

Application of Clinical-Oriented Physiology Teaching Model to Medical Students

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Abstract: In clinical medicine, physiology plays an important role, and the effective combination of physiology and clinical medicine can make a rapid breakthrough in some difficulties in clinical practice. Therefore, in the process of teaching, medical teachers should combine physiology with clinical medicine organically, and use PBL teaching method reasonably, so that students can improve their own clinical skills through physiological experiments. The history of physiology is properly integrated into teaching, which can cultivate students' scientific research thinking, so that the clinical-oriented physiology teaching model can be realized and play a positive role in medical students. This paper mainly expounds the application of clinical-oriented physiology teaching mode in medical students.

1. Introduction

Physiology plays an important role in medicine, and famous physiology experts once said : "Medicine is the science of disease, and physiology is the science of life. So the latter is more universal than the former.[1]

In recent years, with the rapid development of medicine, medicine has more and more high requirements for medical personnel, and in physiology teaching, it is necessary to cultivate students' clinical thinking ability in order to play a good teaching effect, but it has always been a key and difficult point. In addition, in the course of treatment to the patient to explain the relevant physiological knowledge, can also make the patient to the treatment of the attending physician to cooperate, through physiological knowledge to provide patients with some treatment options.

2. On the Key and Difficult Knowledge of Physiology Combined with Clinic

For the teaching process of physiology, we can explain the key points and difficult points of physiology teaching by combining with clinic, which can improve the purpose and pertinence of physiology teaching effectively [2]. For example, to describe the function of red blood cells, to list some clinical symptoms of anemia, and to analyze the causes of related symptoms from the point of view of red blood cell function; to describe the electrical activity of the heart, we can analyze the causes of electrolyte disorders, such as hypocalcemia or hyperkalemia. When describing the various components of gastric juice, we should explain in detail the causes of anemia in patients with gastropathy. When describing glomerular filtration function, we can introduce the causes of symptoms such as proteinuria, edema and hematuria easily caused by glomerular diseases.

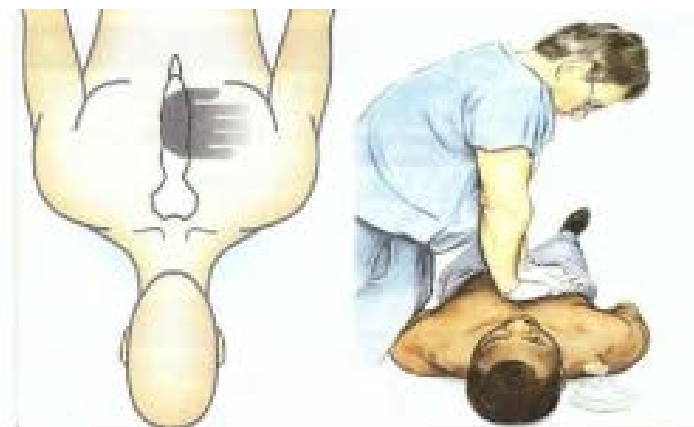


Figure 1 Clinical medicine

For the teaching of medical students, the clinical knowledge is added and permeated in the difficulties, which increases the vividness of the important and difficult contents, reduces the threshold of their understanding, and is easy to learn and understand, so that students can understand the difficult contents of physiology more deeply. For example, when explaining the components of pancreatic juice, we can analyze the causes of pancreatitis, the related clinical symptoms and the treatment principles of pancreatitis. When explaining the intraluminal pressure of pleura, we can introduce the cause of pneumothorax and the treatment principle, so that students can have a deeper understanding of the physiological correlation of intraluminal pressure of pleura.



Figure 2 Clinical medicine

3. Effective Use of Problem-Based Approach in Physiology Teaching

The so-called problem-based teaching method is to take the student as the center, the teacher organizes the guidance to the student, causes the student to carry on the cooperative inquiry to a medical question or the concrete pathology through the group discussion form based on the related teaching question [3]. In the teaching of physiology, the problem-based teaching method can improve the students' learning initiative effectively, so that the students' interest in physiology can be greatly stimulated, and the students' serious and rigorous clinical thinking ability can be well cultivated. In addition, for physiology teaching, problem-based teaching can promote communication between students and teachers. However, the problem-based teaching method has higher requirements for classroom teaching organization, so teachers should set the corresponding teaching objectives based on the physiological syllabus, select relevant appropriate clinical cases, and guide the physiology teaching, so that the physiological teaching objectives can be achieved. The cases are as follows:

Wang Mou, male ,66 years old, early in the morning of April 12,2019, sudden vomiting in defecation, accompanied by chest pain, nausea, from 120 ambulance into the hospital emergency

department, through clinical diagnosis, show cardiac function grade I, coronary heart disease, ventricular premature contraction, acute inferior wall myocardial infarction, given Wang urokinase thrombolytic treatment, its chest pain symptoms were improved, in the third day of hospitalization suddenly black stool, detected its hemoglobin drop, after diagnosis, acute ulcer, upper gastrointestinal bleeding, after treatment symptoms improved, in the seventh day of hospital patients, pacemaker, sudden implantation, The patient recovered and discharged after January.

