

Article

Challenges and Facilitators in the Clinical Adoption of Traditional Chinese Medicine Technology

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Abstract: This study aims to analyze the challenges and facilitators in the clinical adoption of traditional Chinese medicine (TCM) technology. It proposes practical recommendations to provide evidence-based support and guidance for medical institutions at various levels in effectively integrating and advancing TCM technology. **Methods** A descriptive phenomenological approach was employed to facilitate semi-structured interviews with doctors, nursing managers, and nurses. The collected data were subsequently analyzed using NVivo software. **Results** In a study involving interviews with 17 doctors, nursing managers, and nurses, researchers identified three main themes and ten sub-themes. These included factors that promote the use of traditional Chinese medicine (TCM), such as the development of a comprehensive training curriculum, support from leadership, and strategies for integrating TCM technology. Conversely, hindering factors were also identified, including low awareness of TCM among some healthcare professionals and patients, as well as challenges related to medical costs and insurance. Recommendations for promoting TCM technology in Grade A hospitals include the creation of operation manuals, establishment of platforms for learning and communication, provision of dedicated spaces for teaching and discussion, and empowerment of nurses to assume leadership roles in clinical decision-making. **Conclusion** The development of Traditional Chinese Medicine (TCM) appropriate technology projects in general hospitals in Northwest China faces both obstacles and promoting factors. It is essential to address these challenges through targeted training and the implementation of a standardized management system to enhance the capabilities of TCM nursing services. Additionally, establishing a distinctive platform for TCM nursing services, fostering collaboration and exchange across various regions, and encouraging the inheritance and innovation of TCM nursing characteristics are critical steps in advancing TCM practices.

Published: 10 September 2024



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Keywords: traditional Chinese medicine nursing; semi-structured interview; appropriate techniques of TCM; qualitative research

1. Introduction

With the continuous advancement of modern medicine, traditional Chinese medicine, as a significant cultural heritage of the Chinese nation, has garnered increasing attention for its role within the medical care system. The term "appropriate technology of traditional Chinese medicine" typically refers to practices that are safe, effective, cost-efficient, and easily learned [1]. This technology possesses distinct advantages in the prevention and treatment of common ailments, frequently occurring diseases, and the management of chronic conditions. Furthermore, the "National Nursing Development Plan (2021-2025)" (hereinafter referred to as the "Plan"), issued by the National Health Commission,

explicitly emphasizes the need to enhance the nursing service system, promote the development of traditional Chinese medicine nursing, and address existing deficiencies [2]. Currently, research on appropriate technologies of traditional Chinese medicine primarily focuses on the types of services provided and the efficacy evaluations conducted by various departments [3-5]. Most research findings indicate that the application of appropriate technologies in traditional Chinese medicine (TCM) is crucial for enhancing medical quality, reducing healthcare costs, and improving patients' quality of life [6,7]. However, studies have identified persistent issues, such as uneven development, a shortage of professional nursing personnel, and inadequate quality supervision systems across hospitals of varying levels [8]. Consequently, there is a lack of research and discussion regarding the specific obstacles and facilitating factors encountered in the clinical application and promotion of appropriate technology and nursing care within TCM. This article uses the General Hospital of Northwest China as a case study to analyze the barriers and promoting factors affecting the clinical promotion of appropriate TCM technologies through systematic interviews. The findings aim to provide a decision-making reference for the hospital's TCM policy formulation, management, and clinical implementation, with the goal of advancing the application of appropriate TCM technologies in large comprehensive hospitals. Ultimately, this research seeks to enhance the broader utilization of TCM in tertiary hospitals and primary healthcare institutions, thereby fostering the sustainable development of traditional Chinese medicine and TCM nursing in our country.

2. Research Subjects and Methods

2.1. Objects of Study

Employing a purposive sampling method from October 2022 to October 2023, this study considered factors such as the respondents' age, professional position, and their understanding of traditional Chinese medicine techniques. The principle of maximum differentiation guided the selection of research participants, which included doctors, nurse managers, and nurses who participated in semi-structured interviews. The inclusion criteria were as follows: (1) possession of a bachelor's degree or higher; (2) a minimum of five years of work experience; (3) willingness to participate and sign an informed consent form; and (4) current involvement in front-line clinical diagnosis, treatment, and nursing. The sample size was determined based on information saturation, ensuring that no new themes emerged, resulting in a total of 17 subjects included in the study. General information is presented in Table 1. This research received approval from the hospital ethics committee, with the approval number 2020LH005.

