

Knowledge, attitude and practice of traditional bone setting among adults Sudanese in Khartoum: a cross sectional study

Abstract

Introduction: Traditional Bone setting (TBS) has been practiced since ancient times in many countries mainly in the developing countries like Sudan. They believe that traditional bonesetters are better than orthopedic surgeons at fractures management.

Objectives: To assess the knowledge, attitude, and practice of traditional bone setting treatment among adults Sudanese population in Khartoum.

Methodology: This is A Cross sectional Household based study in Omdurman locality Al Arda, Khartoum state, Sudan. From August 2020 till April 2021. The data was collected using closed ended structural (interviewed) questionnaire. And was analyzed by SPSS Version 21, also Chi square was used to test some association between dependent variables and independent variable.

Conclusion: Seeking TBS present a huge part of the health seeking behaviors in Sudan which plays a major role in health outcomes and quality of life of the community. Many responders seek those practice and even believe in their ability to fix many medical concerns.

Recommendations: The ministry of health should create clear guidelines indicates what should be done by traditional bone setters or formal healthcare system. Sudan needs formal training to improve quality of services and the outcomes of TBS treatment.

Keywords: traditional bone setters, adults, knowledge attitude, practice

Volume 16 Issue 6 - 2023

Zeinab Omer Mustafa Mohamed,¹
Mohammed Hammad Jaber Amin,² Hania
Adam Omer Musa,¹ Rawan Ismail El- Nair
Osman,¹ Randa AbdAlziz Hilal³

¹MBBS Faculty of Medicine, Ahfad University for women ,
Khartoum, Sudan

²Fifth-year Medical Student, Faculty of Medicine, Alzaiem
Alazhari University Khartoum, Sudan

³Faculty of Medicine Ahfad University for women Khartoum,
Sudan

Correspondence: Mohammed Hammad Jaber Amin, Faculty of
medicine, Alzaiem Alazhari University, Sudan,
Email mohammesjaber123@gmail.com

Received: September 21, 2023 | **Published:** November 01,
2023

Introduction

World Health Organization (2002) describes traditional bone-setting as that health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to diagnose and treat fracture in human body.¹

The World Health Organization (WHO) defines traditional medicine (TM) as health practices, approaches, knowledge and beliefs incorporating plant, animal and mineral based medicines, spiritual therapies, manual techniques and exercises, applied singularly or in combination to treat, diagnose and prevent illnesses and maintain well-being.²

Traditional Bone setting (TBS) has been practiced since ancient times in many countries mainly in the developing countries like Sudan. They believe that traditional bonesetters are better than orthopaedic surgeons at fractures management. The type of services provided by traditional bone setters can't be ignored as significant number of patients take them as first line of management prior to orthodox.³ It's a form of traditional medicine that's passed from one generation to the other while some receive training through apprenticeship. Not surprisingly TBS services associated with high failure and development of complications Since TBS practice lacks scientific knowledge of anatomy, physiology, radiology and infection control and prevention.¹

Healthy Manpower is the base of the pyramid of Nations development throughout the whole history of Mankind. On the other hand, Deaths and Disabilities due to TBS, which can be considered

preventable, have got a major impact on Medical, Social and Economical pillars of national development.

Traditional bone setter's (TBS) treatment is skill and due to lack of public attention and non-availability of modern facilities has survived more than 3,000 years. Traditional bonesetters also having a support of all classes of our community from the illiterate to the extremely knowledgeable society. In most communities, there is a general conviction that TBS is better than Orthopaedic practitioners in fractural treatment.³

Bone setters use traditional method by using herbs splints and massage to manage fractures. Numerous reasons to support conventional bonesetters include simple accessibility, fast delivery, concern for implants and foreign items like musculoskeletal traction devices, ease and versatility in traditional treatment, discomfort with Orthopaedic community and lack of awareness regarding the new Centres.⁴

We aimed to determine the knowledge, attitude, and practice of traditional bone setting treatment among adults.

