



# Analysis of Traditional Chinese Medicine Practice in Malaysia Knee Osteoarthritis Patients

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## Abstract

**Background:** Malaysia has preserved and inherited the richness of Traditional Chinese Medicine (TCM). Knee Osteoarthritis (KOA) is common in Malaysia. Despite various TCM treatment methods in the region, research and reporting on TCM therapy for KOA are lacking. This study aims to compare TCM techniques used by practitioners in Malaysia and China for treating KOA through a questionnaire survey.

**Methods:** The survey questionnaire focusing on TCM treatments for KOA was distributed to TCM physicians and acupuncturists in both countries by E-mail, WhatsApp, WeChat, etc. Use Excel 2019 to organize data and analysis.

**Result:** 489 and 873 valid questionnaires from Malaysia and China were respectively gathered. Traditional acupuncture (TA) emerged as the predominant choice in both nations, with an 81.60% preference in Malaysia and 93.13% in China. Beyond TA, Malaysian TCM landscape favored Massage (78.53%), Cupping (76.28%), Moxibustion (64.21%), Bloodletting (54.60%), Electroacupuncture (EA) (48.26%), and Chinese herbs (41.31%). China leaned more toward EA (84.19%), Chinese Herbs (80.53%), Massage (72.51%), Moxibustion (68.84%), and Cupping (58.53%).

**Conclusion:** In this survey, significant differences in KOA TCM treatment methods were found between China and Malaysia. While both countries widely use TA, Malaysia tends to favor non-invasive techniques like massage and cupping, whereas China leans toward EA and invasive methods such as intra-articular injections. Cultural and regulatory factors influence these variations, resulting in diverse TCM approaches. However, Malaysia faces the challenge of lacking unified evaluation system and standardized procedures for TCM.

**[Key Words]:** Traditional Chinese Medicine Therapies; Malaysia; Knee Osteoarthritis; Questionnaire Survey; Clinical Practical Analysis

## 1 RESEARCH BACKGROUND

Shaped by its unique geographical and historical tapestry, Malaysia has become one of the bastions for the preservation and inheritance of TCM's vast wisdom. Knee Osteoarthritis (KOA), prevalent in the Malaysian populace, presents a common yet significant orthopedic challenge. Dialogues with local TCM practitioners showed there is a rich tapestry of TCM therapeutic approaches for KOA in the area, yet a notable scarcity of research and documentation specifically addressing TCM therapies for KOA. This inquiry is designed to delve



into and discern the TCM modalities utilized by practitioners in Malaysia and China for the treatment of KOA, as well as to gauge the prevalence of each method through a survey. By examining the parallels and distinctions between the two nations, the study aspires to uncover viable therapeutic strategies that could enhance the life quality of patients with more tailored and efficacious medical options. Furthermore, it aims to establish a foundation for subsequent exploration into the existing state and evolution of TCM in Malaysia, to deepen the global understanding of TCM's adaptability and practical application, and to furnish scientific backing for the international promotion of TCM.

## 2 MATERIALS AND METHODS

### 2.1 Survey Contents

The survey was crafted, aligning with the study's context and aims, focusing on the array of TCM treatments for KOA (with options for multiple selections). The questionnaire steers clear of any details that might infringe on patient privacy, such as names, contact details, or addresses.

### 2.2 Survey Participants

Practitioners such as TCM doctors and acupuncturists work in clinics and hospitals across Malaysia and China.

### 2.3 Conduct the Research

A diverse array of communication tools, including E-mail, WhatsApp, WeChat, and telephone, were employed to survey TCM physicians and acupuncturists in both countries. The data gathered from China served as a benchmark for analyzing trends in Malaysia.

### 2.4 Collection and Processing of Questionnaires

The returned questionnaires were systematically entered into an electronic format. Upon review, the verified data were transferred into Excel Software (2019 version) for structured analysis, so as to develop the subsequent data visualization through graphs and charts.

Please see Figure 1 for the specific process.

