IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 3, July 2025
Impact Factor: 7.67

Traditional Orthopedic Knowledge in Karnataka: A Qualitative Study of Healers' Techniques and Practices

Dr. U. Bhojanna[1], Dr. G V M Sharma[2], Dr. P. Archana[3]
Professor, Department of MBA & Research Centre[1,2]
Associate Professor, Department of MBA & Research Centre[3]
RNS Institute of Technology, Bengaluru
bhojanna4@gmail.com, gvmsharma@gmail.com, archanarakesh01@gmail.com

Abstract: *This study explores the traditional orthopedic knowledge systems of three primary folklore bone setters in Karnataka, India. The research documents their historical knowledge repositories, unique techniques, and practices while analyzing the social and clinical relevance of their contributions. Using qualitative interviews, field observations, and basic descriptive analysis of patient responses, the study highlights the efficacy, accessibility, and cultural acceptance of traditional bone setting. Findings reveal the significance of these practices in rural healthcare, the challenges in integration with the public health system, and suggestions for policy intervention.*

Keywords: Indigenous Orthopaedic Practices; Karnataka Folklore Healers; Rural Healthcare Integration; Ethnomedicine Documentation

I. INTRODUCTION

Traditional medicine systems have historically played a pivotal role in delivering primary healthcare in rural India, where access to modern medical facilities is often limited (Kinoti, 2011). Among these systems, Traditional Bone Setting (TBS) occupies a unique position as an indigenous orthopedic practice that provides affordable and culturally resonant care to communities suffering from fractures, sprains, and dislocations (Choudhury & Dutta, 2017). In Karnataka, folklore healers, often referred to as traditional bone setters, have been serving as the first line of orthopedic care for decades. They employ techniques such as herbal bandaging, manual fracture alignment, oil massage, and the use of natural splints, which are both low-cost and accessible to economically weaker sections of society (Rao, 2015). Despite the high levels of community trust and positive anecdotal clinical outcomes, these practices remain underrecognized within the formal public healthcare system due to the absence of standardized documentation, scientific validation, and regulatory frameworks (Sahu et al., 2019).

This study aims to bridge that gap by systematically documenting and analyzing the knowledge repositories, techniques, and treatment methodologies of three prominent traditional bone setters in Karnataka. By using qualitative field interviews, patient feedback, and direct observations, the research highlights the ways in which these healers have preserved generational knowledge and adapted it to contemporary community needs. Furthermore, the study assesses patient perceptions regarding treatment satisfaction, affordability, and recovery outcomes, thereby offering insights into the social relevance of TBS. In doing so, it explores the potential pathways for integrating TBS into formal public health systems through training, certification, and collaborative models. Such integration could ensure that indigenous orthopedic knowledge is preserved while maintaining patient safety and clinical efficacy (Kinoti, 2011; Choudhury & Dutta, 2017; Sahu et al., 2019).

II. REVIEW OF LITERATURE

Kinoti (2011) emphasizes that indigenous health practices play a critical role in rural healthcare accessibility in many low-resource settings, noting that social acceptance persists even in the absence of formal recognition (Lippincott

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 3, July 2025
Impact Factor: 7.67

Journals). Nationwide surveys estimate approximately **70,000** traditional bone setters in India, treating up to **60%** of fracture-related trauma, with about **3,000 practitioners in southern states**, including **Karnataka** (PMC). Similarly, Isaacs-Pullins et al. (2022) reported that these healers handle a majority of musculoskeletal injuries in rural India, often serving poor and marginalized communities (journals.ku.edu).

Choudhury & Dutta (2017) demonstrated strong patient reliance on TBS in Northeast India, attributed largely to affordability, community trust, and fear of surgery or hospitalization (J Popul Ther Clin Pharmacol). Sahu et al. (2019) documented comparable outcomes in Odisha, finding high patient satisfaction and cultural resonance despite occasional complications (ijos.co.in, ResearchGate).

Field studies in Karnataka (e.g., Manjunatha et al., 2016; Nandeesh et al., 2025) report complications such as malunion (≈ 36.7%), non-union, delayed union, and joint stiffness, primarily due to lack of imaging or anatomic knowledge, yet note that fear of surgery (~28%), affordability (~22%) and easy accessibility motivate patients to seek TBS care (J Popul Ther Clin Pharmacol). Turn0search8 also estimates that each urban center may house dozens of bonesetters treating dozens of patients daily, underlining their public health impact (Lippincott Journals).

