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Barriers and Facilitators to Choosing Traditional Chinese Medicine among Patients with Degenerative Lumbar Spinal Stenosis in China: A Qualitative Study

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Abstract

Purpose

This study aimed to qualitatively explore the perceived barriers and facilitators that influence decision-making among patients with degenerative lumbar spinal stenosis (DLSS) in China regarding the use of Traditional Chinese Medicine (TCM) interventions.

Methods

A qualitative descriptive study was conducted using semi-structured interviews. Through purposive sampling, 26 patients with DLSS were recruited from a tertiary TCM hospital in Beijing. Interviews explored patients' experiences, perceptions, and the reasoning behind their decisions to use or decline TCM interventions (e.g., acupuncture, tuina). Data were analyzed using inductive thematic analysis.

Results

Patient decision-making emerged as a dynamic process of weighing interlinked factors. Barriers included: (1) skepticism about efficacy and mechanistic distrust; (2) fear and practical concerns about treatment procedures; (3) significant economic and time burdens; and (4) information deficits and knowledge gaps. Facilitators included: (1) a strong desire to avoid surgery; (2) positive direct or vicarious treatment experiences; and (3) cultural affinity and trust in TCM philosophy and practitioners. Notably, cultural trust was found to buffer the impact of practical barriers.

Conclusion

The choice regarding TCM for DLSS involves a personal calculus where fears and costs are balanced against cultural alignment and experiential positives. To support patient-centered care, a multi-level approach informed by behavioral theory (e.g., the COM-B model) is essential. This includes tailoring communication to bridge information gaps, innovating services to improve access, and leveraging cultural trust within stepped-care discussions to promote the evidence-informed integration of TCM in DLSS management.

Highlights

Maps a dynamic decision-making landscape: The study moves beyond listing factors to reveal how Chinese DLSS patients actively weigh interconnected barriers (e.g., cost, fear, doubt) against facilitators (e.g., surgery aversion, cultural trust) in a personal calculus.

Identifies cultural trust as a key stabilizer: It uncovers how deep-seated cultural-philosophical alignment with TCM acts as a unique facilitator that can buffer the impact of practical barriers like cost and inconvenience, a finding distinct to indigenous healthcare contexts.

Provides a theory-driven roadmap for change: By applying the COM-B (Capability-Opportunity-Motivation-Behavior) model, the findings translate into clear, multi-level intervention strategies for clinicians (tailored communication), service planners (accessible models), and policymakers (insurance reform).

Employs rigorous qualitative methodology: The research adheres to high reporting standards (COREQ), using purposive maximum-variation sampling, analyst triangulation, and reflective practice to ensure credible and in-depth insights into patient perspectives.

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1. Background

Degenerative lumbar spinal stenosis (DLSS) is a common chronic condition characterized by spinal canal narrowing, which can lead to disabling symptoms such as neurogenic claudication, low back and leg pain, and significant functional impairment[1,2]. As a major cause of pain and functional disability in the elderly, its treatment and management pose significant clinical and public health challenges[3]. International guidelines recommend multimodal conservative therapy as the first-line approach, which may include exercise therapy, physical therapy, analgesics, and traditional Chinese medicine interventions[4,5].

Traditional Chinese medicine therapies (mainly referring to acupuncture and tuina) are widely utilized in the management of DLSS in China and have gained increasing global recognition[6]. Existing evidence suggests that these therapies have potential efficacy in alleviating pain and improving function[7]. However, in clinical practice, there are significant differences in patient acceptance and compliance with TCM treatments, even when clinical indications are clear. Some patients are willing to try, while others who may benefit remain hesitant or refuse[8].

Patient decision-making in chronic disease management is a multifactorial process influenced by knowledge levels, beliefs (perceived benefits/dysfunctions), past experiences, social norms, and healthcare environments[9]. Addressing the driving and hindering factors behind decision-making—i.e., the "deep causes" of choice behaviors—is crucial for achieving a truly patient-centered healthcare model[10]. However, in the context of DLSS, there remains a limited understanding of the factors influencing TCM utilization. Clinicians often lack a detailed map of the perceived barriers (e.g., fear, cost, doubt) and facilitators (e.g., cultural trust, positive experiences) that shape patient decisions. This knowledge gap

can lead to ineffective communication, unmet patient needs, and suboptimal utilization of available therapies.

