



INFLUENCE OF SOCIOCULTURAL FACTORS ON THE HEALTH SEEKING BEHAVIOUR OF PATIENTS WITH BONE FRACTURE IN LAGOS STATE, NIGERIA

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ABSTRACT

This study investigated the socio-cultural factors influencing health-seeking behaviour (HSB) among bone fracture patients in Lagos State, Nigeria. Literature reviewed indicated that many socio-cultural factors influence health-seeking behaviour of bone fracture patients including the differences in the methods used by Medical orthopaedic Surgeons (MOS) and Traditional bone Setters (TBS). However, this study focused on such socio-cultural factors as education, income, residence (rural or urban) and belief in supernatural causes of accidents. The health belief model and the theory of reasoned action and planned behaviour are the theories adopted for the study. The non-experimental research design was adopted and comprised both quantitative and qualitative approaches. Cross-sectional survey and in-depth interview (IDI) were utilized to gather data. A sample of 300 respondents was drawn among bone fracture patients from orthopaedic hospitals and traditional bone setting (tbs) homes using the multi-stage stratified, random and purposive sampling technique in four LGAs of Lagos state. Data were collected in 2016. The Statistical Package for Social Sciences (SPSS) was used to analyze the data and test the hypotheses. Chi-square results showed that higher educational attainment, higher monthly income and urban residence are positively related to the utilization of medical orthopaedic services (mos) with ($p=0.000$), ($p=0.006$) and $p=0.000$ respectively, while there is no relationship between belief in supernatural causes of accidents and HSB with ($p=0.098$). Strength of association test using eta coefficient (η) yielded a little association between the independent and the dependent variables in the four hypotheses as $\eta = .267$, $\eta = .096$, $\eta = .238$ and $\eta = .222$ respectively and in all $\eta < 0.3$. Recommendations were made for health policy makers, MOS, TBS and the general public for improved health-seeking behaviour, skills of the practitioners and bone fracture care in general.

Keywords: Bone fracture patients, Health-seeking behaviour, orthopaedic services, bone setting.

INTRODUCTION

Over the years, researchers have observed that bone fracture patients shuttle between Medical Orthopaedic Services (mos) and Traditional Bone Setters (tbs) in search of treatment. This search for treatment is called health-seeking behaviour. Ahmed *et al.* (2000; cited in Mackian, 2003), defines health-seeking behaviour as the sequence of remedial decisions and actions taken to rectify an identified health problem (in this case, bone fracture). This study is an attempt to investigate the influence of some socio-cultural factors on HSB of patients with bone fracture in Lagos state, Nigeria. The cross-sectional survey and in-depth interview methods were used to carry out this investigation. A broad range of literature on the socio-cultural factors influencing health-seeking behaviour and the methods used by the traditional and modern bone fracture care practitioners were reviewed. It was found that according to Tipping and Segall (1995; cited in Mackian, 2003), the decision to engage with a particular medical service (tbs or mos) is influenced by a variety of factors such as; sex, age, family, friends, social status, income, cultural factors, type of illness, availability of services, access to services and perceived quality of the services among others. This study focuses on the socio-cultural factors influencing health-seeking behaviour and according to Oyefara (2011: p. 21), "socio-cultural factors is a wide and barely definable term which includes social, cultural, economic and environmental variables that influence an individual, group, community, society or nation". Obviously this term is very embracive and as such it becomes necessary to limit its application to specific areas of interest. Therefore, the



following variables will be used to measure the socio-cultural factors influencing health-seeking behaviour and they are; educational level, income level, residential location (rural/urban) and believe in supernatural causes of accidents. Health-seeking behaviour is therefore a complex outcome of many factors operating at individual, family, and community levels.

According to Alonge *et al.* (2004), bone fracture care in Nigeria is dominated by the TBS (Traditional bone setters) and MOS (Medical orthopaedic surgeons) in the healthcare delivery system. The differences in the quality and techniques of bone fracture care used by the MOS and TBS in Nigeria is one of the major factors that influence the health-seeking behaviour of bone fracture patients as Solagberu (2005; cited in Dada *et al.*, 2009) observed that patients shuttle from tbs (traditional bone setting) homes to hospitals and from hospitals to tbs homes in search of wellness.

This is disturbing in view of the rising rate of bone fracture cases due to the increasing use of motor cycle popularly known as “okada” as means of transportation, the increasing poverty among the Nigerian populace and the rising cost of qualitative bone fracture care in Lagos state. This is an observation that prompted the study of these factors in a broader socio-cultural, demographic, economic, patient related and environmental context among others. In Nigeria, it is estimated that over 70% of the rural population rely on TBS for their primary bone fracture care (Ekere and Echem, 2011) because it is considered to be cheaper, more accessible and readily available compared to MOS who render qualitative but expensive services and are most often located in the urban areas. From the above, it is clear that health-seeking behaviour of bone fracture patients in Lagos state is a reflection of the prevailing socio-cultural conditions of the country and therefore amenable to change (Olenja, 2003). The unique aspect of this research is that it presents a comprehensive picture of the socio-cultural factors influencing health-seeking behaviour to the two main bone fracture care methods which makes it easier to understand the relationship between the factors under investigation and health-seeking behaviour of bone fracture patients in Lagos state. The study discussed here is a part of a larger thesis involving 1000 patients with bone fracture in Lagos state also aimed at identifying the socio-cultural factors influencing the HSB of bone fracture patients.

Statement of the Problem

About 85% of patients with bone fracture visit tbs before going to hospital and about 43% visit the hospital before going to tbs. It is also observed that some of the patients go back to MOS after leaving the hospital for tbs and some go back to TBS after leaving tbs homes for MOS. Further, about 80% of bone fracture cases in Nigeria are handled by TBS who use crude, unscientific and unhygienic methods associated with high rate of complication. The level of complications associated with tbs is high yet patients troop to them for fear of amputation, exorbitant charges, delayed attention, negligence and the use of plaster of Paris associated with mos. The number of road traffic injuries and physical disabilities in Lagos state is increasing without corresponding increase in the number of orthopaedic surgeons and orthopaedic care centres in the state. Motorcycle related accidents accounts for about 76% of severe open fractures of the lower limbs in Nigeria and the purchase of motorcycles as an empowerment strategy for the Nigerian youths by the government is compounding the problem.

