

Akan Belief System and Their Influence on the Diagnosis, Treatment and Rehabilitation of Indigenous Orthopaedic Therapy

Michael Obeng Nyarko, Thomas Obeng Asare, Timothy Crentsil, George Kwame Fobiri*

Department of Fashion Design and Textiles Studies, Kumasi Technical University, Kumasi, Ghana

Email address:

moyfila@yahoo.co.uk (M. O. Nyarko), toasare1@gmail.com (T. O. Asare), tyemo2001@yahoo.com (T. Crentsil),

kfobiri@gmail.com (G. K. Fobiri)

*Corresponding author

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Abstract: The Akan are historically an important ethnic group in Ghana who have beliefs on wide range of practices including orthopaedic therapy. The treatment is referred to in indigenous circles as ‘bone setting’. It is a specialised branch of traditional medicine which is quite popular among the Akan in Ghana. Unfortunately, most studies on the subject have focused on benefits of the treatment without placing premium on the philosophy that produced those results. The study seeks to examine the belief systems associated with indigenous orthopaedic therapy among the Akan of Ghana and also investigate the extent to which the belief systems have influenced the diagnosis, treatment and rehabilitation of indigenous orthopaedic therapy. The study is qualitative and the Case study approach was adopted. The population for the study comprises the orthopaedic centres in the Akan Regions of Ghana, patients and cured patients from the selected indigenous orthopaedic centres, Western Medical Practitioners associated with the centres and knowledgeable people on the subject in the communities visited. Purposive sampling procedure was adopted for this study. Observation, and interview were used to collect data from the centres visited. The study revealed that the Akan belief informs the therapists’ choices of tools and materials for their therapeutic processes. Their mode of diagnosis and treatment are also influenced largely by this belief. These processes are approached from two levels; the spiritual and the physical. Spiritually, they deal with the spirit that caused the bone injury and physically use various substances to treat the injury. The indigenous practice therefore makes room for rehabilitation of cured patients in order to address all social and psychological imbalances the injury brings to the cured patients.

Keywords: Diagnosis, Indigenous, Orthopaedic, Rehabilitation, Therapy, Treatment

1. Introduction

The Akan are historically an important ethnic group in West Africa. They are believed to number over 20 million and are considered one of the biggest Ethnic groups in West Africa today. They are considered the largest ethnic group both in Ghana and in the Ivory Coast. The Akan speak Kwa languages which are part of the larger Niger-Congo family [1]. Generally, the term ‘Akan’ is applied to the group of related people residing in the southern, mostly forested, regions of what are today the Republic of Ghana and Cote d’Ivoire (Ivory Coast) in West Africa. These include groups

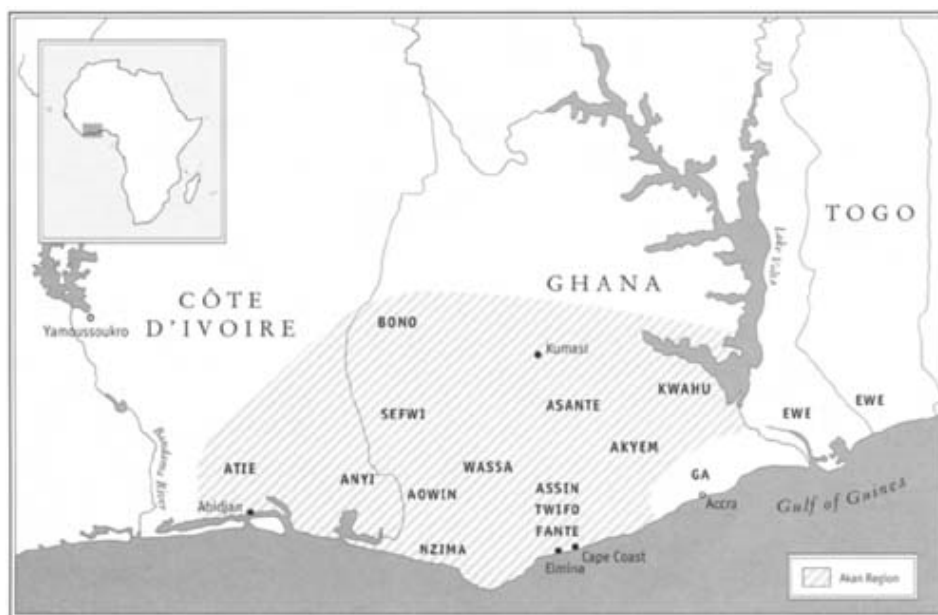
such as the Akwapim, Akyem, Anyi, Aowin, Asante, Bono, Denkyira, Fante, Kwahu, Nzima and Sefwi [2] (Figure 1).

According to Odotei [3], “the Akan-speaking people comprise of the Akyem, Fante, Asante, Akuapem, Kwahu, Sefwi and Nzema”. This limited subgroup according to her account, are independent of each and have autonomous political institutions. She maintains that, there are varied accounts as to the origin of the Akan. First some oral sources trace their origin to a hole. However, excavated remains in areas like Kintampo, Begho and Kumasi indicate human presence and state building dating back to about 2000 BC.

In Ghana, the term ‘Akan’ lends itself to various

interpretations. One school of thought traces its meaning to the Akan expression *kan(e)* which is translated (first and foremost). This is to support the belief that they were the first settlers of Ghana. Another school of thought explains it to

connote superiority (The first among equals). This interpretation is supported by an Akan expression *animguasee mfata Okaniba*. Literally translated as (the Akan is above reproach) [4].