Therefore, this study aims to qualitatively analyze the perceived barriers and facilitators faced by China DLSS patients when choosing or rejecting traditional Chinese medicine interventions. The findings will provide a basis for developing more effective clinical communication protocols, personalized patient education measures, and supportive healthcare service policies.

2. Method

We adopted a qualitative descriptive research design, conducting in-depth, semi-structured interviews to understand patients' perspectives and experiences.

2.1 Recruitment and Sampling

This study employed purposive sampling to select participants from patients visiting the Tuina and Pain Management Department, Dongzhimen Hospital Beijing University of Chinese Medicine between January 2021 and January 2022. To ensure a broad perspective, we employed a maximum variation sampling strategy based on age (< 60, ≥ 60 years), gender, disease duration (< 3, 3–10, > 10 years), and prior treatment history (none, TCM-only, Western medicine-only, both)[11]. Potential participants were recruited through referrals by clinicians and outpatient advertisements. Eligible patients were aged 50–85 years, diagnosed with DLSS according to standard guidelines, fluent in Mandarin, and capable of signing informed consent forms. Patients with severe cognitive impairment or communication difficulties were excluded.

Sample size was guided by the principle of information power, which holds that the required number of participants depends on the richness and relevance of the data they provide, considering factors such as study aim and sample specificity [12, 13]. This approach prioritizes depth and quality over a predetermined number. Participants (n = 26) were recruited through purposive sampling. Semi-structured interviews were conducted by two experienced researchers (ZYJ & AY), whose expertise in patient-centered dialogue ensured focused and in-depth data collection. Data analysis followed an inductive thematic approach. To enhance rigor, analyst triangulation was employed, with three researchers independently engaging in cross-case analysis to fully explore patterns and variations within the dataset.

2.2 data collection

Semi-structured, face-to-face interviews were conducted by two trained researchers (Z.Y.J., male, with a master’s degree in Chinese medicine and 3 years of qualitative research experience; A.Y., male, with a master’s degree in acupuncture and tuina and 3 years of clinical research experience). Both interviewers were not involved in the clinical care of the participants to encourage open expression and minimize social desirability bias. Prior to the interviews, participants were informed that the interviewers were researchers focusing on patient experience, not their treating clinicians.

Interviews lasted between 30 to 45 minutes and took place in a private, quiet consultation room at the hospital to ensure confidentiality. Only the interviewer and the participant were present. With the participant's permission, all interviews were audio-recorded digitally. Researchers also took brief field notes during the interviews to capture non-verbal cues and contextual observations. The interview guide (see Supplementary File 1) was developed based on a literature review and team expertise, and was piloted with two DLSS patients (not included in the final sample) to refine question clarity and flow. The guide covered key domains: illness and treatment journey; perceptions of TCM; decision-making considerations (efficacy, safety, cost, logistics); and expectations for ideal care.

All audio recordings were transcribed verbatim into Chinese by a professional transcription service within one week of the interview. To ensure accuracy, one of the interviewers (A.Y.) meticulously verified each transcript by listening to the recording while reading the text, correcting any discrepancies. The verified transcripts were then de-identified, with participants assigned unique study IDs (P1-P26).

During the recruitment period, approximately 45 eligible patients were approached by their physicians or via posters. Nineteen patients declined to participate, primarily citing lack of time (n = 11) or a general disinterest in research participation (n = 8). No discernible pattern was noted between those who declined and those who participated regarding basic demographic characteristics available from clinic records.

2.3 Data Analysis

Data were analyzed following the inductive thematic analysis framework[14,15], using NVivo 12 software for data management. The process involved six phases:

Phase 1: Familiarizing with the data. The lead analyst (ZYJ) immersed themselves in the data by conducting repeated, active readings of all interview transcripts. This process involved not only reading for content but also noting down initial analytical observations, ideas, and potential patterns, forming the foundation for subsequent coding.

