

Reasons for Patronage of Traditional Bone Setters

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ABSTRACT

Aims and Objectives: The objectives of this study were to analyze the different reasons why patients with fractures patronize traditional bone setters (TBS) and their impression of the outcome of the treatment by the TBS. **Materials and Methods:** A 24 month prospective observational study was conducted from February 2012 to January 2014. All the patients were recruited from the orthopedics outpatient clinic. The demographic data of each patient, the type of injury, presentation to hospital or not, reasons for leaving the hospital, reasons for patronage of the TBS and their impression of the outcome of TBS' treatment, effect of educational background on patronage of TBS and reason for presenting to hospital for orthodox treatment. **Data Analysis:** Analysis was done with SPSS software Version 20. **Results:** A total 79 patients were recruited for the study and they had different reasons for patronizing TBS. These reasons include an external locus of decision making in 19 (24.1%) patients, and greater faith in TBS compared to orthodox medicine in 16 (20.3%). Twelve (15.2%) believed that TBS are more competent than orthodox medical practitioners while another group 11 (13.9%) considered the fees of TBS cheaper than those in the hospital. The delay in treatment in the hospital, forceful removal of patients from hospital against their will and dissatisfaction with hospital treatment accounted for 5 (6.3%). Poor attitude of hospital staff, fear of amputation, and patients being unconscious during the injury accounted for 2 (2.5%). Their ages ranged from 17 to 83 years, with mean age of 36.8 ± 11.8 years. The male: female ratio was 1.5:1. **Conclusions and Recommendations:** With recent advancements in the practice of orthopedics and trauma, there is still a very high patronage of the TBS by most of our patients. This is largely due to the dependence of the patients on their sponsors for treatment, while the influence of cultural and religious beliefs continues to play a major role in these decisions.

KEYWORDS: Fractures, impressions, reasons for patronage of traditional bone setters

INTRODUCTION

Traditional bone setters (TBS) have been with us for a very long time^[1,2] and they still enjoy patronage by all categories of people, ranging from the uneducated to the very highly educated group in the society. There is a general belief in most African communities that TBS are better at fracture treatment than orthodox practitioners and that there is a supernatural influence

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in their management of fractures.^[3] Most patients with fractures present first to the traditional bonesetters before coming to the hospital;^[4] it is therefore apt that we do not ignore this level of care.

This practice is usually within the family circle from father to son and sometimes extended family members with other people being trained through apprenticeship.^[4,5] The challenge of the orthopedic surgeon is the attendant complications that are presented to him after the patient has been mismanaged by the TBS.^[6]

Some of these complications include limb gangrene following very tight local splints, malunion, nonunion, osteomyelitis, contractures, and limb length discrepancies.^[6-10] Despite these complications, the demand for TBS services remains on the increase with some patients on admission in orthodox hospitals opting for treatment by a TBS.^[3,10,11]

We set out to ascertain the reasons for the patronage of TBS by patients with fractures and assess patients' impressions of them after the treatment.

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MATERIALS AND METHODS

This was a prospective study done at the University of Calabar Teaching Hospital, Calabar. Seventy-nine patients who presented at orthopedic out-patient clinic after attending Traditional Bone Setting Centers were recruited for the study. It was a 24 month study, conducted between February 2012 and January 2014. A predesigned questionnaire was filled containing details about the demographic data of the patient, presentation to hospital before resorting to the TBS, reasons for patronizing TBS, duration of treatment at bonesetters' centers, sponsors of the treatment, introduction to the TBS, reasons for returning to hospital if patient had presented initially to the hospital, impressions about outcome of treatment by the bone setters and finally, patient's advice to others who have similar conditions.

The obtained data were recorded and analyzed using SPSS version 20 software.