Table 1. Demographic Data of Interview Participants (N=17).

ID	Department	Age	Education	Experience (years)	Title	Position	AM1	TCM Trainin g2	TCM Therap y3	TCM Techni ques4
N1	OPH	32	BD	9	IP	N	No	Yes	No	No
N2	CVS	28	BD	6	JP	N	No	Yes	Yes	Yes
N3	GYN	37	BD	14	IP	N	No	Yes	Yes	Yes
N4	CAR	40	BD	17	IP	N	No	Yes	No	Yes
N5	RHM	26	BD	7	JP	N	No	Yes	No	Yes
N6	GS	26	BD	6	JP	N	No	Yes	Yes	Yes
N7	PED	28	BD	5	JP	N	No	Yes	No	Yes
N8	PUL	28	BD	5	JP	N	No	Yes	No	Yes
N9	EM	46	BD	22	IP	N	No	No	Yes	Yes
H1	NS	47	BD	28	IP	ND	No	Yes	No	Yes
H2	MO	51	BD	30	ACP	ND	No	No	Yes	Yes
H3	HD	36	BD	13	IP	ND	No	Yes	Yes	Yes

H4	PED	48	BD	30	ACP	ND	No	Yes	Yes	Yes
H5	NEU	50	BD	29	ACP	ND	No	Yes	No	Yes
H6	TCM	33	MD	8	ACP	ND	Yes	Yes	Yes	Yes
D1	ORT	51	PhD	27	CP	P	No	No	Yes	No
D2	NEU	46	PhD	23	CP	P	No	No	Yes	Yes
D3	GS	41	PhD	15	ACP	P	No	Yes	Yes	No

Note: OPH = Ophthalmology; CVS = Cardiovascular Surgery; GYN = Gynecology; CAR = Cardiology; RHM = Rehabilitation Medicine; GS = General Surgery; PED = Pediatrics; PUL = Pulmonology; EM = Emergency Medicine; NS = Neurosurgery; MO = Medical Oncology; HD = Hemodialysis; NEU= Neurology; TCM = Traditional Chinese Medicine; ORT = Orthopedics; BD = Bachelor's Degree; MD = Master's Degree; PhD = Doctor of Philosophy; IP = Intermediate Physician; JP = Junior Physician; ACP = Associate Chief Physician; CP = Chief Physician; N = Nurse; ND = Nursing Director; P= Physician; AM = Alma Mater.

- 1) Has the individual graduated from a Traditional Chinese Medicine (TCM) institution;
- 2) Has the individual received education or training in TCM theory;
- 3) Has the individual undergone treatment with TCM pharmaceuticals;
- 4) Has the individual undergone treatment with TCM-appropriate techniques

2.2. Methods

In this study utilizing the descriptive phenomenology research method within qualitative research, face-to-face semi-structured interviews were conducted with 17 participants. Initially, based on prior research findings from the research team, we identified the top 10 hospital departments deemed most suitable for the development of traditional Chinese medicine technologies. Subsequently, we prioritized departments that demonstrated extensive experience in clinical management and front-line operations, as well as those with high patient satisfaction scores.