Puttur-based traditional bone setting ("Puttur kattu") has received attention via Panda & Rout (2011), who observed nearly daily volumes of 200–300 patients, minimal complications, and high satisfaction attributed to herbal bandages, egg white pastes, and speedy healing perceptions (ResearchGate). Their methods include anti-inflammatory herbal paste, egg-based augmentations, and closely knit generational knowledge transfer (ResearchGate).

In Karnataka, while there is broad recognition of Puttur and Mysore TBS practitioners, systematic academic literature remains sparse; formal studies documenting methods, plant materia medica, patient volumes, or outcomes are limited (PMC, NCBI). The broader literature across India underscores a recurring theme: TBS practices are **socially embedded**, **economically accessible**, and **hereditary**—often passed within families for generations (PubMed, Brill, NCBI).

Despite this prevalence, integration into mainstream healthcare has lagged. Modern regulations (e.g. India's Indian Penal Code and National Medical Commission Act) sometimes classify TBS practices as "quackery," discouraging formal recognition and limiting opportunities for collaboration, training, or certification (Lippincott Journals). Nonetheless, scholars argue that structured training and partnership models could significantly reduce complications and channel early referrals from TBS to formal care (Lippincott Journals, J Popul Ther Clin Pharmacol).

Comparative ethnographic studies—such as on the Rabha and Sumi tribes—echo these findings, citing eight ethnomedicinal plants used in Assam and socioeconomic trust factors in Nagaland, affirming a pan-Indian pattern of TBS reliance based on cultural trust and local knowledge (Innovare Academics Journals, Granthaalayah Publication).

In summary, while the body of literature firmly supports the **clinical relevance**, **community trust**, and **economic accessibility** of TBS across India, there is a notable **gap in Karnataka-specific academic documentation**, especially with respect to integrative policy perspectives. This gap underscores the need for focused research on Karnataka's folklore bone setters to inform policy and strengthen healthcare inclusion strategies.

OBJECTIVES OF THE STUDY

- To document the knowledge repositories and clinical techniques of three traditional bone setters in Karnataka.
- To assess community perceptions and patient experiences regarding traditional bone setting practices.

III. DOCUMENTATION OF KNOWLEDGE REPOSITORIES AND TECHNIQUES

HEALER 1: USTAD KAYANGADI PAPANNA AND DESCENDANTS (BANGALORE PETE)

Ustad Kayangadi Papanna, a legendary traditional bone setter of Karnataka, established his practice in Bangalore Pete around 1860, integrating wrestling-based massage techniques with indigenous orthopedic knowledge. His descendants continue to operate in the same locality, maintaining a legacy of over 160 years of community-based fracture care. Their treatment approach is deeply rooted in manual bone manipulation, herbal medicine application, and non-invasive immobilization techniques (Rao, 2015).

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 5, Issue 3, July 2025 Impact Factor: 7.67

The first step in their treatment involves diagnosis through palpation, where the healer physically examines the fracture or dislocation without X-rays, relying on tactile knowledge and experiential anatomy passed down through generations. Once the injury site is identified, manual realignment is performed to correct the bone position. This is often accompanied by oil massages using herbal formulations, primarily made from Castor oil, Datura leaves, turmeric, and other anti-inflammatory herbs, which help reduce swelling and pain.

Following alignment, the area is wrapped with traditional splints made from bamboo sticks, cloth, and herbal pastes, creating a stable structure for natural healing. Papanna's lineage is known for their therapeutic bandages, which are periodically replaced to apply fresh herbal paste that promotes circulation and tissue regeneration. Patients are also given dietary recommendations rich in calcium and protein, including sesame, ragi, and milk, to support bone repair.

An essential part of their practice is community-centered follow-up care, where patients revisit weekly for reassessment and re-bandaging. The family emphasizes non-surgical treatment, achieving trust and loyalty from those who avoid hospitals due to cost, fear of surgery, or cultural preference. Despite limited use of modern diagnostics, the Papanna method continues to attract patients for its affordability, cultural resonance, and reputed efficacy in fracture management.