RESULTS

A total of 79 patients who consented to participate were studied. The age range was 17–83 years with a mean age of 36.8 ± 11.8 years. Table 1 shows the sociodemographic characteristics of the patients. There were 47 (59.5%) male and 32 (40.5%) female patients. Forty-six (58.2%) patients were married, 32 (40.5%) were single, while only one (1.3%) was widowed. There were 12 (15.2%) students, 9 (11.4%) artisans, and 16 (20.3%) business men/women. The others were 17 (21.5%) civil servants, 5 (6.3%) farmers, and 2 (2.5%) drivers. The educational status of the patients was as follows: Primary education (number [*n*] =14; 17.7%); secondary education (*n* = 19; 24.1%); tertiary education (*n* = 44; 55.7%); and no education (*n* = 2; 2.5%). Road traffic accidents were the cause of injury in 58 (73.4%) patients. Others were falls from height (*n* = 15; 19.0%), domestic falls (*n* = 2;

2.5%), gunshots (*n* = 2; 2.5%), and assaults (*n* = 2; 2.5%). Figure 1 shows the types of injuries sustained by the TBS attendants. Of the 79 patients that consented for the study, 37 (46.8%) accessed the hospital before patronizing TBS while 42 (53.2%) did not. The factors that influenced the decision to patronize the TBS [Table 2] are as follows: Delay of treatment at hospital 5 (6.3%), not satisfied with hospital treatment 5 (6.3%), poor attitude of hospital staff 2 (2.5%), TBS are more competent 12 (15.2%), TBS fee being cheap 11 (13.9%), patients having faith in TBS 16 (20.3%), sponsors of treatment took the decision 19 (24.1%), brought to TBS against patient wish 5 (6.3%), unconscious when brought

Table 1: Sociodemographic characteristics of patients

	Frequency (%)
Age	
1-10	0 (0.0)
11-20	4 (5.1)
21-30	21 (26.6)
31-40	27 (34.2)
41-50	20 (25.3)
51-60	3 (3.8)
≥61	4 (5.1)
Total	79 (100)
Sex	
Male	47 (59.5)
Female	32 (40.5)
Total	79 (100)
Marital status	
Married	46 (58.2)
Single	32 (40.5)
Widowed	1 (1.3)
Total	79 (100)
Religion	
Christianity	77 (97.5)
Islam	2 (2.5)
Total	79 (100)
Educational status	
Primary	14 (17.7)
Secondary	19 (24.1)
Tertiary	44 (55.7)
No formal education	2 (2.5)
Total	79 (100)
Occupation	
Student	12 (15.2)
Civil servant	17 (21.5)
Clergy	4 (5.1)
Unemployed	7 (8.9)
Artisan	9 (11.4)
Motorcycle rider	2 (2.5)
Business	16 (20.3)
Farmer	5 (6.3)
Lecturer	4 (5.1)
Military	1 (1.3)
Driver	2 (2.5)
Total	79 (100)

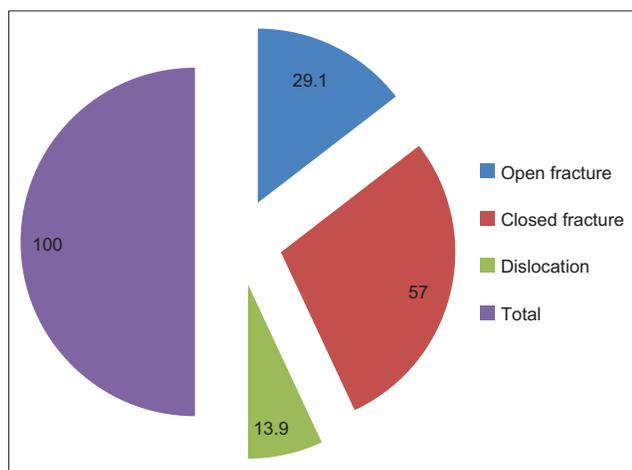


Figure 1: Types of injuries among traditional bone setters attendants (percentage)

Table 2: Factors that influenced the patients' decision to patronize traditional bone setters