2.2.1. Developing the Interview Protocol

The research team conducted a comprehensive review of the literature to gain a nuanced understanding of the connotation of appropriate techniques in traditional Chinese medicine (TCM). Subsequently, experts in the fields of TCM and TCM nursing were invited to refine the preliminary interview outline in alignment with the research objectives. Initially, three nursing staff members were selected to conduct pre-interviews, the results of which were excluded from the analysis. Following these pre-interviews, the collected data were analyzed, and group discussions were held to incorporate expert opinions, leading to the finalization of the interview outline. The researcher began the interviews by introducing himself and explaining the purpose of the interview to the participants. The interview outline included the following questions: (1) What symptoms do you believe are present among inpatients in our department? (For example, symptoms observed before and after surgery, prior to and following medical interventions, and before and after medication.) (2) Which appropriate technologies for TCM nursing are currently implemented in your department? What issues do these technologies address, and what are their clinical application outcomes? (3) What challenges do you hope TCM nursing technology can help resolve for patients in your department? (4) What obstacles are currently faced in the development of suitable TCM nursing technologies within your department? (5) Which factors do you believe influence the clinical implementation of appropriate TCM nursing techniques? (6) What measures has your department undertaken to enhance the clinical application of TCM nursing technology? Additionally, please share your recommendations for promoting the clinical implementation of appropriate TCM techniques. (7) In your opinion, how important is it to establish TCM nursing routines for specialized diseases in general hospitals? Please provide your suggestions for developing a TCM nursing routine.

2.2.2. Data Collection

The researchers, each holding a master's degree in nursing and possessing a foundation in qualitative research methods, underwent unified training prior to conducting interviews. They contacted the interviewees one week in advance to schedule appointments, thereby establishing and maintaining communication before the study commenced. At the start of the formal interview, the purpose of the research was reiterated, and the session was recorded using a voice recorder, with a commitment to uphold confidentiality. The interview took place in a relatively quiet conference room within the department to minimize interruptions. Additionally, non-verbal cues, including facial expressions, body language, tone, and attitude of the interviewees, were meticulously documented.

2.2.3. Data Organization and Analysis

The interviews were recorded using a voice recorder, with each session lasting approximately one hour. No interviews were repeated. Following the interviews, the researcher adhered to the principle of verbatim transcription, independently converting the recorded data into transcripts within 24 hours. These transcripts were then backed up and summarized, and returned to the interviewees for confirmation of content or correction of any errors. Nvivo 11 was utilized for coding and analyzing the results, allowing for the derivation of all major and minor themes from the collected data. The reporting was conducted in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ).

2.2.4. Data Quality Control

Researchers received unified training from the research team and informed interviewees about the purpose and topic of the interviews. Interviews were conducted systematically, adhering to a predetermined outline to prevent deviation from the topic. It was essential to maintain a quiet interview environment. During the interviews, notes were taken and recorded. Following each interview, the recorded materials were transcribed verbatim, ensuring that no content was artificially omitted. Colaizzi's seven-step analysis method was employed to analyze the interview text data, and the results of this analysis were shared with the interviewees to confirm that their perspectives were accurately and comprehensively represented. The coding process involved independent coding and cross-checking by multiple researchers; any discrepancies in coding results were discussed within the group until a consensus was reached. The description and interpretation of the research findings were grounded in data support.

3. Results

The results of this interview have distilled into three main themes and ten sub-themes

3.1. *Determinants of TCM Appropriate Technology Promotion in Northwest Regional Hospitals*

3.1.1. Development of a Scientific and Systematic Curriculum and Evaluation Indicator System for TCM Nursing Specialty Training

Most interviewees believe that it is essential to conduct training courses on appropriate nursing techniques related to traditional Chinese medicine, along with implementing a systematic and comprehensive assessment and evaluation system. N3 states, "If the hospital intends to provide training, we could offer specialized instruction. For instance, what specific skills need to be developed in the nephrology department at this time?" N2 adds, "Currently, only two individuals in our department are part of the hospital's traditional Chinese medicine nursing team. If our hospital conducts its own training, it would facilitate our learning process." H2 remarks, "Many nurses in the hospital's traditional Chinese medicine department do not come from universities specializing in traditional Chinese medicine or related fields. Therefore, I believe that more training opportunities should be

offered in this area, allowing those eager to learn to do so." H3 emphasizes, "It is preferable to establish a relatively standardized evaluation system, enabling departments to quantify performance indicators." H4 elaborates, "The initial plan is to categorize participants into three tiers. The first tier consists of individuals who have prior massage experience and have mastered the theoretical aspects of traditional Chinese medicine, like us. These individuals will form the first tier after passing the assessment, allowing them to practice clinically. They will then summarize their techniques and experiences from individual cases and serve as mentors to guide the second tier. It would be beneficial if this model and method could be further refined".

