

Analysis and Reform Considerations on the Current Situation of Integrated Standardized Training for Master's Students in Traditional Chinese Medicine from the Perspective of Medical-Education Collaboration

Chunzhi Su, Meng Li

Hebei Traditional Chinese Medicine Hospital, Shijiazhuang 050000, Hebei, China

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Abstract: With societal development, the issue of national aging has become increasingly prominent. To expedite the cultivation of a group of high-level professionals in traditional Chinese medicine (TCM), the state issued the *Opinions on Deepening the Reform of Clinical Medicine Talent Cultivation through Medical-Education Collaboration* in 2014, mandating the integration of TCM master's student training with standardized residency training. This policy aims to shorten the physician training cycle and enhance the efficiency of medical education resource utilization. However, after more than a decade of implementation, issues have emerged that cannot be overlooked, ranging from individual student psychology to societal aspects. On the student front, under the heavy academic pressure, TCM master's students have an increased likelihood of experiencing mental health issues. In terms of management, due to the integrated standardized training, students are educated by both universities and hospitals, leading to potential conflicts and mutual shirking of responsibilities regarding course scheduling and department rotations. At the societal level, while the integrated standardized training holds long-term value in alleviating doctor-patient conflicts, it has inadvertently become an indirect catalyst for such conflicts due to current issues such as unclear roles and responsibilities of TCM master's students, excessive training burdens, and inadequate teaching and support.

Keywords: Integrated standardized training; TCM master's program; Standardized residency training; Medical education

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1. Introduction

China's "Standardized Residency Training" originated from the *Notice on Implementing the Trial Measures for Standardized Training of Clinical Residents* issued by the former Ministry of Health in 1993. It refers to the systematic and standardized training that medical graduates from undergraduate and higher-level programs at institutions of higher learning receive after completing five years of medical school education, assuming the role

of residents. This training represents a crucial component of postgraduate medical education in China. Drawing on advanced experiences from European and American countries, China has made localized improvements and innovations to its residency training system, taking into account its own actual conditions and healthcare needs during the process of introducing the system. In terms of its development trajectory, the evolution of residency training in China can be broadly divided into four stages: the embryonic stage (1921–1978), the exploratory stage (1979–1992), the formation stage (1993–2002), and the promotion and refinement stage (2003–present). In 2014, the “Administrative Measures for Standardized Residency Training (Trial)” was introduced, marking China’s formal entry into a new phase of comprehensive implementation of standardized residency training^[1]. In November 2014, six departments, including the Ministry of Education, issued the *Opinions on Deepening the Reform of Clinical Medicine Talent Cultivation through Medical-Education Collaboration*, clarifying that starting from 2015, newly enrolled graduate students pursuing a master’s degree in traditional Chinese medicine (TCM) must undergo clinical training in accordance with national unified residency training requirements. The aim is to standardize clinical practice criteria, enhance the efficiency of medical resource utilization, cultivate high-quality clinical physicians, and optimize the medical talent cultivation system.

However, due to significant differences in cultural connotations and treatment modalities between TCM and Western medicine, graduate students pursuing a master’s degree in TCM encounter issues such as uneven teaching quality, limited time for apprenticeship learning, and inadequate mastery of professional knowledge during their integrated standardized residency training^[2]. With the rapid development of society, contradictions in the cultivation of TCM master’s students have become increasingly prominent, necessitating attention and contemplation from professionals and society at large.

2. Horizontal and vertical comparisons of TCM talent cultivation

2.1. Historical development of TCM teaching methods

TCM is a cultural treasure of the Chinese nation. Throughout its development, based on its unique inheritance patterns and social context, four educational models have emerged: apprenticeship (including family transmission), school-based, lecture-based, and self-study models. The apprenticeship model was the fundamental form of medical knowledge transmission among the populace in ancient China. Throughout medical history, this method of master-apprentice transmission remained highly active across generations, nurturing numerous renowned medical practitioners. School-based medical education represented the primary form of officially sponsored medical education in ancient China, with the Imperial Medical Academy in the Sui Dynasty being the earliest documented medical educational institution in Chinese history and one of the earliest large-scale, officially sponsored medical educational institutions recorded in world civilization. Originating in the Northern Song Dynasty and flourishing during the Ming and Qing dynasties, academies were not only teaching institutions but also significant centers for academic research, characterized by a close integration of teaching and scholarly inquiry, representing the lecture-based model. Given that TCM theories can be acquired through observation and introspection of oneself and the natural environment, and that diagnosis and treatment can be conducted through the four diagnostic methods of inspection, auscultation and olfaction, inquiry, and palpation without the aid of medical instruments, these characteristics of TCM provide the possibility for self-study to lead to medical proficiency. Throughout Chinese history, there have been numerous self-taught medical practitioners, such as Wang Kentang and Li Zhongzi in the Ming Dynasty, and Xu Dachun in the Qing Dynasty. However, self-taught medical luminaries in ancient times often sought further instruction from masters after

establishing a foundation through self-study^[3].

