having a functional society, they however have point of divergence. While functionalism explain the relevance of the traditional bonesetters toward the continual survival of the society and believes in the maintenance of status quo, modernization theory looks at how the traditional bonesetters have adopted modern form in carrying out treatment among patients. Modernity has made it easier for the traditional bone setters to adopt modern form in the treatment of fracture. This is important as it not only reduce the rate of complication, but also assist in ensuring that proper treatment are received by the patients, which will aid them in their health restoration and optimal functioning in the society.

Both the Traditional bonesetters and the western practitioners are practicing today in Nigeria. Until recently, the relationship that exists between these two kinds of practitioners can best be explained as being that of cat and mouse as the traditional bonesetter's method of treatment was regarded as being fetish, primitive and not modern. This conception of the art of traditional bone settings led to its relegation to the background while greater emphasis was placed on modern form as the best way of treating bone fractures. This is as a result of the belief that the method of traditional treatment is not rational and therefore does not deserve funding from the government, unlike modern form of bone treatment. This is however different from the practice in China where there is already full integration of both traditional and western medicine. The different methods used in Nigeria include the use of splints and bamboo stick or rattan cane or palm leaf axis with cotton thread or old cloth. This is wrapped tightly on the injured part and left in place for the first 2–3 days before intermittent release and possible treatment with herbs, massage and manual traction of the affected bone, e.t.c. The modern way of fracture treatment includes the use of radiological graphs, wound dressing and suturing, aids, functional cast bracing, amongst others. The coexistence of traditional bonesetters and orthopedic care for fractures in Nigeria provides an opportunity to learn about the potential strengths and limitations of each method and to examine opportunities for cultural synthesis and collaboration. Thus, in relating this models to the practices of bone setting, this study therefore calls for the training of bone setting in the modern way, so that there could be merging of both ways of treatment, just as it has been adopted in other countries like China and India. This was the suggestion by (Omololu *et al*, 2011) in their study of the practice of bonesetters in Ibadan, Nigeria, where they suggested that there was a need to educate and train traditional bonesetters in fracture treatment both to minimize the

mismanagement of fractures and to reduce the healthcare burden on secondary and tertiary institutions. Their proposed training algorithm included introduction of radiographs to urban bonesetters, recognition of open and displaced fractures, and guidance in the approximate duration of fracture healing and training in recognition of complications of fracture treatment. Some recent reports from South-Western and Central Nigeria confirm that some of the practitioners have started inculcating some orthodox practices into their treatment. This includes wound dressing and suturing and even use of radiological aids (Dada et al, 2011), functional cast bracing which bear close resemblance to some of the bamboo 'bandaging pattern of traditional bone healers (Agarwal *et al*, 2010). These findings of (Agarwal *et al,* 2010), (Dada et al, 2011) and suggestion of (Omololu *et al*, 2011) showed that traditional bone setters are now adopting modern form of treatment in fracture management. This study therefore looks at how modern practices have been adopted by the traditional bone setters in ensuring a healthy society. It is important to state that although there is still dichotomous relationship between traditional and western practitioners, the move is now towards some tolerance and recognition. Many state governments in Nigeria have now established Institutions to supervise traditional medicine practice and Kano State Government also has an Institution charged with such responsibility.

CHAPTER THREE

MATERIALS AND METHODS

3.1 INTRODUCTION

This chapter describes the data types, sources, collection/acquisition methods employed to achieve the research objectives. It involves the procedure employed in the course for the successful execution of this research, and covers the detail description of the process from the research design and various steps taken for the compilation of the study, such as Interview, questionnaire, procedure for data collection and the statistical techniques employed in the analysis of data.

3.2 RESEARCH DESIGN

The research instrument consist of structured questionnaire administered based on purposive sampling technique which involves writing the numbers of elements on piece of papers for selection purpose to generate response from the sample of the population. A total of 252 respondents were sampled and interviewed using a structured questionnaire. The data on the coordinates (longitudes and latitudes) of traditional bone setters' points was collected using global positioning system (GPS) to show the spatial distribution of traditional bone setters. The data were analyzed using simple percentage tables and the Chi-square test (Goodness of fit) was used to test the relationship between socio-demographic characteristics and patronage.

Purposive sampling was employed to conduct in-depth interview with the traditional bone setters in Kano metropolis. Questions asked include how they found themselves in the trade, methods of diagnosis, as well as problems they faced and way forward.

3.3 DATA TYPE AND SOURCES

Basically the research uses both the primary and secondary sources of data; this was done based on the stated aim and objectives. Likewise both the quantitative and qualitative methods of data collection were adopted. Some of the research tools employed in capturing data in this research include:

a) Structured questionnaire

b) In-depth form of interview

c) Coordinates (longitudes & latitudes)

3.4 PRIMARY SOURCES:

In order to achieve the research objectives, data were sourced from the respondents in the study area. The method adopted here involved the use of simple random sampling approach to select respondents in the study area, where random number can be used to decide on which element to select the respondents, until a total of two hundred and fifty two (252) questionnaires were administered collectively.

3.5 SECONDARY SOURCES: The data here was sourced from related Books, journals, research reports, previous works on traditional bone setters and other available materials were also consulted for the secondary data collection.

3.6 POPULATION AND SAMPLE SIZE

Two hundred and fifty two (252) respondents were randomly selected; based on the population of the eight metropolitan local government areas-for an in depth interviews Thirty (30) traditional bone setters were selected and interviewed, using purposive sampling method.

Table 3.1: Questionnaire Distribution by Respective Local Government (N = 252)

Local Government	Population	Frequency	Percentage
Dala	**418,777**	**37**	**15%**
Kano Municipal	**365,525**	**32**	**13%**
Gwale	**362,059**	**32**	**13%**
Nassarawa	**596,669**	**53**	**21%**
Tarauni	**221,367**	**20**	**8%**
Fagge	**198,828**	**18**	**7%**
Ungogo	**369,657**	**33**	**13%**
Kumbotso	**295,979**	**27**	**10%**
Total	**2,828,861**	**2 52**	**100%**

Source: National Population Commission (Census 2006)

3.7 SAMPLING TECHNIQUE

As mentioned earlier the study employed simple random sampling technique, under which eight (8) local government makes up the sample size, also simple random sampling technique was used, where the respondent were selected randomly based on the population of eight metropolitan local governments in Kano metroplis. This was done so that each possible sample of the specified size in the Kano metropolis had an equal chance of being selected.

However, after the simple random sampling, on the users of traditional bone setting, purposive sampling technique was then employed to select traditional bone setters'

center's where the bone setters were interviewed. This provided the data to show the spatial distribution of bone setter's centers.

A total of 252 questionnaires were administered to the respondents in each of the eight local governments in the metropolitan based on their population using simple random sampling technique as well 30 traditional bone setters were interviewed using purposive sampling.

3.8 INSTRUMENTS OF DATA COLLECTION

The main instrument for data collection is questionnaire and in-depth form of interview. The questionnaire was design to capture the following key aspects; personal information of the respondents, awareness of respondents on TBS, patronage, efficacy, problems and way forward. The questionnaire also contains some parameters like factors of patronage and the preference of choice by the respondents. In-depth interview was design to provide the following key aspects; such as how TBS find themselves in the trade, their methods of diagnosis, as well as problems they faced and possible solution.

3.9 METHODS FOR DATA ANALYSIS

Quantitatively, the statistical method of analysis was undertaken using the Statistical Package for Social science (SPSS) which is a software programme for data analysis. Quantitative data was analyzed using descriptive and inferential statistical tools like tables, percentages, frequency distributions. While the Chi-square test (Goodness of fit) for testing the relationship between socio-demographic characteristics and patronage would be used. In analyzing qualitative data, views expressed by some

traditional bone setters were either quoted or paraphrased to give a balance of both forms (Qualitative and Quantitative).

CHAPTER FOUR

RESULT AND DISCUSSION

4.0 Introduction

The information presented in this chapter is derived from the in depth interview of TBS, and questionnaire administered to the respondents. Two hundred and fifty two copies of a questionnaire were administered in the eight local government of the study area. Thirty (30) traditional bone setters were interviewed. The data generated were analyzed and presented in the subsequent subsections.

4.1 SOCIO-DEMOGRAPHIC CHARACTERISTICS OF THE RESPONDENTS

The socio demographic characteristic of the respondents includes age, sex, and ethnicity, occupation of the respondents.

