

Research Article

Indigenous Knowledge and the Art of Bone-Setting: The Case of *Tauma* in Bodinga LGA, Sokoto State, Nigeria

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Article History

Received: 24.01.2020

Accepted: 06.02.2020

Published: 28.02.2020

Journal homepage:

<https://www.easpublisher.com/easjop>

Quick Response Code



Abstract: The art of treating injuries has been practiced since time immemorial. Traditional-bone setting has been widely practiced in many countries of the world despite its challenges when compared with orthodox practice. This study examines the practice and why people patronize *Tauma* Traditional Bone Centre in Bodinga local Government Area. A total of 52 patients were purposely selected for interviews using close and open ended questions, and key informant interview was conducted with the leader of the Centre. The data collected were subjected to simple descriptive statistics specifically frequency analysis. The findings indicated that 87% of respondents were males who patronize the Centre and major reason because of the low cost of the services rendered, other rationale are cultural belief and quick accessibility. The study revealed that about 52% of patients have cases of fracture or dislocation on their legs. Further analysis shows that about 81% of the patients received their treatment by means of supplication. The study concluded that *Tauma* traditional bone has contributed tremendously in treating many orthopedic cases. Therefore, government at all level should provide basic and necessary facilities to the Centre so as to continue offering the service to the communities.

Keywords: Traditional Bone Setting, Treatment, Facilities, Cultural belief.

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INTRODUCTION

The practice of traditional bone-setting (TBS) has been in existent since time immemorial. Despite advances in science and technology, and a high number of doctors (Orthopedics), the method of traditional bone-setting in treatment is still common in developing countries like Nigeria and India, when compared with the developed nations (Abdul *et al*, 2017). The reasons and popularity are due to availability, cost effectiveness, familiarity and cultural acceptance. Traditional bone-setting treatment runs in families without proper documentation. The World Health Organization (2002) describes traditional bone-setting as those health practices, approaches, knowledge and beliefs that incorporate plant, animal and mineral-based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to diagnose and treat fracture and dislocation cases in human body. According to Paramvir *et al* (2013), about 10 – 40% of the patients with fractures and dislocations in the world are managed by the unorthodox practitioners of bone-setting practice. In Sub-Saharan Africa, over 80% of the people rely on medicinal plants and traditional medicines for their primary health care, including fractures (Bannerman *et al*, 1993). Several reasons have been attributed to the continued patronage

of TBS by many Africans among which include availability and accessibility to modern orthopedic facilities, cost and fear of amputation at the orthodox medical centers and the belief that every disease or accidents/misfortunes has a spiritual undertone (Kuubiye, *et al*, 2013).

The practice of traditional bone-setting is widely accepted in most countries of the world, although the name and art may vary from place to place.(Agarwal, 2010). However, accurate statistics about the traditional bone-setting, distribution or their numbers are unavailable in most countries. Many scholars have looked into the prospects and challenges of the traditional bone-setting (Elujoba *et.al*. 2005). In Nigeria, with the high frequency of accidents recorded every day on federal highways, the traditional care givers still remain popular despite the high level of education and the existence of modern health care facilities (Orjioke, 2005).

A number of traditional medical practitioners had existed long before the advent of the orthodox medical practice introduced to the developing world (Hoff, 1997) , such as herbalists, bone-setters, spiritualists, magicians and religious practitioners who

provided services as traditional healers and bone-setters. Contemporarily, both orthodox and traditional medicines are coexisting side by side and both are patronized by patients (Owoseni and Ibikunle 2015). They confirmed that the traditional bone-setters enjoy more confidence and patronage from people than any other group of traditional care-givers.

Bodinga traditional bone-setters play an important role in handling a significant number of fracture cases for patients from various parts of the country, and its neighboring countries, particularly Niger Republic. Unfortunately, there is very little or no documentation about this healing center, despite its contribution to health care delivery in the society by making members who have fractures regain their health conditions. According to Aneikan and Rechard (2011), the practice of bone-setting may differ from one geographical location to another, but certain characteristics are common to all. The practitioners are uneducated or barely educated, and they rely so much on experience and spiritual intuition. The practice is usually preserved as a family practice and then passed from father to son. Training is via apprenticeship where by interesting individuals outside the family can acquire their skills. Records are usually kept through oral traditions and although the practice differs slightly among cultures, it is generally similar (Aneikan and Rechard, 2011). The process proceeds with making a diagnosis, through reduction of the fracture by

manipulation and massaging, fomentation of the site, application of herbal creams with or without scarification, immobilization of the fracture by use of splints and bandaging. It is against this background that this study examined the characteristics of patients and the traditional bone setting methods being used in treating patients with fractures and dislocations in Tauma village of Bodinga Local Government Area of Sokoto.