In modern times, Western medicine rapidly spread and localized in China, supported by government policies, experiencing robust development. In contrast, TCM encountered unprecedented marginalization and suppression during this period, beginning to be pushed to the periphery. Following the “Omission of TCM from Official Recognition,” the TCM community embarked on a journey to secure legitimate rights for TCM school-based education, initiating the institutionalization process of modern TCM^[4]. However, due to the challenges of the era, despite the dedicated efforts of generations of pioneers in TCM education, the development of TCM education in China remained relatively weak at that time.

After the founding of the People’s Republic of China, the Party and government attached great importance to TCM culture. To protect the cultural heritage of TCM and cultivate TCM talents, they explored and established the TCM education system, which can be divided into four historical phases: the foundational period (1949–1966), the stagnation period (1966–1976), the recovery period (1977–1984), and the improvement period (1985–present). By 1995, China had established a comprehensive TCM talent cultivation system encompassing five levels: doctoral (including postdoctoral), master’s, undergraduate, junior college, and technical secondary school, with a basically sound hierarchical structure for the national TCM education system^[5]. Since then, school-based education has become the mainstream method for cultivating TCM talents in China, with the apprenticeship model accounting for a relatively small proportion.

2.2. Horizontal comparison of TCM talent cultivation: A case study of Japan and the United States

With the ongoing social development in China, the aging population continues to deepen, and the prevalence of chronic diseases rises, creating an increasingly urgent demand for high-quality, application-oriented physicians at the grassroots and clinical frontlines. To meet the practical needs of implementing the Healthy China strategy and promoting high-quality development in the healthcare sector, in 2014 and 2015, the state successively issued two important policies: the *Opinions on Deepening the Reform of Clinical Medicine Talent Cultivation through Medical-Education Collaboration* and the *Guiding Training Program for Master’s Degree Students in Traditional Chinese Medicine*. These policies integrated graduate education for TCM master’s students with standardized residency training, achieving “integrated standardized training.” Compared to the medical talent cultivation methods in Japan and the United States, adopting “integrated standardized training” for graduate students can effectively reduce the talent cultivation cycle and optimize the utilization of medical resources. However, due to the unique cultural aspects of TCM, its compatibility with standardized residency training is relatively lower than that of Western medicine.

In the United States, TCM education and standardized residency training operate as two entirely separate systems. American TCM education primarily focuses on acupuncture and moxibustion education. Taking acupuncture as an example, the vast majority of acupuncture schools in the United States are independent institutions registered by social groups or individuals. Students typically begin their graduate education in acupuncture, traditional Chinese medicine, and herbal medicine after completing their undergraduate or associate’s degrees. Upon graduation, they can obtain licenses to practice or choose to undergo 1–2 years of specialized, in-depth training at designated private institutions according to their personal preferences. Standardized residency training (Residency) in the United States is a form of continuing medical education conducted after four years of undergraduate education and four years of graduate education. Depending on the chosen specialty, training durations range from 3 to 7 years. Owing to substantial financial investment in

the American model, standardized residency training places greater emphasis on clinical thinking and skills, imposing stricter requirements on trainees, including clear attendance and assessment systems, as well as relatively high economic subsidies^[6-8].

In Japan, standardized residency training and Kampo (Japanese herbal medicine) education follow a sequential order. Due to factors such as the lack of standardized resources and a shortage of qualified instructors in Kampo education, Japan does not have Kampo medical schools comparable to TCM universities in China. To become a Kampo specialist, one must start as an undergraduate student in a medical university. According to Japan's new clinical physician training system implemented in 2004, medical students can take the national medical licensing examination after graduating from undergraduate studies. Physicians intending to engage in clinical practice must undergo more than two years of clinical training at designated hospitals after graduation. To be eligible for the Kampo specialist examination, individuals must obtain a medical license and register for at least six years, join the Japan Society for Oriental Medicine and maintain membership for at least three years, complete at least three years of Kampo clinical training at designated institutions, and earn seven credits from continuing education activities in the five years preceding the application for recognition. After obtaining Kampo specialist qualifications, physicians must renew their certification every five years and complete 50 hours of continuing education annually, primarily through hospital internships and participation in various seminars, as well as taking examinations jointly administered by specialized and certified physicians^[9,10].