4.1.1 Age and Gender of the Respondents

The age distribution and gender of the respondent as represented in the Table 4.1 revealed that there are more (59.5%) male respondents than female (40.5%). and that a 34.9% of the respondents fall within the age range of 25-29 years followed by 29.8% with age group of 30-34.

Table 4.1: Age and Sex of the Respondent

Age group	GENDER				Total	
	Male		Female			
	F	%	F	%	F	%
15-19	4	1.6	6	2.4	10	4
20-24	17	6.7	10	4	27	10.7
25-29	50	19.8	38	15.1	88	34.9
30-34	52	20.6	23	9.1	75	29.8
35-39	14	5.6	14	5.6	28	11.1
40-44	5	2	8	3.2	13	5.2
45-49	6	2.4	1	0.4	7	2.8
50 & above	2	0.8	2	0.8	4	1.6
Total	150	59.5	102	40.5	252	100

Source: Field work (2015)

Thus youth constitute most the respondents and this can be attributed to their willingness to answer the question, and that they constitute highest proportion of the population (Table 4.1).

4.1.2 Ethnicity of Respondent

The result of ethnicity of the respondents shows a larger proportion of Hausa may be due to the concentration of these people in the North western part of Nigeria, where the research was carried out. Urban Kano is cosmopolitan and the respondents are from different ethnic backgrounds from Nigeria as summarized in Table 4.2.

Table 4.2: Ethic Background of the Respondents

Ethnicity		Not indicated	Hausa	Fulani	Yoruba	Igbo	Others	Total
Males	%	0.0	97.3	1.3	0.0	.7	.7	100.0
Female	%	2.9	90.2	2.0	1.0	1.0	2.9	100.0
Total	**%**	**1.2**	**94.4**	**1.6**	**.4**	**.8**	**1.6**	**100.0**

Source: Field work (2015)

The Table 4.2 show the ethnic composition of Kano metropolis with the Hausa accounting for 97.3% of the male respondents and 90.2% female respondents , Fulani account for only 1.6. Each Yoruba and Igbo constitutes for did not account for up to 1% of the respondents. This is because the study area is dominated by Hausa people more than any other ethnic groups, who are indigene of the area.

4.1.3 Occupation of the Respondents

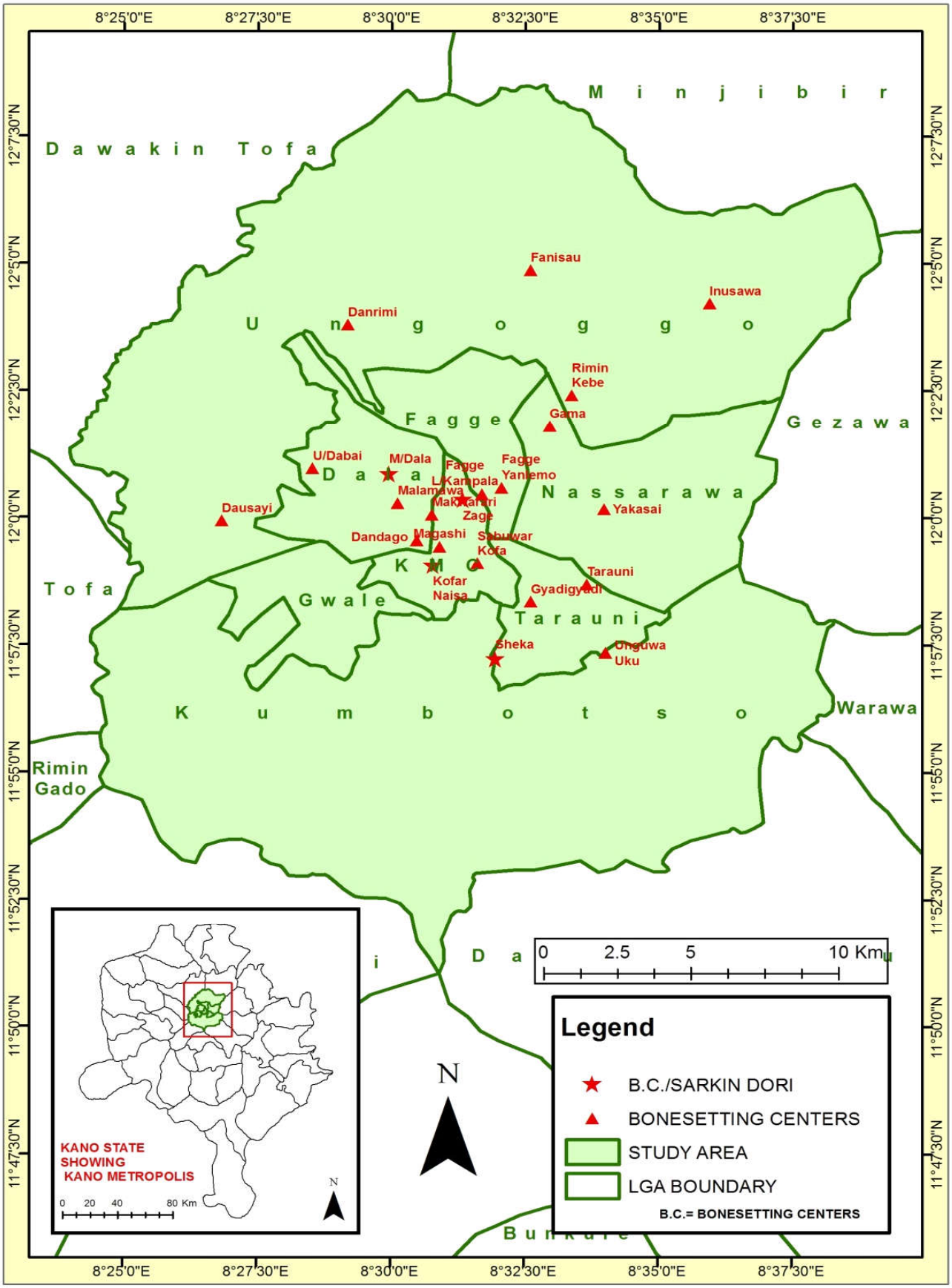
Despite the fact that Kano is a commercial city, the result shows that, there are more civil servant than businessmen.

Table 4.3: Occupation of the Users

Occupation		Civil Servant	Trading	Self-employ	Student	Housewife	Others	Total
Males	%	44.7	9.3	12.0	33.3	0.0	.7	100.0
Female	%	40.2	8.8	7.8	18.6	23.5	1.0	100.0
Total	**%**	**42.9**	**9.1**	**10.3**	**27.4**	**9.5**	**.8**	**100.0**

Source: Field work (2015)

Table 4.3 shows that civil servant account for 42.9% of all respondents. Compared to 10.3% and 27.4% who are self employed and students respectively. The study shows that most of the samples of the study are civil servant. It is also reveals that there is a gap between the gender is very narrow is just not more than 4%.



Source: Fieldwork 2015; GIS & Mapwork: Department of Geography, BUK.

Figure 2: Spatial Distribution of Traditional Bone Setters in Kano Metropolis

4.2.1 RESPONDENTS AWARENESS ON TRADITIONAL MEDICINE

Table 4.4: Awareness of Traditional Medicine by the Respondents

Awareness of TM		Not Indicated	Yes	No	Total
Male	%	1.3	88.7	10.0	100.0
Female	%	1.0	88.2	10.8	100.0
Total	**%**	**1.2**	**88.5**	**10.3**	**100.0**

Source: Field work (2015)

The awareness traditional medicine of the respondents is shown in Table 4.7 88.5% of the respondents are aware of the traditional medicine. This awareness is related to fact that right from childhood people are exposed to traditional medicine and the fact that it is part and parcel of the people culture.

Study have shown that the large percentage of people in African especially those living in rural areas are not using conventional medical care. Instead they rely more on traditional medicine to meet their healthcare needs. In Sub-Saharan Africa for instance more than 80% of the population relies on medicinal plants and traditional medicine as their primary source of health care (Darimani, 2007). Hence this examined the peoples' awareness on traditional medicine; the result is presented in Table 4.7

4.2.2 Peoples' Awareness of Traditional Bone Setting by the Respondents

As indicated by previous study (Oyebola, 2008). Traditional Bone setting which is an aspect of traditional medicine is as old as the existence of man and is practiced in almost all societies of the Africa (including Nigeria) where there is a high degree of confidence in the bone setters.

