Research in Health Science
ISSN 2470-6205 (Print) ISSN 2470-6213 (Online)
Vol. 11, No. 1, 2026
www.scholink.org/ojs/index.php/rhs

Original Paper

Research on the Clinical Inheritance Practice and Optimization Path of Mongolian Medicine Inheritance Model from the Perspective of Ternary Interaction

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Received: January 28, 2026 Accepted: February 27, 2026 Online Published: March 27, 2026

doi:10.22158/rhs.v11n1p100 URL: http://dx.doi.org/10.22158/rhs.v11n1p100

Abstract

The purpose is to analyze the current practice status, interaction mechanism and optimization path of the "family inheritance - apprenticeship - school" trinity education model in the clinical inheritance of Mongolian medicine in Xing 'an League, and to provide empirical evidence for solving the talent gap of Mongolian medicine and the predicament of traditional skills inheritance. The method is to use multimodal field investigation. A 12-month participatory observation, in-depth interviews and case tracking of local Mongolian medical institutions, families and clinics were carried out to systematically collect data on knowledge transfer, skill acquisition and institutional fit. The results showed that the tripartite model was parallel but lacked integration: The advantages of master-apprentice transmission are obvious but the recognition of professional titles is not high. The theoretical system of colleges is complete but the proportion of clinical training is low. The family transmission retains traditional skills but the innovative consciousness of young inheritors is relatively weak. The conflicts between the models affect the effectiveness of transmission. The conclusion proposes to build a dual-track system with clinical ability as the core, the integration of the three elements as the path, and institutional adaptation as the guarantee. By means of mutual recognition of mechanisms, module embedding and other measures, the quality of Mongolian medicine inheritance will be improved to help build a healthy China.

Keywords

Mongolian medicine inheritance, Ternary interaction mode, Clinical succession, Field investigation, Xing 'an League

1. Introduction

Mongolian medicine is a key branch of traditional Chinese medicine, based on the theory of "three roots and seven elements" and "six basic syndromes", and its unique techniques such as bone setting and acupuncture have shown quite good therapeutic effects[1] in many fields such as trauma repair. Xing 'an League is the key birthplace of Mongolian medicine. Since the establishment of the Lama Medical School in 1947, a parallel inheritance pattern[2] of "family transmission - master transmission - school" has been gradually formed. However, in the course of modernization, the inheritance of Mongolian medicine has encountered a series of problems[3] such as the difficulty in effectively passing on tacit knowledge, the disconnection between school education and clinical practice, and the emphasis on research rather than clinical practice in the title policy, which have raised the risk of talent gap and skill loss. This study selected Xing 'an League as the field investigation area. By using multimodal empirical research to analyze the interaction mechanism of the tripartite model and explore the path of inheritance optimization centered on clinical ability to help Mongolian medicine achieve creative transformation and innovative development.

2. Research Subjects and Methods

2.1 Research Subjects

Using purple-sampling, four types of core inheritance carriers in Xing 'an League region were selected as research subjects: The first is the clinical institution, namely Xing 'an League Mongolian Medicine Hospital, which focuses on the orthopedic department, preventive medicine department and Mongolian medicine preparation department. The second is the educational institution, namely Xing 'an League Mongolian Medicine Vocational School for the Disabled. The third is the inheritance group, including three Mongolian medicine families that have been passed down continuously for more than three generations. These Mongolian medicine families are involved in the three characteristic fields of bone setting, Mongolian medicine processing and acupuncture, as well as 15 autonomous regional or league Mongolian medicine inheritors, 10 of whom were trained through the apprenticeship system and 5 graduated from the school, and the fourth is the grassroots service points, which are 8 township Mongolian medicine clinics distributed in the four banners and counties of Xing 'an League. The basic information of the research subjects is presented in Table 1.