3. Main issues in modern TCM master's degree education and analysis of underlying causes

3.1. Current issues in TCM master's degree training

3.1.1. Training in traditional Chinese and Western medicine techniques

During their graduate studies, TCM master's degree students are required to undergo 33 months of department rotations, with internal medicine departments such as respiratory and cardiovascular medicine typically allocated 2 months, and most other departments allocated 1 month each. They are also scheduled for half-day outpatient learning sessions with their supervisors each week. Most hospitals with teaching responsibilities are provincial-level tertiary A TCM hospitals or integrated traditional Chinese and Western medicine hospitals, which generally have fewer patients compared to their Western medicine counterparts at the same level. Consequently, students have relatively limited opportunities to engage in critical care and invasive treatment procedures in Western medicine, leading to a reliance on textbooks and models for learning essential Western medical skills. Additionally, the short duration of rotations in individual departments results in inadequate learning of relevant professional knowledge, creating an appearance of being "broad but not deep"^[11]. Furthermore, TCM is considered a repository of tacit knowledge, requiring students to gain understanding and insight through hands-on practice and reflective thinking in actual teaching settings^[12]. However, the half-day per week allocated for outpatient learning in the TCM master's degree training plan is far from sufficient.

3.1.2. Research capabilities and classical knowledge reserves

One of the graduation requirements for TCM master's degree students is to publish at least one research paper, making research a significant challenge for these students. The threshold for accepting review articles has been rising annually. Influenced by the resources of hospitals and universities, TCM master's degree students who need to conduct animal or cell experiments often face challenges in designing research experiments, considering the types of laboratory equipment available, geographical location, and coordination between departments,

leaving them feeling overwhelmed. Between 2024 and 2025, some universities issued notices allowing TCM master's degree students to be exempt from publishing minor papers. However, most universities still require the publication of research papers as a graduation requirement. The one-size-fits-all requirement for research has, to some extent, fostered an atmosphere of academic misconduct and research fraud. The reserves of classical knowledge among TCM students have also attracted national attention. To strengthen the TCM theoretical foundation and classical thinking of TCM professional degree students, since 2024, a policy has been formally implemented nationwide that links the TCM Classics Proficiency Level Examination with the completion of integrated standardized residency training for TCM master's degree students. This policy requires students admitted to training programs from the 2024 cohort onwards to pass the TCM Classics Proficiency Level Examination (Level III) to be considered qualified in the classical theory module of their residency training completion assessment. The parallel implementation of multiple assessment criteria, while improving training quality, has also significantly impacted the stress structure, learning pace, and psychological state of TCM master's degree students. How to scientifically balance assessment requirements and reasonably reduce unnecessary burdens on graduate students has become a pressing issue in the current reform of TCM master's degree training.

3.1.3. Economic and psychological well-being

Under the medical-education collaboration and integrated training model, TCM master's degree students generally face significant economic pressure, which has become a crucial factor affecting their learning state and psychological well-being. These students must simultaneously complete coursework, clinical rotations, residency training tasks, research papers, and TCM classics assessments. The high-intensity clinical work leaves them with little time for part-time jobs, making their economic sources highly dependent on national subsidies, university allowances, and family support. Currently, the living allowances provided by most training bases to TCM master's degree students are generally low and vary significantly across regions, universities, and departments, making it difficult to cover tuition fees, accommodation, daily living expenses, and additional costs such as learning materials and skill training. Meanwhile, the long training period and high cost of cultivating TCM master's degree students force some students to rely on student loans or continuous family support, further increasing their economic burden. In addition to economic pressure, factors such as relationships with parents, roommates, and supervisors, as well as research pressure and employment concerns, also contribute to psychological well-being issues among TCM master's degree students^[13]. Moreover, studies have shown that medical-patient conflicts in society are also one of the risk factors affecting students' psychological health^[14].

