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Fracture, Healing, and Medical Pluralism: A Medical Anthropological Comparison of Western Biomedicine, Traditional Chinese Medicine, and Dai Medicine

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Abstract

A broken bone in southwestern China can be seen and treated through three medical systems: Western biomedicine, Traditional Chinese Medicine (TCM) and Dai medicine. Each has their own story of injury and healing. The paper takes fracture treatment as a case study of medical pluralism and compares the three systems in explaining, diagnosing and treating fractures, and in the movement of patients among them. Based on the explanatory model in medical anthropology, individual case studies, hospital fieldwork at Xishuangbanna Lin Yanfang Ethnic Hospital and literature. The paper argues that the systems provide differing, and sometimes incommensurable, readings of fracture: biomedical, as vascular and tissue disruption; TCM, as Qi-blood stagnation; and Dai medicine, as elemental or 'cold' imbalance. In practice, however, they often coexist rather than act alone. Hospitals that include biomedical, TCM, and Dai clinics, as well as cases in which TCM bone-setting is combined with surgical fixation, are examples of what medical anthropology calls 'interpenetrative pluralism'. But that pluralism isn't symmetrical. Patients generally first encounter biomedicine and then turn to traditional systems because of cost, trust, cultural familiarity, and a practitioner's reputation. Fracture care illustrates how bodily injuries are interpreted through culturally situated ideas about the body, institutional histories, and unequal forms of medical legitimacy.

Keywords: fracture, medical pluralism, western biomedicine, Traditional Chinese Medicine, Dai medicine

1. Introduction

In southwestern China, an individual who fractures a bone may shift from one medical system to another, each of which provides its own account of what has happened to the body and how the injury should be treated. The selection of treatment is based not only on the clinical severity, but also on many factors (Li et al., 2020). Thus, Western biomedicine, Traditional Chinese Medicine (TCM) and Dai medicine interpret the same physical injury differently. This study examines medical pluralism in southwestern China through the case of fracture treatment. Using the concept of explanatory models from medical anthropology, it compares the ways biomedicine, TCM, and Dai medicine explain, diagnose, and treat fractures, while also asking how these systems meet in clinical practice and how patients move among them. The focus is especially on Xishuangbanna Lin Yanfang Ethnic Hospital, where biomedical, TCM, and Dai medical practices exist side by side. Evidence already points to treatment across systems: TCM manual bone-setting has been used with percutaneous screw fixation (Huang et al., 2025), and acupuncture-augmented bone-setting has been studied in connection with surgical treatment (Liu et al., 2021). Findings from cancer treatment point in a similar direction, suggesting that TCM more often complements than replaces biomedicine (C.-H. Liu et al., 2013). Dai medicine, meanwhile, is commonly sought after patients have first visited conventional hospitals (Jin, 2017).

The study is important because it moves beyond comparisons between medical theories to ask how medical

pluralism actually operates in practice. These systems are not always on equal footing. Care often starts with biomedicine and then TCM and Dai medicine are introduced depending on patients' trust, cultural familiarity, cost and access. Fracture treatment offers an especially productive case through which to trace the coexistence and interaction of different explanations of illness, and the ways in which some gain greater clinical legitimacy than others in contemporary Chinese healthcare.

2. Medical Anthropology Framework

Explanatory models are the ideas patients, families, and practitioners have about what causes an illness or injury, what it means, how serious it is, and how it should be treated. The concept was created by Arthur Kleinman to show that people who share the same illness can have different conceptions of it. He argued that treatment may depend on recognizing these differences and negotiating among them in order for it to be effective (Kleinman, 1980). In the event of fractures, biomedicine regards pain, swelling, bruising, and limited range of motion as the consequences of tissue damage and inflammation. TCM views these symptoms as Qi and blood stagnation, while Dai medicine might link slow healing to 'bone cold,' a concept related to its theories of wind and the elements. Different explanations may lead to different ways of diagnosing and treating an illness.

Medical pluralism is the presence of more than one medical system or healing ideology in a society. The idea was first presented by Charles Leslie in the early 1970s and has since been widely applied to societies where biomedicine exists alongside traditional and local healing practices (Yu, 2021). China provides a distinctive case of "interpenetrative" pluralism, where biomedicine and traditional medicine are recognized institutionally as separate and legitimate systems, and yet may overlap in practice. Korea's systems are largely kept apart, whereas in Japan traditional medicine is under biomedical supervision (Shim, 2018). Research in a Dong ethnic village further demonstrates that treatment decisions can reflect established understandings of illness as well as patients' relationships with particular practitioners. Everyday healthcare is thus a co-existence and intersection of multiple medical systems (Yu, 2021).