Table 1. Basic Composition of the Research Subjects

Study carrier type	Quantity	Core observations/interview content
Mongolian Hospital	1	The current situation of clinical teaching under the apprenticeship system, the implementation of diagnosis and treatment norms, and professional title evaluation
Mongolian Medical Vocational School	1	Curriculum design, clinical training arrangement, student employment clinical fit
Family of Mongolian Medicine	3	Inheritance of family skills (prescriptions, techniques) and innovation in clinical application
Inheritors at all levels	15	Medical experience, choice of clinical succession model, career development dilemma
Primary Mongolian medicine clinics	8	Clinical service capabilities and the implementation effect of the inheritance model

2.2 Research Methods

This study employed a multimodal field investigation method that combined qualitative and quantitative approaches to systematically collect data on the inheritance of Mongolian medicine in clinical practice, conducted 360-hour master-apprentice follow-up participatory observation activities, and 48 hours of clinical training observation in colleges and universities, and recorded the characteristic skills operations of Mongolian medicine families and clinics. To capture the details of knowledge transfer and tacit skill acquisition, 15 inheritors, 12 school teachers, 8 hospital administrators and 20 practitioners were interviewed using semi-structured Outlines, with each interviewee having a single case interview duration of 40 to 90 minutes, and ultimately transcribed into 128,000 words of text materials. The focus was on the strengths and weaknesses of inheritance, the need for interaction in the ternary model, and more. In addition, three types of typical cases were selected to track the diagnosis and treatment effects and inheritance paths, extracting key influencing factors, encoding qualitative data using Nvivo12 software, and integrating core categories and related dimensions such as explicit knowledge transmission and institutional adaptability.

2.3 Research Ethics

The study was approved by the Ethics Committee of Xing 'an League Mongolian Medicine Hospital, with the ethics number XMYY-20250903. All participants signed informed consent forms, and the interview data were anonymized to strictly protect the privacy of inheritors and core intellectual property rights such as secret recipes and proven prescriptions.

3. Research Results

3.1 Clinical Practice Status of the Three-way Inheritance Model of Mongolian Medicine in Xing 'an League

The "family inheritance - apprenticeship - school" three-way inheritance model of Xing 'an League Mongolian Medicine has its own characteristics and limitations. The apprenticeship system is the core of clinical teaching. 73.3% of the inheritors take it as the core path and efficiently pass on implicit skills such as the sense of touch in orthopedic setting through "demonstration - imitation - error correction" scenario-based follow-up. A certain orthopedic inheritor, after three years of apprenticeship training, achieved a cure rate of 92.5% for closed fractures, which is better than that of college graduates. However, the model has significant shortcomings. Only 17.2% of the apprentices can obtain intermediate or higher professional titles, 66.7% face promotion difficulties due to insufficient research, and some private apprenticeship operations lack standardization. The school education is centered around local Mongolian medicine vocational schools, with 71.5% theoretical courses and only 28.5% clinical training. The clinical adaptation period for graduates is 1.8 years. 65% report that the theory is difficult to apply and 40% are not proficient in practical operation, but it has obvious advantages in explicit knowledge norms and is recognized by 80% of hospital administrators. The family tradition model adheres to the characteristic skills. Three families retain unique therapies with considerable efficacy, but it is highly closed. 75% of the skills are passed down only to immediate family members, 41.7% of the skills lack efficacy evaluation data, and young inheritors have a weak sense of identity, all facing the predicament of a lack of successors.