3.1.2. Leadership Support and Motivation Mechanism

Most interviewees believe that support and encouragement from management play a crucial role in fostering the development and promotion of appropriate Traditional Chinese Medicine (TCM) technologies. N6 stated, "First of all, the hospital management should prioritize this issue, enabling medical staff to focus on it and encouraging collective action. If the department director also provides support, doctors are likely to cooperate more effectively." N7 added, "I believe we need active promotion and backing of hospital policies. With the support of the entire hospital, we may see innovation and motivation in the appropriate technology for Traditional Chinese Medicine, whether in terms of materials or other aspects." N8 remarked, "In fact, I think we should recognize outstanding departments, doctors, and nurses by establishing role models. For instance, if the top ten doctors and nurses in the hospital are ranked among the leading practitioners of appropriate TCM techniques, we should offer them certain rewards." D1 emphasized, "We still need to consider implementing a reward and punishment mechanism to acknowledge the value of everyone's contributions".

3.1.3. Promotion Strategies for TCM Appropriate Technology

Most interviewees indicated that the promotion and application of appropriate traditional Chinese medicine techniques can be effectively enhanced through the production of multimedia popular science videos and relevant brochures. N5 commented, "In terms of publicity, nurses often need to engage in lengthy discussions with patients to provide education. It would be more effective to create promotional videos that can be played on a loop in elevators or wards." H1 inquired, "Could you create a similar short video about the appropriate techniques of traditional Chinese medicine? Currently, there are not many such animations available." N3 shared, "Our department utilized after-hours time to invite several family members and patients for collaborative teaching sessions multiple times, and the results were quite positive".

3.2. Barriers to the Implementation of TCM-Appropriate Technology in Tertiary General Hospitals

3.2.1. Suboptimal TCM Program Awareness Among Healthcare Providers and Patients

Due to a lack of knowledge regarding Traditional Chinese Medicine (TCM) diagnosis, treatment, and care, most medical staff lack the confidence to implement these practices, resulting in poor patient acceptance. H3: "If a patient objects and the doctor does not possess strong evidence to support their medical advice, the patient may perceive the attending physician as lacking seriousness. In the absence of relevant knowledge or evidence, disputes may arise at this juncture." N5: "I believe that TCM techniques are still not highly recognized by our surgeons. If doctors do not acknowledge TCM, they are unlikely to proactively offer medical advice." D3: "Currently, I regard Chinese medicine as supplementary, and I do not fully understand many of its theories and practices." N5: "In reality, there is a general lack of understanding of Chinese medicine among practitioners, leading to inadequate skills and knowledge, which hinders effective patient consultations and outreach efforts".

3.2.2. Healthcare Expenditure and Medical Insurance Coverage

Most interviewees believe that the costs associated with diagnosis, treatment, and medical insurance are closely linked to the promotion and application of appropriate Traditional Chinese Medicine (TCM) technologies. Consequently, some medical staff argue that rationally managing the costs of diagnosis and treatment for appropriate TCM technologies, along with enhancing medical insurance policy support for these technologies, is crucial for fostering their widespread application and development. N4: "For instance, when addressing patients' hospitalization expenses and reimbursement issues, the treatment and care provided by departments typically adhere to fixed charging standards. However, when a patient's bill unexpectedly includes charges for Chinese medicine treatment and care, they often inquire about it." N5: "The primary obstacle is cost. Some patients prefer to forgo certain treatments and care to allocate their expenses towards life-saving measures, expressing uncertainty about costs and the lack of reimbursement from medical insurance." N8: "Patients perceive this as double charging, leading to confusion and dissatisfaction." N6: "There is a regulation in medical insurance that limits a patient to no more than eight rehabilitation skills, which cannot be claimed for reimbursement".

