

Research on the Advantages, Shortcomings, and Countermeasures of Contemporary Traditional Chinese Medicine Talent Cultivation Models based on the Growth Paths of Renowned TCM Practitioners

Heguo Yan^{1,2}, Zhaofu Li¹, Sanjin Zeng¹, Niqing Xiao¹, Jing Xie¹, Bingbing Chen¹, Bo Yang², Zhaohu Xie^{1*}

¹Yunnan University of Chinese Medicine, Kunming 650500, Yunnan, China

²Zhaotong Hospital of Traditional Chinese Medicine, Zhaotong 657000, Yunnan, China

*Corresponding author: Zhaohu Xie, zhaohu1023@126.com

Copyright: © 2025 Author(s). This is an open-access article distributed under the terms of the Creative Commons Attribution License (CC BY 4.0), permitting distribution and reproduction in any medium, provided the original work is cited.

Abstract: Chinese medicine, as a treasure of China's traditional culture, has a long history and deep cultural heritage, and talents are the first resource for the development of Chinese medicine. In ancient times, there were many famous Chinese medicine practitioners with excellent medical skills and fame, and their main ways of success were through teaching and family tradition. The cultivation of high medical ethics, benevolence and love, and helping the world and the people is the source of motivation for success; familiarizing oneself with the classics, understanding the humanities, and being knowledgeable about things past and present is an important way for success; practicing diligently, learning from all the strengths, and observing the right and innovating is the key to success. This paper analyzes the growth path of ancient Chinese medicine masters and discusses the advantages and shortcomings of contemporary Chinese medicine talent training, with a view to providing certain references for the cultivation of Chinese medicine talents.

Keywords: Family inheritance; Mentorship; Institutional legacy; Talent cultivation; Comparative analysis

Online publication: April 28, 2025

1. Introduction

As the “art of Qi and Huang” passed down for thousands of years, traditional Chinese medicine (TCM) embodies the wisdom and cultural heritage of the Chinese nation and is a crucial factor in the continuity of Chinese civilization for millennia. Its essence lies in pursuing the unity and balance of health between nature and human beings, representing the process of human wisdom confronting diseases and seeking the optimal solutions to approach health ^[1]. Through the joint efforts of medical practitioners throughout history,

TCM has gradually formed a theoretical system based on concepts such as Yin-Yang and the Five Elements, characterized by an overall perspective and differentiated treatment, making it an original medical science of the Chinese nation that has made tremendous contributions to its prosperity^[2]. However, with the rise and rapid development of modern medicine, traditional Chinese medicine has faced significant challenges. To address this, it becomes particularly urgent to cultivate more TCM talents with clinical practice capabilities who can solve practical clinical problems. Although a large number of graduates from TCM majors enter society each year, and their clinical skills are enhanced through channels such as postgraduate education and standardized residency training, these young people still lack the ability to apply TCM knowledge or thinking to solve clinical problems. Therefore, the cultivation of TCM talents still faces serious challenges. Considering the “high level” of renowned TCM practitioners throughout history, integrating their growth experiences into modern TCM education and leveraging the advantages of modern educational models may become an opportunity to promote the continuous development of the TCM industry.

2. Pathways for the success of ancient Chinese medicine masters

2.1. Mentorship

“Mentorship” has a long history in China, with deep roots, and is the primary method for cultivating talent in TCM. This approach involves the transmission of knowledge through a master-apprentice relationship, characterized by verbal instruction, practical demonstration, and the passing down of academic experience. Masters fully impart their clinical expertise, TCM theoretical knowledge, and medical ethics to their apprentices, ensuring that they carry on the tradition. The mentor-apprentice relationship has specific considerations regarding the selection of mentors, the choice of apprentices, and the teaching process^[3]. For instance, as stated in *Prescriptions Worth a Thousand Gold for Emergencies*: “A great physician must calm their mind and spirit, have no desires or demands, first cultivate a compassionate heart, and vow to alleviate the suffering of all living beings... Only then can one become a true healer for humanity; otherwise, they are a grave danger to life.” Similarly, *On the Inappropriateness of Medicine for Everyone* states: “Thus, a physician who maintains integrity, even if lacking sufficient knowledge, will not harm others.” Masters are highly selective and rigorous in choosing and evaluating their apprentices, emphasizing not only natural aptitude but also medical ethics. Moreover, during the process of transmission, there is a focus on adapting teaching methods to the individual apprentice’s needs. Traditional Chinese medicine is characterized by its inheritability and practicality, which determines the necessity of closely integrating theory, practice, and clinical application in mentorship education. Mentorship offers advantages such as the transmission of precious experience, tailored teaching, the cultivation of high moral standards, and strong practical skills. However, it also has certain drawbacks. Since mentorship typically follows a one-on-one or one-to-many teaching model, the scale of mentorship is relatively small, limiting the number of people trained. Additionally, as mentorship relies heavily on the master’s experience and teachings, the knowledge passed down to the apprentice may be somewhat limited. Furthermore, due to concerns about “teaching too well and starving the master,” there may be instances where “key techniques” or “unique skills” are held back, which is detrimental to inheritance and development.

