Discussion on Teaching Reform of Pharmacology in Applied Undergraduate Colleges

Huijie Chen

College of Biological and Pharmaceutical Engineering, Jilin Agriculture Science and Technology University, Jilin, 132101, China

Email: chenhuijie1983@163.com

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Abstract: Based on the demand of society for applied talents, this paper puts forward the knowledge points that should be taught in pharmacology theory teaching, as well as the contents that need to be adjusted in pharmacology experiment teaching. At the same time, according to the professional characteristics of students, targeted to carry out teaching experiments, strengthen the teaching effect of pharmacology courses, cultivate students' practical ability, and cultivate high-quality applied talents.

1. Introduction

Pharmacology is a bridge science between basic medicine, clinical medicine and pharmacy, and plays an important role in higher medical education. Pharmacology is the core course of pharmacy and a strong practical subject which provides a theoretical basis for the rational use of drugs in clinic and the prevention and treatment of diseases. With the increasing awareness of health care among the people, the demand for high-quality and high-level pharmaceutical care talents who can provide guidance for rational drug use is increasing day by day. Under the new situation, how to strengthen the reform of education and teaching system to meet the needs of the training of applied talents has become the research topic of every teaching worker. Every young teacher should study and improve constantly so as to cultivate applied talents and improve students' ability to apply knowledge [1].

In order to make Pharmacology better serve the cultivation of applied talents in our school, we must constantly explore more reasonable and suitable teaching methods and teaching contents in teaching practice. As teachers in colleges and universities, we must make it clear that although our students have some shortcomings, they can be nurtured. Therefore, we need to carry out targeted teaching reform in order to adapt to their group characteristics. Therefore, we believe that reforms should be carried out in the following areas:

2. Optimizing the Teaching Content According to the Characteristics of Specialty

The pharmaceutical related majors in our school have two majors: pharmaceutical preparation and pharmaceutical engineering, and the pharmacology courses are all for 40 hours. In the case of limited class hours, selective and targeted teaching of more relevant professional knowledge content is particularly critical [2]. For the major of pharmacy, emphasis should be placed on the basic concepts of the general introduction, the classification of nervous system drugs, cardiovascular system, endocrine system and antibiotics, in vivo process and mechanism of action. If pharmaceutical students work in pharmacies, they are most exposed to over-the-counter drugs, including digestive drugs, anti-peptic ulcer drugs, cough drugs, anti-cold drugs and so on. For example, “Baijiahei”, “New Contek” and other commonly used anti-cold drugs are compound preparations, these ingredients belong to different categories of drugs, play different roles. Only when they are integrated and studied together in teaching, can we really put what we have learned into practice.

The content of the lecture should reflect the application of pharmacological knowledge. For

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example, antihypertensive drugs and antibiotics belong to a wide range of clinical applications, and we must constantly adjust our teaching ideas and contents to talk about the history of the application of these drugs. For example, students majoring in pharmacy may need to come into contact with patients on the first line in their future work, and the adverse reactions of patients after taking drugs are closely related to their job responsibilities. Such as taking vancomycin caused by “red man syndrome” and taking chloramphenicol caused by “gray baby syndrome” and so on, pharmacists need to pay close attention to and take corresponding measures to prevent adverse reactions. Through the adjustment of the above contents, we can cultivate the students' application ability.

3. Weakening the Mechanism of Action of Drugs

Because students have not studied basic courses such as medical cell biology, medical molecular biology, medical genetics, and so on, and the foundation of courses such as physiology, biochemistry, and human anatomy is relatively weak, for some drugs, we can give a brief lecture on its receptors or targets and the mode of action, without teaching more in-depth, more microscopic, and more complex mechanisms. In this way, we can use the corresponding time for the discussion and analysis of the case [3].

4. Carry out Experimental Teaching in a Targeted Way

According to the development plan of China's pharmaceutical industry, China will change from a large country of pharmaceutical production to a powerful country of medicine, and the research and development of new drugs will shift from imitation to creation, and a large number of applied talents who can engage in front-line production and research and development will be needed. This puts forward new requirements for the practical ability, innovative thinking and scientific research ability of applied talents [5]. Pharmacology is an important pillar course of medicine major. Its experimental teaching can cultivate students' ability to use theoretical knowledge, solve practical problems, exercise their practical ability and experimental skills, set up scientific research consciousness of independent thinking, and stimulate innovative thinking. Therefore, strengthening the experimental teaching of pharmacology is not only the key to improve the teaching quality, but also an effective way to train high-quality applied pharmaceutical talents. However, the only experimental hours do not allow us to carry out too many experiments, so the choice of experimental content must be more reasonable and cautious, should be combined with the professional nature and characteristics of students, carry out relevant experiments, and focus on the pharmacological effects and adverse reactions of drugs.

5. Guiding Students to Think with Cases

At the beginning of each chapter, introduce a real clinical case related to the drugs in this chapter, each case set up a few questions, let the students take the questions to learn the content of this chapter, and then go back to solve the problem of the opening setting [6]. For example: Wang, a 50-year-old woman, suffered from insomnia for 2 years and was admitted to our hospital unawakened this morning. It is said that she had an argument with his family last night and was in a bad mood. Eszolam had always been kept at home, and 20 more tablets had been opened from the hospital yesterday, and now the medicine bag was found empty. The symptoms of the patients were lethargy, dizziness, vague speech, vague consciousness, ataxia and shallow breathing. Diagnosis: benzodiazepine poisoning. Q: what is the basis for the diagnosis of benzodiazepine poisoning? Why can flumazenil be used to antagonize the poisoning of benzodiazepines?

6. Introduce the Latest Scientific Research Results

The content of the lecture should reflect the cutting-edge knowledge of pharmacology. For example, antihypertensive drugs and antibiotics are widely used in clinical applications and rapid

progress in the field, new drugs emerge in endlessly. In order to keep up with the development of the times, we must constantly adjust our teaching ideas and contents. When we talk about these drugs, we should pay more attention to the scientific research achievements of drugs and introduce the latest knowledge and recent developments, so as to stimulate students' innovative consciousness and cultivate students' innovative ability [7].

7. Perfecting the Curriculum Examination System and Improving the Comprehensive Quality of Students

Curriculum assessment is an important link in school teaching work, an important basis for evaluating students' mastery of the course, and the main method to check the teaching effect of teachers. In the past, the results of pharmacology in our school were composed of final grades and peacetime grades, accounting for 60% of the final grades and 40% of the usual grades. It is difficult to find the problems existing in the teaching process in the process of assessment. Therefore, the assessment system is reformed. According to the phased teaching requirements of the course, the assessment and evaluation of students is strengthened through various forms, such as classroom questioning, peacetime homework, unit test and so on. In order to urge students to learn and understand the teaching content. The examination content reduces the examination of the memory content in the textbook, increases the examination of innovative and practical content, pays attention to testing students' ability to apply pharmacology to solve production practice problems, and encourages students to think independently. Deepen the understanding of professional knowledge and skills [8].

8. Conclusion

In order to meet the requirements of application-oriented transformation on teaching, we must reform and innovate some of the contents. However, in the process of teaching reform, we inevitably encounter some difficulties, such as: the establishment time of pharmacy major in our school is often not long, and the teaching experience of most full-time and part-time teachers in our school is also relatively insufficient. Therefore, it is necessary for all our teachers to accumulate teaching experience and summarize and analyze them in the future teaching work, and to extract teaching contents and teaching methods that are suitable for students' learning characteristics and can effectively improve students' theoretical level and practical ability. in order to cultivate high-quality applied talents to meet the needs of society, and contribute their own strength to the cause of higher education in our country.

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