The body, understood as a cultural concept, shows how medical systems can construct fundamentally different accounts of what the body is. In biomedicine, anatomy and physiology provide the main framework: illness is defined largely as measurable structural or cellular dysfunction, assessed through physical examination and imaging (Engel, 1977). TCM instead treats the body as an interconnected system of Qi, blood, meridians, and organs. Diagnosis centers on signs of imbalance, including the pulse, tongue, and pain (Zhang & Li, 2021). Dai medicine explains bodily processes and disease through the Four Elements, Five Aggregates, Wind theory, and Yajie (detoxification) theory. As a result, one physical symptom can hold different diagnostic meanings across these systems and may lead to different treatments.

Professionalization and integration into the state go a long way toward explaining how medical systems gain institutional legitimacy. Under the leadership of the state, TCM has been extensively standardized by national policies, education and professional regulation, and has been recognized as a first-tier academic discipline (Wang et al., 2016). Dai medicine has followed a similar though more recent path since its formal recognition by the state in 1983. Its standardized curricula, licensing procedures, and clinical services have been partly modeled on TCM (Li et al., 2020). It legitimizes, funds and broadens access, but can also reframe various local practices to fit standardized TCM and biomedical definitions of legitimate medical knowledge.

3. Western Biomedical Approaches to Fractures and Sports Injuries

3.1 Biomedical Understanding of Injury

In biomedicine, injury is described by a pathophysiological model. Tissue damage triggers a biological repair process, which is commonly described as three overlapping phases: inflammation, regeneration (proliferation), and remodeling. The primary role of inflammation was once thought to be pain and swelling that could be suppressed with anti-inflammatory drugs such as NSAIDs. And now research shows it is needed for repair too. In a 2017 review, Duchesne et al. showed that immune cells recruited to the injury site help guide muscle stem cells (satellite cells) as they repair damaged tissue. The review also mentioned that NSAIDs, in particular when administered during the immediate injury period, could interfere with this process by blocking COX-2. This can slow healing, increase scar tissue and reduce satellite cell activity as seen in animal and human studies (Duchesne et al., 2017). So, inflammation is not just bad, it's also part of healing.

3.2 Diagnosis

In biomedical diagnosis it is common to depend on a patient's medical history, a physical examination and imaging. X-rays remain the standard for identifying fractures and dislocations. CT and MRI are reserved for more complex injuries, particularly those involving soft tissue or when damage is not fully apparent on x-rays. Musculoskeletal ultrasound is being used increasingly for soft-tissue injuries because it is faster and cheaper, and can be performed in real time (Garrick, 2017). From the perspective of medical anthropology, imaging does more than simply locate an injury; it makes the injury visible. An X-ray offers the clinician and the patient a

tangible image of the fracture, conferring a certain authority to biomedical diagnosis that traditional methods such as pulse reading or blocked Qi may lack for patients unacquainted with them.

4. Traditional Chinese Medicine Approaches

4.1 Historical Development

Today TCM is the result of vast historical change. In China, it has been standardized, researched and integrated into the modern hospital. The history of Chinese Medicine including core theories such as Yin-Yang, the Five Elements and the Zang-Fu (organ) system demonstrates how these ideas developed into the basis of contemporary practice (Gaur, 2024).

Additionally, TCM's relationship with modern medicine has also changed. According to Dong (2013), TCM's knowledge base can be divided into three categories: ideas that are consistent with modern medicine, ideas that are beyond the current ability of modern medicine to explain, and ideas whose value has yet to be determined. This framework therefore proposes a more complex view of the relationship between the two rather than a view that TCM is either wholly validated by modern medicine or wholly independent of it.

4.2 Core Theories

(1) Qi and Blood Stagnation

In TCM, an injury is seen as causing an interruption in the normal flow of Qi and blood through the body. It is believed that the disruption causes pain, bruising, swelling, stiffness and a restriction of movement around the injured area. Treatment is directed toward restoring circulation and clearing the stagnation to relieve pain and support healing (Stomel, n.d.).