2.2. Family tradition

“Family tradition” was a crucial path for the growth of renowned ancient practitioners, with inheritance occurring within the family unit. This typically refers to medical skills being passed down and developed within the family. Elders would teach younger generations medical knowledge, clinical experience, and diagnostic

techniques, generation after generation. In ancient times, medical families often placed great importance on their family honor. The younger generations carried the responsibility of continuing the family's medical legacy, and this sense of responsibility and mission drove them to study and research medicine more diligently. They were not only expected to inherit the family's medical skills but also to innovate and develop them to uphold the family's reputation. Family tradition helped preserve unique diagnostic techniques within the family, serving as a supplement to master-disciple education. For example, Shizhen Li was born into a medical family and grew up influenced by his family environment. Despite failing the local exams three times, he eventually followed in his family's footsteps and embarked on the path of studying traditional Chinese medicine. Later, through family tradition, his medical skills improved significantly, earning him widespread renown. As the saying goes, "If you teach your apprentice everything, you starve yourself." During the master-apprentice relationship, the master might withhold "secret techniques," which could lead to the loss of key skills. However, family tradition differs in that there is no such concern. The term "family-secret learning" highlights the advantages of family tradition. Yet, family tradition usually occurs within the family, limiting the spread of knowledge. This can result in a relatively closed medical knowledge system within the family, lacking communication and integration with the outside world, and may, to some extent, lack systematic updates and transformations.

3. Qualities of renowned ancient Chinese physicians

3.1. The cultivation of noble medical ethics, benevolent skills, and a commitment to benefiting the people is the driving force behind the success of renowned physicians

The *Sùwèn: Bǎomìng Quánxíng Lùn* states: "Heaven covers and earth supports; all things are fully prepared, none more precious than human life. Humans are born from the energy of heaven and earth, and formed according to the laws of the four seasons," revealing the importance of life. The *Great Physician's Precision and Sincerity* records: "Seeing their suffering as if it were your own" and "First cultivate a great compassionate heart, vowing to universally relieve the suffering of all sentient beings," which describes the requirement for a physician to possess noble medical ethics—reverence and cherishing for life, benevolence in both heart and skill—in order to fully dedicate oneself to benefiting the world and saving lives^[4]. Zhongjing Zhang, moved by the loss of life in the past and the inability to save those who died prematurely, revered life and thus diligently studied ancient teachings and widely gathered various remedies, eventually authoring the *Treatise on Cold Damage and Miscellaneous Diseases* and the *Synopsis of the Golden Chamber*, earning him the title of "Medical Sage" and eternal renown. Simiao Sun believed that "human life is of utmost importance, worth more than a thousand pieces of gold," so "to save one person with a single remedy is a virtue greater still," leading him to write the *Essential Prescriptions Worth a Thousand Gold*. Youke Wu, deeply moved by the tragic sight of "epidemics spreading year after year, where among a hundred households in a single alley, not one escaped unscathed; and within a family of dozens, not a single soul survived," devoted his entire being to the cause, armed with benevolent skills and a heart for humanity, saving lives, and ultimately completing the *Treatise on Pestilential Fevers*. From this, it is clear that the noble medical ethics of benevolent skills and dedication to benefiting the people are the intrinsic driving force behind the success of every renowned physician.

3.2. Mastery of humanities, familiarity with classics, and a broad knowledge of history are important pathways to becoming a renowned doctor

Traditional Chinese medical theory originates from China's traditional culture and is deeply influenced by ancient philosophical thought. Concepts such as "the unity of heaven and humanity" and "correspondence