Table 4.5: Awareness of Traditional Bone Setting by the Respondents

Awareness of TBS		Not Indicated	Yes	No	Missing	Total
Male	%	7.3	82.7	9.3	.7	100.0
Female	%	4.9	85.3	9.8	0.0	100.0
Total	**%**	**6.3**	**83.7**	**9.5**	**.4**	**100.0**

Source: Field work (2015)

The awareness traditional bone setting of the respondents as represented in Table 4.8 shows that 83.7% of respondents are aware of the traditional bone setting. This awareness is related to the high degree of confidence in the bone setters in the study area.

4.2.3 Types of Services Offered by Traditional Bone Setters by the Respondents

Studies have indicated that, from a non-western standpoint, bone-setting isthe practice of re-setting joint and treating sprains, dislocations and other simple or complex fractures. It includes manipulation of the bones, application of splints to the area around the fracture or wound and application of material such as herbs and utilization learned skills to ensure healing of bone-related injuries and fractures

Table 4.6: Types of Services Offered by Traditional Bone Setters

Preference Service		Not Indicated	Fracture	Dislocation	Sprain	Frac/Dis	Total
Male	%	17.3	22.7	7.3	1.3	51.3	100.0
Female	%	18.6	26.5	11.8	2.0	41.2	100.0
Total	**%**	**17.9**	**24.2**	**9.1**	**1.6**	**47.2**	**100.0**

Source: Field work (2015)

The services offered by traditional bone setters as presented in Table 4.9 shows that, only 47.2% of the respondents believed that traditional bone setters offering service of fracture/dislocation, while 24.2% see traditional bone setters as offer service of fracture only.

4.2.4 People Knowledge on Location of Traditional Bone Setters

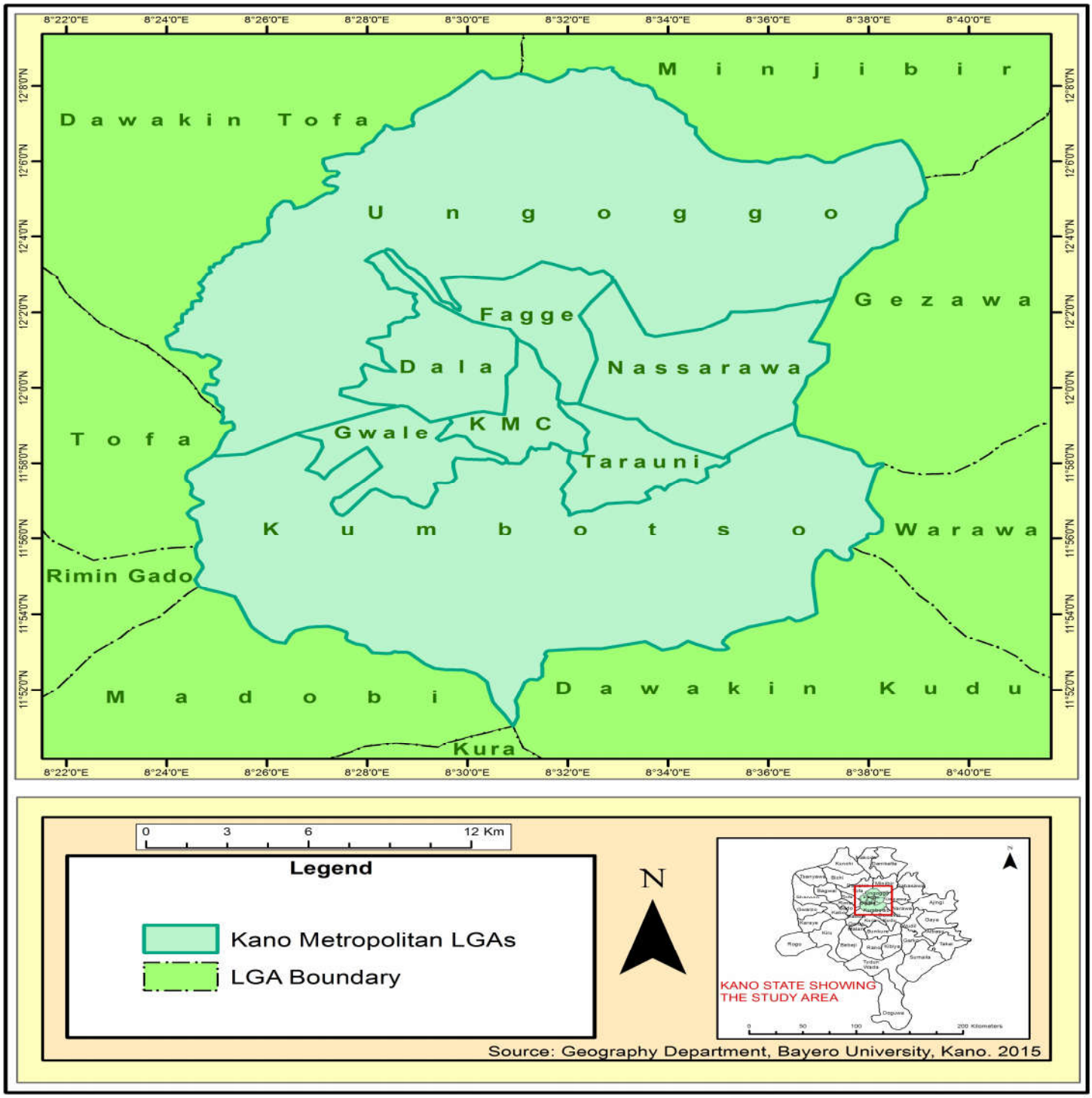
In Nigeria, with high level of accidents recorded everyday, the traditional care givers still remain popular despite the high level of education and the existence of modern health care facilities (Orjioke, 2005).

Table 4.7: People Knowledge on Location of Traditional Bone Setters

Knowledge on Location		Not Indicated	Yes	No	Total
Male	%	2.7	90.7	6.7	100.0
Female	%	2.9	88.2	8.8	100.0
Total	**%**	**2.8**	**89.7**	**7.5**	**100.0**

Source: Field work (2015)

87.7% of the respondents know the location of traditional bone setters, wh This is because majority of the respondents do patronized these traditional bone setters.



Source: Geography Department, BUK

Figure 3: Location of Traditional Bone Setters

The location of traditional bone setters as shown by the respondents in Figure 3 reveals that kwanar Yan Daddawa accounts for 38.5%. It is said to be the populous and well known traditional bone setter's centre in the state. It is followed by Gwale where a well known *sarkin dori* at kofar naisa, resides then there is *sarkin dori* at zage, Fagge constitutes for 7.5% Ungogo 4.4% Nassarawa 1.2%.The reasons why some areas has high patronage than the others is because of history and popularity of bone setting in the area.

4.2.5 Perception of people on Traditional Bone Setters

People have different perception about traditional bone setters. Table 4.8 gives different opinions.

Table 4.8: Perception of People on Traditional Bone Setters

Perception of People		Not Indicated	Excellent	Good	Poor	Partial	Others	Helpers	Cheap	Doing Well	Don't Know	Total
Male	%	10.7	8.7	58.7	2.7	4.0	0.0	10.0	1.3%	2.7%	1.3%	100.0%
Female	%	9.8	8.8	55.9	3.9	6.9	1.0	10.8	2.9%	0.0%	0.0%	100.0%
Total	**%**	**10.3**	**8.7**	**57.5**	**3.2**	**5.2**	**.4**	**10.3**	**2.0%**	**1.6%**	**.8%**	**100.0%**

Source: Field work (2015)

The perception 57.5% of the respondents is that traditional bone setting is good, followed by 10.3% whose says traditional bone setters as a helpers. This is due to the fact that people have different way of thinking on Traditional Bone Setting.

4.3 PATRONAGE OF TRADITIONAL BONE SETTERS SERVICE IN KANO METROPOLIS

4.3.1 Reasons for Patronage of Traditional Bone Setters Services

Although there have been different research works that observed the rate of complications in the art of bone setting, yet, people still patronize the traditional bone setters. There are several reasons for this high rate of patronage of traditional bone setters. According to Dada *et al*, (2011) the reasons for patronage include; cheaper fees, easy access, quick service, cultural belief, utilization of incantations and concoctions, pressure from friends and families.