(2) Five-Element Theory

In TCM, the five elements — Wood, Water, Earth, Metal and Fire — are used to organize the body's organs and functions. Based on this framework, Zang-Fu theory classifies the organs as yin or yang (Liang et al., 2023). The organs are not thought of as discrete entities as they often are in biomedicine, but are instead understood by their connections to a larger system where one element might support or inhibit another. Healing then is restoring balance to those relationships, and treating whatever element is causing the imbalance.

(3) Zheng Gu and Die Da Medicine

"Zheng gu" is bone-setting, and "die da" is trauma medicine with a long history linked to martial arts schools, military practice, and local community healing. Methods include splinting, manual manipulation, massage, herbal liniments, compresses and rehabilitation. One commonly referenced example is Zheng Gu Shui, "bone-setting water," a liquid herbal liniment traditionally used to alleviate pain and increase circulation around an injury (Stanley, 2026). In the TCM explanatory model, Zheng Gu Shui is widely understood as a remedy that works by relieving blockages in the pathways of Qi and blood due to injuries.

4.3 TCM Applications in Sports Medicine

In practice, the treatment of sports injuries with TCM often involves the combination of various methods, including acupuncture, Tuina massage, herbal medicine, external liniments, manual reduction, splinting and rehabilitation exercises. All these approaches claim to relieve pain, improve the circulation of Qi and blood, reduce swelling and restore normal function (Kang et al., 2021).

4.4 The Eight Traditional Manual Reduction Techniques

The eight manual techniques of TCM fracture bone-setting are traditionally described as touching and palpation, traction, rotation, flexion and extension, lifting, pressing and squeezing, swinging and percussion, separating the bones, folding and rotation and massage. The set was made in the mid-19th century when Chinese orthopedic surgeons started to integrate Western surgical knowledge, combining older techniques of bone-setting with new anatomical knowledge (Liang et al., 2023). This method has been modernized but it still prefers closed reduction to open reduction and internal fixation. The functional return of the limb is more important than exact anatomical correction.

4.5 Tuina

Tuina is a manual therapy which would probably be divided into a number of professions in the West. Its only practice consists of parts that overlap with massage therapy, physical therapy, osteopathy and chiropractic (Matos et al., 2021). Touch in Tuina has more than a therapeutic effect, it can also be used to identify the injury. During treatment practitioners palpate the flow of Qi and blood, muscle tension and structural alignment. That is a very different approach than modern biomedicine, which uses imaging to peer inside the body before making a diagnosis.

4.6 Hybrid TCM and Biomedical Practice

Increasingly, TCM hospitals are leaving behind the traditional manual assessment, and integrating traditional bone-setting with modern imaging. One case report describes a comminuted calcaneal fracture treated by using TCM bone-setting and percutaneous screw fixation, using fluoroscopic X-ray imaging during the procedure (Huang et al., 2025). Similarly, the protocol of a systematic review on the efficacy and safety of acupuncture combined with TCM bone-setting method versus Western surgical treatment for distal radius fractures compares two equally acceptable alternatives (T. Liu et al., 2021). That combination raises a bigger question about medical authority: when X-ray results confirm a TCM practitioner's manual assessment, are they merely confirming traditional diagnosis, or have they become the primary source of diagnostic authority?

5. Dai Medical Approaches

5.1 Cultural and Historical Context

Dai medicine is one of the four officially recognized ethnic medical systems in China, with Tibetan, Mongolian and Uyghur medicine. It is mainly found among Dai people in Xishuangbanna, south Yunnan. This knowledge was orally and in palm-leaf manuscripts called "Tam Lan" passed down through generations in Buddhist temples for religious and medical teaching (C. Zhang et al., 2012).

But Dai medicine is not a static tradition. In recent years, its modern form has been influenced by state-led standardization as well. The State Administration of TCM in China sponsored the writing of seven standard textbooks on Dai medicine in 2004. Compiled by Dai doctors, TCM specialists and other scholars, they were published in 2007. These texts are now considered authoritative sources and show that modern Dai medicine is still under formation through institutionalization and the interplay of Dai, Buddhist and TCM influences (C. Zhang et al., 2012).