between heaven and humanity” have all integrated elements of ancient philosophy^[5]. As the saying goes, “One should understand astronomy above, human affairs in the middle, and geography below.” Proficiency in the humanities is an inevitable path to mastering TCM. Without a foundation in the humanities, it is difficult to truly grasp the essence of TCM theory or to apply it flexibly and ingeniously in clinical practice. For instance, Ge Hong became well-known for his expertise in Confucianism, which laid the groundwork for his writing of *Elbow Reserve Emergency Formulas*. The *Book of Liang* records that Hongjing Tao had read over ten thousand scrolls by the time he was young and, before reaching adulthood, was invited by Emperor Gao of Qi to serve as a tutor to the princes. Jingyue Zhang extensively studied classical texts, excelled in military strategy, understood the principles of change in the Yi Jing, and had knowledge of astronomy, eventually authoring the comprehensive *Jingyue Complete Works*, earning him widespread renown. Most famous TCM practitioners possess excellent humanistic qualities, are passionate about traditional culture, and emphasize humanistic cultivation. Some are proficient in phonetics, while others excel in literature, demonstrating a solid foundation in traditional culture and the ancient Chinese language. For example, Qin Ke was erudite, skilled in medicine, and accomplished in poetry and prose; Xue Xue had vast knowledge, excelled in poetry and painting, and was also adept at martial arts and horsemanship^[6]. A deep cultural background and strong literary foundation lay the groundwork for studying ancient medical texts. All successful medical scholars have achieved high levels of literary proficiency, as reflected in the saying, “If one cannot be a good statesman, then one should be a good doctor.” Renowned doctors are all experts in TCM classics, particularly in foundational texts such as the *Inner Canon*, *Difficult Classic*, *Treatise on Cold Damage*, and *Essential Prescriptions from the Golden Cabinet*. They not only read these works thoroughly but can often recite them verbatim, drawing wisdom from various sources. These classics represent the accumulation of ancient physicians’ long-term practical experience, possessing both significant historical value and crucial contemporary clinical guidance. Through an in-depth study of these classics, one can broaden their perspective, absorb their essential wisdom, and establish a solid theoretical foundation, accurately understanding the nature and patterns of diseases, thus avoiding detours in practice and accelerating clinical skill enhancement.

3.3. Diligent practice, drawing on diverse strengths, and upholding innovation are key to success

Diligent practice is the cornerstone of becoming a skilled TCM practitioner. “Truth comes from practice.” To truly understand and master diagnostic and therapeutic techniques, one must combine foundational theory with extensive clinical practice. The renowned Ming dynasty physician Shizhen Li “collected information from hundreds of sources” and “sought advice from all directions,” practicing diligently, gathering prescriptions among the common people, and ultimately completing the monumental work *Compendium of Materia Medica*. The legend of *Shennong Discovering the Curative Virtues of Plants* also emphasizes the importance of practice in the development of medicine. Drawing on diverse strengths is an important pathway to becoming a TCM expert. Upholding tradition while innovating is the soul of TCM development. There are many schools of TCM, each with its own specialties. Ancient renowned TCM practitioners were skilled at seeking advice from doctors of different schools and regions, expanding their vision and thinking by drawing on diverse strengths. Tuo Hua delved into the lives of ordinary people, practiced diligently, invented “Mafeisan,” pioneering surgical operations; through drawing on diverse strengths and upholding innovation, he created the “Five Animal Exercises,” which are still practiced today. Yi Qian studied classic works such as the *Yellow Emperor’s Inner Canon*, *Difficult Classic*, *Essential Prescriptions from the Golden Cabinet*, *Central Treasure Canon*,

and *Emergency Thousand Gold Prescriptions*, drawing on diverse strengths to establish pediatric differential diagnosis based on the five zang organs. Tianshi Ye humbly sought guidance from seventeen teachers, incorporating their strengths to become famous, courageously innovating and proposing the “Wei Qi Ying Xue Differentiation” theory.

4. Advantages of contemporary TCM talent cultivation

4.1. Support from national policies

The National Administration of Traditional Chinese Medicine (TCM) issued the *Action Plan for TCM Standardization (2024–2026)*, which emphasizes the General Secretary’s important discussions on TCM work as a guiding principle. The plan uses the deepening reform of standardization as an opportunity, focusing on the development needs of TCM in the new era, and leveraging standards as engines for new productivity. It fully implements the spirit of the 20th CPC National Congress, adhering to the deployment and requirements of the Central Committee and the State Council regarding the deepening of standardization work. This promotes the deep integration of the TCM standardization strategy with the development of the TCM industry, enhancing the standardized governance capabilities of TCM, and providing strong support for advancing the modernization, industrialization, and high-quality development of TCM. The state places great emphasis on the development of the TCM industry and has introduced a series of policies to support the cultivation of TCM talents, providing a favorable policy environment and guarantees for talent development.

4.2. Gradual improvement of the educational system

With the continuous expansion of TCM higher education, a comprehensive coverage system has been formed at multiple levels, including associate, bachelor’s, master’s, and doctoral degrees, across various disciplines and diverse formats. A school-running framework has been constructed with TCM as the main subject and related disciplines developing collaboratively. Currently, TCM higher education has cultivated nearly three million TCM professionals, who are active in fields such as medicine, health care, research, education, industry, culture, diplomacy, cooperation, and international exchanges. These efforts provide support for the development of the TCM industry, actively spreading TCM culture and Chinese culture while serving the strategies of “going out” and the Belt and Road Initiative.

