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Original Research Article

Perceptions regarding traditional bone setting among patients with fractures in National Hospital of Sri Lanka

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Abstract

Background: Many developing countries, especially in Asia, Africa and South America have an integrated approach to management of fractures where both traditional bone setting (TBS) as well as conventional care co-exist. In Sri Lanka, traditional bone setting appears to be a popular mode of treatment of fractures.

Objectives: To determine the perceptions regarding traditional bone setting among patients with fractures treated at orthopedic surgery clinics and wards at National Hospital of Sri Lanka (NHSL).

Materials and Methods: A descriptive cross-sectional study was carried out using a semi-structured questionnaire to gather information from 100 patients treated at orthopedic surgery clinics, orthopedic surgery wards and accident service ward at National Hospital of Sri Lanka (NHSL). Data was analyzed using SPSS version 30 and results presented in the form of means, percentages and tables.

Results: Majority of the respondents (27%) were in the 60-69 age group, with a mean age of 52.67 years. Most respondents (50%) sought TBS treatment for chronic pain. The main reasons for seeking TBS were cost and accessibility. 15 respondents (15%) had experienced complications following TBS treatment, the most common being exacerbation of pain (40%). The reason for almost all respondents to seek formal healthcare for orthopedic ailments was the availability of sophisticated imaging (98%). 50% were undecided regarding the skills of traditional bone setters when compared to modern orthopedic treatment practitioners. Majority (50%) believed that modern orthopedic treatment is more effective in pain and wound management while half the respondents (65%) believed that modern orthopedic treatment is not associated with a higher cost when compared to TBS services.

Conclusion: Our study highlights the continued reliance in traditional bone setting for orthopedic issues including fractures, primarily contributed by factors such as accessibility, cost and cultural beliefs. Our findings also emphasize the importance of formal healthcare, mostly with regards to its advanced diagnostic capabilities. We suggest that a greater linkage between traditional bone setting and modern orthopedic medical practitioners will improve the overall outcome when treating orthopedic issues while reducing the risks.

Keywords: Traditional bone setting, Fractures, Sri Lanka

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1. Introduction

In most parts of the world, traditional medicine has deep historical roots that predate the development of modern medical practices.[1] This is especially evident in low- and middle-income countries, where traditional and conventional medicine often coexist. Traditional medical knowledge is typically passed down through generations informally, with skills transferred through observation and practice, often within families or community circles.[2]

A fracture, defined as a break or disruption in the continuity of a bone, is a major global health concern and a leading cause of disability.[3] While modern orthopaedic medicine offers advanced diagnostics and surgical interventions, traditional bone setting remains a widely used treatment method in several countries, particularly where modern healthcare is less accessible or trusted.[4] Affordability, long wait times in hospitals, fear of surgical interventions, and deeply rooted cultural beliefs all play a role in why many individuals prefer traditional methods.[5]

In Sri Lanka, the traditional treatment of fractures is commonly referred to as “Kedum Bindum Wedakama”.[1]

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Traditional practitioners use natural materials such as bamboo and tree bark to create splints and bandages for the immobilization and healing of fractures.[6] It is a commonly held belief in Sri Lanka that traditional methods provide faster, more complete healing with fewer complications compared to Western medicine.[1]

Orthopaedic surgeons working in Sri Lanka and other resource-limited settings often encounter patients who initially sought treatment from traditional bone setters and later presented with complications. These complications range from mild to life-threatening, including deformities, delayed union or non-union of bones, acute compartment syndrome, osteomyelitis, and in some cases, gangrene leading to amputation or death.[7] Once complications arise, patients typically require urgent surgical intervention, which may be more extensive than if they had sought formal care earlier.[4]

Despite the known complications associated with traditional bone setting, its popularity remains high. This underscores the importance of understanding the factors that influence patients' decisions in choosing between traditional and modern orthopedic fracture care.[7] One critical issue with traditional bone setting is the lack of standardized training, which leads to highly variable outcomes and skill levels among practitioners.[8]

Therefore, it becomes increasingly important to explore the reasons behind patients' preference for traditional care, particularly in a country like Sri Lanka, where specialist doctors and advanced medical facilities are available.[9] Though research has been conducted internationally, there is a notable lack of local studies that explore the motivations behind choosing traditional bone setting over formal healthcare in Sri Lanka.