Table 4.9: Reason for patronage

Reason for Patronage		Not Indicated	Cost	Accessibility	Belief	Quick Recovery	Total
Male	%	2.7	87.3	8.7	.7	.7	100.0%
Female	%	2.9	86.3	10.8	0.0	0.0	100.0%
Total	**%**	**2.8**	**86.9**	**9.5**	**.4**	**.4**	**100.0%**

Source: Field work (2015)

The study revealed that 86.9% of the respondents patronized traditional bone setters services because it is cheaper than services in modern hospital, some 10.0% of respondents patronize them because they are easily accessible than modern orthopedic service. The TBS on average charge their patients for fracture 20,000 Naira, while on the other hand modern orthopedic hospitals charge their patients for fracture about 120,000 Naira.

4.3.2 Problems that Make People More Likely to Use Traditional Bone Setting

There is widespread belief that, in our society traditional bonesetters are better at fracture treatment than orthodox practitioner makes them patronize the bonesetters. According to Dada *et al,* (2011), also found out that the belief in our community that sickness and afflictions usually have spiritual aspects that need to be cured with traditional like the use of incantations and concoctions are reasons for the patronage of traditional bone setters by patients.

Table 4.1.1: Problems that Make People More Likely to Use Traditional Bone Setting

		Not Indicated	Fracture	Fracture/Dislocation	Dislocation	Sprains	Fracture with Injury	Others	Total
Male	%	19.3	23.3	36.7	.7%	2.7	12.7	4.7	100.0
Female	%	23.5	16.7	34.3	2.9%	2.9	11.8	7.8	100.0
Total	**%**	**21.0**	**20.6**	**35.7**	**1.6%**	**2.8**	**12.3**	**6.0**	**100.0**

Source: Field work (2015)

Table 4.1 shows that 21.0% of the respondents used traditional bone setting if they have dislocation, followed by 20.6% who used traditional bone setting if they have fracture. In the case of dislocation, people are much more likely to patronize the TBS compared to hospital services. This is because the TBS handle the cases of dislocation effectively. Moreover, the charges are very much lower than that of the hospitals.

4.3.3 Condition and choice of service

Previous studies have highlighted eight cases mismanaged by Traditional Bone Setters in which four of the cases were children under ten years. Out of the four children, three of them lost their right upper limb through above elbow amputation while the fourth child lost his right lower limb through above knee amputation. The other four were young adults; two of which lost their lower limbs through above knee amputation and the other two who did not lose their lower limbs were in the hospital for several months and one later died of gas gangrene and septicemia (Agaja, 2005).

Table 4.1.2 Condition and Choice of Service

Condition and choice		Not Indicated	Fracture	Frac/Disl	Dislocation	Sprains	Fract with Injury	Others	Total
Male	%	23.3	26.7	6.7	14.7	24.0	3.3	1.3	100.0
Female	%	26.5	33.3	3.9	9.8	18.6	5.9	2.0	100.0
Total	**%**	**24.6**	**29.4**	**5.6**	**12.7**	**21.8**	**4.4**	**1.6**	**100.0**

Source: Field work (2015)

Table 4.1.2 shows that 29.4% of the respondents said they will not used traditional bone setters if they have fracture, followed by 21.8% they will not used traditional bone setting if they have others problems apart from bone problems. This is mostly among the educated elites and rich peoples who can afford to modern orthopedic hospitals

4.3.4 Patronage of Traditional Bone Setting

In Nigeria, traditional bonesetters account for about 70% to 90% treatment of fracture care in certain areas. (Nwachukwu *et al*, 2011).

Table 4.1.3: Respondents Patronage of Traditional Bone Setting

Patronage		Not Indicated	Yes	No	Total
Male	%	6.0	63.3	30.7	100.0
Female	%	6.9	59.8	33.3	100.0
Total	**%**	**6.3**	**61.9**	**31.7**	**100.0**

Source: Field work (2015)

The patronage of the respondent as represented in the Table 4.1.6 reveals that, 61.9% of the respondents patronized to traditional bone setters, while 31.7% have never patronize to traditional bone setters. This is associated with the people's culture right from the childhood.

In addition, Chi-Square was used to test for the relationship between socio-demographic characteristics of the respondents and patronage. Ethnicity is significantly related to patronage at 95% level of significance (Appendix II).while all other socio-demographic characteristics are not significantly related to the patronage at 95% level of confidence (Appendix I)

4.3.5 Service Enjoyed by the Respondents

The study was shown that, it was estimated between 10 to 40 percent of patients with fractures and dislocations in the world are managed by bone-setters that are specialists in

Table 4.1.4: Service Enjoyed by the Respondents

Service Enjoyed		Not Indicated	Fracture	Frac/Disloc	Dislocation	Sprains	Fracture with Injury	Total
Male	%	41.3	16.7	36.0	4.0	.7	1.3	100.0
Female	%	43.1	20.6	32.4	2.9	1.0	0.0	100.0
Total	**%**	**42.1**	**18.3**	**34.5**	**3.6**	**.8**	**.8**	**100.0**

Source: Field work (2015)

The Service Enjoyed by the Respondents from traditional bone setters as presented in Table 25 shows that 34.5% of the respondents enjoyed fracture/dislocation, followed by 18.3% enjoyed fracture only, dislocation only account for 3.6%.

Table 4.1.5: Choice of Health care service for Traditional Bone Setting Service

Choice		Not Indicated	KMC	Dala	Nass	Gwale	Fagge	Tarauni	Kumbotso	Ungogo	Kwanar Yandaddawa	Total
Male	%	42.7	9.3	5.3	2.7	2.7	16.0	.7	3.3	6.7	10.7	100.0
Female	%	44.1	9.8	2.9	4.9	2.0	15.7	1.0	2.9	5.9	10.8	100.0
Total	**%**	**43.3**	**9.5**	**4.4**	**3.6**	**2.4**	**15.9**	**.8**	**3.2**	**6.3**	**10.7**	**100.0**

Source: Field work (2015)

The Bone Setters Centers went by the respondents as presented in Table 4.1.8 shows that 15.9% of the respondents went to Gwale local government for their service. This perhaps can be attributed to the existence of *Sarkin Dori* at Kofar Naisa while 10.7% went to outside of Kano metropolis *(*Kwanar Yan Daddawa in Dawakin Tofa Local Government) for their services, followed by 9.5% whose went to Kano Municipal

local government also may be because there is *Sarkin Dori* in Zage, 6.3% went to Ungogo local government where there is another *Sarkin Dori* in Inusawa.

4.3.6 Factors affecting Utilization of Traditional bone setting service

Although there have been different research works that observed the rate of complications in the art of bone setting, yet, people still patronize the traditional bone setters. The previous study revealed that majority about (70 percent) of the patients patronized the traditional bone setter's clinic because it is cheap and more affordable than modern hospital,

Table 4.1.6: Factors affecting Patronage of Bone Setters service by the Respondents

Factors		Not Indicated	Cost	Duration	Accessibility	Belief	Others	Total
Male	%	16.7	41.3	36.0	4.0	.7	1.3	100.0
Female	%	20.6	43.1	32.4	2.9	1.0	0.0	100.0
Total	**%**	**18.3**	**42.1**	**34.5**	**3.6**	**.8**	**.8**	**100.0**

Source: Field work (2015)

The reasons for patronizing traditional bone setters by the respondents as presented in Table 4.1.9 reveals that 42.1% of the respondents patronized traditional bone setters clinic because it is cheap and more affordable than modern hospital, about 34.5% of the respondents patronize them because of quick recovery, while accessibility account for 3.6% then cultural belief and other reasons such as fear of implant/amputation constitutes for less than one percent respectively.

4.3.7 Choice of the respondents on fracture (*karaya)*

A bone fracture is a medical condition in which there is a break in the continuity of the bone. A bone fracture can be the result of high force impact or stress, or trivial injury as a result of certain medical conditions that weaken the bones, such as

osteoporosis, bone cancer, or osteogenesis imperfecta, where the fracture is then properly termed a pathologic fracture **(**Owumi *et al,* 2013).