STUDY AREA

Bodinga Local Government Area (LGA) lies between latitudes 12°42'00"N to 12°48'00" N and Longitudes 5°00'00' E to 5°19'08"E. it shares boundaries with Tureta LGA to the south east, Shagari LGA at the south, Yabo LGA at the west, Wamakko LGA at the north and Dange Shuni to the east (see Figure 1) with the total land mass of 564 km² and a total population of 174,302 (NPC 2006) approximately from the state Capital to the study area is around 27km. Traditional bone setting (TBS) is a known procedure among Africans and it involves use of splints and bamboo stick or rattan cane or palm leaf axis with cotton thread or old cloth (Dada, 2011). This also applicable in the study area. The cultural background of the people whereby the patronized traditional medicine also contribute to activities taken place at Tauma traditional bone setting center.

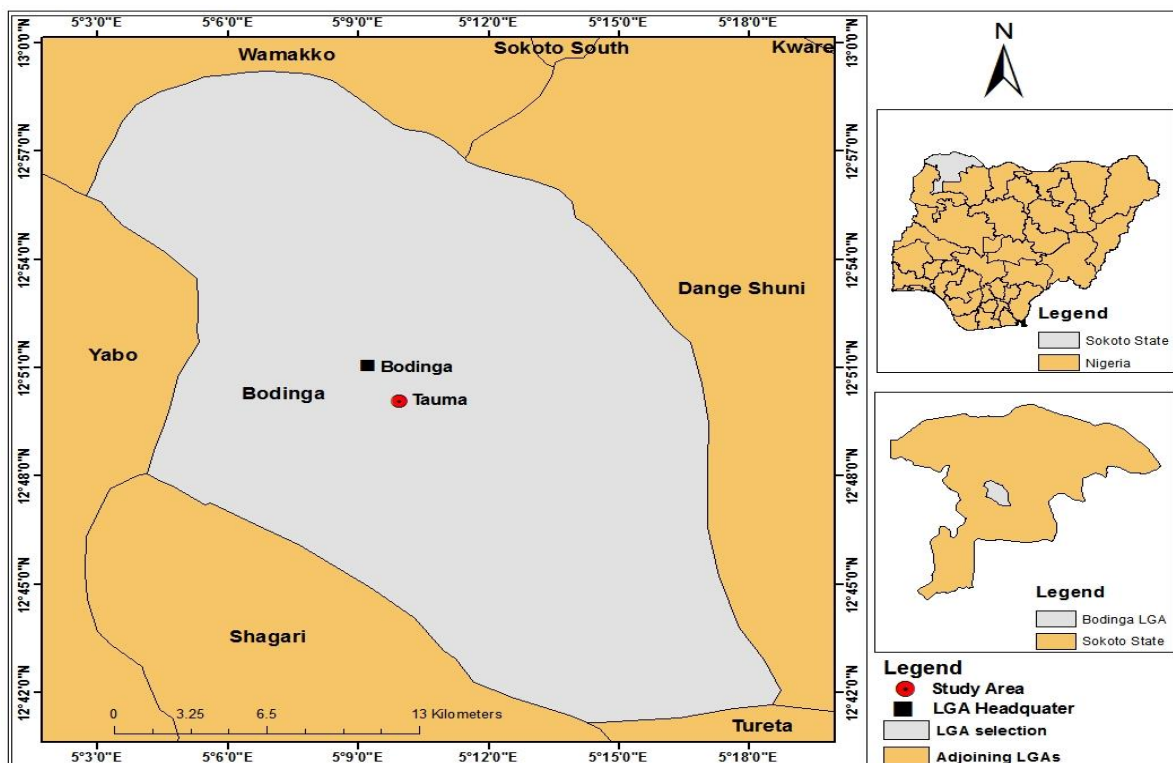


Figure 1: Study Area

MATERIALS AND METHODS

The study made use of primary data generated from a purposively selected sample of 52 patients with various complicated cases ranges from dislocation and fracture using key formant interview with the leader of the centre and open ended questionnaires administered on the patients. The data collected from administered questionnaires were analyzed using simple descriptive statistics and result presented using the bar graph.