Source: <http://www.artwis.com>

Figure 1. Map of the Southern Part of Ghana Showing Important Akan Ethnic Groups.

Akans are the largest ethnic group in Ghana and they occupy eight (8) of the sixteen (16) administrative Regions in Ghana as at 2022 namely Central, Western North, Western, Eastern, Ashanti, Bono, Bono East and the Ahafo Regions [5]. Therefore, Akan is well spoken and understood by many people in Ghana which is becoming the Lingua Franca in Ghana. Akans as Kinsmen have many political, social, religious and cultural institutions although there are local varieties. There is evidence that the culture which Ghanaian ancestors from the North handed down the generations will be lost simply because the present generation are fast killing the Akan language by discouraging their wards from speaking, reading, or writing their own language [6].

Each Akan group has its distinct dialect but shares with other Akan a lingua franca, called Twi. In addition, the Akan groups have other cultural attributes in common, notably the tracing of descent, inheritance of property, and succession to high political office, all of which are determined by matri-lineage. The Asante, for example, have seven established family groups, or *abusua*, each of which traces its origin to a single female founder. Marriage between its members is strictly forbidden [2].

By this arrangement, a typical *Asante man's* asset was inherited by his nephew. Women were therefore not regarded in marriage because they virtually have no share in the inheritance of their husbands. The system was believed to breed laziness among the men fold leading to the proverbial saying '*wɔfa wɔ hɔ nti m'ennyɛ adwuma*'. This is translated as follows; "because I will inherit my uncle's wealth, I will not stress myself to create my own wealth".

Traditional African healing has been in existence for many

years yet many people still seem not to understand how it relates to God and spirituality. Some people seem to believe that traditional healers worship the ancestors and not God [7]. This is a misconception because even though Africans believed and continue to believe in the eternal and ubiquitous spirit of the ancestors, they also believe in the Almighty God whom the Akan call God – Onyame. This lack of understanding especially by the Western colonial masters who were Christians created the erroneous impression.

Before Africa was colonised, the traditional African had always believed in God and the ancestors and had been extremely spiritual. This is contrary to the perception in the minds of colonial authorities and Christians that Africans were 'unbelievers'. Van Dyk [8] described the ancestors as the 'living dead'. Compassionate spirits who are blood-related to the people who believe in them. The ancestors continue to show interest in the daily lives of the relatives that are still alive. They are superior to the living and include, amongst others deceased parents, grandparents, great-grandparent, aunts and uncles. Because these spirits have crossed over to the other side of life, they act as mediators between the living and God. Berg [9] describes this phenomenon as ancestor reverence, veneration or remembering and not ancestor worship. In the opinion of Kahakwa [10], the spiritual status they have reached is diversly interpreted. One group of Africans believe that ancestors are still parents and neither divinity nor God, thus they are not worshiped but only venerated. Another group of Africans believe that Ancestors have reached divine status, therefore they could be worshiped. Others deify only the most meritorious ones and consult the rest. The communication between the living, the

living-dead and God is done sometimes through the ritual slaughtering of an animal [11].

Traditional medicine practice has its own foundation in intense belief in interactions between the spiritual and physical well-being of patients [12]. Traditional healers therefore use holistic approach in dealing with health and illness [13, 14]. This implies that the healer deals with the complete person and provides treatment for physical, psychological, spiritual and social symptoms. Healers do not separate the natural from the spiritual or physical from the supernatural [15].

We cannot speak of healing without speaking of sickness because they are two sides of the same coin. Sickness does not only refer to pains in the body and the malfunctioning of cells in the body. The concept is usually more complex. Kahakwa [10] refers to sickness as imbalance within the human being, the clan and also within the society and needs healing. Healing therefore refers to the process of restoring harmony and wholeness in humanity and its relationships; be it physical, psychological, social, moral, economic, political and spiritual. Disharmony in the community is therefore considered as illness. The condition could be attributed to ancestral wrath witchcraft and/or natural circumstances. In order to restore the harmony, the ancestors should be consulted either directly or through the healer, in order to establish the true cause of the disharmony and know the healing rituals to be performed [10].

Illness does not necessarily involve an individual event and must reflect a disturbance in social relations. The effect of such disturbance in the body or the social location may result in illness without disease. Disorder may manifest itself in physical, emotional, spiritual or social discomfort. To treat such condition therefore, the body must be restored to the person's overall human nature, in the familiar social setting. Twumasi [16] put the condition in the following words; "All elements economic, spiritual and social must be addressed in diagnosis and therapeutics". The Akan of Ghana explained the concept more succinctly in one-word *Ayaresa*. Which is translated literally as "end of sickness" This was the context in which the study was situated.

The popularity of indigenous orthopaedic therapy in Ghana has been influenced largely by the belief systems associated with the industry. Unfortunately, most studies on the subject have projected the benefits of the treatment without necessarily linking the therapeutic process to the philosophy that produced those results. The study seeks to examine the belief systems associated with indigenous orthopaedic therapy among the Akan of Ghana and to investigate the extent to which the belief systems have influenced the diagnosis, treatment and rehabilitation of indigenous orthopaedic therapy.

