

Analysis of Physiology Curriculum Integration and Teaching Reform in Higher Vocational Colleges under the Mode of Precision Medicine

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Abstract: This article mainly focuses on the characteristics of precision medicine and conducts detailed research and exploration of the objective requirements of the doctor's structure under the precision medicine model. In addition to the traditional medical knowledge structure, new elements of the structure model need to be supplemented, including bioinformatics Medical informatics, data technology and other related content. In order to fundamentally improve the teaching reform of the physiology course under the model of precision medicine, it needs to be promoted. The combination of traditional physiology and physiology and medicine course content, using data technology to innovate teaching methods, train high-quality and high-level doctors, and achieve precision medicine in real life.

1. Introduction

Key medicine is mainly evolved according to the concept of personalized medicine. However, for individualized medicine, the key genes for diseases must achieve individualized disease treatment and prevention goals. Precision medicine emphasizes more on overall health and To study the influencing factors of the disease, accurately find the cause of the disease and the focus of treatment, and fundamentally achieve the best personalized treatment plan for patients. In the specific implementation of this treatment plan, it is also possible to develop new tools and provide disease information for patients and medical providers. In the specific research process, it can be seen that precision medicine can fully present the different elements of precision, punctuality, sharing, and individualization. Precision medicine is mainly based on accurate diagnosis, in conjunction with related medical facilities and medical drugs to formulate accurate treatment plans, and fundamentally achieve precise personalized treatment goals and physical fitness. With the rapid development of China's digital age, precision medicine can not only pay attention to each individual and many, it can accurately find a small number of specific populations among a large number of patients with special diseases, and can also effectively determine the same Causes of Molecular Onset. Not only can it fundamentally develop and treat the specific disease and treatment of specific populations, it can fundamentally better promote the healthy development of human beings, and provide new thinking for personalized treatment programs for clinical patients. According to data from relevant departments, the market size of China's precision medicine in 2017 has reached 47.5 billion yuan, which has slowed down compared to the previous two years, and the industry has entered a relatively stable period of development. In 2018, the market size of China's precision medical industry reached 55.2 billion yuan, a year-on-year growth rate of 16.2%. The following is the market size forecast of precision medicine from 2019 to 2024:



2. Specific Requirements for the Knowledge Structure of Doctors in the Precision Medicine Mode

Precision medicine is a new type of model mainly developed through the combination of bioinformatics, medicine and big data. Therefore, in the new digital era, new medical students need a new knowledge value system to fundamentally meet and adapt to the problems faced by reality. As far as the current situation is concerned, there are relevant training courses for clinical medicine majors in medical colleges and universities in China. These specific courses include courses of public basic medicine and clinical medicine, which are closely related to precision medicine, mainly drugs, Genomics, biological big data, and bioanalytical technology courses, but these courses are not open and there is no systematic setting. Therefore, in order to fundamentally meet the future practice of precision medicine, in addition to opening related precision medicine courses, it is also necessary to conduct in-depth research and analysis of changes in precision medicine, and to reform and reform the course of precision medicine. Innovation also requires comprehensive thinking on the curriculum setting and curriculum teaching methods. In particular, whether the integration of new curriculum content can fundamentally meet the specific needs of students in the currently implemented courses, or whether the strengthening of the integration between traditional courses and new classrooms can fundamentally promote medical personnel in the new era Training plan. Therefore, the management staff needs to carry out all-round reform and innovation of the basic medical content of physiology to fundamentally meet the specific needs of precision medicine students in the new era.

3. Analysis on the Requirements of Doctors' Quality and Ability under the Precision Medicine Model

Precision medicine is mainly based on the combination of biological information and medical information for these data in the era of big data. The first bioinformatics mainly includes gene expression analysis, genomics, functional genomics and complex shape genomics. The second medical information mainly includes electronic medical records, imaging data, laboratory examination data, and so on. The path of diagnosis is generally based on clinical data, including the establishment of electronic information archives by residents, personal living habits, living environment, and genetic history of environmental families. And the data of each gene of the patient and the health data collected by the monitoring equipment must be consistent with the information between the big data, which requires doctors to face most of the data information and need to make effective inferences based on individual disease characteristics Finally, we need to develop common molecular reasons for specific diseases based on big data, and point out the most appropriate treatment. Only by satisfying this kind of quality and ability fundamentally can medical practitioners fundamentally achieve accurate judgments, based on the treatment plan, prescribe

relevant treatment drugs and measures for patients with specific diseases, and achieve precise personalized treatment goals. This shows that future medical practitioners need to develop more effective judgment skills and be able to formulate effective treatment plans based on specific diseases. If the information obtained by thinking and judgment among medical practitioners cannot be consistent, this requires teachers to guide students' thinking and judgment in all aspects during the teaching process. Physiology is a logical thinking. For relatively strong disciplines, teachers should focus on effective teaching of rational and logical thinking from the content of the textbooks, and fundamentally improve the students' ability to judge and judge, which can be applied well in future medical practice and promote Students improve the level of medical practice.

