

Exploration and practice of the teaching and assessment mode of standardized training for general practice residents

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ABSTRACT

With the rapid development of China's medical and health undertakings, general practice, as an important part of primary medical services, its personnel training and standardized training are particularly important. Standardized training of general practice residents is a key link to improve the quality of general practitioners and ensure the quality of primary medical services. However, there are still some problems in the teaching and assessment mode of the standardized training of general practice residents, such as the single assessment content, the traditional assessment method, and the disconnection between the assessment results and the actual working ability. To improve the quality of standardized training for general practice residents, this study aims to explore and practice a teaching assessment model suitable for general practice residents. This paper aims to explore the practice of the teaching assessment mode of standardized training of general practice residents. Through the analysis of the existing assessment mode and the actual teaching experience, suggestions for improving and perfecting the assessment mode are put forward to improve the training quality and professional level of general practice residents.

KEYWORDS

Standardized training; general practice residents; teaching assessment mode; practice

The standardized training of general practice residents is an important part of the medical and health personnel training system in China, and its teaching assessment mode is directly related to the training quality and the overall quality of general practitioners. This study analyzes the practical exploration of the teaching assessment model of standardized training for general practice residents, constructs a teaching assessment model suitable for general practice residents, and summarizes the evaluation method of this model in practical application.

1 The importance of standardized training, teaching and assessment mode for general practice residents

As shown in Figure 1, the importance of the teaching and assessment mode of standardized training for general practice residents is reflected in the following aspects: First, to ensure the quality of training. Through a scientific and standardized assessment model, the mastery of residents in theoretical knowledge and clinical skills can be comprehensively evaluated to ensure the quality of training, and cultivate high-quality general practitioners for China's medical undertakings. Second, to promote the growth of the students. The assessment mode is helpful to stimulate the learning

enthusiasm of residents, promote them to make continuous efforts in the training process, improve their comprehensive quality, and lay a solid foundation for the future clinical work. Third, we will optimize the teaching staff. The assessment mode puts forward higher requirements for the teaching ability of the teachers, prompting teachers to constantly update knowledge, improve teaching methods and improve teaching quality, so as to improve the teaching level of the whole training system ^[1]. Fourth, promote the development of disciplines. The standardized training, teaching and assessment mode of residents in general practice is helpful to promote the development of general medicine, improve the status of general medicine in the medical system, and provide strong talent support for the hierarchical diagnosis and treatment system in China. Fifth, we will improve the level of medical services. The excellent general practitioners selected through the assessment mode can better serve the grass-roots level, improve the level of primary medical services, and meet the growing needs of the people for medical care. Sixth, we should enhance our international competitiveness. The standardized training and assessment mode of residents for general practice is helpful to improve the international competitiveness of general practice talent training and establish a good image for China in the international medical field. Ensure the quality of training, promote the growth of students, optimize the teaching staff, promote discipline development, improve medical services, and enhance the international competitiveness.

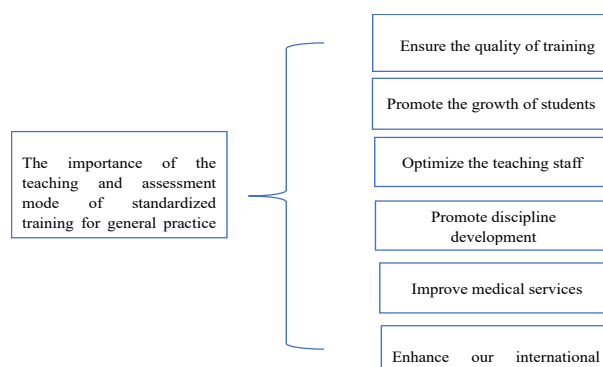


Figure 1 Importance of teaching assessment mode of standardized training for general practice residents

2 Practical exploration of the teaching and assessment mode of standardized training for general practice residents

2.1 Optimize the assessment content

2.1.1 Strengthening the assessment of clinical skills

(1) Add the simulated case assessment.