2. Literature Review

Orthopaedic therapy is referred to in indigenous circles as bone setting. It has a long history that can be traced to the Greeks and Egyptians [17-20]. It is a specialised branch of

traditional medicine quite popular among the indigenes in Ghana. Darimani [21] cites Gordon [22] and says that even though bone setters do not go through formal training to learn the trade, their practice is of great value. Darimani also makes reference to the publications by eminent medical doctors like Sir James Paget and Wharton Wood in Britain and Louis Bauer in USA as evidence of the virtues of the practice. In many developing countries, where qualified doctors are scarce and disease prevalent, bone setters and other practitioners of folk medicine still command great popularity.

The popularity of bone setters in Ghana is evident in their patronage by large sections of the community. The bone setters are known to have the capacity and expertise to repair various kinds of fractures faster than western scientific medicine. Tijssen [23] opines that patients with all kinds of fractures preferred traditional bone setting to hospital treatment because the traditional method (practiced by herbalist) shortened the duration of immobilisation and kept degeneration of muscles and joints to minimum.

Aries *et al* [24] advances the following in his work as the reasons why fracture patients leave the hospital to the bonesetters or indigenous orthopaedic therapists for treatment:

- (i) They were convinced that bonesetters have more expertise in fracture treatment.
- (ii) Patients often do not have to pay anything if the treatment of the bonesetter fails meanwhile hospital treatment is too expensive for many Ghanaians.
- (iii) They wanted the bonesetter to strengthen the bones and preferred to recover in a more convenient and private atmosphere. In their opinion a surgeon repairs the bones; a bonesetter strengthens those bones.
- (iv) Hospital treatment takes longer time and is expensive.
- (v) It is more convenient with the bone setter who is closer to the patient and as such more convenient than the hospital care which is bad and impersonal.

The specific procedures adopted by indigenous bone treatment practitioners differ from one traditional society to the other. However, they have basic similar characteristics: a bonesetter diagnoses and treats all fractures in a more or less general way and uses the same method for all patients. The experienced bonesetters use their hands and fingers to feel and assess the type and extent of damage to the broken bone. Herbal preparations are applied on the fracture. Depending on the nature of the fracture, plunks or sticks are artistically shaped to fit the particular part of the body. Strings or pieces of fabric are used to hold the sticks and fracture in place [24].

There are however variations in the content and order of the procedure for treatment. Oppong [25] gives account of a bone setter in the Eastern Region of Ghana who breaks chicken wings and applies herbal medicine in both the chicken and the patient's fractured part whiles reciting Islamic prayers. He then puts pieces of wood around the fractured part and ties it in place with a cloth. The healing process takes fifteen days. Within the period it is believed that spiritually what happens to the chicken also happens to the patient. This practice is similar to a system of magic practice in prehistoric era referred to as Sympathetic Magic.

The term Sympathetic Magic is most commonly used in archaeology in relation to Paleolithic cave paintings such as those in North Africa and at Lascaux in France. The theory is one of prehistoric human behavior, and is based on studies of more modern hunter-gatherer societies. The idea is that the paintings were made by Cro-Magnon shamans. The shamans would retreat into the darkness of the caves, enter into a trance state and then paint images of their visions, perhaps with some notion of drawing power out of the cave walls themselves. They believe that, the spirit behind these painting will have direct influence on the animals they hunt.

Darimani [21] describes the experience of Vincent Aweh, a traditional bonesetter of Adisedel Village in Cape coast in the Central Region of Ghana, who combines spiritual incantation and herbal preparation for treatment of fractures. His therapeutic process involves smearing “kyometo” (mixture of herbs and shea butter) in three strokes lengthwise and prays artistically over the fracture in the following words:

God Jesus, you who touch the blind and they see, the leper and they feel, the deaf and they hear. You have risen from the dead, so now I ask you to send the Holy Spirit to my hand on which I touch the person to cure this sickness in the name of God. Amen.

According to Aries *et al* [24], a bone setter in the Central Region starts by examining the affected area thoroughly and studied their X-rays taken at the Accident and Emergency (A&E) units of hospitals to get additional information about the fracture. Subsequently he pulls and tries to reposition the affected body part. The affected area is massaged with shea butter to improve blood circulation and afterwards dried herbs are applied. A bandage is made with either a mat of small wooden sticks or plantain leaves to bind the fracture. Many patients reported that the leg of a fowl was intentionally broken and treated to predict the healing of the patient’s fracture. If the fowl’s leg healed, the patient’s prognosis was believed to be favourable. A thirty-six (36) year old patient reported in the study that bonesetters must perform rituals to the ancestors to hasten healing of the bones. The description is illustrated in Figures 2 (a, b) and 3.



(b)
(Source: Aries et al 2007)

Figures 2. (a, b): Examining the Fracture.



(Source: Aries et al 2007)

Figure 3. Massaging Fracture with Shea butter.

3. Materials and Methods

The study is qualitative and the qualitative research design employs several strategies. The study adopted the Case study approach. The multiple case study approach which uses the logic of replication was adopted. Observation, and interview were used to collect data from the centres visited. This was to assist the researchers to assess the theory in the Akan traditional concept that, no illness is actually cured properly and completely until the root cause in the individual’s social and economic environment have been dealt with [16]. For the purpose of this study, population was used in reference to the restricted part of the group whose responses will provide answers to the research questions. The population for the study comprises the orthopaedic centres in the Akan Regions of Ghana, patients and cured patients from the selected indigenous orthopaedic centres, Western Medical Practitioners associated with the centres and knowledgeable people on the subject in the communities visited. Purposive sampling procedure was adopted for this study for a number of reasons;

- (i) The various categories of respondents had the requisite



(a)

knowledge and skills required to provide the necessary data.