3.2 The Interaction and Conflict of the Triplet Model and Its Impact on Clinical Inheritance

There are multiple conflicts in the application of the "family transmission - apprenticeship - school" triplet inheritance model of Mongolian medicine in Xing 'an League, and the clinical inheritance of tacit knowledge of Mongolian medicine is seriously hindered. At the level of knowledge transmission, school education focuses on the systematic teaching of explicit knowledge such as classic literature and diagnosis and treatment norms, but neglects the transmission of implicit skills such as clinical intuition and secret prescriptions. The master-family model, which focuses on the inheritance of implicit skills but lacks a systematic review of explicit knowledge, directly leads to a polarization among Mongolian medical talents that emphasizes practice over theory or theory over practice, which is detrimental to the standardization and innovative development of clinical diagnosis and treatment. In terms of the evaluation system, the current professional title evaluation focuses on research papers and educational background, which contradicts the inheritance characteristics of Mongolian medicine centered on clinical ability. 86.7% of the inheritors believe that this standard is not conducive to the growth of clinical talents. An inheritor who sees more than 2,000 cases a year and has a patient satisfaction rate of over 95% still holds a junior title after 10 years of work due to the lack of educational qualifications and research achievements, which seriously dampened the enthusiasm for inheritance. In terms of resource allocation, colleges lack stable clinical training bases, and 45.0% of the training courses are "observation-based"

teaching, with insufficient hands-on opportunities for students; The proportion of high-quality Mongolian doctors from clinical institutions participating in college teaching is only 30.0%, and clinical resources are difficult to be converted into educational resources, which restricts the quality of talent cultivation. In addition, there are many obstacles to the transmission of tacit knowledge of Mongolian medicine. 60.0% of the inheritors say they rely on "oral instruction", which is difficult to quantify. Young people prefer modern medical standardized diagnosis and treatment and have a low willingness to learn. Some rare Mongolian medicine processing techniques are on the verge of being lost due to the scarcity of raw materials and the complexity of operations. Each of the three Mongolian medicine families has 2-3 characteristic techniques, but only one inheritor has mastered them.

4. Discussion

4.1 Core Logic for Optimizing the Ternary Interaction Model: Clinical Ability-oriented Integration and Symbiosis

The essence of the inheritance of Mongolian medicine is the transmission of clinical diagnosis and treatment capabilities from generation to generation. Its core value lies in solving practical clinical problems through the combination of traditional skills and theories. If the Xing 'an League Trinity inheritance model is to be optimized, it is necessary to break down the barriers of "each fighting on its own" and build an integration mechanism centered on clinical capabilities. The advantage of the apprenticeship system lies in the transmission of clinical implicit skills. It can serve as a supplementary module to the education system of colleges. The advantage of institutional education is that it can teach explicit knowledge in a systematic way and provide theoretical support for the apprenticeship system and the family tradition model. The characteristic skills of the family tradition model are key resources for clinical innovation, and sustainable inheritance needs to be achieved through the protection of intangible cultural heritage and clinical transformation. These three interact and integrate. Essentially, explicit knowledge and tacit knowledge complement each other, and educational resources and clinical resources are integrated, ultimately achieving the goal of cultivating Mongolian medicine clinical talents with "solid theory, exquisite skills, and standardized innovation".

4.2 An Optimized Path for Clinical Inheritance through the Integration of the Three Elements

There are some existing problems in the ternary inheritance model of Mongolian medicine in Xing 'an League. Optimization should be promoted from three aspects: evaluation system, training path, and tacit knowledge inheritance. In terms of the evaluation system, a three-dimensional quantitative system including "apprenticeship experience - clinical ability - scientific research contribution" should be constructed, and the number of patients received, cure rate, and patient satisfaction should be included as core indicators. Set standards of no less than 1,800 hours for junior apprentices and no less than 2,500 hours for intermediate apprentices, incorporate case analysis and operational assessment, achieve equal recognition of apprenticeship experience with school credits and professional title evaluation, and allow those with outstanding clinical efficacy to participate in the evaluation exceptionally to solve the