Methodology

Study design

A Cross sectional Household based study that looked on Knowledge, Attitude and Practice about Traditional Bone Setting Utilization. Between August 2020 and April 2021.

Study area

The research was conducted in Omdurman locality (Al-Arda). Al Arda is situated in Khartoum state in Omdurman locality, is divided

into south, middle, and northern regions. Al-Arda has One University Ahfad University for Women, 2 secondary schools with Awad-HUSSIN Health centre.

Study population

Household survey of Adult male and females aged 25 and above who had resided in the area for a minimum period of six months who met inclusions and exclusions criteria. And have consent to participate in this study.

Study variables

Dependent variables: The attitude and practice of the participants were assessed.

Independent variables: Sociodemographic characteristics of Age, Gender, Marital status, educational level was assessed.

Inclusion Criteria:

- Males and females
- Age above 25 years
- Residing in the area for at least 6 months.
- Have the consent to participate in the study.

Sample Size

The number (n=270) was determined using specific statistical formula adopted by Willian G. Cochran for determining an appropriate sample size

$$n = t^2 Pq / d^2$$

n=sample size

z=standard normal deviation 1.96

p=0.50

d= level of precision at 5% (standard value 0.05)

q=1-p=0,50

n= 3.84

$n1 = n0 \cdot 1 + (n0 \cdot p)$ Where p = population size=906

$n1 = 384 \cdot (1 + 384 \cdot 906) = 270$

Sampling technique

The individual subjects were selected randomly using systematic simple random sampling technique (SSRST). we find that Al-Arda contain 906 houses giving numbers the researcher selected one house and drop other 3 houses and investigate one participant in each house.

Data collection

The data was collected using closed ended structural (interviewed) questionnaire. The final version of the questionnaire which consists of 16 questions. The information sought included sociodemographic data in the form of gender, age, educational level and occupation. The remaining of the questions measure the participants knowledge about TBS by asking if you know traditional bonesetter or not and if yes mention from where did you hear about it. A question about the attitude of participants towards TBS sought by asking which do you prefer TBS or orthodox and why. Then the practice was assessed by asking if you or anyone of your relatives have visited TBS and if yes mention the reasons. We asked about if they were develop

complications or not and if yes in form of what. And one last question about the overall satisfaction with the TBS level of services.

Data analysis

The collected data were entered to the computer then coded, organized and analyzed by Statistical Package for Social Science (SPSS) version 21. General tabulations including frequency distribution were used also Chi _square was used to test some association between dependent variables and independent variable.

Ethical considerations

The Permission to conduct this study was obtained from AUW ethical committee and the permission to the approach the houses was taken from Omdurman locality of each region. And informed verbal consent was obtained from every participant before participation in the study, participants were assured the collected data will be strictly confidential and will be disclosed for any reason, and will be only used for research purposes.

Results

This research was approached through a cross-sectional Household-based study, where 270 Adults participants from Al-arda were enrolled. There were total 270 respondents, 153(56.7%) were male. The majority of the respondents 127(47.0%) were between the ages of 25–40years. Regarding marital status, the majority 184(68.1%) were married. When asking about educational background, 206(76.3%) are having higher education, Those who heard about Traditional Bonesetter 270(100%), were asked again about source of receiving the information most 242(88.8%) were said from friends and relatives. There were various reasons for visiting TBS mostly due to fractures 111(41.1%) followed by dislocations 90(33.3%) and strains 23(8.5%).

Complications after bone setter treatment are mentioned. Malunion and ununion of fractured bones were the most common complications reported 17(6.3%). 168(62.2%) of the respondents were satisfied with level of services provided by TBS, While 63(23.3%) weren't satisfied mostly due to the complications 40(14.8%) were develop followed by bad services 14(5.2%), also 102 (37.8%) of the participants were preferring TBS, whereas 169 (61.9%) prefer Orthopaedic Surgeons. Most of the participants Prefer TBS because of their Cultural belief 59(21.9%) ,Many of the participants 169(61.7%) prefer Orthopedic Surgeons because of their dependence on scientific background 95(35.2%).The respondents aged (25-40) were found to be the highest group who prefer TBS, but it didn't reach a statistical significance (p=0.895).