Phase 2: Generating initial codes. Two researchers (ZYJ and AY) independently performed line-by-line coding on the first three transcripts to identify the basic segments of meaning relevant to the research question. This inductive coding process aimed to remain open to all features of the data. The two analysts then met to compare their independently generated codes, discussing similarities and discrepancies to collaboratively develop a coherent and comprehensive preliminary coding framework.

Phase 3: Searching for themes. In this phase, the researchers worked systematically to collate all codes and relevant data extracts. They examined how different codes could be clustered together to form broader patterns of meaning, thereby constructing initial candidate themes and sub-themes. This involved organizing the coded data into thematic maps to visualize potential relationships.

Phase 4: Reviewing themes. The candidate themes were rigorously reviewed and refined at two levels. First, Level 1 review checked if the coded data extracts coherently supported each theme. Second, Level 2 review evaluated whether the entire thematic structure accurately represented the complete dataset in

relation to the research objective. This iterative process involved refining, splitting, combining, or discarding themes through sustained team discussion to ensure internal homogeneity and external heterogeneity.

Phase 5: Defining and naming themes. For each finalized theme, a clear and concise definition was articulated that captured its essence and central narrative. Precise names were assigned to each theme and sub-theme to immediately convey their core meaning to the reader, moving beyond simple description to interpretive analysis.

Phase 6: Producing the report. The final analytic narrative was woven together, integrating compelling data extracts that vividly illustrated each theme. The report contextualizes these extracts within the analysis, clearly demonstrating the link between the raw data and the interpretive conclusions, thereby substantiating the findings.

2.4 Rigor and Trustworthiness

To ensure the rigor and trustworthiness of the analysis, multiple strategies were employed in alignment with established qualitative research COREQ criteria [16].

Analyst Triangulation: Two researchers (Z.Y.J. and A.Y.) independently performed initial coding and theme development. A third senior researcher (W.X.Y.) reviewed the coding framework and participated in cross-case analysis discussions to resolve discrepancies and enrich interpretations.

Peer Debriefing: The evolving analysis and thematic structure were periodically discussed with a senior qualitative methodology expert (Y.C.H.) not involved in data collection or coding. This peer challenged assumptions, provided alternative interpretations, and ensured analytical logic.

Researcher Reflexivity: All team members maintained reflective journals. Given that several researchers (W.X.Y., Y.C.H.) have clinical training in TCM, we actively discussed how this background might shape our interpretation of data related to ‘efficacy doubts’ or ‘cultural affinity.’ We consciously sought disconfirming evidence and ensured that themes emerged from the data rather than our preconceptions. For instance, when analyzing quotes expressing skepticism, we deliberately avoided defensive interpretations and focused on understanding the patient’s perspective.

Audit Trail: A detailed record was maintained, documenting all analytical decisions, iterations of the codebook, meeting notes, and the rationale for theme refinement, merging, or discarding.

Data Saturation: We employed the principle of information power [12, 13] to guide sample size. Recruitment and analysis proceeded iteratively. After analyzing the 22nd interview, no new substantive themes or insights emerged related to the core research question. The final four interviews were conducted and analyzed to confirm that thematic saturation had been robustly achieved.

2.5 Ethical considerations

This study was conducted in accordance with the Declaration of Helsinki (as revised in 2013). This study was approved by the Institutional Review Board of Dongzhimen Hospital Beijing University of Chinese Medicine (Approval No 2018-JYBZZJS090). All participants provided written informed consent. The research process was strictly confidential.

3. Results

3.1 Participant Characteristics

We conducted interviews with 26 participants (11 males and 15 females), with a mean age of 65.2 years (SD 7.1) and a mean disease duration of 6.8 years (SD 3.9). Educational backgrounds ranged from elementary school to postgraduate level. Detailed characteristics are presented in table S3 in Supplementary File.

3.2 Theme

The analysis identified two overarching themes: barriers and facilitators, comprising seven sub-themes that capture the psychological and practical considerations in patient decision-making. Illustrative quotations are provided in Table 1.

