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Effect Analysis of the Standardized Training Mode for Specialists Oriented by Ability

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Abstract: *In the medical field, the standardized training of specialists means that through systematic study and practice, doctors can acquire the specialized knowledge and skills necessary to become qualified doctors. A relatively complete policy system has been established for the standardized training of specialists in our country, and certain results have been achieved. However, there are still many problems to be solved, including the training mode is not flexible enough, the training content is not rich enough, and the assessment standard is too simple. To address these issues, some hospitals are beginning to experiment with competency-based training models. Therefore, this paper summarizes the capability-oriented standardized training model for specialists, and summarizes the specific implementation methods and effects of this model, in order to provide reference for improving the standardized training system for specialists.*

Keywords: *A specialist physician; Standardized training; Mode; effect*

1. Introduction

China's doctor training system has experienced the development process from "elite education" to "popular education" and then to "diversified education". With the change of medical model and medical concept, the traditional education mode has been unable to meet the needs of modern medical professionals, and training high-quality talents with clinical ability and scientific research and innovation ability has become the consensus of all sectors of society. In 2013, the Guiding Opinions of The General Office of the State Council on the Establishment of a General Practitioner System proposed that standardized specialized training should be implemented among general practitioners as one of the important ways to supplement the human resources of primary health care. In the same year, seven ministries, including the National Health and Family Planning Commission and the Ministry of Education, jointly issued the Guiding Opinions on Establishing a Standardized Training System for Resident Doctors (Trial), marking the formal establishment of the standardized training system for resident doctors in China and entering the stage of full implementation. A specialist is a medical practitioner who has extensive knowledge, experience and skills in a particular specialist field and can handle related cases or problems independently. At present, all countries in the world attach great importance to the training of specialist doctors, so as to promote the development of specialist medicine. The difference between the standardized training of specialists in China and foreign countries is that it is a systematic training with the ultimate goal of obtaining a residency license, aiming at improving the specialized clinical practice ability of trainees. At present, the standardized training mode of specialists adopted by most hospitals in China is relatively simple, which only relies on clinical rotation to improve the specialized clinical skills of students, and lacks effective incentive mechanism and feedback evaluation mechanism, resulting in low enthusiasm of students [1]. Therefore, it is necessary to explore a more efficient and scientific training mode, improve the quality of training, and promote the promotion of the ability of specialists.

2. Current situation of standardized training of Chinese specialist doctors

In recent years, the relevant departments of the state have successively issued a series of policies and regulations aimed at standardizing and promoting the standardized training of specialists. In July 2014, the Ministry of Education, the National Health and Family Planning Commission and the Ministry of Human Resources and Social Security jointly issued the Opinions on Deepening the Reform of Clinical Medical Talent Training in Collaboration with Medical Education, which proposed for the first time to

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explore the standardized training mode of specialist physicians based on the "5+3" integrated training mode, that is, after completing five years of undergraduate education, three years of standardized training. The integration of the "5+3" training model is a necessary condition for obtaining a medical practitioner qualification. In February 2016, the Ministry of Education, the National Health and Family Planning Commission and the State Administration of Traditional Chinese Medicine jointly formulated and issued the Standardized Training Contents and Standards for Resident Physicians (2016 edition), which clearly pointed out that in addition to the above "5+3" training mode, other modes can be set according to clinical needs. However, it is necessary to ensure that the corresponding standardized training certificate of resident doctors is issued after the training is qualified. In January 2017, The General Office of the State Council issued the Opinions on Establishing a system of General Practitioners, proposing to establish a mechanism of employing people in grass-roots medical and health institutions under the management of counties and villages, and actively guiding and encouraging graduates of colleges and universities to work in general medicine in rural areas. At the same time, medical and health institutions are actively improving the training system for general practitioners, focusing on standardized training for general practitioners in accordance with the principle of "training before taking up the post", and doing a good job in the transfer training of urban and rural general practitioners, the training of assistant general practitioners and the training of customized free medical students. At present, China has initially formed a relatively complete policy system of standardized training of specialists. However, due to the differences in economic level and medical service capacity in various regions, the specific operation methods are not the same, and some places have not even officially launched training.