institutional recognition predicament of clinical talents. In terms of training pathways, a dual-track system is designed: The school education is embedded in the apprenticeship module, making apprenticeship visits a compulsory course. Training bases are jointly built with Mongolian medical institutions to ensure that clinical training accounts for no less than 40% of the total class hours. Renowned Mongolian doctors are invited to conduct integrated teaching of "clinical teaching + theoretical instruction". The apprenticeship education supplements courses on basic Mongolian medical theory and modern diagnosis and treatment norms. Family education expands the scope of inheritance by establishing skill databases, conducting efficacy evaluation research to promote the standardization of characteristic skills, and encouraging family inheritors to participate in teaching and clinical exchanges in institutions. In terms of the inheritance and transformation of tacit knowledge, build a digital platform of "clinical cases + skill demonstrations + video recordings" to visually preserve skills such as bone-setting techniques and Mongolian medicine processing, promote the "master-apprentice + case study" model to help young students understand the logic of tacit knowledge application through "case-based skills", and strengthen clinical transformation research, Use modern pharmacological analysis to clarify the mechanism of action of empirical prescriptions and provide scientific basis for the standardized promotion of tacit knowledge.

4.3 Policy Safeguards: Promote the Organic Connection between Clinical Inheritance and Institutional System

The optimization of the Mongolian medicine inheritance model cannot be achieved without policy support: First, we need to improve the policy for the evaluation of Mongolian medicine titles, establish a special review channel for the "clinical inheritance series", appropriately lower the requirements for research papers, and focus on assessing clinical ability and inheritance contribution. Second, we need to increase financial input for the clinical inheritance of Mongolian medicine, support colleges and clinical institutions to jointly build training bases and famous Mongolian medicine studios, and provide clinical teaching subsidies for inheritors. Third, strengthen the connection between the protection of intangible cultural heritage of Mongolian medicine and its clinical application, incorporate characteristic diagnosis and treatment skills into the directory of primary medical services, promote clinical application through medical insurance reimbursement policies, and form a virtuous cycle[8] of "protection - inheritance - application".

4.4 Research Limitations and Prospects

This study mainly focused on the actual situation of the inheritance of Mongolian medicine in Xing 'an League and collected relatively rich empirical data through multimodal field investigation. However, the sample selection was limited to a specific area only, and the general applicability of the conclusions needed to be verified by further expanding the research scope. In addition, the quantitative assessment of tacit knowledge is still a difficult problem at present. In the future, technologies such as big data and artificial intelligence can be combined to explore digital evaluation methods for clinical tacit skills of Mongolian medicine. Looking ahead, the inheritance of Mongolian medicine should always be closely

centered around clinical needs, through the deep integration of the trinity model and institutional innovation, to cultivate more clinical Mongolian medicine talents who can truly serve the grassroots, be stably rooted in the grassroots, and play an effective role, so that Mongolian medicine can play a greater role in the fields of primary care, chronic disease prevention and treatment, health preservation, etc. To provide strong support for Healthy China and the rural revitalization strategy.

5. Conclusions

The "family inheritance - apprenticeship - school" tripartite inheritance model adopted by the clinical inheritance of Mongolian medicine in Xing 'an League has its own advantages for each inheritance method. However, there are deficiencies in their integration. Specifically, there is a disconnection in knowledge transmission, misalignment in the evaluation system, and an imbalance in resource allocation. These problems have led to a shortage of clinical talents and a predicament in the inheritance of implicit skills. In response to these problems, if a three-dimensional evaluation system centered on clinical ability is constructed, a "dual-track" talent cultivation path is designed, and the inheritance and transformation of tacit knowledge in clinical practice are strengthened, an organic integration of the three models can be achieved, and the core contradictions faced by the inheritance of Mongolian medicine in clinical practice can be resolved. This research result provides empirical evidence and practical solutions for the construction of the inheritance system of Mongolian medicine. It helps to promote the development of clinical inheritance of Mongolian medicine towards standardization and innovation, and can fully demonstrate the unique value of Mongolian medicine in clinical medical care.

Acknowledgements

Project supported by Inner Mongolia Natural Science Foundation (2025QN08115); Project of the Research Center for Ethnic Cultural Development of the Key Research Institute of Humanities and Social Sciences in Higher Education Institutions of Inner Mongolia Autonomous Region (MZWH2503)

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