This poor HSB does not promote effective bone fracture care in Lagos state as ineffectively treated bone fracture injuries lead to loss of jobs, change of careers or change of dreams, loss of national productive economic force and even death (Solagberu, 2016). To buttress this, Lawal *et al.* (2012), pointed out that mistreated open



fractures of the lower limbs are a major cause of disability and economic loss and the problem is increasing in the developing countries including Lagos state in Nigeria. Thus far, the question that agitates the mind of the researcher is why is there high patronage for tbs in spite of gigantic improvements in medical orthopaedic services in Lagos state? It is in an attempt to resolve these problems that this study explores the socio-cultural factors influencing health seeking behaviour of bone fracture patients in Lagos State, Nigeria.

Objectives of the Study

The main objective of this study is to identify the socio-cultural factors influencing health-seeking behaviour among bone fracture patients in Lagos state.

The specific objectives are to:

1. Investigate the relationship between bone fracture patients' educational level and health-seeking behaviour.
2. Assess the effect of belief in supernatural causes of accidents on health-seeking behaviour of bone fracture patients in Lagos state.
3. Examine the relationship between bone fracture patients' income and health-seeking behaviour.
4. Determine the relationship between bone fracture patients' place of residence (rural or urban area) and health-seeking behaviour.

Research Hypotheses

In line with the objectives of the study, the following hypotheses were tested:

H1: Educated bone fracture patients are more likely to visit medical orthopaedic centres than the less educated patients in Lagos state.

H2: Patients who believe in supernatural causes of bone fracture are more likely to visit traditional bone setters than those who do not believe in it.

H3: Bone fracture patients with higher level of income are more likely to visit medical orthopaedic centres than those with lower level of income.

H4: Bone fracture patients living in the urban areas are more likely to go to medical orthopaedic centres than those living in the rural areas.

Significance of the Study

The study identified the socio-cultural factors that influence health-seeking behaviour of bone fracture patients in Lagos state. This is because prompt health-seeking is critical for appropriate management and for this reason, understanding the factors that influence health seeking behaviour becomes important in any government effort to provide effective and patient oriented bone fracture care services in Nigeria. Theoretically, the study offered further explanations on the relationship between the various influencing factors and the health-seeking behaviour of bone fracture patients in Nigeria with Lagos state as a case study. On the practical dimensions, the findings will provide a fertile ground for proper planning and execution of national health policies on fracture care in Nigeria. Such policies will include the provision of mos centres in the rural areas, formal training of TBS and the provision of employment for the teeming youths who dominate motorcycle business as a means of sustaining their livelihood. On the basis of the findings from the study recommendations were made to help the health policy makers, MOS and TBS to improve their skills as their practices form a major influencing factor of health-seeking behaviour and to bone fracture care generally. The study has also added to the existing pool of social science knowledge, to serve as a veritable source of data to



future researchers in Nigeria and the world as well as stimulate further studies in this area.

Justification for the Study

Researchers have long been interested in the complications associated with tbs and the inadequacies of mos (medical orthopaedic services) but only few have addressed the socio-cultural factors influencing the health-seeking behaviour of bone fracture patients in Lagos state at such a broader perspective. The interest to investigate the socio-cultural factors that influence health-seeking behaviour of bone fracture patients is motivated by the increasing rate of bone fracture injuries, the increasing poverty among the Nigerian populace and the rising cost of qualitative bone fracture care in Lagos state and Nigeria generally. In view of the current rising rates of road traffic crashes and domestic accidents, the factors influencing the health-seeking behaviour of bone fracture patients have to be appropriately addressed. Nwachukwu *et al.* (2010), noted that unless a collaborative effort of the government, MOS and TBS is made, to address these factors and improve bone fracture care in Nigeria, the health-seeking behaviour of the people will continue to be poor.

Bone fracture care in Nigeria is not satisfactory. About 80% of bone fracture care in Nigeria is handled by TBS who use crude and unscientific methods (WHO, 2002). Some of the activities of the MOS and other health practitioners like incessant strike actions, unavailability of drugs and materials, prolonged delays among others also contribute to the unsatisfactory health-seeking behaviour of the patients. It is only a study like this that would highlight these factors and reflect the realities of bone fracture care in Nigeria ((Nwachukwu *et al.*, 2010 and Sofowora, 2006). Further, there is an erroneous belief in African societies that the only available option for the treatment of bone fractures in hospitals is amputation (Ogunlusi, *et al.*, 2007, Udosen *et al.*, 2006 and Thanni, 2000; cited in Idris *et al.*, 2010). This impression needs to be corrected through studies like this. According to Owoseni *et al.* (2014), in spite of the availability of a number of orthopaedic surgeons and well equipped orthopaedic hospitals in Lagos state, a large number of the population still obtain treatment from TBS. This is an indication that TBS could be trained to function better since it has become obvious that the practice is engrained in the culture and tradition of the people. To achieve this, an extensive study of the factors that influence the use of MOS and TBS services becomes important.

LITERATURE REVIEW

The Coexistence of traditional bone setting and medical orthopaedic services in Lagos state

According to Nwachukwu *et al.* (2010), the traditional and modern approaches of bone fracture care are disharmoniously coexisting in Lagos state and this has been generating a cultural clash and a strained relationship (Lawal *et al.*, 2012) among the two sets of practitioners. Owoseni *et al.* (2014) observed that the relationship that exists between TBS and MOS can best be described as that of cat and mouse. The MOS regard TBS's method of treatment as fetish, primitive and unscientific. On the other hand, TBS regard the MOS as usurpers of their cultural heritage i.e., knowledge and skill in bone setting (Ekere and Echem, 2011). As this silent war rages between the only two bone fracture care practitioners in Nigeria, the patients are at the receiving end. This is why Onuminya (2005; cited in Dada *et al.*, 2009), suggests that a scientific approach to resolving the strained relationship is a formal training of the TBS since tbs is ingrained in the culture of the people. However, the coexistence of mos and tbs in Lagos state provides an opportunity to learn about the potential strengths and limitations of each method and to



examine opportunities for cultural synthesis and collaboration (Nwachukwu *et al.*, 2010). Lawal *et al.* (2012), opined that both TBS and MOS have made outstanding achievements in the management of musculo-skeletal problems in Lagos state and Basse *et al.* (2009) pointed out that the simple wooden splints used by TBS were found to be more effective and satisfactory than plaster of Paris for immobilization of fractures of the shafts of both forearms bones. The MOS have as well performed outstanding breakthroughs in bone fracture care in Nigeria. A brief history of these practices will enhance the understanding of this research.