5.2 Core Theories

(1) Four Elements Theory

The academic term for the Four Elements Theory is "Ta Du Dang Si" (caturmahabhuta), a word directly borrowed from Sanskrit/Buddhist philosophy. It believes that the body consists of four cosmic elements (wind, fire, water and earth) and that a disturbance in these causes pain and disease. Another closely related theory, "Han Ta Dang Ha" (skandha, Buddhist Five Aggregates), describes the physiological structure of the body and the activities of the mind/spirit in terms of form, consciousness, feeling, perception and intention (Lin Yanfang Ethnic Hospital, field documentation, 2026).

(2) Wind Disorder Theory

The category of wind disorder is the most complex and far-reaching in Dai medicine. The reason is that "wind" is thought to stimulate reproductive development and to drive metabolism, digestion and excretion. An analysis of 200 classic Dai prescriptions within the official textbooks found that prescriptions attributed to wind were the largest category, with conditions explicitly treated including rheumatism and joint pain, and digestive disease (C. Zhang et al., 2012).

(3) Detoxification (Yagei) Theory

According to Yagei theory anything that enters the body (including food) can be toxic in excess and antidotes have to be used regularly to avoid illness. The guiding principle is "detoxify before a disease starts and treat a disease after detoxification". In the textbook analysis, antidote/detoxification prescriptions ranked only second to Wind, and several commonly used prescriptions were categorized in this category (C. Zhang et al., 2012). Yagei is not equivalent to biomedical concepts of infection or inflammation but refers to a process of continuing toxic accumulation with an emphasis on preventive detoxification.

5.3 Dai Treatment of Injury and Fracture

The theories above describe the way Dai medicine accounts for the body in general. Treatment of fracture in Dai medicine has received less attention in peer-reviewed research than the medical theories of the tradition more generally. The textbook analysis by Zhang et al. (2012) is the most comprehensive academic source on Dai prescriptions, but focuses on digestive diseases and does not discuss trauma specifically. Field documentation from Xishuangbanna Lin Yanfang Ethnic Hospital is thus particularly valuable, as it records eleven of the eighteen standardized external therapies in Dai medicine, some of which are used specifically for fractures (Lin Yanfang Ethnic Hospital, field documentation, 2026).

In particular, three therapies are of interest. Medicated packing, or guoya, depends on the time of the injury. Fracture and soft-tissue injuries are given cold packing within 24 hours and warm packing after 24 hours, or nonunion associated with bone cold, a Dai concept for impaired healing from cold pathogenic influence (Lin Yanfang Ethnic Hospital, field documentation, 2026). TCM, the problem of trauma is Qi and blood stagnation; Dai medicine, expelling cold is related to Guoya, based on the theory of Wind and Four Elements. Yanghang, a

therapy of hot iron tread, is used to treat traumatic fractures, but mainly targets the circulation and pain. Binuo is similar to Tuina massage, and is derived from the Four Elements and Five Aggregates, especially for traumatic swelling, pain, and fractures (Lin Yanfang Ethnic Hospital, field documentation, 2026).

6. Medical Pluralism in Practice

6.1 China's Interpenetrative Medical System, Applied to Fracture Care

This paper has already documented a pattern without quite framing it this way, and interpenetrative pluralism, where traditional and biomedical systems are institutionalized as independently legitimate and cross into each other within hospitals, universities, and research institutions (Shim, 2018), provides a name for this pattern. The situation in which TCM bone-setting is done simultaneously with percutaneous screw fixation under fluoroscopic guidance (Huang et al., 2025) is not an exception to the general coexistence of the two systems. That's what that coexistence looks like to the level of a single procedure on a single patient. This coexistence is extended across the stated services of an entire hospital, as Lin Yanfang Ethnic Hospital's own department listing shows, with a TCM clinic, a Dai Medicine expert clinic, and medical imaging capability including MRI alongside emergency medicine, gynecology, and pain management.

6.2 Patient Treatment Pathways for Fracture Specifically

A probable pathway for fracture care looks something like this: home remedies and family advice immediately after injury; a local healer or TCM practitioner for pain and swelling; escalation to a biomedical hospital when the injury is identified as needing imaging or surgery; and, in some cases, a return to TCM or Dai treatment thereafter for rehabilitation, stiffness, or lingering pain. This follows the general pattern found in government reporting on Dai medicine use (Jin, 2017) and TCM cancer treatment (Liu et al., 2013), both of which describe traditional medicine as complementary to biomedicine rather than in place of it.