While some previous studies have focused on the cultural significance or clinical complications of traditional treatments in Sri Lanka[6,10] there has been no investigation into the factors influencing healthcare choices for orthopaedic conditions. To our knowledge, this is the first study that specifically examines why patients in Sri Lanka choose traditional bone setters over formal medical practitioners for orthopaedic issues.

Conducting this research at the National Hospital of Sri Lanka (NHSL), the country's largest tertiary care institution, allows for a diverse sample. As the National Hospital of Sri Lanka caters to patients from across all districts, it provides a valuable opportunity to study the fracture care preferences of individuals from various geographic, cultural, and socio-economic backgrounds. This adds strength and increases the accuracy of the findings of the study.

2. Materials and Methods

This study was set in Orthopedic surgery clinics, orthopedic surgery wards and accident service ward at National Hospital of Sri Lanka (NHSL). Recruiting study participants from orthopedic surgery clinics and wards at the National Hospital of Sri Lanka ensured socio demographic variety and convenience to obtain an adequate number of study participants.

A descriptive cross sectional study design was selected. Consecutive sampling method was utilized where all eligible patients with orthopedic issues registered in orthopedic surgery clinic attendance register and ward admission register were identified using clinic records and bed head tickets and recruited for the study.

A total of 100 respondents were interviewed using a semi-structured questionnaire adapted from instruments employed in relevant studies.[3,5] Data collection was carried out for a duration of one month.

Ethical approval was obtained from the Ethics review committee of the National Hospital of Sri Lanka (NHSL). Permission was obtained from the Hospital Director and the consultant Orthopedic Surgeons at National Hospital of Sri Lanka before data collection. All participants signed the informed consent to participate in the study following a thorough explanation regarding the study.

Properly collected data was analyzed using SPSS software version 30 and presented in the form of means, percentages and tables.

3. Results

3.1. Socio-demographic characteristics of the patients

The mean age of the respondents was 52.67+/- 19.37. Respondents ranged from 8 years to 85 years and the modal age group for the study was 60-69 years consisting of 27 (27%) of the total respondents. There was a female predominance with 64 (64%) females. 73 (73%) of the respondents had attended senior secondary school and above. About half (57%) of the respondents were unemployed or retired representing the majority. Most of the respondents (72%) have an income less than Rs. 50,000. **(Table 1)**

3.2. Practice of traditional bone setting

According to **Figure 1**, respondents 50 (50%) sought TBS treatment for chronic pain. As shown in **Table 2**, most respondents visited a traditional bone setter less than 10 times (69%). The respondents' main reasons for seeking TBS were cost and accessibility, 66 each. Other common reasons were recommendation from family and friends and fear of surgery. The majority 67 (67%) were satisfied with the TBS treatment they received. 15 respondents (15%) had experienced complications following TBS treatment. Out of those, the most common complication was exacerbation of pain (40%) while the other complications were local sepsis (26.67%), joint stiffness (20%) and malunion (13.33%).

Table 1: Social demographic characteristics of the study population

Variable	Responses	Frequency	Percentage (%)
Gender	Female	64	64
	Male	36	36
Age (years)	0-17	6	6
	18-29	11	11
	30-39	7	7
	40-49	12	12
	50-59	19	19
	60-69	27	27
	70 and above	18	18
Educational Level	No Formal Education	1	1
	Primary/ Junior Secondary School	26	26
	Senior Secondary School	67	67
	Tertiary	6	6
Occupation	Formal Employment	9	9
	Informal Employment	20	20
	Self-employed	5	5
	Unemployed/ Retired	57	57
	Student	9	9
Monthly Income (Rs)	<50,000	72	72
	50,000-100,000	27	27
	>100,000	1	1

Table 2: Practice of seeking traditional bone setting by the study population

Variables	Frequency	Percentage (%)
Number of visits to traditional bone setters		
<10	69	69
10-50	29	29
>50	2	2
Reasons for choosing TBS over formal healthcare*		
Cost	2	2
Accessibility	66	66
Cultural beliefs	66	66
Recommendations from family/ friends	58	58
Previous positive experience	10	10
Fear of amputation	1	1
Fear of surgery	18	18
Fear of hospitals	2	2
Attitude of healthcare workers	1	1
Use of POP	2	2
Whether satisfied with TBS treatment		
Yes	67	67
No	33	33
Any complications after TBS treatment		
Yes	15	15
No	85	85
Complications after TBS treatment (n=15)		
Malunion	2	13.33
Joint stiffness	3	20
Exacerbation of pain	6	40
Local sepsis	4	26.67