- (ii) Data collected was in a form that could be richly described, explained and assessed.

In line with these objectives, the researchers selected three out of the eight Akan Regions of Ghana. The selected regions include Eastern, Bono-East and Ashanti Regions of Ghana. These regions were selected because they are large in size, centrally located and cosmopolitan in nature. The peculiar characteristics of the selected regions created the environment necessary to attract the responses required for the study. The regions are also closer to the researchers who live in Kumasi in the Ashanti Region of Ghana. The proximity to the centres enabled the researchers to make frequent visits.

Gye Nipa Nkwa Herbal, was sampled from the Eastern Region, *Dr. Nyamaa Herbal Centre* was selected from the Bono-East Region, and *God is the Healer* was selected from the Ashanti Region. These centres were selected because they have good track record and heavily patronised by patients. They also had dealings with the orthopaedic units of Atibie Government Hospital in Kwahu Atibie, Techiman Holy Family Hospital in Tachiman and Okomfo Anokye Teaching Hospital in Kumasi respectively.

The preliminary study revealed that the contact of the therapists with the hospitals mentioned above encouraged them to open their doors to research work. Orthodox Medical practitioners associated with the centres were consulted to explain their roles in the therapeutic processes. Knowledgeable people on the subject in the catchment areas were also sampled and given the opportunity to express their views on the indigenous orthopaedic industry. Orthodox Medical Practitioners were also consulted. In all, thirty-three (33) people were sampled for the study. The breakdown is as follows; Three (3) indigenous orthopaedic therapists and three (3) assistants, twelve (12) patients, nine (9) cured patients, three (3) Orthodox Medical Practitioners and three (3) knowledgeable opinion leaders. The distribution of the sample is represented graphically in Table 1.

Table 1. Sample Distribution of Respondents.

Sample Frame	Sample Size	Percentage (%)
Indigenous Orthopaedic Therapists and their Assistants	6	10
Indigenous Orthopaedic Patients	12	40
Cured Patients	9	30
Orthodox Medical Practitioners	3	10
Knowledgeable Opinion Leaders	3	10
TOTAL	33	100

Conducting meaningful observation requires skill and persistence. In line with the suggestion given by Handcock & Agozzine [26], efforts were made to gain access to research sights ahead of the actual study. The researchers paid visits to the selected centres to conduct preliminary investigation on the topic. During the visits, the environments were surveyed to investigate possible answers to the research questions. An observation guide was prepared taking into

consideration the personal role and biases of the researchers, and used as a guide to directly observe the activities at the Indigenous orthopaedic centres. Prior to the observation, the researchers sought verbal clearance from the various centres and respondents. The activities observed by the researchers included other materials used by the indigenous practitioners and, the physical well-being and state of mind of cured patients were also observed. Questions were asked to clarify scenes and activities that were not clear and notes were taken to organise the data collected. The researchers supported the direct observation with still pictures for later review and analysis. The centres and sites were revisited on two more occasions to take records of events and pictures that were not anticipated in the initial visit. Interviews of individuals or groups allowed the researchers to attain rich, personalized information. The face-to-face interview was used for the study because the sample size of thirty-three (33) could be managed through this method. The face-to-face interview was also appropriate because most of the respondents could not read and write. The researchers used the preliminary visit to discuss the purpose of each interview with the respondents. The approximate amount of time needed for the interview, and how and when the interviewees may expect to receive results of the research was also discussed. The respondents were categorised into five samples as indicated in Table 1 and the semi-structured Interview Schedules were designed and varied to suit the various categories of respondents. The researchers adopted an interview guide designed by Creswell [27]. The guide among other things comprised the following information; the time of the interview, the date for the interview, the venue for the interview, the interviewer's name, the name of the interviewee, the position of the interviewee during the interview, brief description of the study and the interview questions. Both close and open-ended questions were incorporated in the schedule. The close-ended questions were meant to focus the discussions and used to limit comments as much as possible. The open-ended questions on the other hand were asked to allow more time for the interviewees to express their opinions on the subject matter. With the help of the interview guide, the researchers engaged the respondents one-on-one and asked them direct questions. In the cause of the interview, the researchers took notes and used them as guide to ask follow-up questions meant to clarify issues which were not very clear. The demeanour and body language of the respondents were also observed to direct the line of questioning. Audio-tape recorder was used to keep track of details of respondents' responses and comments and were later transcribed for analysis. The respondents were thanked for participating in the interview and assured of confidentiality of responses in potential future interviews. The centres were visited two more times to clarify issues that came up during the analysis. These were issues that were not anticipated during the initial visits. The mop-up was necessary to iron out all differences.

Typically, a case study database will include a multitude of different evidence from different sources. Data analysis of

this rich resource is based on examining, categorizing and tabulating evidence to determine whether the evidence supports or otherwise the initial propositions of the study. The preferred strategy for analysis is to use the proposal that captures the objectives of the study and which have shaped the data collection [28]. Consequently, data from each centre was critically examined and categorised according to research questions. The data was presented and analysed according to themes and the results were compared with the conceptual framework to make judgement.

4. Results and Discussion

This section describes briefly the background of respondents the researchers gathered information from. The respondents were grouped into two. The first group was made up of the indigenous orthopaedic therapists and their assistants. The second group comprised the indigenous orthopaedic patients, orthodox medical practitioner and knowledgeable opinion leader who contributed to the study.

The elements of the demographics of the second group were; *gender, age range, educational background, religious background and ethnic background*. These are presented in Tables 2-7.

