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Application of Traditional Chinese Medicine Characteristic Technology Inheritance in Traditional Chinese Medicine Internship Teaching——Taking Gansu Provincial Traditional Chinese Medicine Hospital as an example

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Abstract:

The preservation of traditional Chinese medicine (TCM) relies heavily on the inheritance of specialized techniques. Hospital-based internships form a crucial component of this inheritance, allowing for the practical application of these techniques. The "National TCM Characteristic Technology Inheritance Talent Training Project," sponsored by the National Administration of Traditional Chinese Medicine, exemplifies a targeted approach to cultivating TCM practitioners with a strong theoretical foundation and refined practical skills. This project emphasizes the vital role of inheritors in innovating and advancing TCM. By integrating the knowledge and experience of these inheritors into both instruction and practice, the project aims to enhance the technical proficiency of TCM interns. This article examines the application of inheritance of specialized TCM techniques in internship teaching, using the Gansu Hospital of Traditional Chinese Medicine as a case study, to provide valuable insights for teacher education within TCM hospitals.

Keywords:

TCM, Specialized Techniques, Inheritance, Internship, Teaching

1.Introduction

The cultivation of TCM practitioners possessing both a robust theoretical understanding and exceptional practical skills in specialized TCM techniques is essential for leveraging the advantages of TCM and fostering the growth of the TCM industry. Since 2014, the State Administration of Traditional Chinese Medicine has implemented the "National Talent-Training Program for Inheriting Special TCM Skills". To date, five rounds of inheritance training and study tours have been conducted. [1] This project identifies promising TCM practitioners nationwide through rigorous practical and theoretical assessments. These individuals then participate in a comprehensive training program that combines intensive study tours with self-learning. The curriculum encompasses the theoretical underpinnings and practical application of specialized TCM techniques, including the interpretation of classical TCM texts, the cultivation and harvesting of medicinal herbs, the conservation and development of TCM resources, traditional processing and preparation

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methods, experiential identification of TCM materials, TCM formulation techniques, TCM transmission and control techniques, formulation development and research in hospitals, information technology, and TCM administration and management. [2-3] This initiative has successfully cultivated a cohort of highly skilled inheritors of national TCM techniques, thereby significantly contributing to the continued advancement of the TCM sector.

In early 2018, our team participated in the National TCM Characteristic Technology Inheritance Talent Project (T20184828005). Through study tours and rotations at the National TCM Characteristic Technology Inheritance Talent Training Base, I gained insights into promoting the inheritance and development of TCM techniques by applying the knowledge acquired, using it to facilitate further learning, and integrating learning with applications. This article explores the integration of unique TCM principles with the inheritance and learning of national TCM techniques in daily internship teaching. It examines how to guide TCM interns, enhance their practical abilities, and facilitate the summary and inheritance of TCM techniques through practice, enabling them to develop into competent pharmaceutical service professionals and contribute to the inheritance, innovation, and advancement of TCM.

2.Content and Guiding Principles of TCM Internship Teaching

As a designated internship site for Chinese Medicine majors from Gansu University of Traditional Chinese Medicine, Gansu Health Vocational and Technical College, and Lanzhou Modern Vocational and Technical College, our pharmacy department has consistently implemented a practical and effective internship and teaching plan. This plan ensures high-quality instruction and promotes the inheritance, innovation, and development of TCM techniques. The core components of the internship teaching plan include the acceptance of decoction pieces in the TCM storeroom, prescription dispensing, prescription review, and commentary on traditional Chinese patent medicines and simple preparations. Furthermore, our department adheres to the guiding principle of "unity of knowledge and action, diligent learning and practice, inheritance and innovation." This principle aims to instill in TCM interns a rigorous work ethic and a grounded approach to their practice. It encourages them to innovate and develop while inheriting TCM techniques, ultimately shaping them into a new generation of pharmaceutical service professionals.

3.Internship and Teaching of Specialized TCM Techniques

3.1. Internship and Teaching of Evaluating Specialized TCM Techniques

As a leading provincial-level TCM hospital, the Gansu Hospital of Traditional Chinese Medicine stocks over 400 commonly used Chinese medicine decoction pieces. This extensive variety presents a significant challenge for quality control during the acceptance process in the hospital's TCM warehouse and pharmacy. To address this, we advocate for a combined approach in TCM decoction piece acceptance teaching. This involves not only imparting traditional identification techniques but also encouraging students to consider laboratory test results and integrate both sets of data to establish final acceptance criteria. Years of teaching experience has demonstrated that this integrated approach effectively prevents substandard TCM materials from entering the hospital. The traditional knowledge shared by teaching pharmacists regarding the characteristics and authenticity of medicinal herbs from various regions stems from their own inheritance of

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TCM identification techniques, as well as from visits and exchanges at TCM trading markets and museums during the national training program.

For example, during instruction, we explain the traditional methods for identifying precious Chinese medicinal herbs such as ginseng, deer antler, bezoar, saffron, Cordyceps sinensis, musk, and bird's nest. We provide a detailed explanation of the identification characteristics of bezoar. Bezoar was first documented in the Shennong Bencao Jing and classified as a top-grade substance. The 2015 edition of the Chinese Pharmacopoeia recognizes three sources: bezoar, artificial bezoar, and in vitro cultured bezoar. We teach students to differentiate between the sources. Bezoar is the dried gallstone of cows, obtained by filtering the bile, removing the outer membrane, and drying in the shade. Artificial bezoar is processed from cow bile powder, bile acid, and trace elements, resulting in a loose yellow powder with a bitter and slightly sweet taste. In vitro cultured bezoar is produced from fresh bile from cattle, combined with deoxycholic acid, cholic acid, and complex calcium bilirubinate, resulting in a spherical or quasi-spherical shape with a diameter of approximately 0.5 to 3 centimeters.