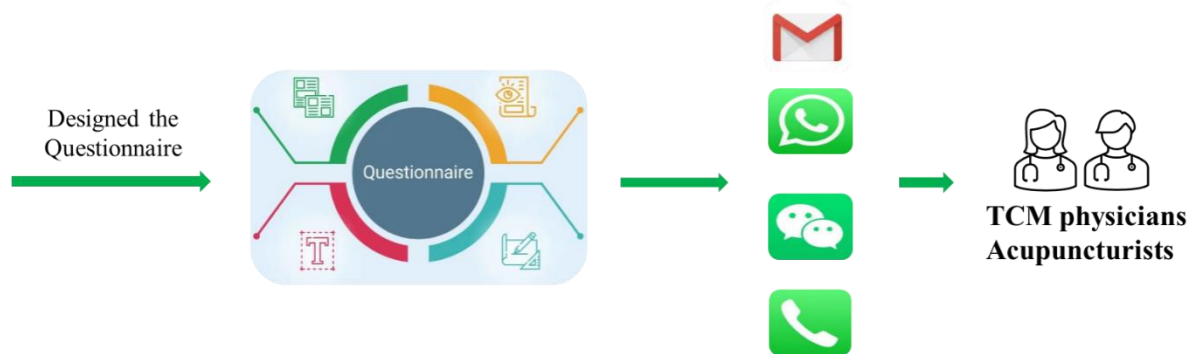


Figure 1: The specific process of the survey

## 3 RESULTS

### 3.1 Survey Collection

A total of 489 and 873 valid questionnaires from Malaysia and China were respectively gathered, all suitable for data analysis.



### 3.2 TCM Treatment Techniques for KOA

An array of KOA TCM treatments surfaced from the survey, with TA reigning as the predominant choice in both nations--garnering an 81.60% (399/489) preference in Malaysia and 93.13% (813/873) in China. Beyond TA, the Malaysian TCM landscape favored Massage (78.53%), Cupping (76.28%), Moxibustion (64.21%), Bloodletting (54.60%), EA (48.26%), and Chinese herbs (41.31%), etc. Conversely, in China are more towards EA (84.19%), Chinese Herbs (80.53%), Massage (72.51%), Moxibustion (68.84%), Cupping (58.53%), etc., with EA's prevalence notably higher than in Malaysia. The specific findings are shown in Figures 2 and 3.

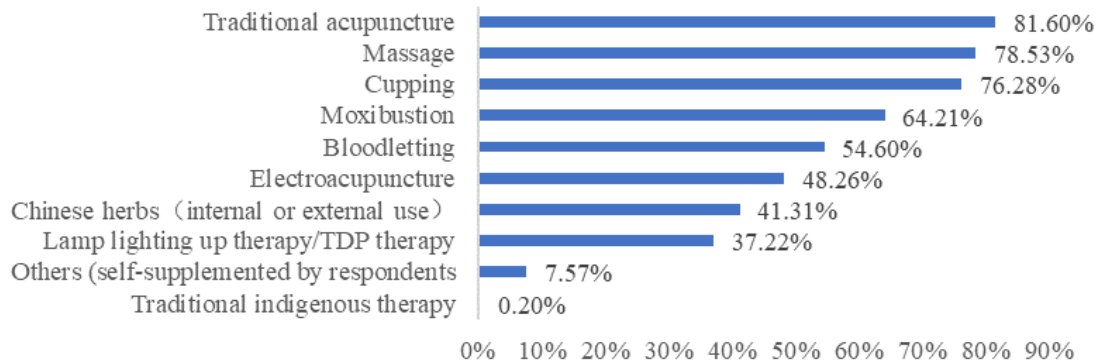


Figure 2: Therapy Methods in Malaysia

(Vertical axis represents therapy methods and horizontal axis represents the respective use proportion.)

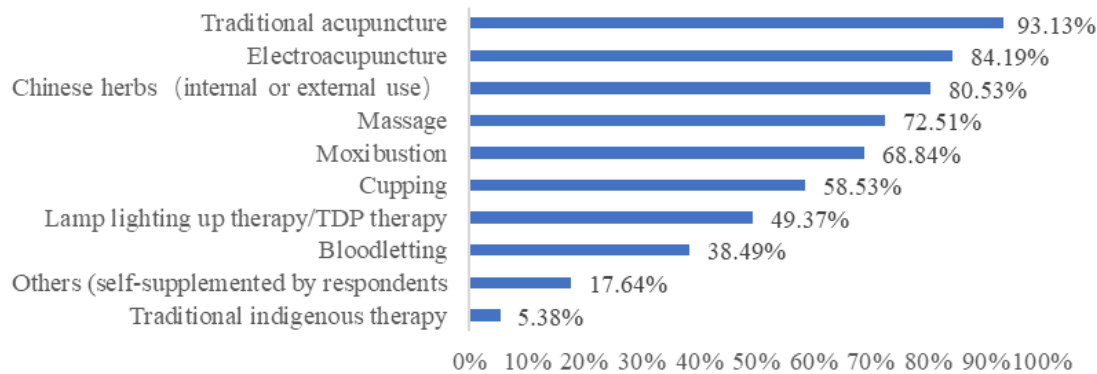


Figure 3: Therapy Methods Used in China

(Vertical axis represents therapy methods and horizontal axis represents the respective use proportion.)