3.2.3. Environmental and Patient Factors Affecting TCM-Appropriate Technology Implementation

External factors, such as the departmental environment, alongside internal factors like limited patient treatment time, have led some nursing staff to express difficulties in executing their operations. N5 stated, "First of all, it is subject to the conditions of the department. The ventilation system in the old building is indeed inadequate." N7 remarked, "Previously, we had a teacher who complained that the newly constructed building lacked the smoky odor. Once it is operational, if there is smoke from moxibustion, it will immediately prompt a call to the police." N6 noted, "The treatment during the day is very intensive. Patients require not only hyperbaric oxygen but also various physical therapies, and some must go out for examinations. The actual treatment duration lasts only ten to twelve hours during the day. Consequently, the time available for traditional Chinese medicine nursing operations is limited, which may hinder the achievement of lasting effects".

3.2.4. Standardized TCM Diagnostic and Consultation Protocols

Some interviewees believe that the processes of diagnosis, treatment, and consultation in Traditional Chinese Medicine (TCM) should be standardized, as this could significantly enhance the quality and efficiency of medical services. However, several issues persist in the actual clinical practice, which may undermine the effectiveness of TCM diagnosis and treatment as well as the overall patient experience. D3 commented, "Currently, some doctors have reported that when they encounter a Chinese medicine department, they do not engage in consultation. Instead, they operate directly within the system, and some merely fill out the consultation form. Although I am not well-versed in traditional Chinese medicine, I understand that seeing a doctor involves more than just looking, smelling, asking, and conducting examinations..." N8 noted, "I learned that there are very few consulting doctors in their Department of Traditional Chinese Medicine. They only complete certain tasks within their department during the day and hastily check on patients in other departments. I feel that they do not possess a comprehensive understanding of the conditions of patients in our department, which affects my trust in this process." D1 remarked, "Many patients have expressed that the doctor did not even examine me. Traditional Chinese medicine typically involves looking, smelling, asking, and analyzing, yet I was simply given a diagnosis without any of this. I do not trust this diagnosis".

3.3. Promotion Strategies for TCM-Appropriate Technology in Tertiary General Hospitals

3.3.1. TCM Technology Procedure Manual Formulation

Most nursing managers indicated that developing appropriate TCM technical operations would not only standardize nurses' TCM nursing practices but also enhance clinical efficacy and patient acceptance. One manager stated, "I believe there should be a comprehensive guide on TCM nursing routines distributed to each department. This guide would offer insights into various suitable TCM techniques, such as auricular acupoint taping, along with their functions, indications, contraindications, and detailed operating procedures." Another manager emphasized, "Every department should receive a manual on routine Chinese medicine nursing operations, which should include detailed procedures for various appropriate techniques, such as auricular acupoint taping, along with their functions, indications, and contraindications. This would help nurses who are currently unfamiliar with acupoint selection. With a clear plan in place, acupoint selection will become much more straightforward and operationally convenient in the future".

3.3.2. Establishment of a TCM Learning and Exchange Platform for Educational Discussion

Most medical staff indicated that regular internal organized learning not only enhances their understanding of appropriate Traditional Chinese Medicine (TCM) techniques but also fosters communication between medical staff and patients. N7 stated, "Actually, we have training and study sessions every month. On one occasion, our department was specifically asked to prepare a PowerPoint presentation and report to the instructors of the Traditional Chinese Medicine Department. The instructors also provided guidance on specialized diseases and various methods. I believe this communication is very effective". N5 remarked, "When it was first implemented, I took the initiative to educate patients about traditional Chinese medicine care to earn their recognition and understanding. I felt that this could enhance communication between myself and the patients." N6 suggested, "I would like to propose the establishment of a group for learning about Chinese medicine so that everyone can exchange knowledge and discuss issues related to it." N8 added, "We should communicate more with patients and promote scientific understanding, as they are willing to engage with this information".

3.3.3. Enhancing Nurses' Clinical Leadership and Decision-Making

Some nursing managers and front-line nursing staff believe that while clinical work can be hectic, the timely application of nurses' subjective initiative can effectively address patient emergencies. N6 stated, "Our surgery department is quite busy. During the morning shift check-in, a patient suddenly reported experiencing constipation and stomachache, making it too late to issue medical orders. I hope that in the future, Chinese medicine nurses will be granted certain prescribing rights." H4 remarked, "Sometimes uncontrollable situations arise. As a clinical nurse, it is essential to be flexible. As long as you do not cross the red line, it is best to take the initiative to communicate with the patient to resolve the issue." N2 noted, "At the beginning of the implementation phase, nurses proactively educated patients. We primarily listened to their needs and concerns while utilizing our appropriate traditional Chinese medicine skills to care for and assist patients in addressing some of their own issues, such as emotional support. This approach has significantly improved our nurse-patient relationships".