Table 4.1.7: Choice of the respondents on Fracture *(karaya)*

Choice on Fracture *(karaya)*		**Not Indicated**	**Yes**	**No**	**Total**
Male	%	20.0	56.7	23.3	100.0
Female	%	18.6	49.0	32.4	100.0
Total	**%**	**19.4**	**53.6**	**27.0**	**100.0**

Source: Field work (2015

The choice of the respondents on Fracture (*Karaya)* as presented in Table 4.2.0 reveals that 53.6% of the respondents patronized traditional bone setters if they have Fracture (*karaya)* because of fear of implant/amputation, while 27.0% of the respondents go to modern orthopedic service if they have Fracture (*karaya)* because of cases mismanaged by Traditional Bone Setters.

4.3.8 Choice of the respondents on Dislocation (*Targade)*

A dislocation occurs when there is an abnormal separation in the joint, where two or more meet. Joint dislocations are cause by trauma to the joint or when an individual falls on a specific joint. Dislocation is most common in the shoulder and finger. Other sites for dislocations include the elbow, knees, and hips.

Table 4.1.8: Choice of the respondents on Dislocation *(Targade)*

Choice on Dislocation (Targade)		Not Indicated	Yes	No	Total
Male	%	25.3	60.0	14.7	100.0
Female	%	20.6	52.9	26.5	100.0
Total	**%**	**23.4**	**57.1**	**19.4**	**100.0**

Source: Field work (2015)

The choice of the respondents on Dislocation (*Targade)* as presented in Tabl4.2.1 reveals that 57.1% of the respondents patronized traditional bone setting if they suffer Dislocation (*Targade)* because traditional bone setters centers is cheap and more affordable than modern hospital,, while 19.4% goes for modern orthopedic service if they have Dislocation (*Targade)* because the duration is quick.

4.3.9 Choice of the respondents on Sprains (*Tsagewar kashi)*

A sprain is known as a torn ligament, is damage to one or more ligaments in a joint, often caused by trauma or the joint being taken beyond its functional range of motion. Sprain can occur in any joint but are most common in the ankle and wrist.

Table 4.1.9.: Choice of the respondents on Sprains (*Tsagewar kasha)*

		Not Indicated	Yes	No	Total
Male	%	24.7	64.0	11.3	100.0
Female	%	24.5	52.0	23.5	100.0
Total	**%**	**24.6**	**59.1**	**16.3**	**100.0**

Source: Field work (2015)

The choice of respondents as presented in Table 4.2.2 shows that 59.1% of the respondents patronized traditional bone setting if they suffer Sprains (*Tsagewar kashi)* while 16.3% will patronized modern orthopedic service if they have Sprains (*Tsagewar kashi)*.

4.4 EFFICACY OF TRADITIONAL BONE SETTER IN KANO METROPOLIS

4.4.1 Efficacy of Traditional Bone Setting

Despite criticisms on the efficacy of traditional bone-setting which includes reported cases of complications, complaints about unsatisfactory results, pains/discomfort etc among patients treated by traditional bone setters (Nwadiaro. Nwadiaro, Kidmas and Ozoilo, 2006), researches have revealed traditional bone setting can be efficient and effective.

Table 4.2.1: Efficacy of Traditional Bone Setting

Efficacy		Not Indicated	Yes	No	Missing system	Total
Male	%	19.3	46.0	34.0	.7	100.0
Female	%	15.7	49.0	35.3	0.0	100.0
Total	**%**	**17.9**	**47.2**	**34.5**	**.4**	**100.0**

Source: Field work (2015)

The efficacy of the respondents as presented in Table 4.2.3 reveals that 47.2% of the respondents believed that traditional bone setting is effective in curing bone related problems, while 43.5% of the respondents believed that traditional bone setting is not effective.

Table: 4.2.2: Duration of Traditional Bone Setting by the Respondents

Duration		Not Indicated	TBS is Fast	MOS is Slow	TBS is Slow	MOS is Fast	Total
Male	%	16.7	72.0	5.3	2.0	4.0	100.0
Female	%	17.6	58.8	6.9	1.0	15.7	100.0
Total	**%**	**17.1**	**66.7**	**6.0**	**1.6**	**8.7**	**100.0**

Source: Field work (2015)

The duration of traditional bone setting by the respondents as presented in Table 4.2.4 shows that 66.7% of the respondents said the duration of traditional bone setting is fast, while 8.7% says modern orthopedic service is fast, followed by 6.0% says modern orthopedic service is slow.

4.4.2 Cost of Traditional Bone Setting

Previous studies by (Katchy, 2005) found an unacceptable high complication rate in traditional management of femoral fractures. However, Traditional Bone Setting still achieves a high level of patronage because it is thought that they are cheaper.

Table 4.2.3: Cost of Traditional Bone Setting

Cost		Not Indicated	TBS is Less Expensive	MOS is Expensive	TBS is Expensive	MOS is Less Expensive	Total
Male	%	14.0	74.0	10.0	1.3	.7	100.0%
Female	%	15.7	59.8	20.6	1.0	2.9	100.0%
Total	**%**	**14.7**	**68.3**	**14.3**	**1.2**	**1.6**	**100.0%**

Source: Field work (2015)

The cost of traditional bone setting as presented in Table 4.2.5 reveals that 68.3% of the respondents says traditional bone setting is cheap and affordable, while 14.3% of the respondents says modern orthopedic service is expensive because many people can not to afford to it due to their charges is high.

4.4.3 Cost and Duration

In their study, Ogunlusi, Okem and Oginni, (2007), found out that most people visit traditional bone setters because they wanted cheaper and quicker services than modern treatment.

Table 4.2.4: Cost and Duration

Cost and Duration		Not Indicated	Yes	No	Total
Male	%	16.0	57.3	26.7	100.0
Female	%	12.7	67.6	19.6	100.0
Total	**%**	**14.7**	**61.5**	**23.8**	**100.0**

Source: Field work (2015)

The cost and duration of traditional bone setting by the respondents as presented in Table 4.2.6 shows that 61.5% of the respondents, cost and duration affect their patronage while 23.8% of the respondents says that cost and duration does not affect their choice of treatment.

4.5 PROBLEMS OF TRADITIONAL BONE SETTER IN KANO METROPOLIS

4.5.1 Problems of Traditional Bone Setting by the Respondents

In most developing countries where Traditional bone setting is practiced, many failures of bone setting procedures have been reported due to the use of irrational

methods adopted by Traditional bone setters (TBS) that are not scientifically based. These methods of treatment lack the knowledge of anatomy, physiology, radiology and basic principles of infection prevention/control and soft tissue care which have led to limb and life threatening complications (Omolulu,2008)

Table 4.2.5: Problems of Traditional Bone Setting by the Respondents

Problems		Not Indicated	Lack of Modern Instrument	Lack of Govt Support	Lack of Adequate Training	Lack of Formal Training	Other Reasons	Total
Male	%	15.3	32.0	5.3	12.7	32.0%	2.7	100.0
Female	%	17.6	29.4	4.9	11.8	29.4%	6.9	100.0
Total	**%**	**16.3**	**31.0**	**5.2**	**12.3**	**31.0**	**4.4**	**100.0**

Source: Field work (2015)

The Problems of Traditional Bone Setting by the Respondents as presented in Table 4.2.5 reveals that 31.0% of the respondents say lack of modern instruments and lack of formal training. Then 12.3% says lack of adequate training followed by 5.2% says lack of government support is the major problem of traditional bone setters.

4.5.2 Possible solution by the respondents

Previous literature have shown that, practitioners of traditional bone-setting recognize the fact that advances in medical research and science requires more formal education, they also accept the idea of access to regular training under medical supervision (Erinosho, 1985).

Table 4.2.6: Possible solution by the respondents

Solution		Not Indicated	Government Support	Formal Training	Modern Instruments	Adequate Training	Others	No Problems with TBS	Total
Male	%	16.7	38.0	17.3	6.7	18.7	1.3	1.3%	100.0
Female	%	17.6	38.2	12.7	6.9	18.6	1.0	4.9%	100.0
Total	**%**	**17.1**	**38.1**	**15.5**	**6.7**	**18.7**	**1.2**	**2.8**	**100.0**

Source: Field work (2015)

The Possible solution by the respondents as presented in Table 4.2.6 shows that 38.1% of the respondents says only way to address the problems of traditional bone setting is through government support this is due to the lack of capital face by traditional bone setters. While 18.7% says the problems will be tackled by giving the practitioners adequate training. Then 15.5% of the respondents says only formal training will solve the problems this is associated with most of traditional bone setters are illiterate.