### 3.3 Supplementary Therapeutic Practices

In addition to the above mainstream treatments, TCM practitioners supplemented their repertoire with:

(a) Malaysia: Techniques like Hot Compress, High-frequency Hyperthermia, Scraping, various needle therapies, Manual Osteopathy, Knife Needle, TCM Medical Devices for Orthopedic, Salt Pack, Hit at Certain Acupoints and Rehabilitation Exercises.

(b) China: Practices including Knife Needle, Small Curved Needles, Intra-articular Injections, Rehabilitation Exercise, Catgut Embedding, Hot Compress, Bone-setting, and Injection of Platelet-rich Plasma.

For more information, please see Table 1.



Table 1 Supplementary Therapeutic Practices

Malaysia	Knife Needle Therapy	Hot Compress	Scraping	Rehabilitation Treatment	OMT	Special Acupuncture	High- frequency Hyperthermia	Hit at Certain Acupoints
China	Knife Needle Therapy	Intra- articular Injection	Catgut Embedding	Rehabilitation Treatment	Hot Compress	Osteopathy (Bone- setting)		

Note: OMT: Osteopathic Manipulative Treatment

Table 1: Supplementary Therapeutic Practices in Malaysia & China

Referring to section 3.2, after data transformation, a detailed comparison of the TCM treatments used in both countries for KOA are presented in Figure 4.