Traditional bone setting is a highly specialized aspect of traditional medicine (Owoseni *et al.*, 2014). It has been practiced for millennia as a cultural adaptation to bone fracture care in Lagos state, Nigeria (Nwachukwu *et al.*, 2010; Basse *et al.*, 2009). The practice is usually preserved as a family occupation often passed from father to son and to other relations or friends via apprenticeship ((Ekere and Echem, 2011). The practitioners are mostly illiterates and do not have knowledge of anatomy, physiology and radiology and they rely so much on experience and intuition. (Ekere and Echem, 2011). Their records are usually kept by oral tradition (Basse, 2009). There is no gender discrimination, no admission requirement, apart from perhaps interest in the art. According to Sofowora (2006), TBS diagnose or use their palms and fingers to feel and access the type and extent of damage to broken bones without X-ray. Traditional bone setters do not utilize anaesthesia in their treatment procedures and therefore do not relax the patients adequately to set dislocated joints (Onuminya, 2004). Their treatment procedure involves the use of splints made of wood, bamboo or rattan cane which are usually bandaged around the fracture to immobilize the site, herbal dressings and hot fomentations are applied (Ekere and Echem, 2011). Massages, herbal creams with or without scarification are applied and repeated at irregular intervals until the fracture heals. Treatment is carried out while the patient is either sitting or lying down in a mat.

Dada *et al.* (2009) observed that sometimes the practitioners chant incantations to evoke the spirits to guide the procedure. Furthermore, Sofowora (2006) stated that in some parts of Nigeria, TBS fracture the leg of chicken at the same time as they are treating a patient's fracture; the chicken is given the same treatment as the patient. It is believed that when the chicken is able to walk again, the patient's fracture would have healed sufficiently for him to try walking with the bad leg. Generally TBS's fees are affordable and the practitioners are accessible, patients feel more confident with them and the treatment procedures are in tune with African culture of being ones brother's keeper (Nwachukwu *et al.*, 2010).

Although tbs in Nigeria has a long history, its safety and efficacy are sparsely evaluated. There are no data on how many people are successfully treated by TBS and complications associated with the treatment of fractures and dislocations by them are assumed to be common (Ekere and Echen, 2011) and they include; infection, gangrene of the affected limbs, non-union, malunion, contractures, osteomyelitis, limb shortening, sepsis and even death among others (Alonge *et al.*, 2004; cited in Idris *et al.*, 2010; Ekere and Echem, 2011). They also observed that patients spend longer days at tbs homes than in the hospitals. Owoseni *et al.* (2014) therefore wonders why in spite of the complications and longer stay, TBS continues to have patronage from both the highly educated and the illiterate. Dada *et al.* (2009), enumerated possible reasons for this to include; cultural belief, perceived low cost, ignorance, influence of friends and relatives, overcrowding of hospital with trauma cases, obsessive technicalities, fear of amputation, plaster of Paris, incessant strikes by orthopaedic doctors, unnecessary bottlenecks in hospitals and the attitude of health workers that encourage the patronage of TBS.



On the other hand, orthopaedic fracture care started in Lagos state and in Nigeria precisely in 1943, when the British colonialists opened the first centre in Igbobi, Lagos as a rehabilitation camp for wounded soldiers returning to Nigeria from World War II. The hospital was named the National Orthopaedic Hospital-Igbobi (Nwachukwu *et al.*, 2010). According to the Residency Training Committee (n.d.), admission into the post medical college for training as an Orthopaedic surgeon requires that one must be a medical practitioner, registered with the relevant national body such as the Medical and Dental Council for regulation of the practice. These requirements include; Bachelor of Medicine and Bachelor of Surgery (MBBS, registration with Medical and Dental Council, National Youth Service discharge certificate, current practicing license, success at the selection interview, a sponsor and a stipulated fee for supernumerary). This may have accounted for the dearth of orthopaedic doctors in Nigeria and Lagos state as Nwachukwu *et al.* (2010), observed that Nigeria has fewer than 200 MOS. Furthermore, there are only two postgraduate medical colleges involved in the training and certification of Residents, they are; the National Postgraduate Medical College of Nigeria at Lagos-Badagry express way and the West African College of Surgeons at Yaba, Lagos.

Orthopaedic doctors provide effective and qualitative specialized healthcare delivery and training through research (Odunubi, 2015). In orthopaedic fracture care settings, team work is upheld and the team includes; Doctors, Nurses, Pharmacists, Laboratory Scientists, Physiotherapists, Radiographers, Social Health Workers, Prosthetists and Dieticians (Abolarin, 2010). The techniques used by orthopaedic doctors in fracture care are standardized and sophisticated. Bone fracture care is given by trained professionals such as mentioned above. The environment is neat and the workers are also neat. Fracture care takes place in an established institution. A high sense of aseptic technique is maintained to prevent infection of the wounds and according to Ekere and Echem (2011), diagnosis is carried out with the aid of X-ray and laboratory investigations. Anaesthesia is used during the reduction of joint and other operations in order to minimize pains. Appropriate drugs are given in the form of tablets, injections, infusions, capsules etc. When necessary, sutures are applied to enhance the healing of open wounds and dislocated joints are fixed by a process called reduction (Onuminya, 2004). Ultimately, these differences in techniques and attitude of the health providers influence the health-seeking behaviour of patients to both TBS and MOS.