In a study in a Dong ethnic minority village, system choice was less dependent on the illness itself, but rather on an ongoing relationship with a particular local doctor (Yu, 2021). Villagers weren't comparing three systems fresh with each new problem, they were maintaining a relationship with one practitioner over time, and which system got used for a new injury depended on which relationship was already active. In the application to fracture care, this reframes the eight-step pathway stated previously. It is less a series of separate choices and more a single continuing relationship (with a TCM or Dai practitioner known to the family) punctuated by one institutional break point (the choice to escalate to a hospital when severity requires it) with the 'return to traditional treatment' at the end meaning a return to that same prior relationship.

6.3 Referral and Injury Severity: Where the Boundary Actually Sits

The study did not have a source that explained how practitioners decided whether to treat a fracture or refer the patient. But the evidence we have suggests that injury severity, access to imaging, and the institutional setting likely influence that decision. In biomedicine, the distinction between a nondisplaced vs. a displaced or unstable fracture determines whether the patient will undergo immobilization, closed reduction or surgery. A similar evaluation may be done by traditional practitioners depending on severity. Access to imaging may also affect referral. Accounts from TCM practitioners using X-rays indicate that on-site imaging may increase diagnostic confidence.

Another complication is the setting. Where TCM or Dai clinics are located adjacent to departments of imaging and biomedicine, referral may be little more than transfer of the patient to other departments within the same hospital. Then the referral boundaries may be determined not only by the severity of injury, but also the resources available at the point of care.

6.4 Integration Versus Hierarchy: A Test Case in Fracture Treatment

The treatment of fractures provides a convenient setting in which to ask whether the standardization of traditional medicine preserves its distinctive frame or slowly reworks it in biomedical terms. More and more researches on TCM bone-setting by biomedical research methods. For instance, one protocol for a systematic review comparing acupuncture-augmented bone-setting and surgical treatment for distal radius fractures using conventional clinical outcomes (Liu et al., 2021). These designs can measure pain, range of motion and radiographic union, but can not evaluate restored Qi-blood flow in its own terms. That limitation points to a bigger issue in medical integration: traditional treatments gain legitimacy mostly by showing their effectiveness by biomedical criteria, and the two systems can exist together institutionally without being on the same level. They can co-exist in the clinical space, even as biomedical definitions of evidence and treatment success continue to define how traditional practices are judged and legitimized.

7. Comparative Case Study: Treating a Bone Fracture

7.1 Case Design

Consider a hypothetical case, drawn from the clinical and theoretical material presented in this paper. A young athlete suffers a common wrist injury, a displaced distal radius fracture, after a fall during a sporting activity. Treatment and recovery then lead the athlete into contact with all three medical systems — not at the same time, but in the order this paper identifies as typical: biomedicine first, traditional systems later. Following the injury through the three systems makes the theoretical distinctions discussed above more concrete, and lets us see where their practices actually diverge.

7.2 Comparison Points

Table 1. Comparison of Three Therapies

Point of Comparison	**Western biomedicine**	**TCM**	**Dai Medicine**
Explanation of pain	Nerve signaling from tissue damage	Blocked Qi and blood at the injury site	Wind disturbance or cold pathogenic influence
Explanation of swelling	Inflammatory fluid response	Stagnated blood and Qi	Toxin accumulation (Yagei) or wind imbalance
Understanding of inflammation	Necessary but manageable; NSAIDs are used cautiously, given their regenerative role	Generally treated as swelling to be resolved through circulation	Addressed through detoxification (Yagei) principles
Diagnostic authority	Imaging (X-ray, MRI); visible, reproducible evidence	Palpation, pulse, and visual assessment by the practitioner	Practitioner assessment within the elemental/trunk framework
Role of touch	Secondary to imaging; used in physical exam	Central — both diagnostic and therapeutic	Central — diagnostic and therapeutic
Role of imaging	Primary and often decisive	Supplementary, increasingly used in hospital settings	Not part of the traditional framework; availability varies by institution
Reduction technique	Closed or open reduction with hardware	Eight manual techniques, closed reduction favored	Manual therapies (Binuo); stretching technique unverified
Use of herbs or drugs	NSAIDs, other pharmaceuticals	Zheng Gu Shui and other trauma liniments	Guoya herbal packing, cold/warm protocol
Immobilization	Cast, brace, or surgical hardware	Splinting	Not directly documented in current sources
Surgery	Standard for unstable/severe fractures	Avoided where possible; referral for severe cases	Referral assumed for severe cases; not directly documented
Rehabilitation	Structured physical therapy, staged return to activity	Tuina, acupuncture during recovery	Continued herbal/manual treatment during recovery
Practitioner-patient relationship	Often short-term, specialist-based, episodic	Frequently ongoing, especially in community settings	Ongoing, sometimes multigenerational (per the Dong village pattern)
Definition of successful healing	Radiographic union, restored range of motion, functional strength	Restored Qi-blood flow alongside functional recovery	Restored elemental balance alongside functional recovery
Prevention of reinjury	Structured rehab protocols, monitored return to sport	General strength/circulation-focused recovery guidance	General balance-focused recovery guidance