* Multiple responses

Table 3: Reasons for choosing formal healthcare by the study population

Variables	Frequency	Percentage (%)
Reason for choosing formal healthcare*		
Availability of sophisticated imaging	99	98
Proper pain management	54	53.5
Proper wound management	6	5.9
Adequate wards	30	29.7
Resuscitation	4	4

* Multiple responses

Table 4: Perceptions of the study population regarding traditional bone setting when compared to orthodox care

Perception statements	Agree N (%)	Disagree N (%)	Undecided N (%)
Beliefs that some of the bone injuries are caused by supernatural powers	0(0%)	97(97%)	3(3%)
Perceive belief that TBS are more skillful than modern orthopedic practitioners	11(11%)	39(39%)	50(50%)
Consider TBS services as more benevolent, economical and effective than modern orthopedic treatment services	6(6%)	47(47%)	47(47%)
Community has more confidence in TBS treatment than modern orthopedic treatment services	34(34%)	29(29%)	37(37%)
Modern orthopedic treatment is more effective in pain and wound management	50(50%)	6(6%)	44(44%)
Modern orthopedic treatment is associated with surgery and amputation	34(34%)	42(42%)	24(24%)
Modern orthopedic treatments are associated with high cost of services compared to TBS	14(14%)	65(65%)	21(21%)
Modern orthopedic treatment is only useful when it's a complicated fracture	3(3%)	88(88%)	9(9%)