4.1. Background of Indigenous Orthopaedic Therapist – (Gye Nipa Nkwa Herbal Centre)

Gye Nipa Nkwa Herbal Centre is located in Pepease-Kwahu, a town in Kwahu South District of the Eastern Region of Ghana. The name of the indigenous orthopaedic therapist at this centre is Kwame Grusi. He has been practicing for thirty (30) years. He has no formal training in traditional healing systems, but understudied his grandfather for twelve (12) years. He specialised in bone treatment because it was the speciality of the grandfather. He relocated from *Nkawkaw* to *Pepease* as a result of marriage and established the current centre. Opanyin Grusi uses a trained male attendant for most of the cases he handles because he is advanced in age.

Table 2. Gender and Age Distribution of other Respondents.

Respondent	Gender		Age Range	
	Males	Females	Below 30 years	Above 30 years
1 Indigenous Orthopaedic Patients	4	3	2	5
2 Orthodox Medical Practitioners	1	-	-	1
3 Knowledgeable opinion leaders	1	-	-	1
Total	5	4	2	7

Table 3. Educational, Religious and Ethnic Distributions of other Respondents.

Respondent	Educational Background	Religious Affiliation	Ethnicity
1 Indigenous Orthopaedic Patients	Illiterates and educated people	Christians, Muslims and Traditionalists	Akan, Ewe and Ga-Dangme
2 Orthodox Medical Practitioners	Medical Doctor	Christian	Akan
3 Knowledgeable Opinion Leaders	Educated person	Traditionalist	Akan

4.2. Background of Indigenous Orthopaedic Therapist - (God Is a Healer Centre)

God is a Healer Centre is located in Effiduase, in the Ejisu-Juabeng District of the Ashanti Region of Ghana. The name of the therapist is Osman Hamza but was popularly referred to as doctor. He has been practicing for thirty-six (36) years. He has no formal training in traditional healing systems. He served as an apprentice to the father between 1977 and 1979 and took over from the father in 1979 when

he died. The father was not motivated by money. His passion was to offer service to humanity in the area of bone and joint treatment. These principles influenced his training. According to Hamza, bone treatment is a family speciality which was transferred from the father to him. The father started his practice in Sokoto in Nigeria before relocating to Ghana. Despite the expertise Hamza has acquired over the years, he still attributes the success of his practice to the influence of Allah. The therapist works with a trained male attendant.

Table 4. Gender and Age Distribution of other Respondents (B).

Respondent	Gender		Age Range	
	Males	Females	Below 30 years	Above 30 years
1 Indigenous Orthopaedic Patients	5	2	1	6
2 Orthodox Medical Practitioners	-	1	-	1
3 Knowledgeable opinion leaders	1	-	-	1
Total	5	4	2	7

Table 5. Educational, Religious and Ethnic Distribution of other Respondents.

Respondent	Educational Background	Religious Affiliation	Ethnicity
1 Indigenous Orthopaedic Patients	Illiterates and educated people	Christians, Muslims and Traditionalists	Akan, Ewe and Mole Dagbani
2 Orthodox Medical Practitioners	Staff Registered Nurse	Christian	Akan
3 Knowledgeable Opinion leaders	Educated person	Traditionalist	Akan

4.3. Background of Dr Nyamaa Herbal Centre (Background of Therapist)

Dr Nyamaa Herbal Centre is located in Takyiman, in the Takyiman District of the Brong-Ahafo Region of Ghana. The name of the therapist is Kwabena Nyamaa he is popularly referred to as doctor by his patients. He is Eighty-one (81) years old and has been practicing for twenty-eight (28) years. He understudied his uncle and trained first as a general traditional practitioner before specialising in bone treatment.

He worked with the Takyiman Holy Family Hospital for seven (7) years as a painter with the additional responsibility of removing gun bullets from victims of gun shots. He left the hospital in 1987 and established a traditional healing centre. He treated cases such as headache, seizure, convulsion, snake bites, barrenness and orthopaedics. With time he realised that the bone concerns were more popular and so specialised in it. He hails from Dwomoh but practices his profession in Takyiman where his wife hails from.

Table 6. Gender and Age Distribution of other Respondents.

Respondent	Gender		Age Range	
	Males	Females	Below 30 years	Above 30 years
1 Indigenous Orthopaedic Patients	3	4	2	5
2 Orthodox Medical Practitioners	1	-	-	1
3 Knowledgeable Opinion leaders	1	-	-	1
Total	5	4	2	7

Table 7. Educational, Religious and Ethnic Distribution of other Respondents.

Respondent	Educational Background	Religious Affiliation	Ethnicity
1 Indigenous Orthopaedic Patients	Illiterates and Educated People	Christians, Muslims and Traditionalists	Akan, Ewe and Ga-Dangme
2 Orthodox Medical Practitioners	Laboratory Assistant	Christian	Mole Dagbani
3 Knowledgeable Opinion leaders	Educated person	Traditionalist	Akan

4.4. Research Question 1: What Are the Belief Systems Associated with Indigenous Orthopaedic Therapy in the Akan Society

The belief system of a person or society is the set of beliefs that they have about what is right and wrong and what is true and false [29]. In a sense it defines one's choices and influences the decisions one makes in life. A belief system is the actual set of precepts from which one live their lives daily. It is in reference to the principles that govern one's thoughts, words, and actions [30, 31].