The comparison (Table 1) clearly shows that documentation varies between the three systems and between

categories. Biomedicine is the most studied and standardized and so has the most complete row. TCM is well documented in terms of diagnosis, treatment techniques and herbal medicine, although some areas such as immobilization are less clearly documented. The least complete evidence base is for Dai medicine, in some categories of which the available material depends on related theoretical concepts, including Wind and Yagei. These gaps have been identified in this paper. The table thus compares treatments, and also demonstrates the uneven distribution of medical legitimacy and documentation among the three systems.

8. Patient Choices and the Combination of Multiple Medical Systems

8.1 Trust and Personal Experience

If either the patient or a family member has had a positive result in the past, that determines the system the patient will go to the next time they get hurt. This follows the pattern already identified from the Dong village study, where choice of system is based on an ongoing relationship with a particular practitioner (Yu, 2021). Here, the relationship is often based on one success in the past, not on years of shared history. Such trust may also be engendered by recommendations of family, friends, acquaintances or members of the village or wider community. Thus, the reputation of the individual practitioner may be more important than the medical system to which he or she belongs. A case study of the UNESCO Courier illustrates this. Lin Yanfang rather than Dai medicine as a system became the focus of the decision to travel to Xishuangbanna.

8.2 Cultural Familiarity

Cultural familiarity with a system's core concepts changes how legible a diagnosis feels to a patient. A patient who already understands Qi, blood stagnation, or the Four Elements has something to map new symptoms onto; a patient encountering these frameworks for the first time is starting from zero, regardless of whether the treatment actually works. For Dai patients, the issue goes beyond familiarity with particular medical concepts. Dai medicine is bound to ethnic identity, language, regional culture, and Buddhist religious belief in a way that TCM is not tied to Han identity with the same explicitness. Choosing Dai medicine may therefore reinforce a patient's sense of ethnic and cultural belonging, alongside—or even before—the clinical treatment decision. Treatment can feel more meaningful, and possibly more trustworthy, when its explanation matches how a patient already understands their own body.

8.3 Cost, Insurance, and Socioeconomic Status

Cost, and hospital and practitioner fees, transportation, insurance coverage and time away from work influence which medical system patients can realistically access. It is generally assumed that people will turn to traditional medicine, especially in rural or low-income settings, as it is cheaper and more accessible. But the evidence is not so clear. A large survey of Chinese patients across many hospitals found that those from higher socioeconomic backgrounds had more favorable views of TCM. Higher education, urban residence and higher family income were each independently associated with greater likelihood of using TCM across a range of conditions (Zhao et al., 2023). They suggest that people with more resources may spend more on health maintenance and view TCM as a form of illness prevention and quality of life improvement. Thus, TCM is not only a low-cost alternative to biomedical care, but is increasingly used in conjunction with the medical services patients already have access to.

9. Discussion

9.1 Different Models of the Injured Body

The three systems compared in this paper differ less over the facts of an injury than over which facts are determinative of treatment. Western biomedicine sees injury as anatomical damage, such as torn tissue, disrupted vasculature or a bone out of alignment. Its answers are intended to control inflammation, repair tissue and protect the injured structure. TCM sees the same injury as a disruption of Qi and blood. Pain and swelling are caused by stagnation and poor circulation, not structural damage in the biomedical sense. Dai medicine, in contrast, accounts for injury as an imbalance of the Four Elements, a disturbance of Wind, a build-up of toxins or the influence of cold pathogenic factors, within a context deriving from Buddhist cosmology. They are not just three vocabularies for one underlying event. Each one discusses different aspects of the injury. That decision then dictates everything that follows from diagnosis and therapy to what constitutes a successful outcome.