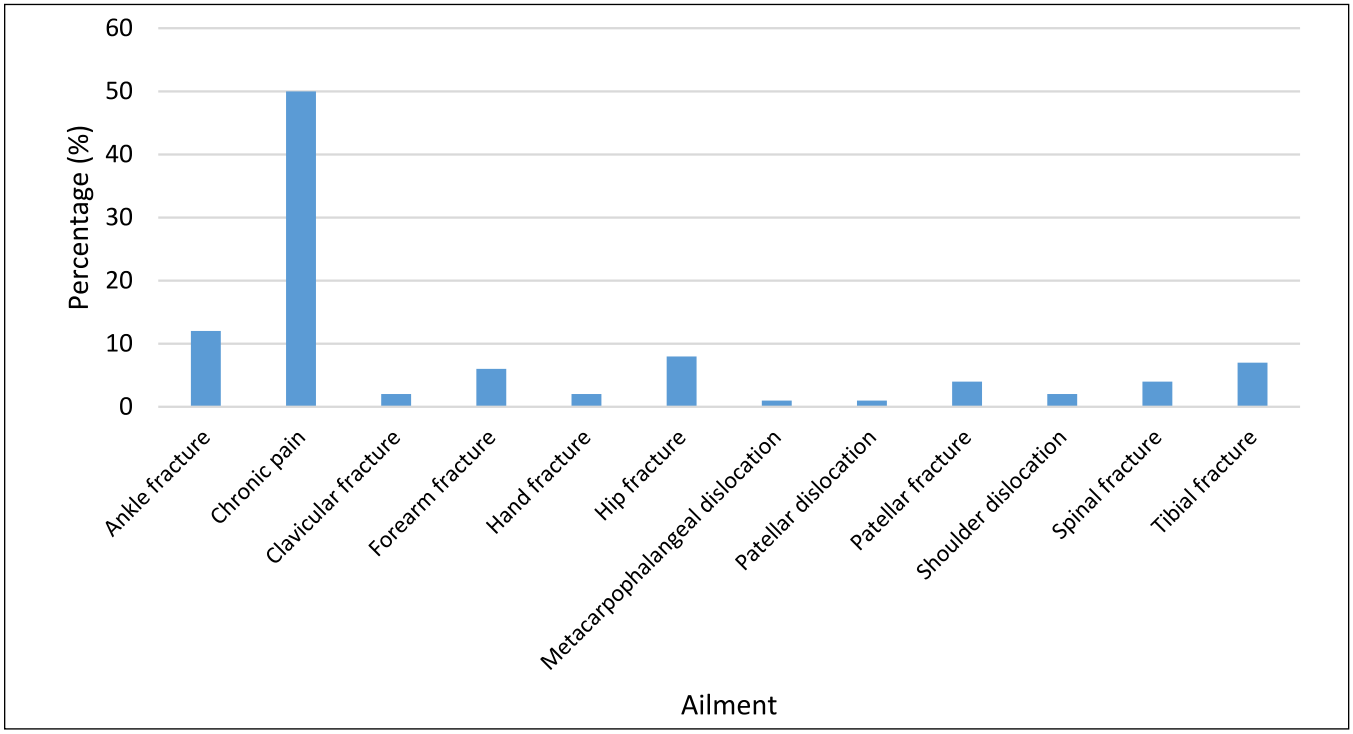

Figure 1: Frequency distribution of the study population by the type of ailment

3.3. Use of formal healthcare

As shown in **Table 3**, the reason for almost all respondents to seek formal healthcare for orthopedic ailments was the availability of sophisticated imaging (98%). Other main reasons were proper pain management and adequate wards.

3.4. Perceptions of TBS vs Modern orthopedic treatment

The respondents were given several statements to agree or disagree with. According to **Table 4**, almost all respondents (97%) disagreed that some bone injuries are caused by supernatural powers. The majority (50%) were undecided regarding the skills of traditional bone setters when compared to modern orthopedic practitioners, as they were regarding the confidence the community has in TBS services (37%). Almost all respondents either disagreed (47%) or were undecided (47%) whether TBS services are more benevolent, economical and effective and only a very few agreed with it (6%). Majority (50%) believed that modern orthopedic treatment is more effective in pain and wound management. Most (42%) did not relate modern orthopedic treatment with surgery and amputation. Over half the respondents (65%) believed that modern orthopedic treatment is not associated with a higher cost when compared to TBS services. A large proportion (88%) disagreed that modern orthopedic treatment is only useful when treating a complicated fracture.

4. Discussion

This study gives an insight into the socio-demographic factors and perceptions regarding the use of traditional bone setting when compared to formal healthcare for orthopaedic issues. With a mean age of 52.67 years, most respondents (27%) were between the ages of 60 and 69. This pattern aligns with previous studies suggesting that older individuals are more likely to seek traditional treatments. Chronic musculoskeletal conditions, a lifetime of cultural exposure to traditional healing methods, and sometimes a distrust of hospital settings could all be contributing factors. In some communities, older individuals tend to rely more on trusted familiar systems rather than seeking out modern medical interventions, especially if prior experiences have reinforced the effectiveness of traditional care.

The preponderance of females in the study (64%) may reflect gendered differences in health-seeking behaviour. Women, particularly in South Asian cultures, are more likely to seek treatment for chronic conditions and may be more open to traditional practices passed down through generations. In addition, caregiving roles within families often expose women more directly to traditional medical knowledge and influence them to use and even recommend such methods to others in their social circles.

It is also noteworthy that 73% of the respondents had completed senior secondary education or higher. This finding is similar to the study done by Thanni where there was no significant difference in seeking TBS between those who had no formal education compared to those who had primary or university education.[11] This observation suggests that education level is not necessarily a barrier to choosing traditional treatment. While one might assume that increased education leads to a preference for formal healthcare, as reinforced by the study done by Nottidge et al., our study indicates that cultural familiarity, personal or community-based anecdotes, and the accessibility of traditional services continue to play a dominant role.[12] People may be informed about both systems but still prefer traditional treatment based on factors beyond scientific knowledge.

Employment status and economic background, however, did appear to influence healthcare preferences. A majority (57%) were either unemployed or retired, and 72% had a monthly income of less than Rs. 50,000. These findings reinforce the idea that affordability and accessibility significantly shape treatment decisions. Traditional bone setting is usually available at lower or negotiable costs and does not require expensive diagnostic procedures, making it more appealing to those in lower-income settings. Additionally, the flexibility of payment and community-based nature of traditional practitioners may increase their appeal in rural or economically constrained settings.

The study found that 15% of respondents experienced complications following treatment from traditional bone setters. These complications included exacerbation of pain, joint stiffness, local infections such as sepsis, and bone malunion. Although a considerable 67% of patients reported satisfaction with the outcomes of traditional treatment, the occurrence of these adverse effects highlights the need for improved oversight and possibly the establishment of minimum standards in traditional practice. Past studies, such as those by Odatuwa-Omagbemi et al.[8] and Onyemaechi et al.[13], have similarly documented risks associated with poorly performed bone setting, reinforcing the urgency for regulatory frameworks. Unregulated practices, while culturally significant, can pose serious medical risks when complications arise that are beyond the skill level of traditional practitioners to manage.