Belief systems are structures of standards that are interrelated and that vary mainly in the degree in which they are systemic. It becomes a belief system only when it becomes pattern of behavior. It is like the stories told in society to define personal sense of reality. Every human being has a belief system that they utilize, and according to Uso-Domenech and Nescolarde-Selva [32], it is through this mechanism that we individually, "make sense" of the world around us. Similarly, societies have their believe systems. The Akan ethnic society for instance is noted for their art which are for both aesthetics and utilitarian purpose. The art of the Akan according to Quarcoopome [2] articulates and promotes ideas, probes and precepts; and memorializes the dead.

Each of the therapists selected for the study has a belief system that governs their operations in the Akan society. The therapist at *Gye Nipa nkwa Herbal* at Pepease (Kwame Grusi) for instance, has that strong desire to provide primary health care for the poor and disadvantaged in society who do not have access to bone treatment. His belief is similar to Osman Hamza, the therapist in Effiduase (*God is the healer*)

who is motivated by the desire to offer service to humanity in the area of bone and joint treatment. The philosophy of Kwabena Nyamaa of *Dr Nyamaa Herbal*, Takyiman, is founded on the desire to save life through bone treatment. One principle runs through the activities of the three therapists. They are not motivated by money but they are in the industry to provide relief and cure for patients who need their services in the communities. In the case of the therapist at Effiduase, his selfless attitude was influenced by the professional who trained him. He acquired the trade from the father who had a similar philosophy.

Apart from their personal beliefs, the practitioners at the centres also believe in the philosophy that sickness is the result of both physical and spiritual causes. Their approach to treating ailments is therefore on two levels. The first level is to deal with the spirit behind the problem and then secondly to treat the outcome of the spiritual forces that induced the ailment. When Kwame Grusi of *Gye Nipa nkwa Herbal* at Pepease starts any treatment and the patient is not responding to treatment, he takes some time off to pray to deal with the spirit behind the problem. He asks the patient to do same before resuming treatment. Likewise, Osman Hamza of *God is the Healer* in Effiduase begins his treatment process with prayer, to deal with any spiritual influence behind the bone defect. Opanyin Kwabena Nyamaa of *Dr Nyamaa Herbal Centre* also takes some patients through ritual bathing before treatment commences. He does this in cases where he suspects that the bone defect is as a result of a spell that has been cast on the patient. For instance, he prepares a concoction in a calabash with some special plants and instructs the patient to bath at the main junction in the vicinity at dawn amidst prayers. This exercise exorcises any

spiritual influence that may be associated with the bone defect. One of Opanyin Nyamaa's patients reports that, before her treatment was commenced libation was poured to ward off the influence of evil spirits on the bone problem.

These beliefs corroborate the assertion by Twumasi [16] that "healing in the traditional context involves diagnosing and addressing all elements in the therapeutic process, be it economic, spiritual and social". Twumasi [16] re-emphasises the belief by the Akan that no illness is actually cured properly and completely until the root cause in the individual's social and economic environment have been dealt with. This concept is in line with the general practice of traditional medicine in which there is conceptual separation between natural and supernatural entities.

Aries *et al* [24] account of a bone setter in the Central Region of Ghana confirms the belief that any illness experienced, is caused by a witch or the patients have become the subject of an elaborate ritual. The bone setter breaks the bone of a fowl and treats it to predict the healing of a patient's fracture. According to the study, if the fowl's leg got healed, the patient's prognosis was believed to be favourable. To the traditional healer therefore, there is no conceptual separation between biomedical factors and social factors. The factors are interactive; and illness is essentially disintegration at all levels, biological, psychological, social and spiritual [16].

In an interview with the three indigenous bone therapists, it was revealed that even though they attribute bone concerns to activities of external forces such as witches and spells they believe that, the external influences do not operate in isolation. Therefore, they work through physical media in the form of the materials and substances used for the treatment. For instance, at Gye Nyame Herbal Centre at Pepease Kwahu, the therapist emphasised that there is a spirit in the elements of nature that produce the drugs used for treatment. His concoction is a mixture of the bark of some special trees and shea butter, and the trees used for preparing the concoction have inherent power to ward off evil spirits. Another substance which according to him casts out spells is a black powdered concoction referred to locally as 'mɔɔɔ'. It is mixed with the shea butter and applied to the affected area. It is believed therefore that, the spiritual and the physical work hand-in hand to heal patients of their bone concerns in the indigenous Akan traditional society.

4.5. Research Question 2: How Do the Belief Systems Influence the Diagnoses, Treatment and Rehabilitation of Orthopaedic Patients

For the therapist to effectively diagnose and treat bone challenges, tools and materials are required.

4.6. Choice of Tools and Materials

The choice of tools and substances are based on several factors. The Therapists take into consideration; the perceived spiritual force causing the bone defect, the location of the fracture, the nature of the bone injury and in some cases the

age and sex of the patient. The tools and materials are selected carefully with the cultural values and sensitivities of the society in mind. There is also a balance between cost and efficiency, because at the end of the day the therapists are mindful to offer services which are efficient but also cheap.

4.7. Diagnosis

When a patient visits the indigenous therapist, investigations are done on two levels in order to diagnose or determine the cause of the patient's bone problem. The immediate cause of the damage to the bone is verified which could be as a result of a fall or motor accident. Two approaches are adopted for the physical diagnosis. Traditionally, the finger is the major tool used for diagnosis by the indigenous bone therapist. The therapist presses the fingers along the affected part of the body to determine the nature of damage to the bone. This is done delicately and laboriously to identify where the break or fracture is. This procedure though laborious has been very effective. With the skills and experience gathered over the years, the indigenous therapists are able to detect any defect to the bone through this procedure. X-ray reports are requested to confirm some of the cases. This is done in special cases such as referrals or transfers from hospitals. In such circumstances Kwame Grusi collaborates with a medical doctor at Atibie Government Hospitals for effective health care delivery. The assertion is that the X-ray reports always confirm the indigenous traditional diagnosis.