Representative simulated cases were designed according to the syllabus and clinical practice requirements for standardized training of general practice residents. Cases should cover common diseases, frequently-occurring diseases and some difficult and miscellaneous diseases, in order to comprehensively investigate the clinical diagnosis and treatment ability of residents. Simulated case assessment can be conducted in the form of oral report, written report or live demonstration. Residents are required to complete case analysis, diagnosis, treatment formulation and ^[2] within the specified time. The scoring criteria of simulated case assessment should include the accuracy of case analysis, diagnostic clarity, rationality of treatment plan, and standardization of clinical operation, etc. The raters consisted of faculty members and experts with extensive clinical experience.

(2) Introducing the Objective Structured Clinical Examination (OSCE).

According to the syllabus and clinical practice requirements of standardized training of general practice residents, the OSCE system was introduced and targeted OSCE projects were designed (as shown in Table 1). Items should include medical history collection, physical examination, analysis of auxiliary examination results, diagnosis, treatment, communication skills, etc. The OSCE assessment is conducted by standardized patients (Standardized Patients, SPs), and the residents are required to complete the assessment of each project within the specified time. During the assessment process, SPs will simulate real patients, and residents will need to interact with SPs to complete the assessment tasks. The scoring criteria of OSCE assessment should include the accuracy of medical history collection, standardization of physical examination, analysis accuracy of auxiliary examination results, clarity of diagnosis, rationality of treatment plan, and communication skills, etc. The raters were composed of faculty members and experts with extensive clinical experience. Through the above optimization measures, it can effectively improve the pertinence and effectiveness of the standardized training and teaching assessment of the residents of general practitioners, and help to cultivate the general practitioners with solid clinical skills and good professional quality.

Table 1 Assessment details of the OSCE system project

Examination items	content of examination
Standardized Patient (Standardized Patients, SP)	During the exam, candidates need to interact with standardized patients to simulate actual clinical operations
Clinical data collection	Candidates should collect relevant clinical data (medical history, chief complaint, subjective symptoms and objective signs)
Medical-related information retrieval	Candidates need to use PubMed and other tools to retrieve medical related information
Clinical diagnosis	Candidates should make a clinical diagnosis based on the collected clinical data and the retrieved medical information
Treatment plan	Candidates should make the corresponding treatment plan according to the clinical diagnosis

2.1.2 Focus on professional quality assessment

(1) Professional ethics evaluation indicators.

To investigate whether the residents strictly comply with the relevant national laws and regulations, such as the Medical Doctor Law of the People's Republic of China, the Regulations on the Management of Medical Institutions, etc. Investigate whether the residents are honest and trustworthy in the process of diagnosis and treatment, do not conceal the condition, do not exaggerate the treatment effect, do not receive patients' red envelopes, etc. Investigate whether the residents respect the personal dignity of patients, care about the physical and mental health of patients, and provide quality medical services for patients^[3]. To investigate whether the residents have a rigorous medical attitude, constantly learn new knowledge and new technology, and improve the level of diagnosis and treatment. Investigate whether the residents can actively cooperate in the team to complete the medical tasks together.

(2) Communication skills.

Investigate whether the residents have clear, accurate and vivid language expression ability, able to communicate effectively with patients, family members and colleagues. Investigate whether the residents have good listening ability, pay attention to the needs of patients, and understand the psychological state of patients. To investigate whether residents can keep calm and rational, and properly deal with various emotional problems when dealing with patients and their families. To

investigate whether the residents are good at using body language, facial expressions and other non-language methods, and establish a good communication relationship with patients.

(3) Team work spirit.

To investigate whether the residents have a sense of team, are able to actively integrate into the team, and work hard for the team goals. Investigate whether residents can support and cooperate with colleagues in the team to complete medical tasks together. Investigate whether the residents can actively communicate and coordinate in the team, solve the internal contradictions of the team, and improve the team cohesion. To investigate whether residents can have the courage to take responsibility and contribute to the development of the team. The above assessment of professional ethics evaluation indicators, communication skills and teamwork spirit, it is helpful to comprehensively evaluate the professional quality of general practice residents, and lay a solid foundation for improving medical quality and protecting the rights and interests of patients.