3.2. Analysis of underlying causes

3.2.1. Structural imbalance in curriculum design and training models

There is a structural imbalance in the curriculum design and training models for TCM master's degree students, with insufficient course time and practical experience dedicated to research. Clinical rotations primarily focus on Western medicine diagnostic and treatment procedures, with inadequate training in TCM thinking and apprenticeship practice, making it difficult to translate classical theories into clinical skills. At the same time, universities have set academic papers as a mandatory graduation requirement, leading to a misalignment between the research evaluation system and the positioning of clinical talents. Master's degree students are forced to invest time in experiments and paper publication in addition to their demanding residency training, further squeezing time for clinical and classical learning. Additionally, the formalization of apprenticeship

education and the lack of a stable inheritance mechanism are also important reasons for the inadequate cultivation of TCM capabilities.

3.2.2. Insufficient financial investment and low allowance standards as direct causes of economic pressure

TCM master's degree students hold dual identities as students and residency trainees, with allowances provided according to student standards, which are significantly lower than those for resident physicians in the same positions. There are also notable regional, university, and departmental disparities. The high-intensity clinical work leaves them unable to take on part-time jobs, making their tuition and living expenses primarily dependent on family support and limited subsidies. TCM hospitals or integrated traditional Chinese and Western medicine hospitals are constrained by medical insurance policies in terms of treatment options. To control costs and improve efficiency, these hospitals tend to prefer Western medicine diagnostic and treatment projects, indirectly weakening TCM skill training and reducing opportunities for master's degree students to practice TCM in clinical settings^[15].

3.2.3. Tight social medical environment and insufficient doctor-patient trust

The tense social medical environment and lack of trust between medical professionals and patients make supervising teachers hesitant to allow graduate students to independently perform TCM diagnostic and treatment procedures. Patients have varying expectations for the efficacy of TCM, and emergency and critical care cases often rely on Western medicine approaches, further limiting the clinical application scenarios for TCM and making it difficult for master's degree students to obtain comprehensive TCM diagnostic and treatment training. In terms of employment, medical institutions still place excessive emphasis on papers, research projects, and academic qualifications in their recruitment processes, forcing graduate students to devote a significant amount of energy to research and paper publication. Although primary-level and private institutions have a high demand for TCM talents, their limited career attractiveness and development prospects exacerbate the training bias towards "emphasizing research over clinical practice."

4. Improvement measures for the current training status of master's students specializing in TCM

Schools should scientifically and reasonably arrange teaching courses related to scientific research, foster a scientific research mindset, and guide students to actively engage in and innovate scientific research. Additionally, the thesis requirements for graduation conditions of master's students specializing in TCM should be adjusted or relaxed as appropriate. Based on the advantageous departments of local hospitals, schools should increase courses related to modern medicine to prepare students for clinical placements.

Hospitals should not confine themselves to written or rigid formats but integrate skills and professional knowledge into daily training, emphasizing outpatient learning to cultivate and exercise students' TCM thinking. Prior to department rotations, relevant knowledge lectures should be offered, focusing on the cultivation of clinical thinking and optimizing the efficiency of department rotations. In assessments, emphasis should be placed on practical skills and critical thinking rather than on written work and grades alone. Throughout the period of residency research, hospitals should consistently pay attention to students' mental health and personal privacy.

In terms of social recognition, accurate promotion and protection of TCM culture should be carried out

to enhance the public's fundamental understanding and appreciation of TCM. Employment opportunities for TCM professionals should be increased, and standardized reforms should be implemented for TCM practice in grassroots and private institutions.

At the national level, the training plan for master's students specializing in TCM should be adjusted to emphasize TCM professional knowledge and practical skills. Financial subsidies should be increased to safeguard students' basic rights and interests. Relevant medical insurance policies should be adjusted to better support TCM hospitals and integrated traditional Chinese and Western medicine hospitals.

5. Conclusion

Both the cultural education of TCM and the standardized training of resident physicians represent systems that China has gradually developed and refined based on its national conditions and cultural background to cultivate medical talents. Since the implementation of the integrated standardized training system for master's students specializing in TCM in 2015, a large number of TCM physicians have been trained, which has, to a certain extent, alleviated the issues of population aging and difficulty in accessing healthcare at the grassroots level in China. However, there remains a need for continuous improvement in areas such as TCM professional teaching and the teaching methods employed at training bases within this system. It is essential to develop a more comprehensive and suitable training system for high-level TCM talents by integrating aspects such as China's socialist characteristics with unique cultural heritage and connotations of TCM, as well as the distinctive features of TCM treatment.

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