Incidentally, all the three centres visited have collaborations with nearby hospitals. For instance; *Gye Nipa Nkwa Herbal Centre* has collaboration with Atibie Government Hospital in Kwahu Atibie, *God is the Healer Centre* collaborates with Komfo Anokye Teaching Hospital in Kumasi, while *Dr Nyamaa Herbal Centre* collaborates with Takyiman Holy Family Hospital and Dua Yaw Nkwanta Hospital. Their contact with the hospitals has influenced their traditional activities, leading to the introduction of modern concepts into the indigenous practices. The use of the X-ray reports to determine the state of patients' bone concerns is one such influence. It is usually used to complement the use of the fingers. The X-ray reports are used mainly to assess the bone concerns of patients who are transferred from the hospitals to the centres. The assertions that the therapists can interpret the x-ray reports to some extent were verified. A nurse who works at Okomfo Anokye Teaching Hospital corroborated the claim in respect to Osman Hamza.

The second level of diagnosis is spiritual and involves offering prayers to the gods for wisdom and knowledge to identify the root cause of the bone defect. It is the practice of each of the centres to enquire of the cause of the bone defect through spiritual consultation either by performing elaborate rituals or simply pouring libation. In most cases emphasis is placed on the spiritual because of the belief in the Akan society that every physical problem is the result of the activities of a spirit entity. This is supported by the assertion by Twumasi [16], that the traditional Ghanaian has the belief that illness is caused by a witch or that the victim has become

a subject of an elaborate ritual. The breaking of the bone as a result of a fall for instance could therefore be attributed to the activities of a spirit.

4.8. Treatment

The various indigenous orthopaedic therapists differed in the way they go about their treatments but have some basic similar characteristics. In the main, it follows the following steps;

- (i) The use of the hands and fingers to feel and determine the type and extent of damage to the bone.
- (ii) Re-alignment of fractured bone, the application of herbal preparation on the fracture.
- (iii) The use of carved plunks or sticks to fit the particular part of the body.
- (iv) The use of fabrics or bandage to hold the sticks and other supporting materials in place.

The study however reveals variations in content and order of procedure. Kwame Grusi of *Gye Nipa Nkwa Herbal Centre* cleans the affected area with hot water to remove any trace of blood and to disinfect the place. Osman Hamza of *God is the Healer Centre* goes through a similar process but uses disinfectants such as 'spirit' or 'Izol'. Opanyin Kwabena Nyamaa of '*Dr*' *Nyamaa Herbal Centre* uses hot water to serve the same purpose. In the case of fractures or broken bones the bones are pulled and re-aligned to fit perfectly. If the problem is with the limb, the affected limb is compared with the normal half pair to ensure that they are of the same length before the treatment is continued. At all the centres visited, patients are given alcohol to drink to sedate patients who are unable to withstand the excruciating pain associated with the resetting of the bones. *God is a Healer Centre* collaborates with a registered nurse to inject patients whose deformed joints have to be re-broken and repositioned with sedatives, in order to contain the pains. It is not clear if this collaboration is official and sanctioned by the Ghana Registered Nurses and Midwifery Council.

The preparations applied on the affected body range from concoction made of fats and herbs, pure herbal preparation and shea butter. The indigenous therapists explain that the preparations perform two functions. The shea butter according to Opanyin Nyamaa, softens the bone and makes it easy to manipulate. This is contrary to Aries *et al* [24] account of a bone setter in the Central Region, that the affected area is massaged with shea butter to improve blood circulation. The interaction with the various centres confirms that the shea butter performs both functions. The concoction is believed to contain ingredients that facilitate the joining and healing of the re-aligned bone. In the practice of Kwame Grusi, the preparation is a mixture of concoction and shea butter, and is used to play the dual function.

After the application of the concoction, the affected part is then covered with either paper as in *Gye Nipa Nkwa Herbal Centre* and plantain leaves in '*Dr*' *Nyamaa Herbal Centre*. These materials serve as a covering for the concoction. The plantain leaves according to the therapist contain medicinal properties which facilitate the healing process. In the case of

fractures, carved sticks are used to brace the affected joint for proper alignment. The affected area is then bound firmly with a bandage.

Traditional indigenous therapists combine spiritual incantations and herbal preparation for the treatment of fractures. According to Darimani [21] the therapeutic process of a traditional bone setter in Cape Coast called Vincent Aweh, involves smearing a mixture of herbs and shea butter in three strokes lengthwise and praying artistically over the fracture. This dual approach leaves no doubt in the minds of both therapist and patient that the source of the ailment has been addressed. This is so because according to Twumasi [16] traditional healers do not separate the natural from the spiritual or the physical from the supernatural. The physical role of the use of herbs to treat wounds and the employment of the powers of the spiritual world to deal with any spell behind a wound are therefore not mutually exclusive.

