

Research and Practice on the Specialty Construction of Acupuncture and Massage to Serve the Regional Economic and Social Development

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Abstract In order to effectively implement China's national strategy of developing the country through science and education and strengthening the country through talents, it is essential to continue to strengthen the system of cultivating talents in Chinese medicine. This will enable the country to more effectively serve the development needs of the regional economy and society. It is of particular importance to further develop Chinese medicine-related specialties in this process, such as acupuncture and massage. By conducting meticulous research and practical investigation into the specialty construction of acupuncture and massage, we are able to significantly enhance the quality of training for those pursuing a career in Chinese medicine. This, in turn, strengthens the overall capacity of the field to contribute to the economic and social development of the region. This is not only crucial for the advancement of TCM education, but also offers a valuable point of reference for further research and practice in the domain of medical education.

Key words Regional economic and social development, Acupuncture and massage, Specialty construction of TCM, Medical education

1 Introduction

In the context of accelerated development, China's strategic focus on developing the country through science and education, and on strengthening the country with talented individuals, is becoming increasingly evident. To better serve the economic and social development of the region, especially in the field of medical and health care, it is of particular importance to cultivate Chinese medicine talents. As a distinctive and invaluable component of traditional medicine, traditional Chinese medicine offers distinctive advantages in the treatment of illnesses and the promotion of preventive healthcare, providing a unique approach to these two fundamental aspects of healthcare. It can be argued that the cultivation of Chinese medicine talents represents not only the preservation of traditional culture but also a valuable contribution to the enhancement of the modern medical education system. In order to further enhance the training of Chinese medicine professionals, it is essential to prioritize the development of Chinese medicine-related specialties, such as acupuncture and massage. These specialties occupy a significant position within the field of Chinese medicine, serving as a cornerstone for the training of professionals with a comprehensive understanding of both theoretical knowledge and practical skills in Chinese medicine. Nevertheless, these specialties have historically encountered a number of obstacles and difficulties during the construction process, including a lack of

sufficient faculty, outdated teaching facilities, and an absence of rational curricula. To address these issues, a series of measures must be implemented, including the reinforcement of the teaching staff, the enhancement of instructional resources, and the streamlining of the curriculum. The implementation of these measures will facilitate comprehensive improvements in the quality of personnel training for TCM-related specialties, such as acupuncture and massage, and enhance their ability to contribute to regional economic and social development. This is conducive not only to enhancing the status and role of Chinese medicine in healthcare, but also to promoting innovation and development in the field of medical education. The objective of this paper is to examine strategies for enhancing the development of TCM-related specialties, including acupuncture and massage, in order to address their enduring challenges and to achieve a comprehensive enhancement in the caliber of personnel training.

2 Research status of medical specialty construction

2.1 Current status of related research abroad A statement released by the American College of Physicians highlighted the significant influence of social determinants of health on medical practice, community collaboration, and health equity. It is therefore recommended that future physicians receive training in the social determinants of health and related issues, with a view to ensuring the optimal construction of medical professional education^[1]. The University of California San Diego School of Medicine has incorporated a curriculum in medical education to advance progress in specialty construction^[2]. Emory University School of Medicine has developed a curriculum that introduces the social determinants of health and encourages physicians to consider the social and cultural barriers that their patients may face when managing illness and navigating the healthcare system. The associated curriculum modules are developed during a one-month outpatient rotation for second-year clinical residents^[3].

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2.2 Current status of related research at home In recent years, medical schools across the country have engaged in extensive research pertaining to the underlying mechanisms of specialty construction adjustment and optimization, as well as the pathways through which these mechanisms are implemented. The School of Medicine at Tsinghua University has undertaken a project to develop an eight-year clinical medicine specialty. The "3 + 2 + 3" training model, which was established as part of this project, has been designed to reform and strengthen the cultivation of scientific research ability among students enrolled in the eight-year clinical medicine program. The model is intended to facilitate the combination of medical research and clinical practice, with the goal of addressing actual clinical problems and contributing to the cultivation of physician-scientists and the overall enhancement of students' knowledge, abilities, and professionalism^[4]. Guangzhou University of Chinese Medicine has implemented a strategy of adjustment and optimization of specialty construction through the establishment of an interdisciplinary personnel training model, designated as the "3 + 2" model, which encompasses the connotation of TCM thinking. This model comprises three TCM thinking training paths: integration of interdisciplinary teaching content, consolidation of teacher education and classic education, and scientific construction of thinking level grading and evaluation standards^[5]. In order to guarantee the quality of talent cultivation, Xinjiang Medical University has implemented a series of measures aimed at specialty adaptation and optimization. These include the integration of curriculum ideology and politics into talent cultivation programs, the reform of talent cultivation modes, the implementation of an education and cultivation mode of traditional Chinese medicine that combines the "institution + teacher training", the strengthening of "early clinical, multi-clinical and repeated clinical", and the establishment of a comprehensive evaluation system for students' academic performance^[6]. In contrast, Zhejiang University of Traditional Chinese Medicine has enhanced its specialty development through the optimization of the curriculum system, the establishment of a talent training model aligned with societal needs, the refinement of pedagogical approaches and methods, the accentuation of the distinctive features of Chinese medicine education, the consolidation of laboratory and teaching infrastructure, the assurance of students' proficiency in Chinese medicine, the refinement of the assessment system, the reinforcement of process management, and other initiatives^[7].

In conclusion, the research on the development of medical specialties in both domestic and international contexts has yielded notable outcomes. However, the current body of research and practice on the establishment of pivotal specialties such as acupuncture and massage, which play a pivotal role in regional economic and social advancement, remains relatively limited. The advancement of medical education represents a crucial link in the broader process of national revitalization. As an integral component of medical education, acupuncture and massage play a pivotal role in disseminating knowledge and training professionals. It is

imperative to streamline and refine the professional structure to enhance the quality of medical education and better equip the country to support economic and social advancement at the regional level.