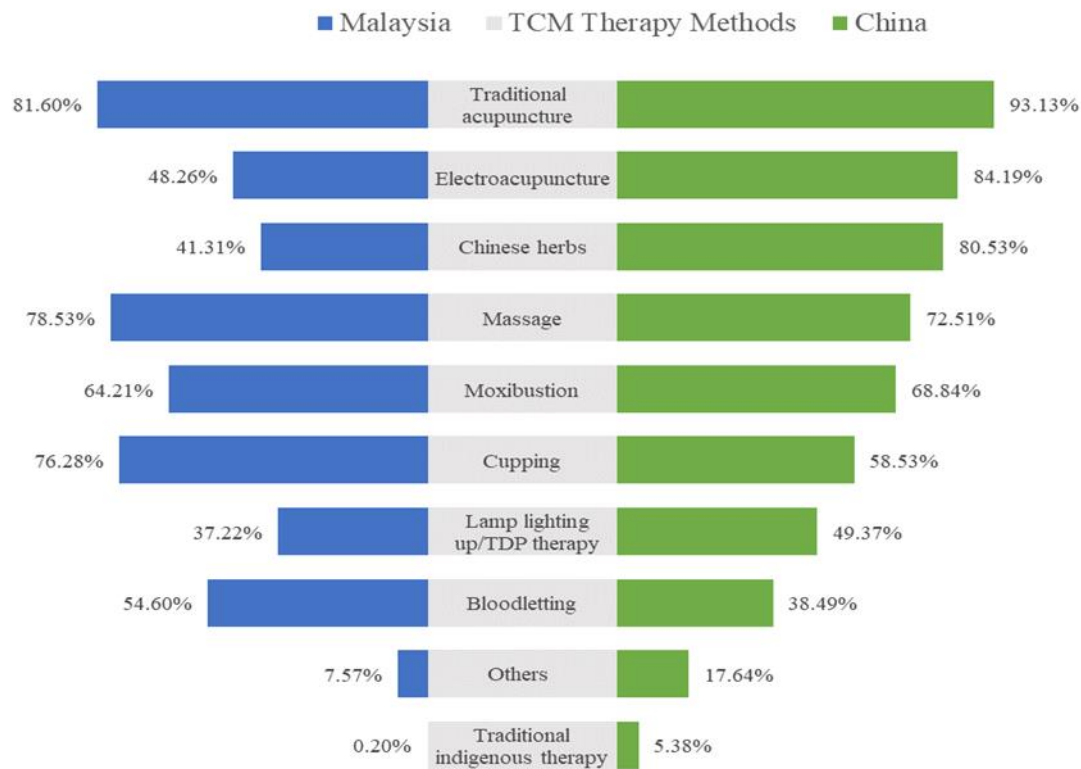


Figure 4: Comparison of KOA Therapeutic Methods in Malaysia & China

#### 4 Discussion

The knee joint, owing to its unique anatomical structure, is predisposed to wear and tear and degenerative changes<sup>[1-3]</sup>, manifesting clinically as pain, swelling, stiffness, and functional impairment<sup>[4,5]</sup>. KOA is a predominant musculoskeletal condition among elderly, with an incidence rate of 10%-38% in Asian countries<sup>[6,7]</sup>, and is the leading cause of the symptoms such as pain and disability of the knee in this demographic<sup>[8]</sup>. Malaysia's equatorial location subjects it to a tropical rainforest climate with year-round humidity and heat. The local preference for cooling devices, coupled with this distinctive geographical and lifestyle context, contributes to a relatively high prevalence of KOA, particularly among the middle and elderly aged groups. According to statistics from the Malaysian Ministry of Health(MOH)'s Clinical Practice Guidelines on the Management of Osteoarthritis, 9.3% of adult Malaysians experience knee pain, with over half presenting clinical evidence of the



condition<sup>[9]</sup>. Reports from the Oriental Daily News has cited that based on data from the Arthritis Foundation Malaysia (AFM), about 10%-20% of adults in Malaysia suffer from OA, with KOA being the prevalent form<sup>[10]</sup>. Among Malaysian KOA patients, about 23% are over 55 years old, while those over 65 account for approximately 39%<sup>[11,12]</sup>.

In the realms of Malaysia and China, the approach to diagnosing, treating, and managing KOA is well-established, offering patients an array of therapeutic avenues. These range from medicinal treatments to physical and surgical interventions. Typically, the medicinal route encompasses pain relievers, anti-inflammatory agents, and corticosteroids to mitigate pain and inflammation. On the physical front, therapies span from structured physical rehabilitation to exercise regimens, all designed to rejuvenate joint mobility and alleviate discomfort. Surgical procedures are considered a last resort, earmarked for severe cases. Complementing the arsenal of Western medicine, both nations also embrace TCM for KOA, which includes acupuncture and herbal remedies.

Analysis of the survey data has led to the following insights:

4.1 The number of clinics offering acupuncture treatment for KOA in Malaysia far exceeds expectations. TCM practitioners or acupuncturists in Malaysia often integrate techniques such as massage and cupping with other TCM practices to treat OA. Moreover, many government and private hospitals have also offered acupuncture services.

4.2 The TCM methods used by practitioners in both countries for KOA are diverse, yet TA remains the mainstream method (Malaysia 81.60%, China 93.13%). In addition to acupuncture, Malaysian practitioners also commonly employ massage (78.53%), cupping (76.28%), moxibustion (64.21%), bloodletting (54.60%), EA (48.26%), and herbal medicine (41.31%) as primary treatments. In contrast, Chinese practitioners favor EA (84.19%), herbal medicine (80.53%), massage (72.51%), moxibustion (68.84%), and cupping (58.53%) as their main treatment modalities.

TA serves as a supportive and alternative therapy, offering relief from pain and inflammation reduction. In the context of KOA, acupuncture is known to dredge and enhance circulation through the body's meridians, balancing the local Qi and Blood thus to eliminate wind, disperse cold, promote blood circulation, remove blood stasis, dredge collaterals, and ease pain<sup>[13]</sup>. Researches<sup>[14-16]</sup> have indicated that acupuncture can aid in the healing of injuries and the regeneration of various soft tissues, including skin, muscles, tendons, ligaments, fascia, and even nerves, bones, and cartilage. EA merges electrical stimulation with TA to amplify the healing effects, also harnessing bioelectric properties<sup>[17-18]</sup>. The underlying mechanism of EA is believed to involve the central nervous system's integration of electrical signals, which then modulate neurotransmitters, hormones, and other key substances, influencing signal pathways that regulate immune responses and cytokine release, thus mitigating KOA symptoms<sup>[19-20]</sup>. Bloodletting Therapy in KOA treatment entails the careful puncturing of superficial blood vessels at the knee joint to draw a small quantity of stagnant blood, thereby harmonizing Qi and Blood, enhancing local circulation, and boosting tissue metabolism<sup>[21-23]</sup>. This process aims to improve the microcirculation around the knee joint, providing symptom relief and disease treatment<sup>[24-25]</sup>. Knife Needle Therapy, an innovative technique derived from acupuncture principles, straddles the line between needle insertion and surgical incision. It requires precision cutting, peeling and loosening of the treatment area with specialized needle instruments, simultaneously activating local meridians and acupoints to promote circulation, resolve stasis, alleviate pain, and ameliorate KOA symptoms<sup>[26-30]</sup>. Furthermore, the use of Chinese herbs is recognized for its role in fostering joint repair and easing discomfort.