4.6 PROFILE OF SOME OF THE TRADITIONAL BONE SETTERS

4.6.1 Alhaji Balarabe Karofin Zage (*Sarkin Dori*)

Is a traditional bone setter with a traditional title of bone setting who was born in 1960. He is educated both in Islamic and western type of education. According to him for more than 200 years traditional bone setting has been in existence in their family, Sarkin dori claims to have learned all his skills and knowledge on traditional bone setting from his father. After the death of his father Alhaji Balarabe inherited his father's title as Sarkin dori, as a result of his expertise in setting bones. He used to be invited by orthopedic doctors to give his contribution if they had critical issues some were occasions the government invited him to traditional bone setters. Having specialized in all types of bone setting he attends to animals such as goats, sheep, cows, if they have bone related problems. People comes from different parts of the country were trooping to his house.

4.6.2 Aminu Yau

Is a young traditional bone setter of only 37 years. He lives in kofar Danagundi. He had acquired Islamic education from his teacher. He is an outsider who also receives his training through apprenticeship from his Quranic teacher. Aminu has a very surprise skill in bone setting this is because most of bone setters used to tie the affected area where the injury occurred, but he used to leave it and just pray. most of traditional bone setters do not want to specify the amount paid for them, he charge 40,000 naira for fracture(*karaya)* for dislocation *(targade*) and sprains*(tsagewar kashi)* whatever amount paid to him is okay.

4.6.3 Sardauna Halidu

Is an indigene of Kogi State, based in Tudun Murtala Nasarawa Local Government Kano State. Sardauna is educated in Islamic education and can speak Figin English very well. Th is may be is due to background of people in north central part of the country. He is 44 years old who inherited the trade from his grandparents., Sardauna specialized in all types of bone related problems, and due to his popularity and high patronage he has a rented house where patients are admitted. Sardauna has good relationship with orthopaedic doctors this is because if there is need for x-ray or injection he used to invites orthopaedic doctor to tackle the problem. According to him traditional bone setting is a family trade as soon as family members reached five years they started engaging themselves in the trade.

4.6.4 Malam Musa millionaire

Is a blind traditional bone setter who was born in Dandalama village in Dawakin Tofa Local Government and later migrated to Kwana Hudu in Nassarawa Local Government area. Musa being blind can easily diagnose the problem by touching the affected part of body with his hand. He has acquired quranic education from his father Malam Garba Dandalama at the same time he learned bone setting from him. Malam Musa can explain different types of fracture such as complex, compound , as well as other forms of bone related problems and has no formal training.

4.6.5 Muhammad Inuwa

Is an old man of eighty five (85) years, popularly known as *Sarkin dorin* Ungogo. He inherited the trade from his grandfather. Inuwa served different types of people including white men, and people comes to his house from different parts of the country including some from republic of Niger, Chad, and Cameroun re. Some traditional bone setters diagnose the problem by touching with their hand but

Muhammad Inuwa observed the affected area with his nicked eye. Inuwa because of age retired from bone setting and now his children inherited him.

4.6.6 Malam Talle

Is a farmer at the same time a bone setter whose parents is from Gayawa town in Ungogo Local Government area, and later migrated to a one village west of Gayawa known as Panisau. Talle is sixty eight years old, who inherited the trade from his mother. He has Islamic education only which he acquired from his mother.Iin terms of charging patients after treatment Talle said that, his parents warned him not to specify the amount to be paid to him, Thus sometimes he offered free service.

4.6.7 Isah Abdullahi

Alhaji Abdullahi based in Sheka in kumbotso Local Government area. He is 60 years old, Abdullahi inherited bone setting from his parent particularly his father. He has only Islamic education. He specializes in all types of bone related problems such as fracture, dislocation of bone, socket problem, neck and back bone ace etc. Isah Abdullahi served different types of people such as children, old people. For female he has trained his wife to treat them because of religion. He stated that, if there is an injury he has a doctor who will treat the injured area with bandage and guinea corn stalk (*kara*). Because of the ban of motorcycle (achaba) by Kano State Government, the number of accidents has drastically reduced. The level of patronage is now low as he does not attend to more than ten people in a week.

4.7 TRADITIONAL BONE SETTING

In Nigeria, as in other part of the world there Traditional medicine practitioners. World Health Organization (2002). Defines Traditional Medicine as that health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises. Singularly or in

combination to treat or diagnose and prevent illness or maintain well being Traditional Bone setting as an alternative health service is a recognized and specialized form of traditional healing practice. It is an old practice in African societies that is available and accessible to people both in rural and urban centers from a non western stand point. Bone setting is practice of re-setting joint and treating sprains, dislocation and other simple or complex fractures. It includes manipulation of bones, application of splints to the area around the fracture or wound and application of materials, such as herbs. In some instances, incarnations are made on the affected area as the way invoking the spirit of the ancestors for divine intervention (Owumi , 2013).

The traditional bone setter is a lay practitioner of joints manipulation. He/She is the qualified practitioner who takes up the practice of healing without having had any formal training in accepted medical procedure. In Nigeria traditional bone setters account for about 70% to 90% treatment of fracture care in certain areas

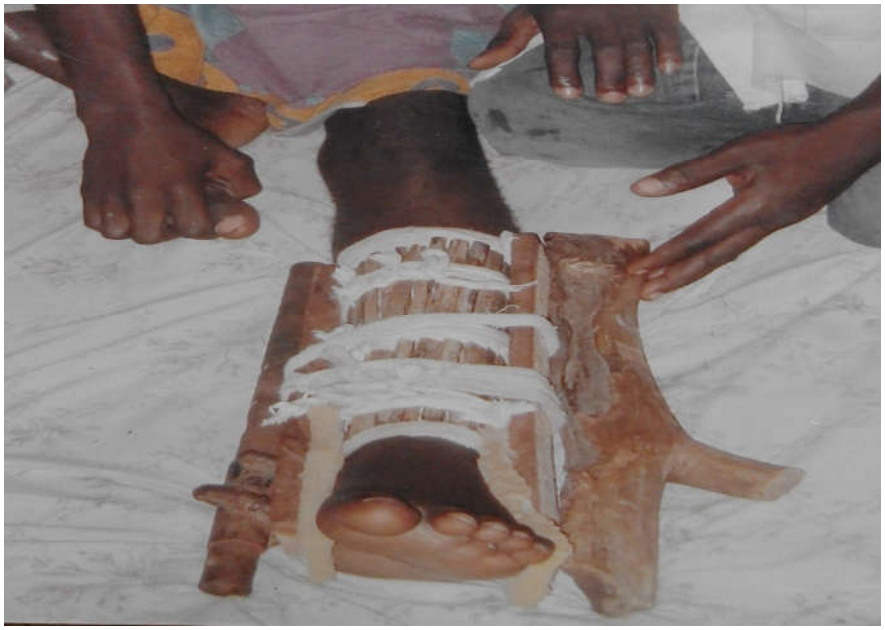


Plate 1: Showing the leg fracture after treatment.

4.7.1 Method of Diagnose of Traditional Bone Setters Kano Metropolis

Within Kano metropolis, there are many bone setters based on the findings of the research, most of the bone setters inherited the occupation from their parents and they specialized in different forms of bone related complications. The setters observed the area of injury or touch it to find out the level of fracture or sprain. If the affected area has sustained some injuries the bone setter applies some medicines to heal the wound (Inuwa, interview 1st February, 2015).The instruments used are guinea corn stalk and rag to tie the affected area. The rag is been washed before it could be used in the case of another patients (Abdullahi, interview 2nd February, 2015) while some of them used wood and bandage in tying the affected area (Ya'u, interview, 6th February, 2015). In terms of charges or the amount of money collected, most of the bone setters don't specify the amount of money to be paid by the patients.