There was significant relationship between the age and the practice of traditional bone setting (p=0.043). and has been mostly practiced by elder people (97.7%).The level of education was found not to be associated with preference of TBS, respondent with university and higher educations were less likely to prefer TBS (p=0.184). TBS mostly practiced by people with higher education, there was found to be no association between the educational level and the practice of TBS. People who were not working found to be highly prefer traditional bone setter, there was highly statistical significance between the occupation and the attitude of the respondents towards traditional bone setters (p=0.093).The people who were not working were the ones who highly practice TBS, but it didn't reach a statistical significance (p=1.000).Marital status has strong association with preference of traditional bone setters (p=0.011) with 42.9% of the participants were married. There was no significant association between the marital status and the practice of TBS, and was found to be mostly practiced by married respondents.

Discussion

Most of the respondent were males (56.7%), also the main age group that participated in the study were 25-40 years old (47.0%). gender, marital status and occupation of the participants statistically did not affect the choice of TBS treatment. According to a study done by Dr. Julius Rogena Agwata stated that (age, gender, marital status and occupation of participant statistically did not affect the choice of TBS treatment. The younger age groups seemed to prefer TBS treatment as compared to the older age groups. This could be because of the low level of education even in the younger age groups). Other studies elsewhere indicate that the youth do not seem to prefer TBS as a form of treatment.⁵

Most of the respondent were aware of traditional bone setter in their environment (98.5%), the main source of knowledge about traditional bone setter was acquired were friends and relatives (88.8%), it wasn't surprising because most Sudanese are dependent on traditional medicine, that is similar to another study conducted by Alam et al, which revealed that, In majority advice or pressured from families/friends taking the lead. 77(28.84% of patients suffer because of family or friends. 66(24.72%) of patients affected because of sociocultural beliefs.⁶

Most of participants had visited a traditional bone setter (85.9%) for different reasons but fracture and dislocation were the main. They believed that TBS is better than orthodox in term of dislocation and fracture management in fact they take x-rays to the TBS. This finding is consistent with a previous study that was performed in Sudan,^{7,8} as well as other studies done in Nigeria,⁹ Bangalore,¹¹ Southern Ethiopia,^{2,12} and Makurdi.¹⁰ This is almost similar to a study done in Nigeria where 85% of the participants had traditional bone setting as a first port of call.⁶ Other studies done in Kenya indicate that 80% of Kenyans seek services of traditional healers while (19.3%) of respondent visited TBS had developed different complications but the main one was mal-union and non-union(6.2%) which had to refractured then repaired by orthodox. Although some had complications, but (61.3%) were satisfied by services provided by traditional bone setter while (23.4%) were not satisfied mainly due to bad services and complications, similar to Manjunatha et al.,¹¹ which report a total of 568 cases with (357 upper and (211 lower limb) fractures and dislocations presenting to hospital after initial treatment by traditional bone setter.

The majority of respondent preferred orthopedic surgeons (61.9%) because the management is based on scientific knowledge and better outcome, this preference is influenced by level of education of respondent (most Higher educational level preferred orthodox), that is agreed also by Agu et al.,¹³ in study done in 2020 they found that majority of literate patients 77% received treatment from TBS. While the reminder prefer traditional bone setters because it's one of their culture and they think services provided are quicker and also TBS is cheaper. The majority of employed respondent preferred orthopedic surgeons there was highly association between the occupation and the attitude of respondents towards TBS, similar to Yinusa et al findings.¹⁴ In terms of visits, therefore there is no association between occupation and practice. The non-workers were slightly higher in terms of visits (practice). Most of the unmarried (single) preferred orthodox (73.3%) while (57.1%) of the married preferred orthopedic surgeon, while (42.9%) preferred traditional bone setters, there is strong association between preference of TBS and the married participants. Also agreed with Agu et al.,¹³ with findings. Although, most single respondent preferred orthopedic surgeons, there is no significant association between marital status and practice.