The treatment is a procedure which spans several days, several weeks, several months and in some cases several years. After the initial session, the patients are expected to visit the centre again for dressing at short intervals. As the bone concern improves, the frequency of dressing reduces. The duration starts with three days interval. The frequency then graduates to four days, five days and then to once a week. During the period, patients are given some activities to perform. For instance, if a patient was using clutches he is expected to drop one initially and subsequently all the two. The idea is to start stepping on the affected limb gradually to stimulate the muscles around the bone. The procedure is followed until the condition of the patient improves and he is able to use the affected part of the body very well. Kwame Grusi of *Gye Nipa Nkwa Herbal Centre* sometimes refer his patients to a Medical Doctor he has been working closely with to confirm through an x-ray if the bone is completely healed.

4.9. Rehabilitation

This is a post treatment procedure that seeks to provide counselling services to treated patients. The interactions with the therapists revealed that the Indigenous Orthopaedic Industry has no formal structures for rehabilitating patients. Counselling of patients however starts from their first contact with the indigenous therapist. It is packaged in the form of series of instructions by the indigenous therapist at every stage of the treatment process aimed at ensuring that the healing is holistic. Patients are expected to pay particular attention to these instructions and observe them very judiciously. This is important because the instructions are given orally and they could easily be forgotten. The weakness with this system is that the patients easily forget some of the instructions and in some instances fall victim to their repercussions.

Certain loopholes were identified with the rehabilitation of cured patients. In the first place proper records are not kept of patients in all the centres visited. As such there is no proper database to assist therapists to follow up on the cured patients. It was observed that the centres have no

comprehensive programme for follow up and counselling. Rather, cured patients are only encouraged to report to the centres regularly for counselling and advice. This has affected the rehabilitation and reintegration of cured patients to a large extent. The lack of a credible programme for reintegrating the cured patients into society does not support the concept of healing in the context of African Traditional Medicine. The ultimate aim of Traditional Medicine according to Gyasi *et al* [33] is to restore the physical, mental and social wellbeing of the patient through alternative health care delivery.

The absence of this credible component of the indigenous orthopaedic practice is that, cured patients find their own level in society and in some cases carry the stigma of deformity for the rest of their lives. This is contrary to the Akan concept of *Ayaresa* literary translated as “sickness has ended”. The concept involves dealing with the root cause of the individual’s social and economic challenges as part of the process of treating sicknesses and diseases.

Each of the therapists operating in the Akan society investigated has a belief system that governs their operations. At the heart of their beliefs is the desire to provide relief and cure for patients who need bone treatment services. Apart from their personal belief systems, the therapists operating the indigenous orthopaedic centres visited believe in the theory that sickness is the result of both physical and spiritual causes and hence treat ailments on those two levels. Spiritually, they deal with the spirit behind the problem through prayers and physically treat the ailments using concoctions and various Art forms.

In choosing tools and materials for the diagnosis and treatment of bone injuries, the indigenous therapist considers the following factors; the perceived spiritual force causing the bone defect, the location of the fracture, the nature of the bone injury, the age and sex of the patient and the cultural values and sensitivities of the society. The tools and materials they use include drug substances used to prepare the concoction, receptacles for storage and accessories that help in the preparation of the concoction and their applications.

The indigenous therapists adopt both physical and spiritual means of diagnosing bone concerns because of their belief in the supernatural. Physically, they seek to identify the immediate cause of the bone problem. This involves pressing the fingers along the affected part of the body to determine the nature of damage to the bone. In rare cases the therapists request for x-ray reports and used them to confirm their own physical examinations. Spiritually, they pray to the Almighty God for wisdom to identify the root cause of the bone injury and take their patients through the performance of rites.

The indigenous therapists at the various centres differed in their approach to treatment. The approach to treatment had similar characteristics but had varied content. The general procedures at the centres involve; examining the affected part of the body, re-setting bones in the case of fractures, applying concoctions to the affected area and tying the affected area with bandage. Treatment is a process which spans periods ranging between three months and a year depending on the

nature of the bone problem. Over the period, patients visit the centres for dressing and counselling.

Poor record keeping was identified as a major hindrance to effective follow-up and rehabilitation of patients. The indigenous orthopaedic industry has no formal structures for rehabilitating patients. Rehabilitation takes place in the form of providing counselling services to patients in the cause of treatment. The absence of a credible programme of rehabilitation limits to a large extent the Akan concept of *Ayaresa* which requires that the root cause of the individual’s social and economic challenges are dealt with as part of the process of treating sicknesses and diseases.

5. Conclusions

Indigenous orthopaedic therapy has intrinsic qualities that form an integral part of the Akan culture. The belief that illness is not just the result of pathological change but that the supernatural is the main casual factor, constitute the central theme that drives the diagnosis, treatment and rehabilitation of indigenous orthopaedic treatment.

This belief informs the therapists’ choices of tools and materials for their therapeutic processes. Their mode of diagnosis and treatment are also influenced largely by this belief. These processes are approached from two levels; the spiritual and the physical. Spiritually they deal with the spirit that caused the bone injury and physically use various substances to treat the injury.

The concept of healing according to Akan belief system is not complete unless all the elements of the therapeutic process, whether economic, spiritual and social have been addressed. The indigenous practice therefore makes room for rehabilitation of cured patients in order to address all social and psychological imbalances the injury brings to the cured patients. The study revealed however that proper structures have not been put in place to address this particular aspect of the healing process. Steps should therefore be taken to address this serious gap in the therapeutic process.

The practices associated with the belief such as prayers and the use of indigenous materials and art forms that have social and spiritual significance in the treatment of bones and joints should be preserved in any future health policy, to give traditional medicine a unique cultural identity in Ghana.

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