Reason	Frequency (%)
Delay of treatment	5 (6.3)
Not satisfied with hospital treatment	5 (6.3)
Poor attitude of hospital staff	2 (2.5)
TBS are more competent	12 (15.2)
TBS fees are cheap	11 (13.9)
Have greater faith in TBS	16 (20.3)
Sponsors of treatment took decision	19 (24.1)
Brought to TBS against patient wish	5 (6.3)
Unconscious when brought to TBS	2 (2.5)
Fear of amputation	2 (2.5)
Total	79 (100)

TBS: Traditional bone setters

2 (2.5%), and fear of amputation 2 (2.5%). Only occupation was significantly associated with reasons for the patronage of TBS ($P = 0.047$) [Table 3]. The duration of TBS treatment ranged from 1 to 6 months with a mean of 2.5 months. More than half 39 (49.4%) of the patients were introduced to TBS by family members, 34 (43.0%) by friends, neighbors 2 (2.5%), unknown persons 2 (2.5%), hospital staff 1 (1.3%), and self 1 (1.3%). The opinion of patients about outcome of TBS treatment as shown in Table 4 is as follows; hospital treatment more reliable 7 (8.9%), TBS are not competent 8 (10.1%), no one should go to TBS 32 (40.5%), competency of TBS 2 (2.5%), regret seeking treatment from TBS 12 (15.2%), TBS operating on trial and error 6 (7.6%), hospitals are more competent 2 (2.5%), hospitals and TBS are good and no comment 5 (6.3%), 5 (6.3%), respectively.

Table 3: Bivariate analysis of factors associated with traditional bone setters patronage and sociodemographics

Variable	Reasons and satisfaction for patronage		Total	χ^2	P
	Satisfied	Not satisfied			
Age					
1-10	0	0	0	0	
11-20	0 (0)	4 (100)	4 (100)	5.528	0.237
21-30	11 (50.0)	11 (50.0)	22 (100)		
31-40	10 (37.04)	17 (62.96)	27 (100)		
41-50	10 (50.0)	10 (50.0)	20 (100)		
>50	4 (66.67)	2 (33.33)	6 (100)		
Sex					
Male	22 (46.80)	25 (53.19)	47 (100)	0.295	0.587
Female	13 (40.63)	19 (59.38)	32 (100)		
Religion					
Christian	35 (45.45)	42 (54.54)	77 (100)	1.632	0.201
Islam	0 (0)	2 (100)	2 (100)		
Marital status					
Married	23 (50)	23 (50)	46 (100)	2.001	0.368
Single	12 (37.0)	20 (62.5)	32 (100)		
Widowed	0 (0.0)	1 (100.0)	1 (100.0)		
Education					
Primary	6 (42.86)	8 (57.14)	14 (100.0)	4.450	0.349
Secondary	6 (31.58)	13 (68.42)	19 (100.0)		
Tertiary	22 (53.66)	19 (46.34)	41 (100.0)		
Postgraduate	1 (33.33)	2 (66.67)	3 (100.0)		
Nonformal	0 (0)	2 (100)	2 (100.0)		
Occupation					
Student	7 (87.5)	1 (12.5)	8 (100)	21.263	0.047
Civil servant	8 (47.06)	9 (52.94)	17 (100)		
Clergy	2 (50)	2 (50)	4 (100)		
Unemployed	1 (14.29)	6 (85.71)	7 (100)		
Artisan	6 (66.67)	3 (33.33)	9 (100)		
Motorcycle	1 (50)	1 (50)	2 (100)		
Business woman	5 (55.56)	4 (44.44)	9 (100)		
Business man	1 (14.29)	6 (85.71)	7 (100)		
Farmer	3 (60)	2 (40)	5 (100)		
Lecturer	0 (0)	4 (100)	4 (100)		
Pupil	0 (0)	4 (100)	4 (100)		
Military	0 (0)	1 (100)	1 (100)		
Driver	1 (50)	1 (50)	2 (100)		

Table 4: General opinions of patients about traditional bone setters on treatment outcome

Opinion	Frequency (%)
Hospital treatment more reliable	7 (8.9)
TBS are not competent	8 (10.1)
No one should go to TBS	32 (40.5)
Competency of TBS	2 (2.5)
Regrets seeking treatment from TBS	12 (15.2)
TBS operating on trial and error	6 (7.6)
Hospital more competent	2 (2.5)
Hospital and TBS are good	5 (6.3)
No comment	5 (6.3)
Total	79 (100)

TBS: Traditional bone setters

DISCUSSION

TBS still command the attention of most patients with fracture injury in West Africa sub-region.