Conclusion

This research has concluded that traditional bone sitter in Sudan is an important part of the social structure of Sudanese society. The seeking of TBS has different reasons, the trust on the TBS present the most common reason because people consider him part of their society with mutual understanding. Affordability and accessibility of services also plays major role on seeking TBS. seeking TBS present a huge part of the health seeking behaviours in Sudan which plays a major role in health outcomes and quality of life of the community.

Recommendations

Based on the findings and conclusions presented the following recommendation are suggested:

The ministry of health should create clear guidelines indicates what should be done by traditional bone setters or formal healthcare system. We need for formal training TBS and willingness to offer and accept formal training to improve traditional bone setting practice because they are acquired their skills through informal training by apprenticeship from relatives and family members by doing so will improve quality of services and outcomes of traditional bone setting treatment. TBS practice should be regulated by laws and governments as part of healthcare system. We need to increase the level of awareness and education (through lectures, mass media) of people seeking TBS regarding treatment of bone fractures. Health insurance and facilities should be expanded. Further studies are needed.

Acknowledgments

None.

Conflicts of interest

The author declare that they have no conflicts of interest.

Funding

None.

References

1. Sina OJ, Ibikunle MA. Traditional Bone-Setters and Fracture Care in Ekiti State, Nigeria. *Altern Integr Med*. 2015;4(1):1–5.
2. Gari A, Yarlagadda R, Wolde-Mariam M. Knowledge, attitude, practice, and management of traditional medicine among people of Burka Jato Kebele, West Ethiopia. *J Pharm Bioallied Sci*. 2015;7(2):136–144.
3. Ali R, Tunio H, Ali SM, et al. Traditional bone setter's practice, complications; even in 21st century. *J Liaquat Uni Med Helath Sci*. 2020;19(4):247–251.
4. Singh P. Traditional bone setting: origin and practice. *Int J Ther Appl*. 2015;18–23.
5. Julius RA. Knowledge, attitudes and practice of traditional bone setting in iftin division, Garissa; 2015.
6. Khan I, Saeed DM, Inam DM, et al. Traditional bone setters; preference and patronage. *Prof Med J*. 2015;20(9):1181–1185.
7. Idris SA, Bakry Mohammed O. Why do people prefer traditional bonesetters in Sudan? *Sudan Journal of Medical Sciences*. 2010;5(3).
8. Eltybe A, Ibrahim O. Knowledge, attitude and practice towards traditional bone setting in fractures management among adults in sarasir village, alhassahisa locality, Gezira State, Sudan; 2016.
9. Sina OJ, Taiwo OC, Ayodele IM. Traditional Bone-Setters and Fracture Care in Nigeria; 2021.

10. Ndubuisi Oc, Omolade A, Elachi CI, et al. Patronage of traditional bonesetters in Makurdi, north-central Nigeria. *Patient Prefer Adherence*. 2015;9:275–279.
11. Manjunatha V. Patronizing traditional bone setters and its complications- a study in Bangalore. *IOSR Journal of Dental and Medical Sciences*. 2016;15(6):125–130.
12. Kumma WP. Complications of fracture treatment by traditional bone setters in Wolaita complications of fracture treatment by traditional bone Setters in Wolaita Sodo, southern Ethiopia. *Journal of Biology, Agriculture and Healthcare*. 2013;3(12):95–101.
13. Agu TC. Traditional bone setters' gangrene: an avoidable catastrophe, 8 year retrospective review in a private orthopedic and trauma centre , south-east Nigeria. *Nigeria J Gen Practice*. 2016;14(1):1.
14. Aa D, Yinusa W, So G. Review of the practice of traditional bone setting in Nigeria. *Afr Health Sci*. 2011;11(2):262–265.