4.3 Beyond the aforementioned therapies, the additional methods employed by TCM practitioners in the two countries to treat KOA are quite varied, incorporating techniques like Knife Needle, Rehabilitation Exercises, and Hot Compress. Although Knife Needle therapy ranks highly among the supplementary methods used in both nations, its application is more widespread in China, with a frequency greater than in Malaysia (China 50.00%, Malaysia 37.84%). Furthermore, Malaysia predominantly favors non-invasive procedures, while invasive techniques play a significant role in China's supplementary treatments. Drawing from my medical education,



professional experience, observations, and the study of the regulatory framework supporting TCM in Malaysia, I have synthesized the primary factors contributing to this scenario:

- (a) Uniqueness of TCM: TCM, originating from China, is embraced differently across the globe due to varying cultural and traditional medical backgrounds. This leads to diverse levels of research and acceptance, influencing its clinical application in different regions;
- (b) Historical and Cultural Differences: Malaysia is a melting pot of Malay, Chinese, and Indian ethnicities, each with its own medical traditions and sense of identity. While there is cultural integration, each group maintains its distinct characteristics;
- (c) Perceptions and Attitudes Towards TCM: Both China and Malaysia primarily rely on Western medicine. However, with its deep roots and development in China, TCM is widely applied and researched, enjoying greater recognition and advancement. In China, TCM holds significant importance and status, especially post-COVID-19, leading to increased diversification and sophistication of TCM treatments in hospitals and clinics, including both traditional practices such as acupuncture, herbal medicine and modern TCM techniques. In contrast, Malaysia categorizes TCM alongside Malay and Indian medicine as traditional and complementary, with its primary use among the Chinese community. However, our other research projects have noted a growing acceptance of TCM among Malays and Indians as well;
- (d) Legal Regulations Governing TCM: In China, TCM practitioners are well-learned in both traditional knowledge and modern medicine, reflecting the important connection between TCM and contemporary medical practices. Chinese laws and regulations permit TCM practitioners to employ variety of diagnostic and treatment methodologies, including invasive procedures like acupoint injections and threading. Conversely, Malaysian laws impose strict, specific, and clear restrictions on the diagnostic and therapeutic activities of TCM practitioners, acupuncturists, and masseurs, preventing them from performing non-TCM treatments that require stringent aseptic techniques.

4.4 In Malaysia, the array of methods TCM clinics and hospitals employ to treat KOA is as diverse as it is indicative of the local practitioners' dedication to preserving and advancing TCM. This diversity also sheds light on certain issues encountered during interactions with local TCM practitioners. For instance, there is no standardized protocol for treating this condition; practitioners often default to the methods they are most familiar with. Furthermore, clinical efficacy is typically assessed based on patients' subjective experiences and the physicians' experience, lacking objective, standardized, and authentic evaluation criteria and systems. While China has established standardized clinical pathways and various evaluation criteria for both TCM and Western medical treatments for KOA. This represents an area where Malaysian TCM could potentially draw valuable experiences for future development and innovation.

## 5 Conclusion

This study explores the clinical practical application of TCM methods for KOA patients in both countries. It was found that, apart from TA, Malaysian TCM practitioners tend to favor non-invasive techniques such as massage and cupping, while Chinese TCM involves more invasive procedures like EA and intra-articular injections. Regulatory and cultural factors influence treatment choices, resulting in significant differences in TCM approaches between the two countries. The lack of a unified evaluation system and standardized procedures poses a challenge for TCM in Malaysia. While diverse treatment methods offer patients personalized choices, they also highlight the need for improvement in regulations and evaluation systems. This research has the objective to promote the application and exchange of TCM to Malaysia and global in future, providing insights into the international development of TCM in diverse cultural contexts.



## 6 Challenges and Prospects

Challenges arose during this research:

- (a) The survey's scope and content were not exhaustive. Future iterations could include more questions to gather a broader and richer set of data; and
- (b) The survey was conducted exclusively online due to the pandemic of COVID-19 and time constraints, without any offline component. Coupled with a general wariness towards unfamiliar online links and potential scam calls, the response rate barely exceeded 50%. Future strategies could involve expanding outreach, increasing the number of surveys distributed, diversifying the channels through which surveys are conducted, and increasing the sample size to enhance the significance, reliability and credibility of the findings.

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