Table 1
Themes, Sub-themes, and Illustrative Quotations on Barriers and Facilitators to Selecting TCM for DLSS

theme	Sub-theme and code	Illustrative Quote (participant ID)
Barriers	**1. Skepticism regarding efficacy and mechanism of action**	
	History of previous ineffective treatment	"I had previously tried acupuncture and tuina therapy, but the effects were not significant... Perhaps it was merely a psychological effect." (P07)
	The need for scientific evidence	"I need to see more definitive evidence to be fully convinced." (P12)
	2. Fear and Practical Concerns	
	Pain Fear	I want it (refer to acupuncture) to work, and it has to be comfortable... The pain is unbearable.
	Focus on safety/standardization	From a professional perspective, my focus is on operational standards, such as infection risk. (P19)
	Concerns about side effects (herbal medicine)	As the saying goes, 'All medicines have some toxicity.' I am always concerned that long-term consumption of traditional Chinese medicine (TCM) may cause liver and kidney damage. (P14)
	3. Economic and Time Burden	
	Treatment cost	If the cost is too high... I cannot afford it. The insurance has an annual limit. (P10)
	time cost	"Having to attend training sessions multiple times a week makes it difficult to take leave." (P21)
	4. Information Gap/Knowledge Deficiency	
	The role in Traditional Chinese Medicine (TCM) remains unclear.	"I don't know anything about this disease." (P05)
	Reliable information is hard to obtain	The general public does not fully comprehend; we merely adhere to the physician's recommendations while retaining reservations. (P18)
Facilitators	**1. Desire to avoid surgery**	
	Consider Traditional Chinese Medicine as a Safer Alternative	Choosing Traditional Chinese Medicine (TCM) allows me to address health issues while preserving the integrity and original physiological functions of my body, which brings me a sense of reassurance. (P13)
	Consideration of a Rational Stepwise Nursing Plan	My idea is straightforward: to establish a 'staircase' approach. Surgery represents the highest and final step, which should only be considered as a last resort. Traditional Chinese Medicine (TCM) is currently the most systematic non-surgical therapy I can identify. (P09)

theme	Sub-theme and code	Illustrative Quote (participant ID)
		From a medical perspective, systematic Traditional Chinese Medicine (TCM) treatment is the first rational step for my case. (P15)
	2. Direct positive experience	
	remission	Pain persists after acupuncture, but has significantly alleviated... Therefore, I will continue the treatment. (P04)
	enhance treatment comfort	"After the tuina, I felt relaxed and experienced improved sleep quality." (P23)
	3. Cultural Affinity and Philosophical Compatibility	
	Trust in Holistic/Natural Therapy	Trust. I believe Traditional Chinese Medicine (TCM) emphasizes balance rather than aggressive intervention. (P11) I trust this concept of recovery through one's own physiological functions. (P08)
	Respect the professional expertise of licensed physicians	I trust two things: his experience and his character. As the department head, his hair is already white, which clearly indicates his extensive experience. He communicates with me about the patient's condition and treatment methods without exaggeration or intimidation, always being very practical. (P09) Initially, I approached the treatment with skepticism. However, after several sessions, I observed genuine improvement in my symptoms. Upon revisiting the physician's initial statements, diagnosis, and selected therapeutic regimen, I came to recognize the rationale behind each step he took. (P04)

3.2.1 Theme 1: Barriers

This theme summarizes the barriers that deter patients from choosing TCM.

Subtheme 1: Skepticism about Efficacy and Mechanistic Disbelief

This reflects patients 'fundamental skepticism regarding the efficacy of Traditional Chinese Medicine (TCM) in treating DLSS. Some patients lose confidence due to previous ineffective experiences, as exemplified by P07: "I tried acupuncture and tuina before, but the results were not significant... Perhaps it's just a psychological effect." Another group, particularly those with higher education levels, demonstrate a need for scientific evidence, as noted by P12 "I need to see more definitive evidence-based findings to fully trust this approach." Both types of skepticism stem from the conceptual gap between the theoretical framework of TCM and patients' understanding of their own disease.