Treatment of a fractures by a TBS is natural to the average Nigerian irrespective of his level of education because the practice appears to be ingrained in the minds of people being what most people were born to see practiced commonly in this part of the world and the world generally for over 3000 years.^[1] Cultural and spiritual beliefs play a central role in the orientation of the people and their patronage of the TBS, as they consider the treatment as having a supernatural touch from the gods bringing about the healing of the bone. This supernatural component in their opinion is not obtainable in modern orthopedic practice.^[3-5] Although several complications follow the treatment by these TBS, the strong belief in the spirituality associated with their activities encourages patient to continue patronizing them.^[12,13] The orthopedic surgeon today is constantly faced with the challenge of managing the attendant complications caused by the treatment of these TBS.^[9]

In this study, young adult males constitute the bulk of those who patronized the TBS (59.5%) with the mean age of 36.8 ± 17.8 . The duration of stay with the TBS was between 1 and 6 months with a mean of 2.5 months. This age group constitutes the workforce in any society and spending such time with TBS with no solution at the end of the treatment but rather ending up with complications is gross loss of man hours with resultant reduction in productivity.

Their introduction to the TBS was most times from family members (49.4%) and friends (43%), the result is similar with that by Ogunlusi *et al.*, who had 85.2% from middlemen and also Solagberu's work stating that external persons formed 75% of sources influencing contact with TBS.^[4,11] This is because, in Nigeria, there is still strong family bonds which allow extended family members and friends to influence very important decisions of an individual.^[14]

The majority of these patients (55.7%) were those who had attained tertiary education which affirms the fact that

educational attainment has not really changed the cultural beliefs that the TBS are better in the management of any bone injury. This was different from the study by other authors and that of Udosen *et al.* where there was up to 50% illiterate motorcycle riders forming the bulk of those who patronized the TBS.^[3,13,15]

Forty-two patients (53.2%) were seen first by the TBS before presenting to the hospital; this could have probably included some of the patients with open fractures which end up mismanaged with resultant wound infections and some with chronic osteomyelitis. This is similar to the study by Ogunlusi *et al.* where 79.3% of the patients visited TBS from the scene of the accident before presenting in the hospital.^[4] Of utmost concern are the 46.8% of them who presented first for orthodox medical attention and were later taken away to the TBS because of unsatisfactory attention given to them by health care providers. Health-care providers need to review the attitudes of staff to patients and also ensure that prompt attention is given to patients on arrival at the health center.

The study reveals that 24.1% of the patients actually visited the TBS because of their sponsors who had to pay for their treatment; this buttresses the fact that apart from the cultural beliefs, poverty plays a central role in the continued patronage of TBS. Another group constituting 20.3% of the those who visited the TBS did so because of their beliefs that they are more competent (15.2%), this has been documented by many other authors.^[13,15] TBS being cheaper constituted 13.9% which also underscores the issue of poverty and the dependence on sponsors for treatment no matter where it is obtained. Others visited the TBS because of the delay in orthodox care and poor attitude of orthodox caregivers. The fear of amputation (2.5%) was the least in their reasons for patronage of TBS, which is different from reasons documented by some authors who had fear of amputation as one of the significant reasons for visiting the TBS.^[3,4]

The TBS managed the different bone injuries that presented to them with the use of herbal concoctions, wooden splints, fresh palm leaves, and some scarifications and application of special herbal balms.