Despite these risks, traditional bone setting continues to be perceived as effective by many. This is likely because satisfaction is often based not just on clinical outcome, but on a holistic sense of care, trust in the practitioner, and community validation. Furthermore, the expectation of a slower recovery with fewer invasive procedures may appeal to some patients who are fearful of hospitals or skeptical about surgeries and medications.

The study also sheds light on the strong influence of diagnostic technology in formal healthcare-seeking behaviour. A substantial 98% of respondents mentioned that access to advanced imaging tools such as X-rays and CT scans was a decisive factor in choosing hospital-based treatment. This indicates that while traditional care has cultural acceptance, it lacks the diagnostic precision that patients find reassuring in formal systems. Proper pain management and the availability

of structured hospital wards (reported by 53.5% and 29.7% of respondents respectively) further solidified the appeal of modern orthopedic treatment.

Interestingly, although traditional beliefs still shape initial treatment decisions, most patients do not associate orthopaedic injuries with supernatural causes. However, uncertainty persists when it comes to assessing the competence of traditional versus formal practitioners.[14] Around 50% of respondents were undecided about who was more skilled, and 37% were unsure about the community's confidence in traditional bone setting services. This ambivalence is important because it suggests a space for dialogue and education. There may be openness to integrating the two systems if patients can retain the cultural comfort of traditional care while also benefiting from modern medical standards.

Half the respondents agreed that modern orthopedic treatment was more effective for managing pain and wounds. This reflects a growing appreciation for the capabilities of formal healthcare, especially in handling complications or emergencies.[9] Also worth noting is that many respondents (42%) did not associate formal care with inevitable surgery or amputation, a concern that previously deterred some from hospitals. This is in contrast to a study done in Nigeria by Nottidge et al. that proved the fear of amputation as the mean reason for the community seeking TBS services.[12] Moreover, the belief that formal care is expensive was not widely held; 65% did not see it as more costly than traditional options. This stands in contrast to findings in other countries, where the cost of care remains a primary reason for avoiding hospitals.[2,5] In Sri Lanka, the public healthcare system's provision of free services likely contributes to this more favourable perception.

An overwhelming 88% disagreed with the statement that modern orthopedic care is only useful in complicated cases. This shows a broader recognition of the value of formal healthcare beyond critical interventions. People now understand that early medical treatment, even for minor injuries, can improve outcomes and prevent complications. This change in perception suggests that healthcare outreach, awareness programs, and personal experiences may be shifting public opinion steadily toward greater trust in the formal system.

One limitation of this study lies in its sample size and setting. Since data was collected at a national hospital in an urban area, most respondents were likely to have already had some exposure to formal healthcare. This potentially biases the findings towards a more positive view of hospital care. In contrast, rural populations who might depend more heavily on traditional bone setters due to logistical and infrastructural limitations were underrepresented. Future studies could aim to include a more balanced geographic representation. Additionally, as many participants turned to formal care after traditional treatment failed, their opinions may naturally lean in favour of the former, skewing perceptions of effectiveness.

Overall, the discussion indicates that while traditional bone setting remains a culturally rooted and economically accessible option, perceptions are gradually shifting in favour of formal healthcare, especially where diagnostics, pain management, and emergency care are concerned. However, instead of dismissing traditional methods, the healthcare system might benefit from constructive engagement with traditional healers, creating room for integrated care models that respect both tradition and medical safety. This is highlighted by a study done by Garba et al., showing the importance of proper training of traditional bone setters while advising them on when to refer to modern orthopedic care in order to prevent complications.[15]

5. Conclusion

This study highlights how individuals continue to rely on traditional bone setting for orthopedic issues including fractures. Primary factors which contribute are accessibility, cost and cultural beliefs. However, our findings also emphasize the importance of formal healthcare, especially in terms of advanced diagnostic capabilities. In order to bridge the gap between both systems, it is needed to address the limitations of traditional bone setting such as its complications and lack of standardization and regulation as well as making formal healthcare more accessible and affordable. Integrating both traditional and modern healthcare is vital to improve patient outcomes.

7. Source of Funding

None

8. Conflict of Interest

None

9. Ethical No.

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None

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