Subtheme 2: Treating Fear and Practical Concerns

This involves patients' physiological experiences and perceived risks during Traditional Chinese Medicine (TCM) treatment. The most common concern is the fear of procedural pain, particularly in acupuncture, as described by P06: "I hope it works while also being comfortable... Excessive pain is unbearable." Additionally, there are widespread concerns about safety and side effects, such as herbal toxicity or tuina-induced injuries. Patients with medical backgrounds are more concerned about technical specifications and infection risks, as mentioned by P19: "From a professional perspective, I am concerned about procedural standards, such as infection risks."

Subtheme 3: Economic and Time Burden

This encompasses the non-clinical costs associated with Traditional Chinese Medicine (TCM) treatment. The primary concern is the financial burden, particularly due to restrictions on medical insurance reimbursement, as highlighted by P10: "If the cost is too high... I cannot afford it. The insurance has an annual limit." Time and travel expenses also pose significant barriers, especially for employed individuals. For instance, P21 noted: "I need to attend multiple treatments per week, making it difficult to take leave." These practical constraints often lead patients to hesitate in balancing the investment in treatment with its potential outcomes.

Subtheme 4: Information Deficiency and Cognitive gap

This reflects the difficulty patients face in making informed decisions due to the lack of reliable and easily understandable information. Some patients have no basic understanding of the disease or Traditional Chinese Medicine (TCM), as admitted by P05: "I know nothing about this disease." Others feel confused by conflicting information, as expressed by P18: "We ordinary people don't understand; we just follow the doctor's advice, but still have some doubts." This information vacuum hinders patients from accurately assessing other obstacles or facilitators.

3.2.2. Theme 2: Facilitators

This theme covers the motivation, experience and belief that promote patients to actively choose TCM.

Subtheme 5: Surgical Avoidance Intention

The primary driving force is patients 'resistance to surgery and their preference for Traditional Chinese Medicine (TCM) as a preferred alternative. This choice encompasses both emotional fears, such as P09's perception that "surgery... carries significant risks," and rational considerations, as exemplified by P15, who views it as "a reasonable step to first attempt systematic TCM treatment." Consequently, TCM is positioned as a safer and non-invasive therapeutic option.

Subtheme 6: Direct or Indirect Positive Experiences

The most persuasive facilitators stem from direct or credible evidence of benefits. Even mild symptom relief can strengthen treatment commitment, as demonstrated by P04: "Pain persists after acupuncture, but it has significantly improved... Therefore, I will continue with the treatment." The sense of comfort

during the treatment process also enhances the overall experience, as noted by P23: "After the tuina, I felt relaxed, and my sleep quality improved." Additionally, indirect experiences such as others 'success stories can motivate treatment attempts. For instance, P16 was willing to try and trust Traditional Chinese Medicine (TCM) due to a colleague's recommendation.

Subtheme 7: Cultural Identity and Professional Trust

This demonstrates patients 'deep acceptance of Traditional Chinese Medicine (TCM) based on cultural resonance and professional recognition. Some patients endorse the holistic natural therapy philosophy of TCM, as evidenced by P11's statement that "TCM emphasizes balance, not aggressive intervention." Trust in physicians 'professional competence is equally crucial, with P09 expressing confidence in the physician's "experience" and "integrity," while P04 validated the rationality of the physician's decision through therapeutic outcomes. This cultural affinity and professional trust enhance patients' tolerance for treatment uncertainties.

3.2.3. Interrelationships between sub-themes

The sub-themes are not isolated but interconnected and dynamically interrelated. For instance, information deficit (Barrier 4) may exacerbate efficacy doubt (Barrier 1) and treatment phobia (Barrier 2). Conversely, positive direct experience (Facilitator 2) serves as the most potent factor in overcoming barriers, directly alleviating doubts and fears. Cultural affinity (Facilitator 3) can modulate the impact of economic time burden (Barrier 3), making patients more willing to bear associated costs. Surgical avoidance intention (Facilitator 1) often acts as an initial driving force, prompting patients to comprehensively weigh other factors before entering the decision-making process.