9.2 Shared Therapeutic Goals

The three systems are still comparable despite differing theories behind them because they seek much the same practical ends. Less pain and swelling, restored alignment, a stable injury, regained movement, avoidance of lasting disability and a return to normal activity. That common focus is why the hybrid treatment works. It also allows direct clinical comparison.

9.3 Different Forms of Evidence

The three systems also offer different ways to support their claims. Biomedicine relies on imaging, controlled trials and specialist credentials as its principal evidence. TCM draws on classical texts, the body of clinical experience, palpation-based assessment, case reports and, increasingly, biomedical studies that attempt to test TCM methods by biomedicine's standards. Compared to the western medicine, Dai medicine is much more dependent on local knowledge, passed on through apprenticeships, herbal knowledge passed on by practitioners like Lin Yanfang to her students, religious and cosmological traditions, and patient testimony. Outside the Dai medical community those forms of evidence carry very little institutional weight. This raises it back to a question that has run through this paper: who determines what forms of evidence are legitimate?

9.4 Hybridization

Hybrid practice is a two-way street, but the traffic is not equal. X-rays and biomedical diagnostic categories are being used more and more by TCM and Dai practitioners. This combination of manual reduction with percutaneous screw fixation is illustrated in the case report of a calcaneal fracture. Lin Yanfang Ethnic Hospital does something similar, providing imaging as well as its TCM and Dai clinics.

Sometimes, biomedical hospitals provide complementary services such as acupuncture, herbal medicine or manual therapy. But the two types of borrowing do not require the same adjustment from each system. Adding acupuncture to a biomedical hospital adds another service, not changing the standards of evidence that govern its core practice. When a TCM or Dai practitioner reaches for an X-ray to confirm a diagnosis, that practitioner is, at least in that moment, subscribing to the standard of proof of biomedicine itself. The sources assembled do not allow this paper to definitively determine if hybrid care gives traditional systems equal authority or subtly relegates them to the subservience of biomedical validation, while presenting the two as equal.

9.5 Cultural Preservation Versus Standardization

Standardization has offered tangible benefits to both TCM and Dai medicine, including official state recognition, licensing pathways, insurance coverage, safety oversight and academic legitimacy — things neither system had in the same guise a century ago. But the process that brought the 2007 standardized Dai medicine textbooks also had to pick one version of Dai medicine and write it as authoritative, even if regional and individual practice was probably more diverse. Another complication, as Zhang et al. note in their textbook analysis (2012), is that translated Dai terms and concepts may already be influenced by TCM's theoretical assumptions. This implies that the "standard" version of Dai medicine is potentially less independent from TCM than the theoretical framework itself claims.

10. Conclusion

A fracture, as this paper has argued, is not understood only as a biological event. Culture, history, institutional structure, and personal experience shape interpretation, and those interpretations can impact treatment as much as the physical seriousness of the fracture. Western biomedicine, TCM and Dai medicine have their own explanations of the damaged body and the reasons it heals. But in practice, these systems are increasingly intersecting in institutions such as the Lin Yanfang Ethnic Hospital. Patients are not passive recipients making a one-time choice among three fixed options. They make constant decisions about whether to join or switch between systems according to the severity of injuries, accumulated trust, practical access, cost, previous experience and cultural meaning. Some patients would transition between systems as they healed from one injury; others would maintain an ongoing relationship with one trusted practitioner regardless of the system that practitioner represented.

Medical pluralism is not simply the existence of several healing traditions in one region, or even under the same hospital roof. It is a constant negotiation between patients, practitioners, diagnostic technologies, government agencies, and competing ideas about what counts as legitimate medical knowledge. The questions at stake are: Whose story of an injured body will be accepted as true, and on whose terms? This paper has looked at negotiation through one particular, seemingly simple injury. Even a broken bone, visible on any X-ray, no matter who is reading it, is not quite as settled a fact as it first seems.

This study actually has limitations. Research on Dai medicine, particularly its fracture treatments, is still limited, meaning that some findings draw on field observations and institutional sources. The study also includes a few interviews and no long-term observation, so it cannot fully capture how patients and practitioners experience clinical practice.

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