4.3. Interdisciplinary integration

TCM integrates with modern medicine, biology, chemistry, physics, artificial intelligence, and other disciplines, allowing students to access broader knowledge and technologies, expanding their horizons, and providing fresh ideas and methods for the innovative development of TCM. By combining with modern medicine, it can more effectively promote integrated Chinese and Western medical treatments, improving disease treatment outcomes; integrating with biology and chemistry facilitates deeper exploration of the effective components and mechanisms of action of Chinese herbal medicines; integrating with information science can drive the informatization construction of TCM, such as establishing TCM diagnostic databases and developing intelligent diagnostic systems; and integrating with psychology and sociology enables more effective attention to patients’ psychological well-being and the impact of social factors on health, offering a more comprehensive perspective for TCM health services. The interdisciplinary integration of TCM brings new opportunities and vitality to its development, helping to address key issues in the development of TCM, promoting traditional Chinese medicine to the world, and enabling traditional Chinese medicine to better serve human health.

4.4. Strengthened international exchange and cooperation

The strengthening of international exchange and cooperation provides a broader platform and richer resources for the cultivation of TCM talents. Through academic exchanges, cooperative research projects, and faculty and student visits with other countries and regions, it promotes the international development of the TCM industry. This allows TCM talents to be exposed to different medical concepts, diagnostic techniques, and educational models, broadening their horizons and enriching their theoretical knowledge systems. These activities also promote the internationalization of China's TCM industry and education, facilitate the spread and application of traditional Chinese medicine worldwide, and attract more international cooperation opportunities.

5. Shortcomings in the cultivation of contemporary TCM talents

5.1. Serious disconnection between theoretical education and clinical practice

Currently, the cultivation of TCM talents mainly follows a higher TCM education model centered on school-based education ^[7]. In the current TCM education system, theoretical education often dominates. Students receive extensive instruction in TCM classic theories, prescription studies, pharmacology, and other areas in the classroom, but this does not highlight the clinical advantages of TCM. When students engage in clinical practice, they find it difficult to flexibly apply the theoretical knowledge they have learned, leading to situations where they are merely “talking about war on paper.” Moreover, some young teachers, despite holding doctoral or post-doctoral degrees, lack rich clinical experience and are unable to effectively combine theory with practice in their teaching, failing to provide students with vivid and practical guidance. The uneven distribution of teaching resources and insufficient clinical internship bases cannot meet the practical needs of many students.

5.2. Large-scale school education makes personalized teaching difficult to achieve

Contemporary higher TCM education can only achieve commonality in talent cultivation and cannot tailor education to individual needs. As a result, the unique experiences and academic ideas of various experts and many old TCM practitioners are difficult to inherit and promote. The students lack individuality and expertise, appearing “uniform.” Throughout higher TCM education, there are issues such as overemphasizing theory while undervaluing clinical practice, and a lack of academic debate, which do not align with the laws of TCM education. Examining the training models of TCM colleges nationwide, since the 1980s, under the calls for social development and educational reform, TCM education has gradually moved towards modernization, adopting the same admission policies, unified training, and graduation employment policies as other institutions, ignoring the uniqueness of the TCM discipline to some extent, thus restricting innovation. To ensure that graduates possess strong clinical patient handling abilities and adapt to societal job demands, China's TCM colleges have successively added courses related to Western medicine, computers, foreign languages, etc. This has forced the schools to reduce the hours dedicated to ancient Chinese cultural courses and TCM subjects, naturally decreasing the time and energy teachers and students spend on lectures and learning based on classical texts, significantly affecting learning outcomes. Studying according to such a curriculum system neglects the study of Chinese traditional culture and its related distinctive disciplines, resulting in poor mastery of basic TCM knowledge. It is difficult for students to truly understand the essence of TCM classics like the *Nei Jing* and *Shang Han Lun*, leading to a gradual fading of the “essence” of TCM, causing medical students to drift further away from pure TCM.