PRESENTATION OF RESULT

The findings show that male patients on admission accounted for about 88.5% (46) and females about 11.5% (6) [see Table 1]. The high number of male cases reported may be attributed to the hazardous nature of occupational activities of the men. Activities such as small scale mining, hunting and trading which involve the use of vehicle, bicycles, motor cycles and cars expose men more to occupational accidents that could lead to sustaining of fractures or dislocations.

Table 1. Gender of the Respondents

Gender	Frequency	Percent (%)
Male	46	88.5
Female	06	11.5
Total	52	100.0

Source: Field work 2018

Table 2 indicates respondents with Islamic education are highest 57.7%, primary education 23.1%, while those who attended secondary education constitute 11.5%, and tertiary 7.7% respectively. This analysis

implies that people around the study area patronize religious knowledge a lot, being the seat of caliphate. Another reason the low level of western education compared to other parts of the country.

Table 2 Educational Background

	Frequency	Percent (%)
Islamic	30	57.7
Primary	12	23.1
Secondary	6	11.5
Tertiary	4	7.7
Total	52	100.0

Source: Field work 2018

Thirty seven percent (37%) of the respondents were doing business; other 35% comprise of casual labourers, mechanics, vulcanizers, unemployed youths, etc, while salaried employees contributed 15% and those engaged

in farming accounted for 13% (see Figure 3). The analysis revealed that business and artisan skills people were more engaged in accident related activities.

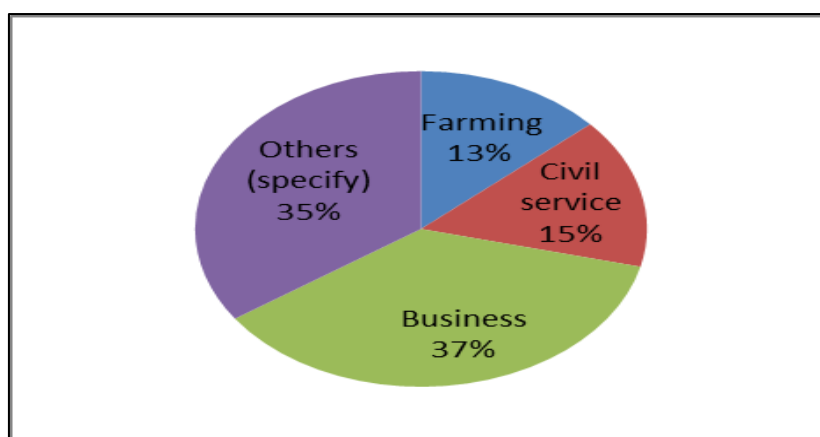


Figure 2 Main Occupation

Table 3 presents the relationship between the age of patients and their duration of treatment, where those with less than 20 years have short period of treatment because their bodies respond more quickly to treatment

of any problem or injury than the elderly people. This helps in fracture healing, unlike those who are between 31 and 50 years of age. The result implies that those with lower age have lesser duration of the treatment.

Table 3. Age of the respondent and Duration of Treatment

Age	Duration of Treatment					Total
	One week	Two weeks	One month	Two months	>Two Months	
< than 20 years	2	5	2	1	0	10
21-30 years	4	2	2	3	3	14
31-40 years	1	3	3	6	3	16
41-50 years	0	2	3	0	5	10
Above 50 years	1	0	0	0	1	2
Total	8	12	10	10	12	52

Source: Field work 2018

Figure 3 demonstrates the various treatment methods went through by respondents after treating the wounded area. Supplication accounted for 81%, traditional herbs 17% and application of drugs record the lowest with 2% percent. The analysis revealed that the use of supplication for healing fracture or dislocation plays a vital role, followed by herbal medication.