3 Construction and implementation path of acupuncture and massage to serve the regional economic and social development

A series of persistent issues, including the inadequate integration of theoretical and practical instruction, the challenge of effectively enhancing students' professional skills, abilities, and competencies, and the dearth of students' professional job readiness, have long persisted in the development of acupuncture and massage specialty. In response, we have conducted research and practical investigations into the construction of acupuncture and massage specialties to advance regional economic and social development. Our approach has been to address the specific challenges and to prioritize the needs of students. The implementation pathway is outlined as follows.

3.1 Revising the talent cultivation program The training program for acupuncture and massage has been revised to adjust the ratio of theoretical to practical courses. In light of these considerations, we have devised a novel approach to undergraduate medical education, namely bedside teaching. This entails a transformation of the conventional four-year undergraduate curriculum, comprising centralized classes and a one-year clinical internship, into a "3 + 2" teaching mode that aligns more closely with the demands of the emerging medical landscape. The new model entails three years of centralized classes and two years of clinical internship. In the meantime, we have developed model courses at the provincial and university levels in the areas of curriculum ideology and politics for Chinese medicine courses, as well as case projects for the Development Center for Degree and Postgraduate Education of the Ministry of Education. Additionally, we have implemented case-based teaching methodologies. In the teaching process, we integrate the regional characteristics of the specialty, including the pertinent theories and clinical practice cases of the academic schools of acupuncture and massage in the northeast region. This integration allows us to align the professional course knowledge with the aforementioned characteristics, thereby facilitating a more intuitive absorption and understanding of the knowledge by students. Furthermore, this approach renders the course more vivid and realistic, while also enhancing the level and ability of students to connect theory with practice.

3.2 Creating an intelligent learning platform The national first-class professional training and teaching platform construction project, in conjunction with the artificial intelligence teaching software and equipment—including the special equipment for acupuncture 3D intelligent bronze man—has been utilized to develop a professional intelligent learning platform. The platform employs an online and offline hybrid teaching mode to facilitate standardized teaching and assessment activities, rendering it a versatile

tool applicable to all stages of student training, including campus and clinical internships. The curriculum encompasses instruction in the manipulation techniques utilized in human body massage, the identification of meridian and point locations, their respective functions, the characteristics of local anatomical structures, and the utilization of virtual simulation training based on clinical case studies. By constructing and collaborating on the platform, we have conducted a series of knowledge and ability assessments for students with the objective of enhancing their practical abilities and capacity to contribute to the economic and social development of the region.

3.3 Optimizing the professional assessment model It is recommended that the lecturers of practical training courses utilize artificial intelligence technology to develop an intelligent test bank for acupuncture and massage. This test bank should be based on the professional syllabus and knowledge points, and it should be combined with the assessment attributes of practicing physicians. The test bank is designed to match test questions lexicographically, generate difficulty coefficients in an intelligent manner, correct errors during the answering process in an intelligent manner, and present relevant knowledge points. Concurrently, it encapsulates students' erroneous knowledge points and proffers astute recommendations for pedagogical priorities for educators. This addresses the issue of subjectivity in evaluation that is inherent to practical training examinations. It circumvents the potential for arbitrariness and inaccuracy that may arise from the questioner's subjective assessment of the difficulty level of the questions. Furthermore, the assessment and evaluation method of students' clinical thinking is undergoing reformulation. In this context, the principle of "ten combinations", representing an innovative assessment mode of Chinese medicine clinical thinking training, is being proposed. This assessment mode is being applied in the exploration of teaching practice.

3.4 Enhancing specialization and integration abilities The implementation of an integrated educational program that combines professional and entrepreneurial skills has proven to be an effective strategy for enhancing students' capacity to integrate their specialized knowledge with entrepreneurial competencies. While imparting professional knowledge of acupuncture and massage in the context of lectures, the concepts related to innovation and entrepreneurship that cultivate students' sense of innovation and entrepreneurship are integrated with the most salient developments in technology. It is recommended that students leverage their professional expertise to drive the creation of novel and entrepreneurial products and services. Furthermore, they are encouraged to engage with a range of innovative and entrepreneurial initiatives and competitions at various levels. The advancement of innovation through research and competition, along with the construction of the overall relevance of professional education, innovation, and entrepreneurship education, are pivotal elements in the enhancement of students' scientific research and innovation abilities. Furthermore, they facilitate the expansion of students' employment

channels, the realization of entrepreneurship-led employment, and the comprehensive service of regional economic and social development.

3.5 Strengthening curriculum ideological and political construction By extracting ideological and political elements from contemporary literature and both classical and modern medical case studies, and integrating these into the curriculum, a repository of traditional Chinese medicine curriculum materials is created. While imparting the professional knowledge of acupuncture and massage to students through case teaching, the ideological and political points of the course are subtly integrated to ensure comprehensive coverage of these aspects across all educational links in acupuncture and massage.

4 Conclusions

Following comprehensive research and extensive practical experience, the acupuncture and massage specialty has yielded significant outcomes. The program has not only set a commendable standard within its field, assuming a pioneering and influential position, but also has made significant strides in enhancing the quality of student training and fostering students' employability. These accomplishments have not only been met with considerable acclaim from both employers and the parents of students, but also have led to a notable enhancement in their satisfaction with the training of students. Furthermore, they have provided additional evidence of the significant contribution that acupuncture and massage make to the advancement of the regional economy and social development. This achievement serves to validate our specialty construction, while simultaneously instilling a sense of assurance regarding future growth and advancement.

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