There are four key steps for identifying bezoar. First, determining its transparency ("nail hanging"). Mix a small amount of bezoar with water and apply it to the nails. Natural or in vitro cultured bezoar will dye the nails yellow for an extended period, producing a cool and penetrating sensation. And the appearance will naturally turn yellow-red to brownish-yellow, or exhibit a "black gold coat." Second, assess whether the bezoar splits when pierced with a heated needle and whether the needle turns yellow upon removal. Genuine bezoar will exhibit obvious layers of fine, crispy texture with white spots and a distinct aroma. A needle that does not turn yellow indicates a counterfeit or fake. Third, determining whether the bezoar retains its shape when absorbing water. Genuine bezoar will absorb water without deforming, while counterfeit bezoar will expand and disintegrate. Fourth, assessing the aroma, taste, and sensation. Genuine bezoar has a fragrant aroma, a taste that is initially bitter and then sweet, and produces a cooling sensation. It should be free of impurities and odors.

3.2. Internship and Teaching of TCM Dispensing Techniques with Distinctive Features

Traditionally, TCM dispensing skills have been passed down through apprenticeships, emphasizing practical operation. [4] While this approach offers advantages in practical skill training, it often results in insufficient theoretical knowledge of drug properties. To address this, our hospital integrates theoretical knowledge of TCM properties, clinical pharmacy practice, innovation, and practice in the internship and teaching of TCM dispensing techniques. For example, we begin by explaining the traditional TCM dispensing methods of various schools, including the Beijing, Sichuan, Zhang, Jianchang, Jiangsu-Zhejiang, and Huai schools, as well as their characteristics. We then describe practical clinical pharmacy techniques such as the Jingbang medicine cabinet, the arrangement of doupu, the copper jar for pounding medicine, and traditional TCM wrapping methods. Next, we demonstrate the Beijing school's TCM dispensing techniques, including the weighing method, copper jar pounding method, and various bandaging methods such as the "one-bite seal" and "tower bag." Finally, recognizing the shift from manual dispensing to intelligent pharmacies, we incorporate innovative aspects of TCM dispensing, such as modern decoction and dispensing centers and intelligent dispensing systems for Chinese herbal medicine slices, into our internship teaching.

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3.3. Internship and Teaching of Specialized Techniques for Traditional Chinese Medicine Preparations

Traditional Chinese medicine preparations are formulations based on TCM theory, using Chinese medicinal materials as raw ingredients. [5] Our hospital's clinical practice utilizes a variety of these preparations, including ointments, pills, boluses, and powders. In teaching TCM preparation techniques, our department leverages the hospital's specialized preparations. TCM interns initially observe experienced pharmacists at the preparation site. Subsequently, pharmacists guide the interns in hands-on operation, effectively achieving the goal of "learning by observation as well as by doing." For TCM preparations that incorporate modern pharmaceutical technology, the teaching process prioritizes the inheritance of traditional production experience, followed by instruction in modern techniques to ensure drug quality and maximize economic and social benefits. [6-7]

3.4. Internship and Teaching of Specialized Techniques in Clinical Chinese Medicine

As our hospital transitions its clinical Chinese medicine service model from a traditional "drug supply" approach to one emphasizing the "interaction between drugs and people," [8-9] we have broadened the scope of clinical Chinese medicine education. This includes prescription reviews of traditional Chinese patent medicines and simple preparations, pre-prescription reviews, outpatient medication consultations, and related lectures. We emphasize that interns should not only master the theory but also engage in continuous learning by regularly consulting relevant literature and reports to improve patient medication safety. Lectures cover essential TCM principles such as "Seven Emotions", "Eighteen Incompatibilities", "Nineteen Fears", and "Medication Taboos". We also stress the importance of regularly reviewing relevant literature and reports. Furthermore, we encourage the collection and communication of information regarding adverse reactions to Chinese herbal pieces, traditional Chinese patent medicines, and simple preparations among patients, teachers, students, pharmacists, and doctors.

4.Conclusions

Our team's participation in the national TCM characteristic technology inheritance talent training program provided valuable teaching materials from experts and enriched our traditional experience. We apply this knowledge to the internship teaching of TCM techniques in our hospital, which has fostered strong student engagement. Guided by the principle of "integrating knowledge with practice, diligent learning, inheritance, and innovation," our pharmacy department fully utilizes the training outcomes of the national TCM talent program. In teaching TCM identification, dispensing, preparation, and clinical application techniques, we emphasize strengthening the theoretical foundation of TCM properties and improving the ability to integrate theory with pharmaceutical practice. Furthermore, through the study and practice of TCM techniques such as decoction piece acceptance and prescription dispensing, interns gain a comprehensive understanding of the interconnectedness of TCM-related disciplines. The TCM characteristic technology inheritance model adopted by our hospital effectively promotes students' initiative, achieves positive teaching outcomes, and offers significant advantages in enhancing students' overall competence. This model is worthy of wider application in the inheritance and promotion of TCM techniques.

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