Health-seeking behaviour in Lagos state: An overview

Health-seeking behaviour in this study is defined as the decisions and actions taken by individuals with identified bone fracture (health problem) in the process of searching for treatment. In Nigeria and in many developing countries, the peoples' ideas and attitudes toward health and illness affect the way they utilize health services. Typically, a health-seeking behaviour model involves the recognition of symptoms, perceived nature of illness, followed initially by brief appropriate home care and monitoring. The prognosis may necessitate seeking care at the public health facility, medication and compliance. Treatment failure may require a return to the public health facility or an alternative care provider (Olenja, 2003). Corroborating, Mackian (2003), opined that the desired response to illness is for the individual to visit a formal trained health care provider (centre) first. In Lagos state, researchers have observed that this desired pattern of response to illness and accidents does not obtain due to the many factors that influence the peoples' health-seeking behaviour and the peculiar nature of bone fracture cases.

Health-seeking behaviour in Lagos state Nigeria is not satisfactory. Studies indicate that patients shuttle from one treatment centre to the other as they search for healing. For instance, Solagberu (2005; cited in Dada *et al.*, 2009) observed that patients shuttle from



tbs homes to mos and from mos to tbs homes in search of wellness. In Ekere and Echem(2011), about 85% of bone fracture patients visited tbs before going to mos. In Dada et al's study, 43% of the patients initially went to hospitals before they went to the bonesetters. In Owumi et al(2012; cited in Owoseni *et al.*, 2014) 74.9% of patients initially were treated by TBS. In Owoseni *et al.*, 2014), one hundred and twenty-four (124) of the TBS's clients (50.2%) went to TBS from the start of their injury. According to the authors, this could be dangerous especially in those patients that could have sustained concomitant life threatening injuries. In a study in Makurdi, 48 (40%) of the patients abandoned the TBS treatment because they were unsatisfied, while 60 (50%) patients left for mos because they developed complications (Onyemaechi *et al.*, 2014). Studies have shown that this pattern of health-seeking is the trend in the country and it is not healthy for the patients in particular and the nation in general.

In Nigeria, majority of the patients go to TBS for treatment and it is estimated that about 80% of fracture morbidities occur as a result of TBS practices or malpractices (Ekere and Echem, 2011). It is estimated that majority of the rural population rely on TBS for their primary bone fracture care (Ekere and Echem, 2011) because it is considered to be cheaper, more accessible and readily available compared to MOS who render qualitative but expensive services and are most often located in the urban areas whereas TBS are more in the rural areas where they provide about 85% of bone fracture care for the medically underserved communities in Nigeria. Further, Dada *et al.* observed that despite all the assumed complications associated with tbs, many people still have a strong belief in the capability of TBS. Notwithstanding, the Encyclopaedia of Medical Anthropology, stated that "people usually opt for the simplest form of treatment, which usually is the cheapest, most effective treatment they deem to be, only when the simplest form of treatment is proved unsuccessful do people seek higher level, costlier and conventional treatments (2004: p. 3-8; cited in University of Columbia, 2015). This poor HSB does not promote effective bone fracture care in Lagos state as ineffectively treated bone fracture injuries lead to loss of jobs, change of careers or change of dreams, loss of national productive economic forces and even death (Solagberu, 2016). To buttress this, Lawal *et al.* (2012), pointed out that open fractures of the lower limbs are a major cause of disability and economic loss and the problem is increasing in the developing countries including Lagos state in Nigeria.

Unfortunately, the importance of health-seeking behaviour of bone fracture patients in Lagos state has been overlooked by health Policy makers for long despite "increasing road traffic accident (RTA) estimated to be 41/1000 population, with motorcycle injuries accounting for over half of the injuries" Labinjo *et al.* (2009; cited in Emiogun *et al.*, 2016 p. 44). In all events, prompt health-seeking and the formally recommended HSB are critical for effective management of bone fracture and for this reason, understanding the socio-cultural factors that influence this behaviour in Lagos state becomes important and they are discussed in the subsections below.

Education

Studies have shown that patients with higher education are more likely to patronize mos than their less educated counterparts. For instance, Buor (2003; cited in Prosser, 2007), finds that in Ghana, higher education results to higher utilization of health facilities. In addition, Ekere and Echem (2011) noted that though, patronage of TBS cuts across educational levels, patients that are less educated tend to patronize TBS more than the elites. One of the direct effects of low literacy is inability to access health information i.e. to read labels and instructions for medical safety and advice presented in print form



(Prosser, 2007). In other words, education increases the possibility of health education and health information and therefore, better health-seeking behaviour.

Cultural beliefs.

According to Robertson (1988: P. 450), "health-seeking behaviour is influenced by cultural factors such as ethnic group membership". Nigeria is a multi-ethnic country with over 250 identified languages and ethnic groups (Udebunu, 2011). Major ethnic groups are the Yoruba, Ibo and the Hausa. Others include; Kanuri, Fulani, Tiv, Edo, Nupe, Ibibio, Ijaw among others. According to him, each cultural group has distinct cultural life, values, beliefs, needs and expectations which influence health-seeking behaviour. For instance, Owoseni *et al.* (2014) observed that Africans believe that diseases and accidents have spiritual components that need to be addressed along with the treatment of diseases. Lagos state is a metropolitan city inhabited by people from the various ethnic groups of Nigeria and foreigners who may also have their own cultural beliefs about diseases. Cultural beliefs and practices often lead to self-care, home remedies, delayed health-seeking and consultation with traditional healers especially in rural communities (Nyamongo, 2002: cited in Babar *et al.*, 2004).

Regular Income and Occupation

As expected, low income is a major factor influencing health-seeking behaviour among bone fracture patients in Nigeria. Similarly, in Kenya, Abubakar *et al.* (2013) observed that inadequate financial resources contribute to delay in accessing medical facilities. Quite often, the decision to seek health care is based on the cost of the services irrespective of the perceived benefits (Babar *et al.*, 2004). In Pakistan for instance, Babar *et al.* observed that poverty not only excludes people from the benefits of health care system but also restricts them from participating in decisions that affect their health. According to Ogbeidi (2012), despite the paradoxical growth of the economy, the proportion of Nigerians living in poverty is increasing every year and this affects their health-seeking behaviour.