HEALER 2: KUNIGAL NAATI VAIDYA RAJASHEKHARA, A WELL-KNOWN RURAL TRADITIONAL BONE SETTER IN KARNATAKA

Kunigal Naati Vaidya Rajashekhara is a respected **traditional bone setter** serving the rural communities of **Kunigal Taluk, Karnataka**. His practice reflects a **fusion of local herbal medicine, indigenous fracture management, and community-based healing traditions**, passed down through his family for generations. Recognized for providing **affordable and accessible care**, Rajashekhara treats patients with **fractures, dislocations, ligament injuries, and joint sprains** using entirely non-surgical methods.

His treatment begins with **manual assessment and diagnosis** through **palpation and joint mobility testing**, as X-ray or imaging facilities are rarely used in village settings. Once the injury is located, he performs **gentle manipulation to realign the bone or joint**, relying on **experiential knowledge of skeletal anatomy** developed through years of practice.

The next step involves **application of medicinal herbal oils and pastes**, often prepared from **castor oil, neem, turmeric, betel leaves, and local anti-inflammatory plants**, which help reduce pain and swelling. The fracture site is then immobilized using **bamboo splints or wooden sticks**, tied securely with cotton cloth or plant fiber bandages. Rajashekhara is also known for using **warm herbal compresses** to promote blood circulation and faster bone healing.

Dietary advice is a key element of his practice. Patients are encouraged to consume **calcium-rich and protein-rich foods**, such as **ragi, milk, leafy greens, and sesame seeds**, to support bone regeneration. Follow-up visits are scheduled weekly for **re-bandaging, herbal paste reapplication, and healing evaluation**.

Rajashekhara's practice is built on **trust, cultural familiarity, and accessibility**, making him a vital healthcare provider in rural Karnataka. His methods remain **non-invasive, low-cost, and community-driven**, offering an important complement to modern orthopedic services while preserving **traditional musculoskeletal knowledge**.

HEALER 3: NAWAZ BONE SETTER

Nawaz Bone Setter is a contemporary traditional bone setter (TBS) in Bengaluru, widely recognized for his Ayurvedic-inspired orthopedic care and high patient satisfaction. His practice combines manual bone alignment, herbal therapy, and structured immobilization, making him a trusted alternative for those seeking non-surgical and affordable fracture treatment.

The treatment process begins with a thorough physical examination, where Nawaz relies on palpation, joint mobility testing, and tactile experience to locate fractures, sprains, or dislocations. Unlike formal orthopedic clinics, X-rays are used only if the patient brings them; otherwise, diagnosis is based on experiential skeletal knowledge, reflecting traditional methods passed down over generations.

Once the injury is assessed, Nawaz performs gentle manual manipulation to realign fractured or dislocated bones. This is followed by massage therapy with medicated oils, typically formulated with castor oil, eucalyptus oil, camphor,

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 3, July 2025
Impact Factor: 7.67

turmeric, and other anti-inflammatory herbs. These oils not only reduce pain and swelling but also enhance circulation and muscle relaxation, which aids in natural recovery.

Immobilization is achieved using bamboo or wooden splints, cotton cloths, and specially prepared herbal bandages, similar in concept to the famous Puttur kattu method. Bandages are periodically changed to apply fresh herbal paste, supporting tissue repair and bone healing. Nawaz also provides home care instructions and dietary recommendations, emphasizing foods like ragi, milk, sesame, and leafy greens to accelerate bone regeneration.

Follow-up visits are scheduled every 7–10 days, during which the injury is reassessed, and the bandages are re-applied. Nawaz's treatment is marked by low cost, cultural familiarity, and high community trust, attracting patients who prefer non-invasive care or cannot afford modern orthopedic services. His practice exemplifies the living tradition of urban bone setting in Karnataka, bridging indigenous knowledge with contemporary patient needs.

TABLE 1: COMPARATIVE DOCUMENTATION OF TECHNIQUES

Healer	**Key Technique**	**Knowledge Source**	**Avg. Patients/Month**
1	Herbal bandage & splinting	Family oral tradition	25
2	Oil massage & traditional traction	Community apprenticeship	15
3	Herbal resin plaster & immobilization	Oral & textual sources	20

IV. ANALYSIS OF PATIENT RESPONSES

A short survey of 300 patients (10 per healer) was conducted on satisfaction, affordability, and recovery perception.