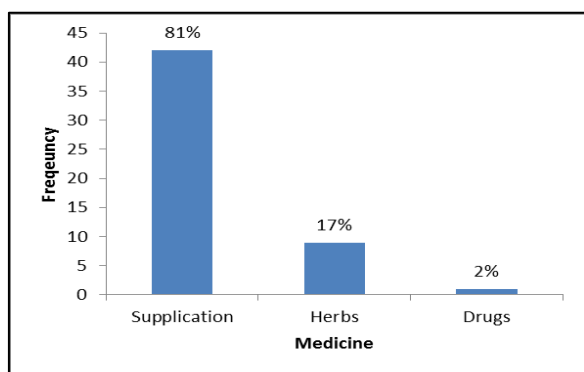


Figure 3: Types of Medicine used

Figure 4 shows that of the majority of respondents (69%) being treated had their injuries caused by accidents particularly road accident (insert percentage). football account (8%) and fighting (6%).

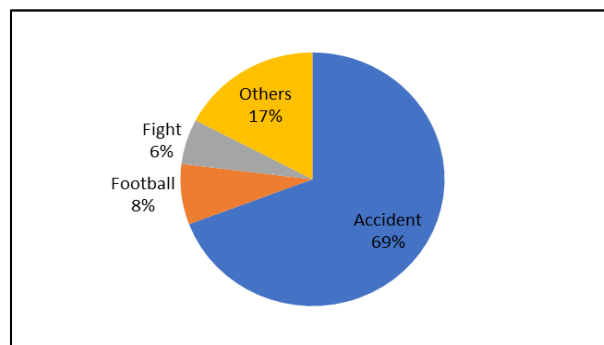


Figure 4. Causes of Fracture and Dislocation

Table 4 indicates the type of fracture in relation to the amount spent by the patients, where leg has the highest percentage of fracture (about 57.7%), perhaps because the leg receives all the body weight. Hand has 28.8%, because is serves as a protective agent to man against any harm and when falling people usually fall on their hand where it can easily be broken. The third category is rib with 9.6%, follow by waist with 1.9%. Further analysis revealed that legs treatment is more costly than the management of the hand.

Table 4. Types of fracture and Expenditure

Injuries area	Expenditure				Total
	#5-10 thousand	#15-20 thousand	#25-30 thousand	#Above 30 thousand	
Hand	11	3	1	0	15
Leg	9	10	5	6	30
Ribs	3	1	0	1	5
Waist	0	1	0	1	2
Total	23	15	6	8	52

Source: Field work 2018

Table 5 shows the various reasons why people patronize traditional bone-setting centers. Those who consider it cheaper when compared with orthopedic treatment account for 52%; cultural belief constitutes 31% (because majority of the people in the society believe in their culture); 12% considered it as easily accessible while 6% preferred it because of the quick service they received. The analysis revealed that level of income also determines the choice of medical treatment particularly in cases related to fracture. Other factors may be the fear of amputation.

Table 5. Reasons for Preference of Traditional Bone Setting

Reasons	Percentage	
	Frequency	(%)
affordability	27	52
Accessible	06	12
Availability	03	06
Cultural belief	16	31
Total	52	100.

Source: Field work 2018

The result demonstrates ion the confidence of respondents reposed on TBS treatment. 53% ranked the service as reliable, 44% rated it highly reliable and one patient (2%) was not satisfied with the service. The analysis revealed that the majority of the patients interviewed were satisfied with the services rendered to them.

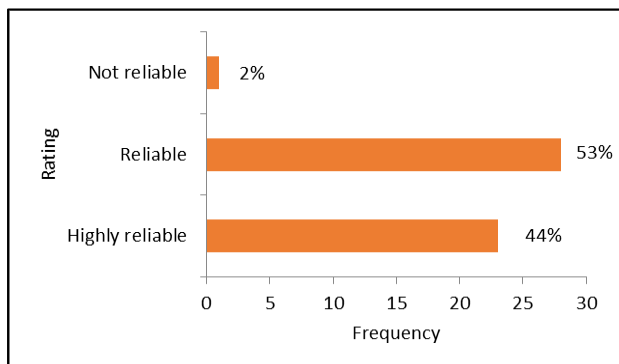


Figure 5: Rating of the TBS Services

6. Key Informant Interview

According Alhaji Bello Tauma, popularly known as *Sarkin Dori* of Bodinga Local Government he inherited the art from his parents, about 25 years ago. He claimed that there are 28 people working under him out of which 10 mastered the art to the extent that they represent him when away for another issue. He recognised patient injuries through massaging the affected part and determine whether it is a fracture or a

dislocation. He further said that when the fracture is healed, the patient should be able to walk by himself in the case of leg.