Residence

People living in the rural areas often have longer distances to travel to reach orthopaedic hospitals. There are noted differences between urban and rural areas and proximity to orthopaedic health services is an advantage. Rural people are also disadvantaged in terms of emergency care and health services generally (Noor, Zurovac, Hay, Ochola, & Snow, 2003; cited in Prosser, 2007). Babar *et al.* (2004), submits that the type of residence (rural or urban) signifies not only the socio-economic status but also gives a picture of the livelihood of a family. They posit that when the fare spent to reach the facility and the total amount for treatment seem to be cumbersome, health-seeking behaviour becomes influenced.

THEORETICAL CONSIDERATIONS

Theory of Reasoned Action and Planned Behaviour

The theory was first developed in the late 1960s by Martin Fishbein and expanded by Fishbein and Icek Azjen (Glanz, *et al.*, 2008). It is one of the health theories used in attempt to understand and predict how and why people change their unhealthy behaviours to healthier ones. The Theory of Reasoned Action (TRA) posits that individual behaviour is driven by behavioural intentions where behavioural intentions are a function of an individual's attitude towards the behaviour and subjective norms or (perceived social pressures) surrounding the performance of the behaviour (Glanz,



2008). In this model, attitude towards the behaviour is defined as the individual's positive or negative feelings about performing the behaviour. It is determined through an assessment of one's beliefs regarding the consequences arising from the behaviour and an evaluation of the desirability or undesirability of these consequences.

Subjective norm is an individual's perception of whether people (referents) important to him/her think the behaviour should be performed. The contribution of the opinion of any given referent is weighted by the motivation an individual has to comply with the wishes of that referent. Hence, overall subjective norm can be expressed as the sum of the individual perception and motivation assessments for all relevant referents. According to Ajzen (1991; Ajzen and Driver, 1991; Ajzen and Madden, 1996; cited in Glanz, *et al.*, 2008: p. 71), 'it is not clear that the TRA components are sufficient to predict behaviours in which volitional control is reduced'. Therefore, they added the construct of perceived behavioural control to TRA in order to account for factors outside individuals' control that may affect intentions and behaviours. With this addition, the theory of planned behaviour was created and perceived control is determined by control beliefs concerning the presence or absence of facilitators and barriers to behavioural performance. This means that whether or not a person participates or intends to participate in any behaviour is influenced strongly by the people around him/her. These people may include friends or a peer group, family, co-workers, religious leaders, community leaders and even celebrities.

This theoretical framework could potentially be used in guiding the choice of treatment methods for the patients with bone fracture in Lagos state. In choosing between mos and tbs, a lot of factors will be considered. There is a plethora of factors which include; financial ability of the patient and/or family, location of the bone fracture care institutions, residence of the patient (rural or urban), cultural belief, opinion of family and friends. This confirms Mackian's (2003) study which states that...factors promoting good health-seeking behaviours are not solely rooted in the individual but are more dynamic, collective and negotiated. Thus, the decision to either go to tbs or mos is fraught with a complexity of influences.

Critics observe that factors such as demographics, personality and unconscious motives are not in the model. Secondly, perceived behavioural control is hard to measure and the theory assumes that people are rational and make systematic decisions based on available information (Sarosa, 2009). However, TRAPB provides an understanding of how and why some patients visit tbs first while some visit mos first in their search for wellness.

The Health Belief Model (HBM)

"Since early 1950s, the Health Belief Model (HBM) has been one of the most widely used conceptual frameworks in health behaviour research, both to explain change and maintenance of health-related behaviours and as a guiding framework for health behaviour interventions" (Champion, 2008: cited in Glanz, *et al.*, 2008: p. 45). It posits that the constructs of perceived susceptibility to a disease, perceived seriousness, perceived benefits of attending a health program, perceived barriers and perceived cues to action might help to predict individual's health behaviours towards a given health program (Becker *et al.*, 1984 as cited in Glanz *et al.*, 2008). It is used to predict health behaviour, and program planners use it to understand and address reasons for non-compliance. The theory purports that increasing perceived susceptibility, perceived severity, perceived benefits and self-efficacy are cues to action, while decreasing perceived barriers encourage participation to actions (Glanz *et al.*, 2008).



Using this model, the patient's perceived severity of the bone injury and perceived benefit from a given health facility influences the choice of treatment method. A lot of barriers also deter patients from using their preferred health facility. Such barriers include; financial constraints, location of facility, ignorance of available health facility, and erroneous beliefs about a given facility. The theory could not make testable predictions as cultural and population differences make application of the scales prone to error Champion and Skinner (2008), and validity and reliability of measures are specific to each study.

METHODOLOGY

This study was conducted in 2016 in four local government areas of Lagos state. A cross-sectional survey and In-depth Interviews (IDs) were adopted to implement the study. The multi-stage stratified, random and purposive sampling techniques were used. Three hundred (300) copies of questionnaire were administered among bone fracture patients in the selected medical orthopaedic health institutions (mos) and traditional bone setting homes (tbs) in Surulere, Somolu, Kosofe and Ikeja local government areas. Both quantitative and qualitative methods were used to collect the necessary data from 150 respondents (selected at a ratio of 60, 40, 40, 10 from National orthopaedic hospital, Lagos University Teaching hospital, Lagos state University Teaching hospital and general hospital gbagada) respectively and 150 respondents (15 from each of the 10 tbs homes) used for the study. In-dept interview was conducted with some bone fracture patients, medical orthopaedic surgeons (MOS) and traditional bone setters (TBS). With the use of the Statistical Package for Social Sciences (SPSS), quantitative data were analysed using descriptive statistical tools such as percentages and frequency distributions. The Chi-Square tool was utilized to test the hypotheses, while qualitative data were content analysed.

Location of study is Lagos State which was created in 1967 by State Creation and Transitional Provisions Decree No. 14 of 1967. It is positioned at the south western part of Nigeria with a population of 9,113,605 (NPC, 2009) and has 20 local government areas.

Ethical Consideration

Ethical approval was obtained from the selected health institutions before the study commenced. The anonymity of all the respondents in the study was strictly maintained. Information given by the respondents was kept confidential. The study did not cause any harm to the participants in the process of administering the questionnaire and the interviews. Participation of the respondents in the study was purely voluntary.