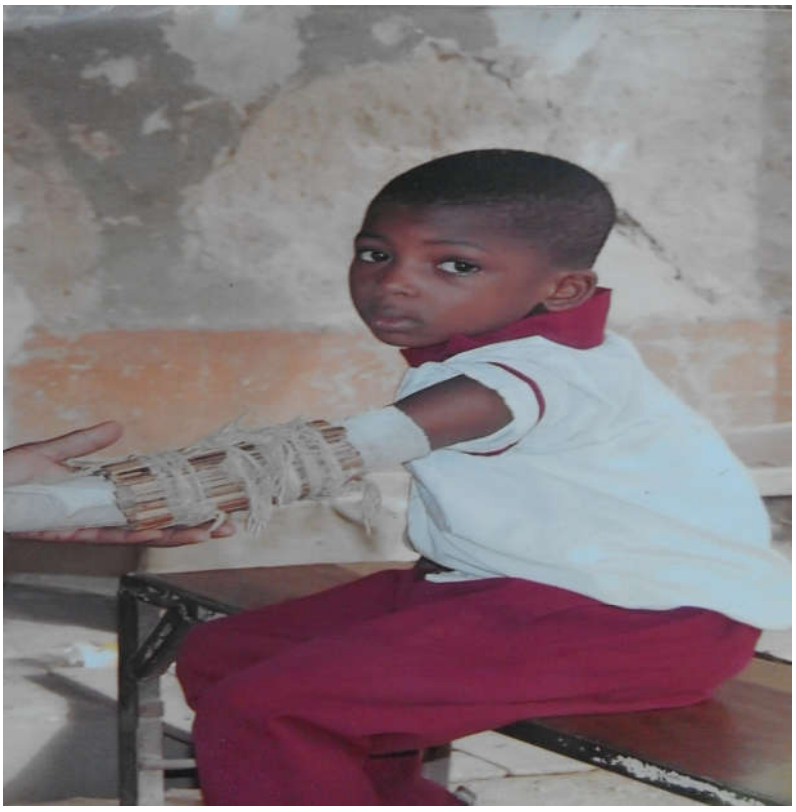


Plate II: Showing the Hand fracture after treatment.

4.7.2 Level of patronage of traditional bone setters

The traditional bone setters enjoyed high patronage and confidence from patients in Kano metropolis. The patronage of the services of the bone setters cut across every strata of Kano society including the educated and the rich. Not only in Kano, is the patronage of bone setters even patronized in other cities of Nigeria, such as Lagos, Ibadan, Enugu (Owumi et al, 2013)

In Kano metropolis, the services of some bone setters are patronized at least by six (6) people per day (Inuwa interview 1st February, 2015).As a result of banning of commercial motorcycle from operation in Kano, there has been a drastic reduction in the road accidents leading to decrease in the patients of the traditional bone setters (Abdullahi, interview 2nd February, 2015)

There are many reasons why people patronize the services of the traditional bone setters in Kano. According to Owumi (2013), most people visit traditional bone setters because they wanted cheaper and quicker services than modern treatment. This factor can be applicable to Kano. Many people in Kano patronize the services of traditional bone setters because they cannot afford the service of the modern medical centers.

Similarly, many people in Kano believe in the efficacy of traditional bone setting. Even the previous research has indicated that some of the traditional healers are efficient. For example, Bussey (2011) observed in a study that traditional bone setters practice for closed fracture of the shift of the humerus, ulna radius and tibia. This therefore indicates that traditional bone setters are proficient in some aspects of bone treatment.

Plate III: Showing the Woman Left leg fracture after treatment.

4.7.3 Problems of traditional bone setting

One of the major problems associated with traditional bone setters is the proliferation of quack traditional healers. This has tarnished the image of the traditional bone setters. There is an upsurge of the traditional medicine providers, include the traditional bone setters, most of whom are mere charlatans who like, the sophist of ancient times, make huge sum amount of money from the "trade". In these days, traditional health providers only saw what they did in terms of services to their communities where one cannot really afford to be dubious. African traditional providers, those days more from rural to urban centers with the sole purpose to enrich themselves (Karofin Zage, interview 2nd February, 2015).Another problem encountered by the traditional bone setters is insufficient fund that can be used to set up efficient business. For example, Halidu complain that the major problem he encountered is lack of place where he can admit his patients. He had to rent an apartment which is spacious enough to accommodate all his patients. (Halidu, interview 4th February, 2015).On his part, Talle maintains that he does not have

enough money to employ nurses that can take care of his patients. Moreover, people are sometimes unwilling to pay the stipulated amount of money to the traditional bone setters (Ya'u, interview, 6th February, 2015).

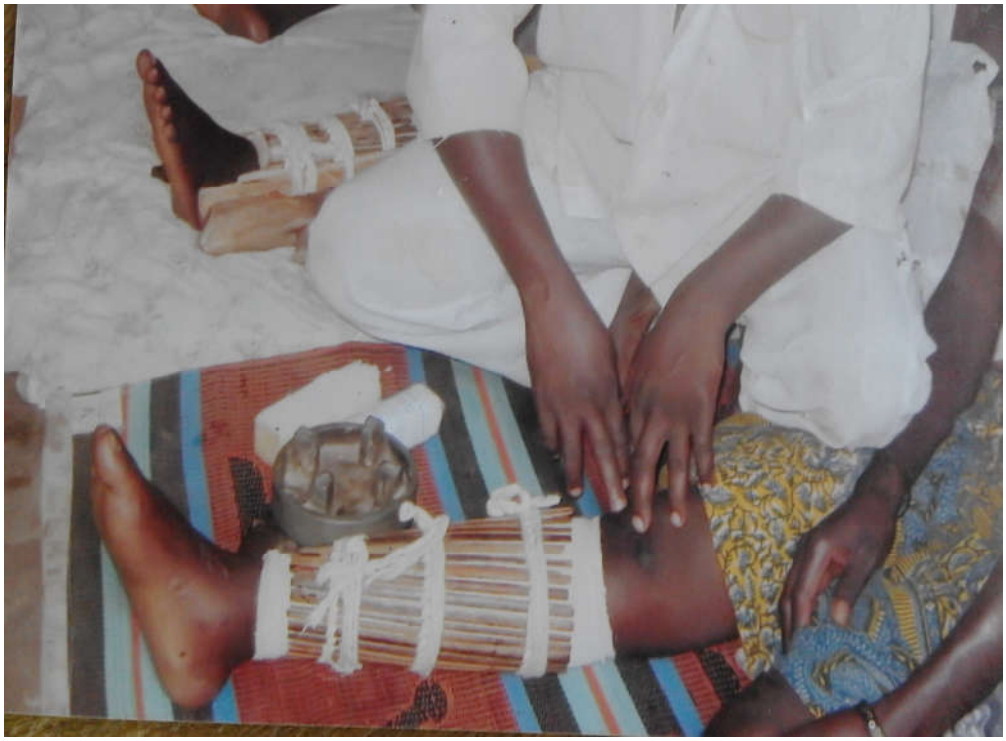


Plate IV: Showing the Right Leg Fracture after Treatment

CHAPTER FIVE

5.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter highlights the major findings upon which the recommendations are made and a final conclusion drawn.

5.2 Summary

The study found out that distribution of traditional bone setters in the study area is uneven as they are largely located in Kano municipal. Kano municipal is the core of Kano old city, most the people in the Local Government still value and patronizes the traditional medical practitioners. That is why the services of traditional bone setters are in high demand. And that is why the Local Government has high number of bone setters' centers.

Majority of the people attributed to reasons of patronizing traditional bone setting as accessibility, cultural belief, quick recovery and cost effectiveness respectively. However, their charges appear the most conspicuous reason for their patronage as many people cannot afford the charges by modern orthopedic care service. This is because charges of orthopedic hospitals are very high to the extent that the low income earners cannot afford the service of orthopedics. On the other hand, the traditional bone setters comparatively charge the clients a meager amount of money. In fact mostly the bone setters don't specify the amount will paid by their clients.

Many people believe that traditional bone setting is highly efficacious due to fear of operation/amputation and application of plaster of Paris in the specialist centers.

There is an erroneous belief in traditional Africa that the only available option for treatment of fractures in hospitals is amputation.

The problems that traditional bone setters are facing included lack of modern instruments and inadequacy of formal training and skills among others. The government has not established centers that train the traditional medical practitioners to acquire certificate. No any effort has been made to establish a synergy between the traditional bone setting profession and modern orthopedics practice. The bone setters are not exposed to modern means. In addition, they lack the skills of using simple modern equipments that can help the patients in speeding up the healing process.