5.3. Lack of cultural confidence and “Westernization” in TCM learning

Some learners of TCM lack a deep understanding and recognition of TCM theory and practice, influenced by modern science and Western medical concepts, easily questioning the scientific nature and effectiveness of TCM. They may be more inclined to trust Western medical diagnosis and treatment methods while doubting the value of TCM’s unique theoretical system, such as yin-yang and five elements, meridians and qi-blood, finding them hard to explain through modern science. In terms of education, the education system of TCM lacks sufficient depth in teaching traditional culture, resulting in students having an inadequate understanding of the profound cultural heritage behind TCM and being unable to firmly establish a belief in TCM culture. The public opinion environment sometimes also harbors misunderstandings and biases against TCM, and negative evaluations may affect learners’ confidence in TCM. The current TCM education model was established based on the medical education model of the former Soviet Union, which primarily focused on Western medical education. TCM and Western medicine differ greatly, not only in diagnostic and therapeutic methods but also in thinking patterns. TCM is rooted in traditional culture, and its theories mainly originate from long-term clinical practice, relying on dialectical thinking for differential diagnosis and treatment. Doctors need to judge themselves and carry out the diagnostic process of observation, auscultation, inquiry, and palpation for patients; whereas Western medicine is based on modern science, and the judgment of diseases largely depends on the detection of modern instruments and equipment, mainly by obtaining results from experiments. These differences mean that the knowledge structure, research methods, and diagnostic models of TCM cannot be equated with those of Western medicine. Therefore, higher TCM education carried out using the teaching model and concept of Western medicine leads to a serious loss of TCM characteristics.

6. Conclusion

Under the current education system, it is difficult to widely promote education models such as “mentorship” and “family inheritance,” but the basic qualities and many experiences possessed by “renowned doctors” are still worth emulating by TCM students. Moreover, through long-term mentorship learning and engaging in clinical practice early and frequently, not only can one deepen their understanding of theoretical knowledge, but also cultivate a bond with the mentor during this process, potentially achieving the effect of “mentorship.” The cultivation of renowned TCM practitioners is a systematic project^[8], requiring concerted efforts in school education, social support, institutional guarantees, policy guidance, and other aspects to create an excellent social environment for the cultivation of renowned TCM practitioners. Personal talent, postnatal diligence, and effort among internal factors are also indispensable.

Funding

This study was supported by the National Natural Science Foundation of China (Grant No. 82260925), Yunnan Provincial High-level Scientific and Technological Talents and Innovative Teams Selection Special Project (Grant No. 202305AS350007), Yunnan Provincial Major Scientific and Technological Special Project Program for Biomedicine (Grant No. 202402AA310028), Yunnan Province’s High-level Talent Cultivation Project for Successors in Traditional Chinese Medicine Disciplines (Yun Cai She [2024] No. 103), and Yunnan Provincial Key Laboratory of Dai and Yi Medicine Open Research Topics (2024SS24010).

Disclosure statement

The authors declare no conflict of interest.

References

- [1] Wen TC, Liu BY, 2024, Taking Effect as the Benchmark, Data as Evidence, and Adjustment as Treatment—Discussion on the Data Science Thinking in Traditional Chinese Medicine. *Chinese Archives of Traditional Chinese Medicine*, 42(1): 22–29.
- [2] Li XH, Lei GP, Pan DH, 2012, Strategies and Thoughts for Promoting the Academic Inheritance of Renowned TCM Practitioners and Cultivating a New Generation of Famous Doctors. *Journal of Shizhen Medicine and Pharmacy*, 23(4): 994–995.
- [3] Zhai HQ, Zhang XJ, Zhang HM, et al., 2014, The Ancient TCM Talent Cultivation Model based on Apprenticeship and Family Tradition. *China Journal of Basic Medicine in Traditional Chinese Medicine*, 20(1): 37–38 + 68.
- [4] Shi DY, Zhang HL, Guo HY, 2024, Analysis of Internal Factors Influencing the Growth and Talent Development of Renowned TCM Practitioners Throughout History. *Modern Distance Education of Traditional Chinese Medicine in China*, 22(21): 182–184.
- [5] Liu DP, Xu HY, 2013, Analysis of the Path to Success for Renowned TCM Practitioners. *Inner Mongolia Journal of Traditional Chinese Medicine*, 32(28): 121–122.
- [6] Cong L, 2002, Basic Experience in the Development of a Renowned Doctor. *Journal of Shandong University of Traditional Chinese Medicine*, (06): 402–407.
- [7] Zou X, 2012, Research on the Path to Success for Renowned TCM Practitioners under the Higher Education Model of TCM, dissertation, Nanchang University.
- [8] Gao Y, Liu Y, Mao HJ, et al., 2024, Analysis of the TCM Talent Cultivation Model based on Apprenticeship Education. *Hunan Journal of Traditional Chinese Medicine*, 40(3): 108–111.

Publisher's note

Bio-Byword Scientific Publishing remains neutral with regard to jurisdictional claims in published maps and institutional affiliations.