Original Research Article

Reform of Practical Teaching of Preventive Medicine Undergraduates

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Abstract: Professional practice, as an important link of comprehensive talent training for preventive medicine students, is of great significance to cultivate innovative and practical talents. However, there are some problems in the current teaching system, such as insufficient attention to practical teaching, lack of overall planning and defects in practical teaching foundation.

Keywords: Preventive Medicine; Professional Practice; Teaching Methods

Preventive medicine is an important part of health. With the continuous understanding of human beings, diseases and environment, especially SARS and bird flu, people realize the importance of public health. Preventive medicine is the theoretical and practical basis of public health measures. With the development of the times, it is a requirement of skill training under the new conditions to train preventive medicine talents with strong comprehensive ability. Professional practice is an important link in the cultivation of comprehensive ability of preventive medicine students. It is of great significance to the cultivation of applied preventive medicine experts with strong practical skills, innovative skills and development potential in terms of systematic basic theory, knowledge and skills.

1. Importance of professional practice in the training of preventive medicine talents

With the creation of modern medicine, statistics and microbiology, preventive medicine has been gradually developed and improved. As a strong social practice discipline, applied preventive medicine personnel must have

strong practical ability. Preventive medicine practice is an effective way to strengthen theoretical knowledge and deepen theoretical understanding, an important link to cultivate innovative consciousness of high-quality preventive medicine talents, an important platform to integrate theory with practice, and an important platform to educate students to master scientific methods and develop application ability. It is beneficial to form students' correct values. By participating in the preventive medicine practice, students can improve their ability to analyze and solve problems according to their theoretical knowledge, so teaching practice is particularly important. After four years of theoretical study, students of preventive medicine will take clinical practice in disease control units for one year. Professional practice aims to transform students' theoretical knowledge into practical ability by means of practical cases, practice, field investigation, field project implementation, etc., and help students deepen theoretical knowledge in practice, master practical methods, and effectively utilize and develop public health practical ability. With the emergence of new pandemics and public health emergencies, students majoring in preventive medicine need to have excellent ability to respond to public health

emergencies and strong practical skills in comprehensive preventive medicine. Therefore, preventive medicine practice is of great significance for training new preventive medicine professionals.

2. Status quo of practical teaching of undergraduate preventive medicine students

2.1 Pay little attention to practical teaching and lack of overall planning

At present, most medical colleges still pay attention to the traditional biomedical model, focusing on clinical practice, neglecting prevention, focusing on information transmission and neglecting ability training. Compared with theoretical teaching, practical teaching is the weakest link in the whole teaching process. The importance of practical teaching is not fully understood, which is the main reason why students' practical ability can not be really cultivated, and the concept of preventive medicine and students' health can not be educated in practice. In addition, although the five-year undergraduate teaching arrangement of preventive medicine includes a five-year professional internship period, due to the lack of the overall planning of the internship plan, there are some problems like practical teaching arrangement, internship contents, the time sequence of each part, and theory and application are not effective. It leads to the students' misunderstanding of the whole things of application programs. It is very disadvantageous to cultivate students' concept of preventive medicine.

2.2 Status of practical teaching base

The practice base of preventive medicine is often the base with the longest practice time among disease prevention and control institutions at all levels, health control institutions at all levels, preventive health care institutions and disease control institutions. In disease prevention and control institutions, students' practical abilities are needed to be well trained, which is not successful for various reasons. (1) The internship content is carefully designed. Students' professional practice is based on the daily work of centers of disease control. If they can't cultivate comprehensive health awareness, they can't fully cultivate practical ability. (2) Because of the cultivation and establishment of the concept of preventive medicine require a systematic way of thinking, yet the students' internship

time in a certain department is short, they can't understand the whole working process, and can't fully understand the nature and content of preventive medicine. (3) Due to the lack of uniform standards for teachers' teaching at professional level, and teachers' randomly determined teaching staff can serve as teachers, the teaching professional level is unbalanced, teaching ability cannot be effectively guaranteed, and students' practical ability cannot be well trained. The education quality needs to be improved.

Based on the above situation, it is necessary to improve the integration of practical teaching system and practical teaching platform for preventive medicine students, improve students' professional practice ability, and cultivate their applied preventive medicine skills with independent post ability.

3. Reform the teaching methods of professional practice

3.1 "Five-in-one" practical teaching system of preventive medicine

3.1.1 Clear teaching objectives

According to the specific objectives of preventive medicine professional practice plan and the actual work of each department, teachers determine the specific teaching objectives of the students in the department. The practical teaching goal of specialty department is: through the practice of the department, students can acquire the practical knowledge needed for practical learning, learn how to apply theoretical knowledge to concrete practice, and review, expand and update the theoretical knowledge learned from practice.