4. discussion

4.1. Establishment of an Integrated TCM Training and Evaluation Framework to Enhance Medical Staff's TCM Comprehension

In this study, most medical staff expressed a lack of understanding and knowledge regarding TCM nursing and appropriate TCM techniques. They perceived the operation

as challenging and noted the absence of systematic learning and training, which resulted in a lack of confidence in implementation. This finding aligns with the perspectives of other scholars [9]. Furthermore, during the interviews, we identified numerous issues within the training and assessment system for appropriate techniques of traditional Chinese medicine, including limited training content and inconsistent assessment criteria [10]. The training primarily emphasizes traditional acupoint application, acupuncture, and moxibustion, among other areas [11-13]. The existing training content lacks systematic structure and depth, which hampers its ability to meet the diverse needs of patients regarding appropriate Traditional Chinese Medicine (TCM) techniques [14]. This challenge can be attributed to individual heterogeneity and the varying diseases that create distinct requirements for suitable TCM practices among patients. Therefore, it is recommended that we enhance the training content by implementing targeted and refined classification training for different departments. Additionally, it is essential to strengthen the comprehensive coverage of appropriate TCM techniques [12,13], including acupuncture, massage, traditional Chinese medicine treatments, and health care practices. This approach will ensure that the training and assessment outcomes for nursing staff across various departments and levels are comparable. From a management perspective, it is essential to establish and enhance standardized training courses and assessment criteria for appropriate technical training in Traditional Chinese Medicine (TCM). This initiative aims to develop professional talents and cultivate elite practitioners, thereby improving the quality of TCM nursing technology and services within hospitals [11]. By implementing systematic training and assessment of relevant technical theories and methodologies in TCM, we can train a larger number of medical staff equipped with both professional theoretical knowledge and practical skills in traditional Chinese medicine. This approach will not only facilitate the provision of better and more comprehensive medical services to patients but also promote the inheritance and development of TCM, contributing to the establishment of a medical and health system characterized by Chinese principles.

4.2. Motivate Staff in TCM Learning

In interviews regarding the promotion and application of appropriate technologies in traditional Chinese medicine, we found that most medical staff reported facing complex clinical tasks and challenges in patient management, with no fixed training time. Consequently, mastering the theories of traditional Chinese medicine extensively and deeply is difficult when relying solely on personal interest and awareness, without a structured approach to combine theory with clinical practice. Additionally, many front-line clinical staff suggest that establishing appropriate and reasonable incentive policies can enhance their enthusiasm and focus in clinical promotion. They advocate for evaluating and rewarding medical personnel who excel in promoting appropriate TCM technologies [15], providing them with continuous and stable motivation for learning and promoting these practices [16]. This approach not only fosters the preservation and advancement of traditional Chinese medicine culture but also helps create an in-hospital environment that supports appropriate Chinese medicine technology and care. Furthermore, encouraging collaboration and exchange among medical staff can cultivate a positive atmosphere for learning and promoting the appropriate techniques of traditional Chinese medicine [17,18]. Simultaneously, patients can be encouraged to assess the performance of medical staff in the application of appropriate technologies within traditional Chinese medicine. For instance, utilizing the WeChat public account as a promotional platform allows for the recognition and reporting of medical personnel and nursing teams who excel in the promotion of these technologies. Patients can leave messages, and the platform serves as a feedback mechanism for evaluations. This approach fosters a virtuous cycle. By implementing diverse incentive methods alongside clear, specific strategies and improvement measures, we can significantly enhance the intrinsic motivation and enthusiasm for learning among

medical staff, thereby providing a robust foundation for the inheritance and development of appropriate traditional Chinese medicine technologies [19].