2.2 Improve the assessment method

2.2.1 Assessment by information means

(1) Use of information means for assessment.

By building an online examination platform, the digital management of the examination question bank can be realized and the examination efficiency can be improved. The system can randomly generate papers according to the needs of candidates to ensure the fairness of the papers. The system can automatically score the examinee's answers and reduce the error of manual scoring^[4]. The system can make real-time statistics of candidates' answers and provide teaching feedback for teachers. The system has the function of real-time monitoring to ensure the fairness and fairness of the examination process. Using network video technology, realize remote real-time assessment. Candidates do not need to go to the site to participate in the assessment, saving the time of candidates and teachers. Remote video assessment can be conducted in multiple sessions at the same time to improve the assessment efficiency. Teachers can monitor the candidates' answers in real time for easy management.

(2) Improve the assessment method.

On the basis of the original theoretical assessment, increase the practical operation assessment, so that candidates can master skills in clinical practice. The assessment runs through the whole training process, pay attention to the performance of candidates in the training process, and improve the training quality. Doctors with rich clinical experience are invited to conduct peer review of the candidates to improve the objectivity of the assessment. Through the above practice and exploration of improving the assessment method, it is expected to improve the teaching quality of the standardized training of general practice residents, and to train more excellent general practitioners for the primary medical undertakings in China.

2.2.2 Carry out formative evaluation

(1) Carry out formative evaluation.

Through regular formative evaluation of residents, a comprehensive understanding of their clinical skills, theoretical knowledge, communication skills and other aspects of the progress. Regularly organize residents to conduct clinical skills assessment, such as medical history collection, physical examination, diagnosis and treatment, so as to evaluate their clinical operation ability. Through written tests, oral tests and other forms, the residents' mastery of basic medicine, clinical medicine and other knowledge.

(2) Set up a mentor feedback mechanism.

Residents are equipped with mentors, conduct regular face-to-face communication, understand their performance and needs in clinical work, and give timely guidance and suggestions. The supervisor should regularly check the residents' medical records, prescriptions and ward round records to understand their performance in clinical work. The supervisor should give feedback on the advantages and disadvantages of the residents in the clinical work and propose improvement measures^[5]. Tutors should provide professional guidance for the problems encountered by residents in their clinical work to help them improve their clinical skills. Through the above improved assessment methods, the aim aims to improve the teaching quality of standardized training of general practice residents and train qualified general practitioners with solid clinical skills and good professional quality.

2.3 Improve the assessment standards

2.3.1 Refine the assessment indicators

(1) Refine the assessment indicators.

Clinical skills assessment includes medical history collection, physical examination, diagnosis, treatment, medical advice writing, case discussion, etc. The weight of various skills, such as medical history collection accounted for 20%, physical examination for 30%, diagnosis for 25%, treatment for 15%, medical advice writing for 5%, and case discussion for 5%. The theoretical knowledge assessment includes basic medicine, clinical medicine, public health, medical ethics, etc. The weight of clear knowledge, for example, basic medicine accounts for 20%, clinical medicine for 40%, public health for 20%, medical ethics for 10%, and others for 10%. Communication ability assessment includes doctor-patient communication, communication between colleagues, team cooperation, etc. Clarify the weight of each ability, such as doctor-patient communication accounts for 30%, colleague communication for 20%, and teamwork for 50%. Professional ethics assessment includes medical ethics, professional ethics, and responsibility and so on. Clarify the weight of each content, such as medical ethics accounted for 30%, professional ethics accounted for 40%, responsibility accounted for 30%.

(2) Make clear the weight and scoring rules of the assessment content.