Table 1. Themes, Sub-themes, and Illustrative Quotations on Barriers and Facilitators to Selecting TCM for DLSS

4. Discussion

4.1 Main Findings

This qualitative study provides an in-depth exploration of the decision-making process among Chinese patients with DLSS regarding TCM interventions. The findings move beyond a simple catalog of factors, revealing a dynamic internal negotiation where patients actively weigh perceived barriers (primarily skepticism, fear, and cost) against facilitators (avoiding surgery, trust in positive experiences, and cultural congruence). This process resonates with the core constructs of the Health Belief Model, where the perceived threat of surgery and the perceived benefits of TCM are balanced against perceived costs and fears [17]. To systematically translate these insights into actionable guidance for clinical practice and policy, we further employ the COM-B model of behavior change [18], which posits that behavior (B) requires the conjunction of Capability (C), Opportunity (O), and Motivation (M). The following discussion synthesizes our themes within this framework, drawing deeply on relevant literature to contextualize and explain our findings.

4.1. The Foundation of Decision-Making: Capability Gaps and Their Resolution

The decision to consider TCM first hinges on a patient's psychological capability—their knowledge and understanding. Our study identified a profound information deficit and cognitive gap (Barrier 4) as a foundational barrier. Patients lacked accessible, credible information on how TCM modalities like acupuncture might alleviate DLSS-specific symptoms such as neurogenic claudication. This gap directly fuels skepticism and distrust of efficacy (Barrier 1), manifesting either as a demand for scientific evidence among the educated or disillusionment from past experiences. This aligns with broader CAM literature, where "perceived effectiveness" is a primary determinant of use [19]. A qualitative study on non-surgical LSS treatment similarly found that understanding and believing in the treatment's benefit was central to persistence [20].

Building this capability is therefore paramount. Our data, alongside literature, suggest two potent pathways. First, positive direct or vicarious experience (Facilitator 6) is the most powerful tool. Tangible symptom relief provides irrefutable, personal evidence that can overcome pre-existing doubts, a factor critical for adherence in chronic pain management [21, 22]. Second, effective communication must bridge the explanatory model divide. As studies on promoting evidence uptake in TCM note, translating concepts into relatable terms is key [23]. This requires moving from abstract TCM theory to explanations grounded in the pathophysiology of DLSS (e.g., reducing nerve root irritation).

4.2. The Role of Opportunity: Structural Barriers and Enabling Environments

Opportunity encompasses external factors that make a behavior feasible. The economic and time burdens (Barrier 3) we identified are critical physical opportunity barriers. The need for frequent, long-term sessions creates significant cost and logistical challenges, particularly for employed patients. This finding is not unique to TCM; research on implementing community-based pain management programs identifies similar structural hurdles [24, 25]. Within China's healthcare context, limited insurance reimbursement for outpatient TCM and the concentration of specialized care in urban centers exacerbate these barriers [7], creating an "accessibility filter" that may disproportionately affect lower-income groups.

Creating opportunity requires systemic innovation. Policy-level interventions to expand insurance coverage for evidence-based TCM protocols are essential. At the service delivery level, models such as community-integrated TCM clinics and flexible scheduling—explored in the context of integrating acupuncture into mainstream care [26, 27]—could mitigate time and travel constraints. Furthermore, fostering positive vicarious experience (Facilitator 6) through peer support groups creates a social opportunity, leveraging trusted community narratives to lower psychological barriers to initiation.

4.3. The Engine of Choice: Reflective and Automatic Motivation

Motivation directs and energizes behavior. Our findings reveal a complex motivational landscape. A potent aversion to surgery (Facilitator 5) provides a strong reflective motivation. Patients perceive TCM as a safer, less invasive alternative within a stepped-care model, a rational consideration also observed in studies of chiropractic care for low back pain [25]. This motivation can initiate the decision-making process. However, it is often countered by strong automatic (emotional) motivations in the form of fears about the treatment process (Barrier 2), such as needle phobia or concern about manipulation injury. This fear, linked to the HBM's "perceived susceptibility" [4], is a common barrier to procedure-based therapies, as seen in studies on exercise adherence among chronic pain patients [28].