4. Specific Actions of Teachers in the Teaching of Precision Medicine and Physiology

Medical students are involved in a wide range of content and scope in the specific learning process. In order to fundamentally train excellent medical students, effective arrangements must be made for curriculum settings, and the students' learning and assessment methods, and clinical practice. We must conduct all-round guidance to fundamentally improve the traditional teaching mode and teaching level, and promote the construction of teachers. The specific needs and operating modes of future medical practice are changing according to the needs of the times. Similarly, the domestic medical training goals have also changed to a certain extent, and the joint application between genetic technology and Internet technology big data has been strengthened. Therefore, teachers must also innovate and reform their own teaching models. First, teachers must reform and innovate the teaching system. It is necessary to conduct effective research on the training objectives of model medicine for precision medicine, and to formulate scientific and reasonable systems and measures. Second, in the process of teaching organs and other related modules. To strengthen the application of micro-lectures and flipped classrooms, do not use the traditional teaching mode to teach them, and fundamentally can not effectively improve the learning ability of students. Only by fundamentally improving the students' ability to apply and practice, and enhancing their enthusiasm for autonomous learning, can they fundamentally improve their learning ability and learning quality. Therefore, in order to be able to adapt to the changes in these times, teachers need to reform and innovate traditional teaching methods and classroom settings.

Under the model of precision medicine, in order to be able to understand the causes of diseases fundamentally, teachers must provide comprehensive guidance and teaching on the conditions under which students' diseases arise, so that students can understand the specific methods of treating diseases, only In this way, it can be well applied in the specific practice process. In the face of patients suffering from illness, in order to enable patients to reduce the torture of illness, teachers need to have students analyze and research the patients' symptoms and changes in the illness and the causes of the illness using the knowledge they have learned. Physiology is the main basic content, and effective understanding of normal physiology can observe abnormal changes and judge and analyze the cause of disease. Therefore, in the process of teaching, teachers must not only impart the relevant knowledge and clinical physiology content to the students in clinical practice, but also establish a combination of precise medical physiology and physiology knowledge in traditional treatment schemes. . In the process of experimental teaching, all aspects of reform and innovation must occur. Traditional experimental research must be abandoned, and experimental research on molecules related to disease treatment programs must be developed. Internet technology and bio-information analysis technology and big data analysis technology are effectively combined. These experimental studies are mainly based on the effective analysis of the differences between patients' health and disease and data, so that students can develop effective treatments based on the data. Program. Teachers can find out the advantages and disadvantages of the programs developed by the students to judge the excellent disease treatment programs, which can also enable students to lay a good foundation in the practice of precision medicine in the future.

In the precise medicine mode, the patient's condition must be accurately treated. In order to be able to adapt and achieve effective and precise prevention, doctors also need to better understand the symptoms of the disease that occur in specific patients. This requires doctors to accumulate

long-term experience and long-term objective examinations to evaluate and explore which method can effectively treat the symptoms of specific diseases. Because disease is never a simple local process, doctors learn more about physiology from a holistic perspective to understand the relationship between body structure and physiological knowledge, and conduct effective research on the changes in body structure. . Therefore, during the teaching of physiology, teachers should also enable students to conduct effective research on the same etiology based on the basic functions of physiology. Cultivate students to effectively understand diseases from the commonality of individual to group personality, fundamentally achieve accurate assessment of specific diseases, strengthen prevention and judgment between precision diseases, and improve the effectiveness and level of precision disease treatment.

In the course of reforming the physiology curriculum, teachers need to innovate traditional teaching methods, combining physiology, pathology, and pharmacology with three medical functions. Teachers can combine individual chapters of physiology with knowledge about pathology and pharmacology. Mutual integration, multidisciplinary knowledge from normal physiological functions to disease occurrence and development mechanism, functional metabolic changes and drug action laws interpenetrates, crosses and fuses, which not only trains students' independent thinking, active innovation and hands-on ability, but also cultivates rich Professional knowledge, strong comprehensive application ability, high-quality, composite talents who are brave in innovation. At the same time, teachers can also adopt “modular” teaching design ideas and carry out practical training activities that combine work and learning; the training activities are connected with the training goals of professional ability and post knowledge ability, and teaching is organized on the principle of ability as a progressive principle . Experimental training courses are conducted in the school, and the content is closely combined with the actual needs of clinical work. In order to optimize and innovate the teaching mode, we must focus on the following points: strengthen the basic knowledge of the specialty and the clinical specialty curriculum, basic theories (including practical training), mutual penetration, vertical connection, integration; horizontal integration of functional science Experimental teaching content. Breaking the boundaries of disciplines, opening comprehensive three-in-one integrated experimental courses (medical functional experiments); strengthening the integration of engineering and training in clinical skills, such as listening to heart sounds, measuring human arterial blood pressure, blood group identification, blood clotting time measurement, and vital capacity Measurement; measurement of human body temperature, measurement of vision and visual field, pupil reflection of light, measurement of acoustic wave transmission, etc., and extended to community service through on-campus training to integrate teaching, learning, and doing, and consistency between school learning and actual work.

5. Conclusion

In order to be able to adapt to the teaching mode in the new situation, teachers need to change and innovate traditional teaching concepts and teaching skills, so regular training is needed for teachers to improve their teaching ability. In order to strengthen the students' practical ability, in the specific application process, students must be effectively evaluated and comprehensively evaluated, so that students can apply the basic content of physiology, and then they can improve their practice Ability, only after mastering the basic knowledge in advance, can the effective learning of the content of the next link, improve the comprehensive ability and quality of students, so that students can be between individuals and groups in the specific practice process Make effective judgments and develop effective treatment plans for specific patients.

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