3.1.2 Construct and perfect the practice teaching content based on the learning platform

(1) Theoretical learning platform

Experts organized Qingdao Yang District Center for Disease Control and Prevention (hereinafter referred to as the Center) to display the compiled Practice Training Guide for Disease Prevention in Yang District of Qingdao, which covers the learning system, norms, processes, handling cases and other content processes of the professional part. After entering the student practice department, teachers are responsible for discipline specifications according to training manuals such as infectious disease prevention and control, chronic non-communicable disease monitoring, reporting specifications, mental health learning

specifications, vaccination clinical trial specifications, and vaccine and cold chain management specifications. Through standardized learning, students can quickly understand the methods of disease monitoring, reporting, on-site epidemiological research, and processing of workflow and methods, so as to integrate into the work of the department as soon as possible.

In order to better convey new information and ideas to students, the Center organizes private courses once a week. The course mainly focuses on the theoretical knowledge and practical experience required for the operation of the department and the latest trends of the major. They provide students with a better understanding of disease control research and a more systematic understanding of the theoretical knowledge and practical experience used in the research.

(2) Social practice platform

Take practical work as the core and cultivate application ability. Students are allowed to participate in daily and special projects of the department, so that they have the opportunity to enter the fields of study and social practice.

Preventive medicine is a kind of social service, and it is necessary to cultivate the concept of trainees. Through excellent chronic disease monitoring, infectious disease monitoring and a large number of other network direct reporting systems provided by the centers of disease control, the general characteristics and laws of the disease can be visually understood. Students are also guided to participate in disease monitoring research.

When a series of infectious diseases, food-related diseases and other emergencies occur, students are organized to participate in on-site epidemiological investigation and on-site mass disposal. After the investigation is completed, students are required to write an emergency investigation report, which will improve their ability to solve practical problems with theoretical knowledge, discover, organize and coordinate health problems related to practical work, and understand the overall situation.

In addition, students are also guided to participate in AIDS warning training for primary and secondary school students, monitoring and investigation of health factors of the elderly, monitoring program of children's breast nutrition, oral health epidemiological investigation and other special projects. From special research to scientific research thinking, students should be encouraged to participate in basic public health disease control projects—

including hypertension health management, diabetes health management, infectious disease reporting and treatment, public health emergencies, and vaccination—to improve their comprehensive ability.

3.2 Strengthen exchanges between universities and practical teaching bases

It is necessary to strengthen the communication between universities and practical teaching bases (especially disease prevention and control institutions), smooth the channels of scientific research and practice transformation, build a new platform for the transformation of medical education, promote medical education to pay more attention to practice and medical research, and promote the rapid development of production and research and development in the field of public health. Colleges and universities are rich in knowledge, high in scientific research skills, while disease control departments are rich in on-site resources, practical experience, high-precision tools and equipment. Therefore, it is necessary to give full play to the advantages of universities and centers of disease control, establish an effective coordination mechanism, utilize the organic combination of scientific research and practice, cultivate high-quality applied scientific research teams and professional teams that meet the application needs, improve the national medical training and scientific research coordination ability, and carry out long-term disease prevention and control planning for preventive medical personnel. In addition, universities and practice bases can cooperate deeply with teachers in universities and colleges. By carrying theoretical information counseling and teaching with application bases, teachers pay attention to the practical application of theoretical knowledge. Integration and complementation of the two can develop students' knowledge and ability in many aspects, so as to help them better adapt to society, serve society and promote the healthy development of population.

3.3 Keep up with the development needs of the times and optimize the practical teaching materials in combination with the training objectives of professional talents

Doctors and clinicians in the field of public health play an irreplaceable role in disease supervision and control, health management and health supervision. Especially in the process of public health emergency monitoring, early warning and emergency treatment, and

prevention and control of chronic diseases, it is necessary for new medical and health personnel of strong practice ability, good comprehensive quality and great innovation potential to have a good mental state. The optimization of practical teaching materials of preventive medicine should meet the requirements of this period, and make efforts to cultivate the practical ability of preventive medicine for medical students. According to the educational objectives of preventive medicine undergraduates, combined with the current public health cases and the actual situation of preventive medicine research, the barriers between previous disciplines should be broken to prevent the low repeatability of contents, and systematic and powerful practical teaching materials should be compiled. Representative experimental/practical contents should be selected, and the classical experimental methods need to be combined with modern biotechnology.

4. Conclusion

With the passage of time, medical students should be educated to set up the concept of “great health”, set up a steady idea focusing on prevention, master the basic knowledge and skills of preventive medicine, and become a doctor who not only treats patients, but also serves personal clinical prevention and community prevention. In the training period of “promoting the whole health”, medical personnel are required to consider the direction of professional practice education reform of preventive medicine.

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