According to the weight of each skill, corresponding scoring rules are formulated. For example, 20 points for medical history, 15 points for physical examination, 10 points for diagnosis, 15 points for treatment, 5 full points for medical advice, and 5 full points for case discussion. Theoretical knowledge assessment According to the weight of each knowledge, the corresponding scoring rules are formulated. For example, 20 for basic medicine, 40 for clinical medicine, 20 for public health, 10 for medical ethics, and 10 for other scores. Communication ability assessment According to the weight of each ability, the corresponding scoring rules are formulated. For example, 10 points out of doctor-patient communication, 5 points for full score of communication between colleagues, and 5 points for full score of team cooperation. According to the weight of each content, the corresponding scoring rules are formulated, such as the full score of medical ethics is 10, the professional ethics is 10, and the full score of responsibility is 10.

(3) Formulate the assessment standards for different stages.

The first stage (basic stage) focuses on the assessment of theoretical knowledge of basic medicine, clinical medicine and public health, as well as basic skills such as medical history collection and physical examination. The second stage (clinical stage) focuses on the assessment of clinical medicine, public health, medical ethics and other theoretical knowledge, as well as clinical skills such as diagnosis, treatment and medical order writing. The third stage (comprehensive stage) focuses on the assessment of communication skills such as doctor-patient communication, communication between colleagues and teamwork, as well as the comprehensive quality of

professional ethics and responsibility. Through the above measures, we can further improve the standardized training teaching and assessment mode of general practice residents, improve the quality of training, and train more excellent talents for China's medical and health undertakings.

2.3.2 Establish a dynamic adjustment mechanism

(1) Timely adjust the assessment standards according to the actual situation.

Meet the standardized training standards set by the National Health Commission and relevant departments; combine the characteristics of general practice, reflect the job needs of general practitioners; pay attention to the comprehensive quality of assessment physicians, including clinical skills, communication skills, team cooperation, scientific research ability; and ensure the fair, just and open assessment standards. Review the assessment standards once a year, analyze the consistency between the assessment results and the training objectives, as well as the problems in the assessment process; revise the assessment standards according to the actual training requirements; invite experts in relevant fields to demonstrate the assessment standards to ensure their scientificity and rationality; pilot in some training bases to test the effect of the revised assessment standards in the practical application; continuously optimize the assessment standards to ensure that they adapt to the development needs of standardized training for general residents. According to the training objectives, increase or decrease the assessment content to ensure the comprehensive and objective assessment; optimize the accuracy and effectiveness of the assessment method; adjust the assessment weight to ensure the fairness of the assessment; adjust the assessment time according to the training progress to ensure the assessment and training.

(2) Ensure the adaptability and advancement of the assessment standards.

According to the relevant standards of the National Health Commission and general medicine, and the actual situation of the hospital, the assessment standards for standardized training of general residents were formulated. The standard should cover clinical skills, theoretical knowledge, medical ethics, and scientific research ability. During the implementation process, the general practice residents were regularly assessed to test their training effectiveness. The assessment methods include written examination, operation assessment, case analysis, clinical practice, etc. Statistical analysis of the data collected during the assessment process was conducted to understand the performance of the general practice residents in all aspects. At the same time, we pay attention to the industry trends and the development of general medicine at home and abroad to provide a basis for the adjustment of assessment standards. Through the establishment of a dynamic adjustment mechanism, we can ensure that the standardized training, teaching and assessment mode of general practice residents always meets the actual needs, and provide a strong guarantee for the training of high-quality general practitioners.

3 Conclusion

The problems existing in the teaching assessment mode of the standardized training of general practice residents mainly include: the single assessment content, the traditional assessment method, and the disconnection between the assessment results and the actual work ability. The teaching assessment mode of standardized training for general practice residents should focus on clinical ability, basic theory, basic skills, comprehensive quality and other aspects, and pay attention to the cultivation of practical operation and clinical thinking ability. Various assessment methods are adopted, including theory examination, skill assessment, clinical practice assessment, case analysis, thesis defense, etc. The assessment results were combined with the practical working ability to make a comprehensive evaluation of the general practice residents. The practice results show that

the standardized teaching and assessment mode of training for general practice residents has achieved good results in practical application, which is helpful to improve the overall quality and clinical ability of general practice residents, and provides a strong talent guarantee for the primary medical services in China.

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