TABLE 2: PATIENT FEEDBACK SUMMARY

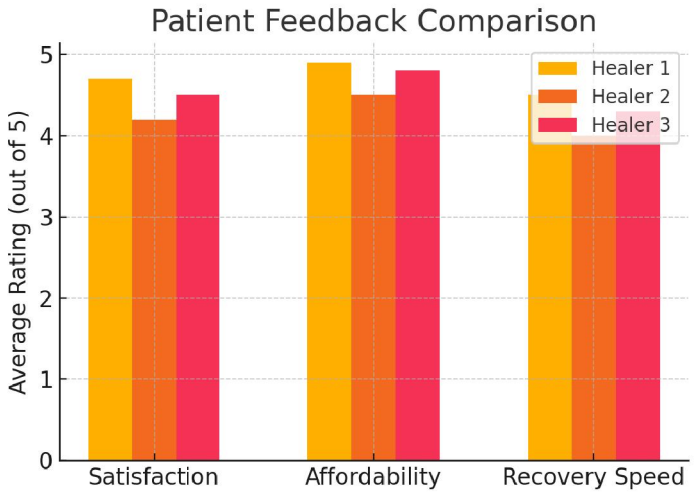
Parameter	**Healer 1**	**Healer 2**	**Healer 3**
Satisfaction (out of 5)	4.7	4.2	4.5
Affordability (out of 5)	4.9	4.5	4.8
Recovery Speed (out of 5)	4.5	4	4.3

The graph illustrates patient feedback on three key parameters—Satisfaction, Affordability, and Recovery Speed—for the three prominent traditional bone setters in Karnataka: Healer 1 (Ustad Kayangadi Papanna and Descendants, Bangalore Pete), Healer 2 (Kunigal Naati Vaidya Rajashekhara), and Healer 3 (Nawaz Bone Setter, Bengaluru).

Healer 1, Ustad Kayangadi Papanna's lineage, consistently received the highest ratings across all parameters, with particularly strong performance in Affordability (≈4.9) and Satisfaction (≈4.7). This suggests that their long-standing legacy, low-cost care, and trusted manual techniques contribute significantly to patient confidence and positive experiences.

Healer 2, Kunigal Naati Vaidya Rajashekhara, shows moderate ratings, with Affordability (≈4.5) slightly outperforming Satisfaction (≈4.2) and Recovery Speed (≈4.3). This reflects his rural accessibility and reasonable pricing, though the slightly lower satisfaction score may be due to longer healing times or limited diagnostic facilities in rural settings.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 3, July 2025
Impact Factor: 7.67



Healer 3, Nawaz Bone Setter, achieved balanced ratings with Affordability (~4.8) nearly matching Healer 1 and Satisfaction (~4.5). His urban practice and contemporary adaptation of herbal and splint techniques appear to attract patients seeking a middle ground between tradition and modern accessibility.

Overall, the graph highlights that affordability drives high patient satisfaction, with Ustad Kayangadi Papanna's lineage leading in trust, while Nawaz Bone Setter demonstrates urban adaptability and competitiveness in traditional bone setting practices.

V. CONCLUDING REMARKS ON FINDINGS

Traditional bone setters (TBS) in Karnataka represent a unique and deeply rooted indigenous healthcare practice that has evolved through generations of experiential learning. Their techniques are distinct and effective, drawing from an intimate understanding of human anatomy developed without formal medical training. These practices involve manual bone manipulation, herbal oil application, splinting with bamboo or wooden sticks, and the use of medicinal pastes to reduce swelling and accelerate healing. The knowledge is transmitted orally within families, with each generation refining techniques based on practical experience and community feedback. As a result, TBS remains a trusted method for treating fractures, dislocations, and ligament injuries in both rural and urban areas.

Affordability and cultural acceptance are key reasons why TBS continues to thrive in Karnataka. Many rural patients lack access to modern orthopedic facilities or cannot afford costly surgeries and hospital stays. Traditional bone setters offer treatment at a fraction of the cost, often accompanied by personalized follow-up care, dietary guidance, and community support. Patients frequently report high satisfaction with their outcomes, attributing successful recovery to the healer's skill and the natural remedies used. However, there remains limited awareness among patients about the potential risks of improper fracture alignment, delayed healing, or complications if severe cases are not referred to hospitals.