Finally, traditional bone setting needs more government support in terms of training by organizing training and skills acquisition programmes as recommendation by the study.

5.3 Conclusions

Traditional bone-setters have contributed immensely to the treatment and cure of bone-related diseases and fractures. Their relevance is not only revealed in their effectiveness and efficacy but also on the fact that they are affordable and close to the patients in the community. Unfortunately the poor recognition and support from government still remains a huge challenge in their bid to contribute their own quota to the health care system in Nigeria.

Based on the foregoing analyses we can conclude that the services of the traditional bone setters are very much patronized by most of the people in the study area. This is because orthodox orthopedic services are very expensive. Most of the people in the study area go to the traditional bone setters when they suffer from fracture, sprains or dislocation instead of going to the hospital for treatment.

Hence, by comparing the results obtained from the respondents in the study area, the results revealed that the services of the traditional bone setters are very much patronized by most of the people in the study area. The study also conclude that ethnicity is strongly related to patronage, Hausa/ Fulani people who are the indigenes of the area patronized traditional Bone Setters more than the other ethnic groups.

5.4 Recommendations

1. The study recommends that traditional bone-setter as well traditional healers should be given maximum support by government and other health stake holders in order to bring out the best in them. The government should support them by establishing centers that can train the bone setters to acquire in modern and more effective ways of caring cases of fracture. This can make many people have confidence in their services. The government also should ensures that only certified bone setters who have met all the requirement set by the government are allowed to practice the profession.

2. The government should empower the Private Health Institution Registration Unit (PHIRU) so that it can effectively regulate the activities of the traditional medical practitioners including the traditional bone setters in Kano. PHIRU should be given full support by the government both financially and through enacting laws that can give them the power to ensure that the activities of the traditional bone setters in Kano are effectively regulated.

3. It is expedient that the government, in collaboration with modern practitioners should organize trainings for the traditional bonesetters. This will go a long

way in ensuring a cordial relationship between both practitioners and will also assist in referrals to the modern practitioners when treatment cannot be guaranteed by the traditional bone setters. The training should be on the most effective ways of curing patients .The TBS should undergo the training which will comprise the theory and practical aspects. After the training the participants should be given certificates that will enable them to practice their profession but under the regulation of the government regulatory bodies or agencies that would ensure that unethical practices always attract punishment.

4. There is the need to set up training institutes where the art of bone setting can be learnt, without necessarily going through the rigours of tertiary education. The training should be in the local language as many of the Traditional Bone Setters are not literate. Since most of the bone setters lack even primary education, the institution should be in Hausa language and the modern way of curing patients should simplified.

5. Appropriate legislation has to be enacted by the government to integrate traditional bone setting with the contemporary orthopedic care service. The bill should have different components on institution for the training of TBS in Kano. A certificate will be awarded at the end of training which will allow the holder to practice under government regulation. Secondly, the bill should also address the negligence of the Traditional Bone Setters in providing them with financial support. All those who participate in the training should be provided with the adequate support financially to enable them open modern centers where their services will be accessed. Thirdly, the regulatory agency that will regulate the services of Traditional Bone Setters should be given power in the

bill ensure the compliance of their members on the rules and regulations governing the conduct of their profession.

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Appendix I: Descriptive Summary of other socio-demographic characteristics and Patronage Chi-square test

Chi-square

Count

		Patronage			Total
		Not indicated	Yes	No	
AGE	15-20	0	9	1	10
	20-24	1	19	7	27
	25-29	8	54	26	88
	30-34	3	42	30	75
	35-39	1	17	10	28
	40-44	1	8	4	13
	45-49	2	4	1	7
	50 & above	0	3	1	4
Total		16	156	80	252

Chi-square result for Age and patronage.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	15.253[a]	14	.361
Likelihood Ratio	14.152	14	.438
Linear-by-Linear Association	.086	1	.769
N of Valid Cases	252		

a. 13 cells (54.2%) have expected count less than 5. The minimum expected count is .25.

Descriptive Summary of Gender and Patronage Chi-square test.

Crosstab

Count

		Patronage			Total
		0	1	2	
	Male	9	95	46	150
	Female	7	61	34	102
Total		16	156	80	252

Chi-square result for Gender and patronage.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	.329[a]	2	.848
Likelihood Ratio	.329	2	.848
Linear-by-Linear Association	.062	1	.803
N of Valid Cases	252		

a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 6.48.

Descriptive Summary of Religion and Patronage Chi-square test.

Crosstab

Count

		Patronage			Total
		0	1	2	
RELIGION	Muslim	13	140	69	222
	Christian	3	11	8	22
	Traditional	0	3	2	5
	Others	0	2	1	3
Total		16	156	80	252

Chi-square result for Religion and patronage.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3.287[a]	6	.772
Likelihood Ratio	3.358	6	.763
Linear-by-Linear Association	.127	1	.721
N of Valid Cases	252		

a. 7 cells (58.3%) have expected count less than 5. The minimum expected count is .19.

Descriptive Summary of occupation and Patronage Chi-square test.

Crosstab

Count

		Patronage			Total
		0	1	2	
OCCUPATION	Civil servant	7	60	41	108
	Trading	2	13	8	23
	Self employ	3	17	6	26
	Student	4	46	19	69
	Housewife	0	18	6	24
	Others	0	2	0	2
Total		16	156	80	252

Chi-square result for occupation and patronage.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	8.599[a]	10	.571
Likelihood Ratio	10.583	10	.391
Linear-by-Linear Association	1.656	1	.198
N of Valid Cases	252		

a. 7 cells (38.9%) have expected count less than 5. The minimum expected count is .13.

Descriptive Summary of occupation and Patronage Chi-square test.

Crosstab

Count

		Patronage			Total
		0	1	2	
L.W. EDU	0	1	3	6	10
	1	0	2	1	3
	2	0	12	2	14
	3	4	46	16	66
	4	1	9	8	18
	5	3	31	15	49
	6	5	32	22	59
	7	2	19	10	31
	8	0	2	0	2
Total		16	156	80	252

Chi-square result for occupation and patronage.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	14.084[a]	16	.592
Likelihood Ratio	15.856	16	.463
Linear-by-Linear Association	.002	1	.964
N of Valid Cases	252		

a. 15 cells (55.6%) have expected count less than 5. The minimum expected count is .13.

Appendix II: Descriptive Summary of Ethnicity and Patronage Chi-square test

Crosstab

Count

		Patronage			Total
		0	1	2	
ETHINICITY	Not indicated	0	2	1	3
	Hausa	14	152	72	238
	Fulani	0	1	3	4
	Yoruba	1	0	0	1
	Igbo	0	1	1	2
	Others	1	0	3	4
Total		16	156	80	252

Chi-square result for ethnicity and patronage.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	26.250[a]	10	.003
Likelihood Ratio	18.033	10	.054
Linear-by-Linear Association	.752	1	.386
N of Valid Cases	252		

a. 15 cells (83.3%) have expected count less than 5. The minimum expected count is .06.

Appendix III

DEPARTMENT OF GEOGRAPHY

BAYERO UNIVERSITY, KANO

SPATIAL DISTRIBUTION AND UTILISATION OF TRADITIONAL MEDICINE

IN KANO METROPOLIS

CHECK LIST FOR BONESETTERS

Location…… Coodinates……..

Investigator…....

1. Please introduce yourself (probe for specialization)

Name.....

Age: ……

Gender:… ……..

Level of Education; ……

2. Please tell us how you find yourself in this trade?

3. Pleaese tells us your area of specialization in bone setting

4. Tell us about karaya, targade, tsagewar kashi?

5. What kind of people do you serve?

6. How do you diagnose the problem?

7. Tell us the procedure you follow to diagnose the problem?

8. Idan akwai ciwo a karaya, targade, tsagewar kashi?

9. What are the instruments used?

10. Do you sterilize your instruments?

11. How do you sterilize your instruments (probe?)

12. How many patients patronized your service in a week?

13. How do you charge your patients?

14. What charge do you expect if it?

15. If you are not charging your patients why?(probe)

16. What are the problems associated with your trade?

17. What will be the solution for this problems mention?

18. How can you improve this trade?

19. Have you received any formal training

20. Would you mind receiving formal training?