Through the above analysis, we can see that although the standardized training of specialists in our country has made some progress, there are still some problems to be solved. First, the training model is not flexible enough. Most of the specialized training bases follow the traditional standardized training mode of resident doctors, that is, theoretical learning is the main focus, and practical skills training is insufficient. As a result, trainees are often only able to master some basic operational skills, and are unable to deal with more complex clinical situations. Secondly, the training content is not rich enough. The existing training content and standards are relatively simple, covering only common diseases and treatment methods, and it is difficult to meet the differences between different specialties. Third, the assessment standard is too simple. The current training content and standards pay too much attention to the study of theoretical knowledge, and neglect the cultivation of clinical thinking ability and the ability to solve practical problems. Finally, the training evaluation is not scientific. At present, most training bases still adopt the traditional final examination method, which is difficult to accurately evaluate the actual ability of students [2]. In response to the above problems, some hospitals have begun to try to build a new capability-oriented model. This model emphasizes that students should participate in various clinical practice activities during the whole training period, and receive the necessary theoretical knowledge and skills training, so as to comprehensively improve their clinical diagnosis and treatment ability. This mode can give full play to the students' subjective initiative, so that they can accumulate experience and improve their ability in actual combat, and finally reach a high level of specialist technology. In addition, the implementation of this model is helpful to solve many problems in the current training process, such as the training model is not flexible enough, the content is not rich enough, and the evaluation method is single, so as to promote the development of standardized training of Chinese specialists.

3. The objective and principle of standardized training for specialist doctors

The standardized training of specialist doctors is mainly through systematic training of specialist doctors, so that they have the ability to independently deal with common and multiple clinical diseases and the skills to solve difficult problems, and at the same time to achieve professional quality and humanistic care and other comprehensive quality improvement. The emphasis is on adhering to the people-oriented, the implementation of the whole process of quality control; Taking into account the different needs of medical students, residents and specialists, optimize the training program; Promote the formation and improvement of "double tutor" system, strengthen the construction of clinical teaching base; Pay attention to medical ethics and moral education, pay attention to humanistic care. The training form is a combination of theoretical teaching and practice, short-term intensive study and long-term department rotation, workshops, case discussions, academic conferences and other forms. Training content generally includes the following aspects: (1) basic theoretical knowledge (such as anatomy, pathology, physiology, pharmacology, diagnostics, internal medicine, etc.); (2)Basic clinical skills (such as history collection, physical examination, auxiliary examination, diagnostic thinking, treatment decision-making, etc.); (3)Specialized knowledge and skills (such as surgery, obstetrics and gynecology,

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pediatrics, anesthesiology, ophthalmology, etc.); (4) Clinical research methods; (5) Professional ethics and laws and regulations. Hospitals with conditions can adopt multiple evaluation methods to give full play to the role of subjective evaluation in the evaluation. The assessment content should be comprehensive and rich, and the focus should be prominent, and the written test results should not be overemphasized. We should not only look at the results of the theoretical examination, but also pay attention to the practical operation ability; There should be both closed-book and open-book tests; There should be written examination, clinical ward round, case discussion, surgical instruction, medical record analysis, field defense and so on. It is necessary to have both objective data assessment and subjective qualitative evaluation. The main courses of standardized training for specialized doctors include basic theory, basic experiment, clinical skills, clinical research, humanities and society, laws and regulations, foreign languages, computers, financial management, etc. It is usually divided into three or four years. During the training period, a number of short-term training courses can be added according to needs, such as general practitioners training, geriatric medicine training, neurology training, etc. It mainly recruits medical graduates who have obtained the certificate of practicing physician after 5 years of undergraduate study, but it can also recruit other professionals who have certain clinical experience. The teachers mainly come from the clinical front line, that is, from the senior experts of the profession. In addition, professors from universities, well-known experts outside the university and post-doctoral students returning from abroad can also serve as guest lecturers. Due to the lack of mature teaching system in China, some teachers can only use traditional teaching methods, that is, textbooks as the center, supplemented by slide, video, multimedia, blackboard, physical model and other teaching methods, although this method can play a certain effect, but it is difficult to mobilize the enthusiasm of students. Therefore, it is very necessary to cultivate a high-level and innovative teaching team [3].

4. Application of competency-based training model

4.1. Design of training programs

The capability-oriented training method requires the trainees to be the center, and the ability training runs through every link of the training, and finally realizes the effective connection between the goal and the result. Based on this concept, some hospitals set up a training committee composed of professional teachers and clinical teachers to determine the design principles of training programs through expert meeting discussions and feedback from students, and formulated standardized training curriculum plans for specialists in different disciplines. In the process of clinical practice, emphasis should be placed on the transformation of theoretical knowledge into practical skills and timely evaluation; In the teaching process, evidence-based medicine evidence is used to promote students to master the latest diagnosis and treatment technology. In order to ensure the training effect, a sound teaching evaluation mechanism has also been established to evaluate the students' academic performance through assessment. The average score of the whole year is calculated proportionally by combining the personal assessment results with the annual assessment results, which serves as an important basis for comprehensive evaluation of students upon completion [4]. At the same time, we regularly organize students to participate in academic forums and discipline competitions held by the hospital, and stimulate students' enthusiasm and enhance their participation through various ways. In addition, a corresponding reward and punishment system has been formulated to give certain rewards or penalties to students according to their daily performance and completion of tasks.