The facilitatory theme of cultural affinity and trust in TCM philosophy (Facilitator 7) represents a deep, stable reflective motivation unique to this context. This cultural capital, a pre-existing "trust bias," fosters acceptance of TCM's holistic approach and increases tolerance for treatment inconveniences or uncertainties. It provides a compelling explanatory framework for patients, making the intervention personally meaningful [29, 30]. This factor crucially differentiates TCM adoption in China from the uptake of complementary therapies in non-indigenous settings.

4.4. Clinical and Policy Implications: A Multi-Level COM-B Intervention Strategy

To effectively promote informed TCM use, interventions must concurrently address Capability, Opportunity, and Motivation.

Enhancing Capability (C): Clinicians must provide stratified education. For the evidence-seeking patient, referencing high-quality RCT data (e.g., [7]) is valuable. For others, using visual aids or patient testimonials to explain treatment mechanisms in relatable terms is key. This directly targets information gaps and efficacy doubts.

Optimizing Opportunity (O): Healthcare systems should innovate service delivery (e.g., community hubs, tele-support) to reduce logistical barriers [24]. Policymakers must evaluate financial structures to improve affordability. Building platforms for positive peer sharing can harness social opportunity.

Strengthening Motivation (M): Practitioners should proactively elicit and validate the aversion to surgery, framing TCM as a legitimate first-line strategy [28]. To mitigate treatment fears, transparent communication about sensations and patient-controlled "stop signals" are essential. Most critically, meticulously managing the initial treatment experience to maximize early comfort and perceptible benefit is vital to cementing positive direct experience—the ultimate motivational reinforce [21, 22].

4.5 Advantages and Limitations

This study demonstrates the following strengths. First, methodological rigor was ensured by adhering to established qualitative research standards and employing thematic analysis. Second, purposive sampling with maximal diversity preservation enabled comprehensive capture of patient experiences, while data collection continued until reaching robust thematic saturation, thereby enhancing the credibility of

findings. Third, credibility was strengthened through triad of analyst validation, peer discussion, and researcher reflective practice, which helped eliminate biases and ensure data-driven thematic analysis.

This study also has limitations. First, since the subjects may have a higher baseline acceptance of Traditional Chinese Medicine compared to the broader DLSS population, recruiting participants only from a tertiary TCM hospital in the city center may limit the transferability of findings to primary care settings or regions with less TCM exposure. We attempted to include skeptical voices through purposive sampling, but the influence of the study environment still exists. Second, self-selection and potential social expectation bias may affect the study results. We mitigated this issue by using non-clinical interviewers and emphasizing confidentiality. Third, as a qualitative study, the results have the specific context of the China medical environment and may not be directly generalizable to other settings, but they provide a detailed explanatory framework for future research.

5. Conclusion

Patients with DLSS often make decisions regarding Traditional Chinese Medicine (TCM) with personal biases. They weigh practical barriers such as costs and fears, as well as facilitators based on experience, cultural background, and preferences for non-invasive treatments. To enhance the adoption of TCM, it is essential to move beyond a one-size-fits-all approach. By implementing tailored communication strategies addressing specific concerns and fears, coupled with policy measures to reduce structural barriers to access, healthcare providers and the healthcare system can better support patients in making informed and value-aligned choices, thereby achieving comprehensive treatment for lumbar spinal stenosis.

Declarations

Ethical Approval and Participant Informed Consent: This study was approved by the Institutional Review Board of Dongzhimen Hospital, Beijing University of Chinese Medicine (Approval No. 2018-JYBZZJS090). All participants signed informed consent forms after their initial in-person or online meeting with the investigator or principal investigator (PI).

Publication Consent Form

Not Applicable

Availability of Data and Materials

The datasets used and/or analyzed in this study are available from the corresponding authors upon reasonable request.

Conflict of Interest

No conflict of interest exists.

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WJ: Supervision and Guidance, Draft Review and Editing

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