According to him, Sokoto State Government constructed two blocks of wards in Tauma Traditional centre for admitting patients. Apart from government, other philanthropies constructed boreholes for the supply of water and gave assistance to patients, particularly during the month of Ramadan. He also explains that during dry season, particularly the Hammatan period when temperatures are low, the number patient’s increases, because the weather makes human bone softer compared with the hot period. According to him, nowadays there are increases in different means of mobility that ply over road daily, that could be another factor for increase of patients.

He outlined some major challenges of the center as: in adequate accommodation and toilet facilities, and poor roads for easy access to the place. He therefore requested for the assistance of governments at all levels as well as the well-to-do individuals to the center which plays a significant role in health care delivery in the society. The Head of the centre and some patients present as at the of the interviewed were presented in Plate 2,3 & 4. These pictures depict the type of environment within which the care is given.



Plate 1: Alhaji Bello SarkinDori, A traditional Bone Setter in Bodinga Local Government



Plate 2: Patient with leg fracture receiving treatment at Tauma Traditional Bone Setting center



Plate 1: A patient with fracture at hand in Tauma Traditional Bone Setting Center



Plate 5: A female Patient with leg fracture receiving treatment at Tauma traditional Bone Setting center



Plate 6: A very young patient with fracture at leg receiving treatment at Tauma traditional Bone Setting Center

DISCUSSION OF RESULTS

Data analysis revealed that males accounted for the majority (what is percentage?) of the patients that seek treatment from Tauma traditional bone-setting clinic. This could be related to accidents sustained from motor cycles or cars (Oweseni and Ibikunle, 2015 what have these said about this matter?). From the information gathered, it appears that the practice of traditional bone-setting attracts people with different levels of education such as Islamic, primary, secondary and tertiary. The study also revealed that small scale business is the major occupation of patients receiving treatment in the centre, which in any care requires movement from one geographical location to another for means of livelihood. This is affirmed by Oladepo and Brieger (1986)'s report that Nigeria is ranked the 2nd highest in the rate of road accidents among the 193 countries of the world. Motor vehicle accidents are the leading cause of fracture and death among adolescents

and people of prime age (Taket 1986, Moham *et al*, 1991; Smith *et al*, 1991; and Atubi *et al*, 2009). The results further reveal that a patient is likely to spend on average of one to two months as healing period, and that supplication means of treatment patients contributes 81% of the process. This contradicts the general understanding of the traditional bone setting as reported by Ukere (2011) that traditional bone-setters use herbal cream.

The also study reveals that leg fracture cases were the most treated at the Tauma traditional bone-setting centre during the period under review. This accounts for about 57% of the patients, followed by hand, ribs and waist. The findings that most of the patients that receive treatment sustain the injuries as a result of accident, which is in line with Oweseni and Ibikunle (2015). Study that..... The study also revealed that the patronage of the TBS is influenced by cost, accessibility, turnaround time, culture and

pressure from relatives. However, cost is perceived as a major factor. The findings are supported by the work of Julius (2015) who reported that the reasons that patients patronize TBS include easy accessibility and quick service rendered by the TBS compared to hospitals where there are protocols and queues before patients can be seen. Finally the study affirms the people were satisfied with the services rendered to them at Tauma Traditional Bone-setting centre despite the inadequacy of infrastructure reported as part of challenges at the center.

CONCLUSION AND RECOMMENDATIONS

The study of traditional bone setting practices remains relevant in our contemporary society. Documenting the knowledge and treatment procedures of tradition bone setting is therefore very crucial. The study concludes that despite the new technologies and advancement in medicine, traditional fracture and dislocation care are still considered today as contributing to health care delivery. Tauma traditional bone-setting center has been recognized by people within and outside Sokoto State due to cost of treatment, quick service, cultural belief and satisfaction with the services provided. The study recommended a collaborative effort between the professional orthopedics and the Tauma traditional bone-setting center. The integration between traditional and western practices will ultimately provide good health care and a sustained long-term improvement. The study recommends government to provide additional block of buildings, bore holes, toilet facilities and access road to the centre. These will make the environment more conducive for the teeming population of patient. Finally the study recommends the upgrade of the centre so as to further reduce the teeming number of the unemployed youth.

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