4.2. The application of teaching methods and teaching means

The choice of teaching method is an important factor influencing the training effect. Clinical teaching activities can be divided into three basic forms: teacher teaching, student listening to lectures and student practicing. According to different teaching methods, corresponding teaching means can be adopted. (1)Case teaching: As a new teaching method, case teaching is widely used in the medical field, including case discussion and simulation teaching. By incorporating patient or disease-related information into the course, students are able to think deeply about the problems they face in the real world, thereby gaining methods and skills to solve problems. Case teaching can strengthen students' understanding of theoretical knowledge, cultivate their ability to analyze and deal with problems, and lay a solid foundation for them to become excellent specialists. (2)Multimedia technology: With the development of multimedia technology, it has become an important teaching tool. Multimedia technology has the characteristics of clear image, intuitive image and strong appeal, which is helpful to improve the quality of teaching. Among them, computer aided instruction system is a new technology developed in recent years, it is

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based on multimedia technology, courseware making and computer network function in one of the network teaching platform. Using computer multimedia technology to carry out teaching activities can change the one-way knowledge imparting mode in traditional teaching, promote the interaction between teachers and students, stimulate students' learning interest, and help cultivate students' ability of independent learning and lifelong learning [5-6]. (3)Simulation technology: It is a teaching method based on real patients to build a virtual simulation environment. Its role is to enhance the trainees' perception of clinical practice, help them better master clinical skills and improve the quality of medical care. Teaching with virtual reality technology not only enables students to have an immersive experience, but also allows students to participate in the decision-making process and further enhance their comprehensive quality.

4.3. Application effect

With the wide application of competency-oriented specialty training, the standardized training mode of competency-oriented specialty doctors has become a developing trend. Compared with the traditional training model, it significantly improved the indicators of residents' satisfaction with their own work, patient satisfaction and professional confidence. It not only benefits the interns, but also trains a group of excellent clinical talents for the hospital. Therefore, more and more hospitals are beginning to try this new training model. The capability-oriented training model of specialist doctors has better practical results. It not only differs from the traditional training model in teaching methods, course design and assessment standards, but also can effectively improve the trainees' clinical thinking ability and scientific research ability. Due to the adoption of more flexible and diversified training methods, the competency-based training model helps to cultivate the students' self-learning ability. In this mode, trainees are no longer passively receiving knowledge infusion, but actively exploring under the guidance of mentors. This interactive mode can stimulate students' learning interest and initiative, and is conducive to cultivating their ability to discover, analyze and solve problems. At the same time, the model encourages students to communicate and discuss with peers or other professionals, which not only provides students with more opportunities to learn about the latest developments in medical frontiers, but also builds a platform for academic exchange, thereby promoting the continuous improvement of their clinical skills. In addition, the assessment method of this model is relatively flexible, which can be dynamically adjusted according to the actual performance of students, so as to maximize the training effect [6-7].

However, the discussion of this model is still in the preliminary stage, and the relevant research results are not the same. Therefore, the systematic summary and in-depth analysis of this model should be further strengthened in future studies, and a more comprehensive and detailed evaluation should be carried out to continuously improve relevant policies and programs. At the same time, in the implementation process, we should also pay attention to the following points: first, we should combine the characteristics of each specialty, fully consider the actual situation, and work out a practical implementation plan; Second, in terms of training content, theoretical knowledge and skill operation should be equally important, and one aspect should not be overemphasized. Thirdly, the training effect should be evaluated regularly or irregularly to find out the problems in time and make corresponding adjustments; Fourth, a more perfect incentive mechanism should be established to mobilize the learning enthusiasm of the participants, so as to promote the continuous improvement of the training effect.

5. Summary and prospect

To sum up, with the transformation of the medical model from "biomedical model" to "health maintenance and disease prevention model", the role of the doctor is also changing. Therefore, the traditional training model can not meet the needs of current medical development. The capability-oriented training model can effectively promote the improvement of clinical skills and doctor-patient communication ability, and also help train doctors' ability to solve complex problems. However, this training model is still in the exploratory stage and has not been widely used. At present, China has not formulated relevant standards or guidelines to regulate the implementation of this model. In addition, some hospitals lack the corresponding management system and evaluation system, which makes this model difficult to carry out. But generally speaking, the competency-based training model has certain advantages. First, it emphasizes the common progress of knowledge, skill and attitude in the training process. Secondly, it attaches importance to the overall quality education of young doctors and encourages them to actively participate in clinical work. Finally, it focuses on cultivating young doctors' ability to think independently, which is helpful to improve their professional level and comprehensive literacy [8]. Therefore, the competency-oriented training mode should be taken as the main direction of

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standardized training for future specialists, and relevant teaching plans and evaluation systems should be continuously improved to provide more comprehensive and personalized learning opportunities for young doctors, so as to better adapt to the needs of the future society.

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