RESULTS

Socio-demographic characteristics

The socio-demographic information of the respondents identified and analyzed include; sex, age, current marital status, educational level, employment status, major occupation, average monthly income and place of residence.

The reason for selecting and analysis these socio-demographic variables was to provides a background picture of the nature of the sampled respondents. This initial information provides ideas about possible health-seeking behaviour patterns and lifestyle expected from the respondents. The analyses of the socio-demographic variables can be seen below;



Table 1 Frequency Distribution of Respondents by Sex, age, marital status and educational qualification

Sex	Frequency	Percentage
Male	179	59.7
Female	121	40.3
Total	300	100.0
Age		
Age	Frequency	Percentage
Below 15 years	3	1.0
15-24	49	16.3
25-34	89	29.7
35-44	68	22.7
45-54	64	21.3
55-64	16	5.3
65-74	11	3.7
Total	300	100.0
Marital Status		
Marital status	Frequency	Percentage
Single	113	37.7
Married	171	57.0
Widow	10	3.3
Separated	3	1.0
Divorced	1	0.3
No response	2	0.7
Total	300	100.0
Educational Qualification		
Educational qualification	Frequency	Percentage
Primary	12	4.0
Secondary	133	44.3
Tertiary	140	46.7
No response	15	5.0
Total	300	100.0

Source: Field work Research (2017)

Table 1 above shows the frequency distribution of respondents by sex, age, marital status and educational qualification. The Table shows that 60% of the respondents are male while 40% are females. This implies that majority of the respondents are male. The table reveals that out of the 300 respondents, 1.0% were below 15 years, 16.3% were between 15-24 years old, 29.7% were between 25-34 years old, 22.7% were



between 35-44 years, 21.3% were between 45-54, 5.3% were between 55-64 while 3.7% were between 65-74 years. It therefore implies that a large percentage of the respondents are between the ages of 15-54. The table also shows that age of sampled respondents ranged from 15 to 74 years at the time of the survey. Nevertheless, the age group 25 – 34 years has the largest frequency of 89 respondents (29.7%) of total respondents. This was followed by those aged between 35 – 44 years that had a total 68 (22.7%) of the total respondents surveyed. The mean age of the respondents was 30.5 years.

The table reveals that out of 300 respondents, 37.7% were single, 57.0% were married, 3.3% were widow, 0.7% was separated while 0.3% was divorced.

Respondents that had primary education were 4%, 44.3% had secondary education while 46.7% had tertiary education. This implies that most of the respondents were educated.

Table 2 Frequency Distribution of Respondents by Occupational Status and monthly income

Occupational Status and monthly income		
Occupation	Frequency	Percentage
Trade / craft	124	41.3
Farming	17	5.7
Wage labour with local entrepreneur	21	7.0
Civil service / public service	37	12.3
Professional	45	15.0
Transporter	1	0.3
Retiree	9	3.0
Students	27	9.0
No response	19	6.3
Total	300	100.0
Monthly income		
Monthly Income	Frequency	Percentage
Below N50,000	59	19.7
N50,000-N99,000	94	31.3
N100,000-N149,000	57	19.0
N150,000-N199,000	31	10.3
N200,000 and above	13	4.3
No response	46	15.3
Total	300	100.0

Source: Field work Research (2017)

Table 2 above presents the frequency distribution of respondents by their occupations. The table reveals that 41.3% of the respondents were engaged in trade and craft, 5.7% were farming, 7.0% wage labourers with private individuals, 12.3% were civil servants, 15.0% were professionals while 0.3% were transporters.

Table also shows the frequency distribution of the respondents by average monthly income. Out of 300 respondents, 19.7% earned less than N50, 000 monthly, 31.3% earned between N50, 000 -N99, 000 per month. Also 19.0% of the respondents earned between N100, 000 - N149, 000, 10.3% of the respondents earned between N150, 000-N199, 000, while 4.3% earned above N200, 000 monthly. From the table, respondents that earned highest monthly income were 94 (31.3%) and that is N50,000 - N99,000.

Table 3: Frequency Distribution of Respondents by Employment Status, Form of Employment and Residence

Employment	Frequency	Percentage
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Employed	246	82.0
Unemployed	52	17.3
No response	2	0.7
Total	300	100.0
Forms of employment	Frequency	Percentage
Self employed	140	46.7
Paid employed	103	34.3
Employer	3	1.0
No response	54	18.0
Total	300	100.0
Residence	Frequency	Percentage
Urban	176	58.7
Rural	102	34.0
No response	22	7.3
Total	300	100.0

Source: Field work Research (2017)

Table 3 above presents the frequency distribution of respondents by employment status and form of employment. The table reveals that 82.0% of the respondents were employed while 17.3% were unemployed. It could be deduced from the above that majority of the respondents were employed. However, out of 246 respondents who were employed, majority 140 (46.7%) of them were self-employed, 34.3% were employee while a few percentage (1.0%) are employers of labour.

The table also reveals that out of 300 respondents, 58.7% were urban dwellers while 34.0% lived in rural areas. This shows that majority of the respondents lived in the urban areas.

Table 4(a): TEST OF HYPOTHESES

H1: Educated bone fracture patients are more likely to visit medical orthopaedic centres than the less educated patients in Lagos state.

Educational qualification	Where are you currently receiving treatment for the bone fracture you sustained				TOTAL	
	Medical orthopaedic centre		Traditional bone setting			
Primary	1	8.3%	11	91.7%	12	100%
Secondary	54	40.6%	79	59.4%	133	100%
Tertiary	86	61.4%	54	38.6%	140	100%
TOTAL	141	49.5%	144	50.5%	285	100%

Chi-Square value=20.318, degree of freedom=2, P value=0.000, Eta η = .267

Source: Field work Research (2017)

Table 4a, H1 above shows the result of the Chi Square test for the relationship between educational status and health seeking behaviour. The Chi Square value of 20.318, the degree of freedom is 2, and the p value of 0.000 at 0.05 level of significance shows that there is a relationship between educational status and health seeking behaviour among bone fracture patients in Lagos state. Hence, the Alternative Hypothesis (H_1) is accepted while the Null Hypothesis is rejected. Further, eta coefficient test to ascertain the strength of association yielded a result of η = .267 indicating a little association as ($\eta < 0.3$). From the table, out of 12 respondents who had primary school education, only 1 went to medical orthopaedic centre for treatment while 11 went to traditional bone setting homes. Among 133 respondents who had secondary school education, 54 went to



medical orthopaedic centres while 79 of them went to TBS homes. However, among 140 respondents who had tertiary school education, majority of them 86 went to medical orthopaedic centres while 54 of them went to traditional bone setting homes. Eta-coefficient (η)value of .267 implies that the association between the independent and dependent variable is little.