The different impressions of the respondents about the outcome of TBS treatment were as follows: 40.5% concluded that no one should patronize TBS while 15.2% regretted ever being managed by the TBS, others felt orthodox medicine is more reliable. However, there was still a 6.3% group who believed that both the TBS and orthodox medical practitioner are the same, and hence they could still visit either of them.

CONCLUSIONS AND RECOMMENDATIONS

With recent advancements in the practice of orthopedics and trauma, there is still a very high patronage of the TBS by most of

our patients irrespective of their educational status and position in the society. The reasons here are largely due to an external locus of decision making for the patient owing to their financial constraints with associated influenced of cultural and religious beliefs in the TBS. The present state of our hospitals also leaves nothing to be desired, as the patients wait endlessly for simple surgical procedures which are not done due to poor attitude of staff and undue delays.

Most patients' impressions about the outcome of treatment by TBS were that they were not competent, not reliable and many regretted ever seeking help from them, though few were still indecisive.

It is, therefore, pertinent that the relevant institutions of government ensure that the National Health Insurance Scheme becomes fully operational to make health care affordable to all, especially trauma and orthopedic conditions that are relatively expensive.

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Conflicts of interest

There are no conflicts of interest.

REFERENCES

1. Agarwal A, Agarwal R. The practice and tradition of bonesetting. *Educ Health (Abingdon)* 2010;23:225.
2. Hoff W. Traditional health practitioners as primary health care workers. *Trop Doct* 1997;27 Suppl 1:52-5.
3. Udosen AM, Otei OO, Onuba O. The role of traditional bonesetters in Africa: Experience in Calabar, Nigeria. *Ann Afr Med* 2006;5:170-3.
4. Ogunlusi DO, Ikem IC, Oginni LM. Why Patients Patronize Traditional Bone Setters. *The Internet Journal of Orthopedic Surgery* 2007;4(2).
5. Nwachukwu BU, Okwesili IC, Harris MB, Katz JN. Traditional bonesetters and contemporary orthopaedic fracture care in a developing nation: Historical aspects, contemporary status and future directions. *Open Orthop J* 2011;5:20-6.
6. Omololu B, Ogunlade SO, Alonge TO. The complications seen from the treatment by traditional bonesetters. *West Afr J Med* 2002;21:335-7.
7. Alonge TO, Dongo AE, Nottidge TE, Omololu AB, Ogunlade SO. Traditional bonesetters in south western Nigeria - Friends or foes? *West Afr J Med* 2004;23:81-4.
8. OlaOlorun DA, Oladiran IO, Adeniran A. Complications of fracture treatment by traditional bonesetters in Southwest Nigeria. *Fam Pract* 2001;18:635-7.
9. Nwankwo OE, Katchy AU. Limb gangrene following treatment of limb injury by traditional bone setter (Tbs): A report of 15 consecutive cases. *Niger Postgrad Med J* 2005;12:57-60.
10. Dada A, Giwa SO, Yinusa W. Complications of treatment of musculoskeletal injuries by bone setters. *WAJM* 2009;28:333-7.
11. Solagberu BA. Long bone fractures treated by traditional bonesetters: A study of patients' behaviour. *Trop Doct* 2005;35:106-8.
12. Oginni LM. Traditional Bone Setting in Western Nigeria. In: Adediran B, editor. *Cultural Studies in Ile-Ife Institute of African Studies, Obafemi Awolowo University Ile-Ife*. 1995; p. 202-8.
13. Thanni LO. Factors influencing patronage of traditional bone setters. *West Afr J Med* 2000;19:220-4.
14. Dada A, Giwa SO, Yinusa W, Ugbeye M, Gbadegesin S. Complications of treatment of musculoskeletal injuries by bone setters. *West Afr J Med* 2009;28:43-7.
15. Onuminya JE, Onabowale BO, Obekpa PO, Ihezue CH. Traditional bone setter's gangrene. *Int Orthop* 1999;23:111-2.