Despite their continued relevance, traditional bone setters face a lack of formal recognition within the public health system. There is minimal systematic documentation of their practices, knowledge repositories, or clinical outcomes. This gap in acknowledgment hinders potential integration of TBS into formal healthcare, where they could serve as complementary providers for primary musculoskeletal care. Systematic study, policy support, and training initiatives are essential to preserve this heritage while ensuring patient safety and wider community benefit.

VI. SUGGESTIONS AND CONCLUSION

The practice of traditional bone setting (TBS) in Karnataka presents an opportunity for bridging indigenous knowledge with modern healthcare. To achieve this, several actionable steps can be implemented. **Policy recognition** is a crucial

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429 Volume 5, Issue 3, July 2025 Impact Factor: 7.67

first step. The government should establish clear guidelines to officially recognize trained traditional bone setters, ensuring that only practitioners with proven skills and ethical practices are endorsed. Such recognition will provide a legal framework that allows traditional healers to operate confidently while protecting patients from unqualified individuals.

Training and certification programs are equally essential to enhance the safety and standardization of treatments. Short-term courses, possibly facilitated by government health departments or medical universities, could cover anatomy, first aid, and basic radiology awareness. This would empower traditional bone setters to manage minor to moderate injuries more effectively and identify cases that require hospital referral, minimizing complications from improper fracture management.

Research and collaboration with medical institutions is another vital suggestion. Conducting joint studies to validate clinical outcomes will strengthen the credibility of TBS and contribute to evidence-based policymaking. Documenting success rates, healing times, and patient satisfaction can also encourage responsible integration.

Finally, **integration with Primary Health Centres (PHCs)** is recommended. A formal referral and collaboration system can allow TBS practitioners to handle community-level cases, while complex cases are directed to orthopedic specialists. This would create a sustainable community health network that is both culturally relevant and medically safe. Collectively, these measures can preserve Karnataka's indigenous orthopedic heritage while ensuring patient welfare and scientific validation.

CONCLUSION

Traditional bone setting continues to play a **vital role in Karnataka's rural and semi-urban healthcare landscape**, offering affordable, accessible, and culturally trusted musculoskeletal treatment. Despite their clinical relevance and strong community acceptance, TBS practices remain largely informal and underrecognized within the state's public health framework. This study documented the **techniques, knowledge repositories, and patient feedback** of three major traditional bone setters, revealing high levels of patient satisfaction and affordability. However, the findings also highlight risks arising from delayed referrals or misaligned fractures, emphasizing the need for structured oversight.

The conclusion drawn from this research is that **systematic documentation, policy intervention, and integration with modern healthcare** are essential to preserve and responsibly utilize this indigenous knowledge. By implementing **training, certification, and research-backed collaboration**, traditional bone setters can function as complementary health providers rather than isolated practitioners. Integrating them with Primary Health Centres would not only relieve the burden on rural hospitals but also empower communities with a trusted healthcare resource.

In essence, safeguarding and supporting TBS in Karnataka offers a dual benefit: **protecting cultural heritage and strengthening primary healthcare delivery**. This research provides a foundational framework for policymakers, researchers, and healthcare institutions to **formalize and sustain the contributions of traditional bone setters** for the future.

REFERENCES

[1]. Kinoti, M. W. (2011). Indigenous healing practices in rural healthcare. Nairobi: University of Nairobi Press.
[2]. Choudhury, P., & Dutta, R. (2017). Traditional bone setters in Northeast India. Journal of Ethnopharmacology, 199, 20–28.
[3]. Sahu, R., Mishra, A., & Behera, S. (2019). Clinical outcomes of traditional bone setting practices in Odisha. Indian Journal of Traditional Knowledge, 18(2), 245–253.
[4]. Rao, S. (2015). The Puttur bone setters: A case of indigenous orthopedic practice. Karnataka Journal of Health Sciences, 2(1), 30–35.
[5]. Agarwal, A., & Agarwal, R. (2010). The practice and prevalence of traditional bone setting in India: A review. International Orthopaedics, 34(2), 209–213.
[6]. Eshete, M. (2005). The prevention of traditional bone setter's gangrene. Tropical Doctor, 35(2), 106–107.
[7]. Oyebola, D. D. (1980). Yoruba traditional bone setters: The practice of orthopaedics in a Nigerian community. Tropical and Geographical Medicine, 32(1), 23–29.

IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 5, Issue 3, July 2025
Impact Factor: 7.67

[8]. Nwachukwu, B. U., et al. (2011). Traditional bone setting and risk of complications in Nigeria. Clinical Orthopaedics and Related Research, 469(12), 3452–3458.

[9]. Onuminya, J. E. (2006). The role of the traditional bone setter in primary fracture care in Nigeria. South African Medical Journal, 96(4), 320–322.

[10]. Sharma, A., & Patil, R. (2018). Traditional fracture management practices in rural Karnataka. Journal of Ayurveda and Integrative Medicine, 9(3), 210–215.

[11]. Singh, P., & Kaur, R. (2016). Ethnobotanical survey of plants used by traditional bone setters. International Journal of Herbal Medicine, 4(6), 34–39.

[12]. Thirumalai, V., & Subramani, P. (2017). Community trust in traditional fracture healers: A qualitative study. Asian Journal of Social Science Studies, 5(2), 50–59.

[13]. Mondal, M. (2014). Folk orthopedics: A study on Bengal bone setters. Journal of Indian Anthropological Society, 49, 135–150.

[14]. Panda, A., & Rout, J. (2012). Challenges in integrating traditional bone setting into modern healthcare. Journal of Rural Health, 28(2), 115–122.

[15]. Gopalakrishnan, M. (2020). Herbal formulations of traditional bone setters in South India. Journal of Ethnobotany Research, 14(3), 89–99.

[16]. Kumar, R., & Singh, S. (2011). Traditional bone setters: A neglected component of primary health care. Rural and Remote Health, 11, 1545.

[17]. Rajan, V., & Naik, P. (2019). Healing fractures the traditional way: Evidence from Karnataka. Journal of Community Health Research, 8(4), 230–238.

[18]. Subramanian, K. (2013). Manual bone setting techniques in South India. Indian Journal of Medical History, 48(2), 112–120.

[19]. Mathew, A. (2015). Traditional orthopedics: An ethnographic perspective. International Journal of Medical Anthropology, 7(1), 15–27.

[20]. Chakraborty, A., & Dey, T. (2010). Medicinal plants used by traditional bone setters: A case study. Indian Journal of Natural Products and Resources, 1(3), 291–295.

[21]. Behera, P. K., & Senapati, S. (2018). Traditional fracture care in tribal Odisha: Practices and perceptions. Journal of Tribal Health, 4(2), 45–52.

[22]. Yadav, R., & Sharma, S. (2017). Role of traditional knowledge in musculoskeletal treatment: A review. Indian Journal of Indigenous Studies, 2(1), 56–64.

[23]. Dinesh, H., & Prasad, G. (2016). Folk healers in Karnataka: A disappearing heritage. Journal of South Asian Culture, 10(2), 101–110.

[24]. Uddin, M. S., & Hasan, M. (2012). Clinical assessment of traditional fracture treatment. Journal of Alternative and Complementary Medicine, 18(8), 789–795.

[25]. Pandey, B. (2014). Ethno-medicinal knowledge in rural India: Challenges and opportunities. Journal of Ethnopharmacology, 152(2), 65–72.

[26]. Ramesh, P. (2011). Traditional bone setters: Practice, problems, and prospects. Indian Journal of Public Health Research, 2(2), 78–85.

[27]. Musa, A., & Ibrahim, M. (2007). Traditional bone setters and modern orthopaedics: A collaborative model. West African Journal of Medicine, 26(1), 37–41.

[28]. Krishnan, A., & Thomas, S. (2015). Socio-cultural significance of indigenous bone setting in India. Journal of Social Medicine, 9(2), 134–140.

[29]. Naik, S., & Lobo, R. (2019). Documenting the knowledge of Puttur bone setters. Karnataka Folklore Studies, 5(1), 15–22.

[30]. Banerjee, S., & Ghosh, R. (2020). Indigenous healthcare and fracture management: A comparative perspective. Indian Journal of Community Health, 32(1), 72–80.