Table 4 (b) H2:Patients who believe in supernatural causes of bone fracture are more likely to visit traditional bone setters than those who do not believe in it.

Do you believe in supernatural forces as the cause of accidents	Where are you currently receiving treatment for the bone fracture you sustained				TOTAL	
	Medical orthopaedic centre		Traditional bone setting			
Yes	34	42.0%	47	58.0%	81	100%
No	115	52.8%	103	47.2%	218	100%
TOTAL	149	49.8%	150	50.2%	299	100%

Chi-Square value=2.744, degree of freedom=1, P value=0.098, Eta η = .096

Source: Field work Research (2017)

Table 4(b) H2 above presents the result of the Chi Square test for the relationship between supernatural forces and health seeking behaviour. The table reveals that the Chi Square value is 2.744, the degree of freedom is 1 and the p value of 0.098 at 0.05 significance level showing that there is no relationship between supernatural forces as cause of accidents and health seeking behaviour among bone fracture patients in Lagos state as ($p > 0.05$). Hence, the Null Hypothesis (H_0) is accepted while the Alternative hypothesis is rejected. Further, eta coefficient test yielded a result of $\eta = .096$ indicating a little association as ($\eta < 0.3$). From the table, out of 81 respondents that believed in supernatural forces as cause of accidents, 34 went for medical orthopaedic treatment while 47 respondents went to traditional bone setting homes and out of 218 respondents that did not believe in supernatural forces as cause of accidents, 115 went to medical orthopaedic centres while 103 went to traditional bone setting homes. Eta-coefficient (η)value of .096 implies that the association between the independent and dependent variable is little if any relationship.

Table 4 (c) H3: Bone fracture patients with higher level of income are more likely to visit medical orthopaedic centres than those with lower level of income.

Average monthly income	Where are you currently receiving treatment for the bone fracture you sustained				TOTAL	
	Medical orthopaedic centre		Traditional bone setting			
Below N50,000	22	37.3%	37	62.7%	59	100%
N50,000- N99,000	44	46.8%	50	53.2%	94	100%
N100,000- N149,000	30	52.6%	27	47.4%	57	100%
N150,000- N199,000	24	77.4%	7	22.6%	31	100%
N200,000 and above	8	61.5%	5	38.5%	13	100%
Total	128	50.4%	126	49.6%	254	100%

Chi-Square value=14.354, degree of freedom=4, P value=0.006, Eta η = .238

Source: Field work Research (2017)

Table 4 (c) H3 above presents the result of the Chi Square test for the relationship between monthly income and health seeking behaviour. The Chi Square value is 14.354, the degree of freedom is 4, and the p value of 0.006 at 0.05 significance level shows that there is a relationship between monthly income and health seeking behaviour among bone fracture patients in Lagos state as $p < 0.05$. Hence, the Alternative Hypothesis (H_1) is accepted while the Null hypothesis is rejected. Further investigation using eta coefficient yielded a result of $\eta = .238$ indicating a little association as $\eta < 0.3$, the limit

for little association. The table shows that out of 59 respondents whose monthly income was below N50, 000, 22 respondents went to medical orthopaedic centres while 37 went to traditional bone setting homes. Similarly, Forty four (44) respondents out of 94 respondents whose monthly income were between N50,000 - N99,000, went to medical orthopaedic centres while 50 went to TBS. Further, thirty (30) respondents out of 57 respondents whose monthly income were between N100,000 – N149,000 went to MOS while 27 went to TBS. Out of 31 respondents whose monthly income were between N150,000- N199,000, 24 went to medical orthopaedic centres while 7 went to TBS. Out of 13 respondents whose monthly income were N200,000 and above, 8 went to medical orthopaedic centres while 5 went to TBS.

Eta-coefficient (η) value of .238 implies that the association between the independent and dependent variable is little.

Table 4 (d) H4: Bone fracture patients living in the urban areas are more likely to go to medical orthopaedic centres than those living in the rural areas.

Place of residence	Where are you currently receiving treatment for the bone fracture you sustained				TOTAL	
	Medical orthopaedic centre		Traditional bone setting home			
Rural	35	34.3%	67	65.7%	102	100%
Urban	101	57.4%	75	42.6%	176	100%
TOTAL	136	48.9%	142	51.1%	278	100%
Chi-Square value=13.757, degree of freedom=1, P value=0.000, Eta η = .222						

Source: Field work Research (2017)

Table 4(d) H4 above presents the result of the Chi Square test for the relationship between place of residence and health seeking behaviour. The Chi Square value is 13.757, the degree of freedom is 1, and the p value of 0.000 at 0.05 significance level shows that there is a relationship between place of residence and health seeking behaviour among bone fracture patients in Lagos state. Hence, the Alternative Hypothesis (H_1) is accepted while the Null hypothesis is rejected. Further test using eta coefficient to ascertain the strength of this relationship yielded $\eta = .222$ indicating a little association as $\eta < 0.3$. The table also revealed that out of 102 who lived in the rural area, 35 respondents went to medical orthopaedic centres while 67 went to TBS and among 176 respondents who lived in the urban area, 101 went to medical orthopaedic centres for treatment while 75 respondents went to traditional bone setting homes.

The eta-coefficient (η) value of .222 implies that the association between the independent and dependent variable is little.