4.3. *Enhancing TCM Technology Dissemination through Technological Integration*

The promotion and application of appropriate Traditional Chinese Medicine (TCM) technologies necessitate broader exchanges and collaborations. Most interviewees in this study indicated that platforms such as WeChat health public accounts, popular science groups, online discussions, remote consultations, and case sharing not only assist medical staff in promptly addressing patient emergencies and enhancing clinical diagnosis and treatment but also facilitate the timely acquisition of the latest trends in appropriate TCM technologies. These platforms enable the expansion of new TCM nursing services and enhance the economic benefits associated with TCM nursing. Intelligent platforms, exemplified by "Internet + Nursing," establish convenient communication channels between medical staff and patients, leveraging modern scientific and technological advancements to enhance the promotion and exchange of TCM nursing practices. Furthermore, they foster experience sharing and collaboration across different regions and institutions, thereby advancing the popularization and standardization of appropriate techniques in traditional Chinese medicine [20,21].

However, some studies have indicated that patients with chronic diseases who utilize appropriate traditional Chinese medicine technologies at home report that the current 'Internet + nursing service' mechanism is not yet fully developed [22]. To fully leverage the role of intelligent platforms in the learning and communication of appropriate technologies for traditional Chinese medicine (TCM), it is essential to first screen high-quality new media resources to ensure the accuracy and authority of the recommended content. Secondly, medical professionals should be encouraged to actively engage in interaction and communication on the platform to foster a positive communication atmosphere. Additionally, it is crucial to strengthen the management and maintenance of intelligent platforms to safeguard user information security and privacy. Finally, by utilizing the advantages of new media, enhancing communication and collaboration, and implementing effective strategies to address challenges, the application and development of appropriate TCM technologies can be promoted across a broader geographical area.

5. Summary

In summary, there are currently both opportunities and challenges associated with the promotion and application of appropriate traditional Chinese medicine (TCM) technologies in large comprehensive tertiary hospitals. Fully understanding and overcoming these obstacles is essential to enhancing the role of appropriate TCM technology in clinical care and providing patients with improved and more comprehensive medical services. This study involved in-depth interviews with three doctors, five nursing managers, and nine front-line clinical nurses to gain a thorough understanding and analysis of the current barriers and facilitating factors affecting the clinical application of TCM technology, as well as to standardize clinical implementation. The findings indicate that Western medicine practitioners exhibit limited enthusiasm for promoting traditional Chinese medicine and face various challenges during the promotion process. It is recommended that relevant hospital departments focus on enhancing healthcare professionals' awareness of TCM and establish robust policy incentive mechanisms, training course systems, and assessment criteria. Furthermore, this study exclusively interviewed medical staff and did not explore perspectives from patients. Future research should consider the real experiences of patients participating in appropriate TCM technology, thereby providing a scientific basis for its promotion and application.

Funding: Key Research and Development Plan of Shaanxi Province (General Project Social Development Field) (2022SF-275); Project of Shaanxi Provincial Administration of Traditional Chinese

Medicine (2021-ZZ-ZC003); Project of Zhejiang Provincial Administration of Traditional Chinese Medicine (2021ZQ064).

Acknowledgments: Man Zhang: As the first author, Man Zhang was responsible for the design of the study, data collection, data analysis, and the initial draft of the manuscript. He also participated in the literature review and discussion of the results. Ting Li: Contributed to data collection and analysis, and provided feedback and revisions for the manuscript. Runa Miao: Assisted with the literature review and was involved in the organization and analysis of the data, providing foundational support for the research. Xueyan Huang: Responsible for sample preparation and implementation during the research process. Yuting Su: Participated in data interpretation. Xiaomei Liu: As the corresponding author, Xiaomei Liu guided the overall direction of the research, contributed to the study design and methodology, and conducted a comprehensive review and revision of the final manuscript.

Conflicts of Interest: All authors contributed to the study conception and design. Material preparation, data collection, and analysis were performed by Man Zhang, Ting Li, Runa Miao, Xueyan Huang, Yuting Su, and Xiaomei Liu. The first draft of the manuscript was written by Man Zhang, and all authors provided comments on previous versions of the manuscript. All authors read and approved the final manuscript.

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