DISCUSSION

The study investigated the socio-cultural factors influencing health-seeking behaviour of bone fracture patients in Lagos state, Nigeria. Literature indicates that more patients visit tbs before going to mos and that about 80% of cases of bone fracture injuries in Nigeria are treated by TBS who use crude, unscientific and unhygienic method associated with high rate of complications (Ekere and Echem, 2011; Lawal *et al.*, 2012; Owoseni *et al.*,



2014). The importance of HSB of bone fracture patients in Lagos state has been overlooked by health Policy makers for long despite “increasing road traffic accident (RTA) estimated to be 41/1000 population, with motorcycle injuries accounting for over half of road traffic injuries” Labinjo *et al.* (2009; cited in Emiogun *et al.*, 2016 p. 44).

Bone fracture care in Nigeria started with traditional bone setters (TBS) from time immemorial until 1943 when the first orthopaedic hospital was built in Lagos, precisely, the national orthopaedic hospital, Igbobi (Nwachukwu *et al.*, 2010). Since then, tbs became relegated to the background with official policies as fetish, unhygienic and unscientific ((WHO, 2002). However, despite documented complications that arise from the practice (Ekere and Echen, 2011), the patronage keeps increasing, irrespective of age, education, gender, economic status among others because the practice is believed to be rooted in the culture of the people (Aderibigbe *et al.*, 2013). In the healthcare delivery system in Nigeria, it is only the TBS and MOS that are prominent in bone fracture care (Alonge *et al.*, 2004). Literature also indicates that the decision to choose either mos with qualitative services and exorbitant charges or tbs with unhygienic method and cheaper charges is influenced by a variety of factors such as; gender, age, educational level, income level, cultural beliefs, severity of the bone fracture injury, residence (rural/urban), availability of services, access to services and perceived quality of the services among others (Tipping and Segall 1995; cited in Mackian, 2003). The study therefore focused on such socio-cultural factors as educational level, income level, cultural beliefs and residence (rural/urban).

In this study, four hypotheses were formulated to test the influence of the identified socio-cultural factors on HSB of the respondents. It was found that there is a positive relationship between higher educational attainment and HSB with ($p=0.000$). This means that higher educational attainment resulted to higher utilization of mos as observed by (Ekere and Echem, 2011; Buor 2003; cited in Prosser, 2007). In the same vein there is a positive relationship between higher monthly income and HBS with $p=0.006$. The respondents whose monthly salary were below N100,000.00 went to tbs more than the respondents whose monthly salary were above 100,000.00. No wonder Abubakar *et al.* (2013) observed that inadequate financial resources contribute to inability in accessing qualitative medical facilities. Furthermore, the study showed that respondents who lived in the urban areas utilized mos more than those who lived in the rural areas with $p=0.000$. This is not surprising because a good number of the respondents lived in the urban areas considering the fact that Lagos state is 94% urban and 6% rural according to National population census of 1991 (NPC,1998). On the other hand, there is no relationship between belief in supernatural causes of accidents and HSB with ($p=0.098$). This is in support of Foster and Anderson (1980; cited in Olenja, 2003) who noted that underutilization of modern health services is rarely due to the influence of local beliefs or an aversion of western medicine but rather depends on other factors such as the cost and availability of those services. This study revealed that the factors that influence health-seeking behaviour most were educational level, monthly income and place of residence (rural/urban) as test of relationship were statistically significant ($p < 0.05$). In order to ascertain the strength of the association the eta coefficient (η) test was used. Result yielded a little association in the four hypotheses as

$\eta = .267$, $\eta = .096$, $\eta = .238$ and $\eta = .222$ respectively and in all $\eta < 0.3$, the limit value for little association. This implies that though there are relationships, the strength of association between the independent and the dependent variables is little. Perhaps, the smallness of the sample size for the study may have played a role in the strength of association between the independent and dependent variables.



In all events, HSB of bone fracture patients in Lagos state is poor. Government should therefore, consider the following needs in the healthcare delivery system as revealed from the study in order to improve health-seeking behaviour; There is need to establish more medical orthopaedic hospitals and train more orthopaedic surgeons in the urban as well as in the rural areas in order to decentralize MOS services and reduce the number of patients that patronize TBS. According to Nwachukwu *et al.* (2010) and as revealed by the study, currently there is only one orthopaedic hospital devoted to Orthopaedic services in Lagos state. That is national orthopaedic hospital, built in 1943 at Igbobi. Since then, neither the federal nor the state government has built any other such big orthopaedic hospital in the state. What obtains is that, orthopaedic sections are created in some government hospitals in the state. The study also recommends the need for government to organize official training programs for TBS in order to improve their knowledge and skill. This will be appropriate since over 70% of the population rely on TBS for their primary bone fracture care (Ekere and Echem, 2011). There is also the need to enlighten and properly inform the people to enable them garner information and make informed choices about the health services that are available to them. These recommendations will to a large extent improve the HSB of bone fracture patients in Lagos state and Nigeria if implemented.

CONCLUSION/RECOMMENDATIONS

The study has identified the socio-cultural factors that influence health-seeking behaviour of bone fracture patients in Lagos state and they are; level of education, income, belief in supernatural forces and place of residence. It has also shown that medical orthopaedic services and traditional bone setting are mutually indispensable in the treatment of bone fracture cases in the state. Other factors that influence health-seeking behaviour of bone fracture patients were age, sex, marital status, occupation, attitude of health workers, delay in hospitals, fear of amputation, exorbitant charges, unhygienic practices and high rate of complications associated with TBS among others. Since majority of bone fracture patients in Lagos state visit tbs before going to orthopaedic hospitals and since it has become obvious that the practice is engrained in the culture and tradition of the people, it is an indication that TBS could be trained to improve their knowledge and skills. Therefore, Health policy makers should consider the training and retraining of TBS and encourage collaborative understanding between MOS and TBS in Lagos state and Nigeria.

However, the public must be enlightened on the dangers associated with patronizing traditional bone setters with their attendant complications. On the other hand, medical orthopaedic services should be made affordable and accessible to prevent delays and enhance quicker attention to reduce the rate of leaving hospitals for traditional bone setting homes against medical advice. This to a large extent will improve health-seeking behaviour in Lagos state in particular and bone fracture care in Nigeria generally.

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