For psychology teaching, by combining with this case, the following questions can be raised : (1) What is precontractile contraction? What are the causes and mechanisms of its occurrence? (2) What are the causes of peptic ulcer caused by stress and psychological factors? (3) What principles should be noted for blood transfusion? Some people call AB type blood as omnipotent recipient, O type blood is omnipotent donor, Wang is AB type blood, if because of AB type blood shortage, can it accept O type blood? What are the commonly used thrombolytic drugs in clinic? What mechanisms do they have? For these problems, teachers should guide students to divide into groups to discuss, so as to understand and master the related concepts such as pre-contraction, peptic ulcer, blood transfusion principles and thrombolytic drugs, so that the teaching objectives can be effectively achieved.

4. Physiological Experiments to Improve Students' Physiological Clinical Skills

For the experiment teaching of physiology, the teacher should guide the students with clinical orientation, take the experimental object as the patient, standardize the experiment operation, and thoroughly analyze the experimental results, so as to effectively cultivate the students' rigorous and careful working attitude.[4]. In addition, human experiments such as measuring arterial blood pressure and electrocardiogram (ECG) are usually arranged for the teaching of physiological experiments, which can enhance students' clinical skills and enable them to have a deeper understanding of physiology. In addition, in the course of carrying out physiological experiments with animals, teachers should standardize the students' experimental operation and explain the correct use of instruments such as scalpels and hemostatic forceps, so that students can get to work more easily in the future. For the specific physiology experiment, the teacher should arrange and refine the main contents of each chapter of physiology according to the request and plan, then introduce the classroom situation in the teaching, combine with the clinical problem effectively, thus create the reasonable teaching situation, let the students communicate by themselves in the classroom, so as to get the answer, so that the students' autonomy and thinking ability can be cultivated. Also can share the resources through WeChat, QQ group and so on, also can carry on the real-time discussion, makes the communication more real-time and efficient. In addition, the students should be tested in units and at the end of the term, so as to scientifically test the results of different teaching modes.



Figure 3 Clinical medicine

5. Rational Integration of the History of Physiology into the Teaching of Physiology

As a clinician, it is not enough to have the clinical skills and abundant clinical knowledge of clinician alone. It should have excellent research ability and innovative consciousness, and be able to actively study and explore clinical problems, so that its own clinical practice ability can be continuously improved.[5]. To this end, the aim of physiology teaching in medical school should be changed in this direction, and the practice of physiology teaching should be carried out with clinical orientation. For clinicians, who have been on the front line for a long time and are well aware of the major clinical problems they face, they are able to present problems or topics through practical problems and clinical experience, and then they are studied by researchers, which in this way can significantly improve the clinical level. As a very important scientific system, there are many famous scientists and classical stories in the development of physiology system. Therefore, for physiology teaching, teachers should combine with teaching objectives and introduce relevant knowledge in physiology development into physiology teaching, so that students can have more understanding of physiology development and related physiological scientists, so that students' interest in learning can be effectively stimulated, and students' scientific thinking can be well cultivated. For example, by combining with the content of physiology teaching, the winner of the Nobel Prize in Physiology can be introduced, so as to enhance students' interest in learning.

6. Concluding Remarks

Clinical-oriented physiology teaching can not only effectively stimulate students' interest in learning, but also make students easier to understand and master the relevant physiological knowledge, so that students' clinical skills can be effectively improved. Therefore, for physiology teaching, teachers should combine with teaching objectives, combine clinical medicine with physiology teaching organically, and strengthen communication with clinicians, so that students' physiological learning quality can be effectively improved.

References

- [1] Song, Qian. Application of Case Teaching Method in Pathophysiology Teaching. Information in Chinese, no. 9, pp. 149, 2019.
- [2] Li, Xiang., Zhou, Lingli., Shen, Li. Application of clinical-oriented physiology teaching model to medical students. Higher Medical Education in China, no. 8, pp. 76-77, 2019.
- [3] Jia, Fang. Discussion on Clinical-oriented Teaching Methods of Physiology. China Continuing Medical Education, vol. 9, no. 22, pp. 32-33, 2017.
- [4] Luo Yi. Analysis of clinical-oriented teaching methods of physiology. Modern Communication, no. 9, pp. 130, 2017.
- [5] Deng, Huafi., Ma, Yingxuan., Zhou Qin. Clinical application oriented teaching reform of pathophysiology. Basic Medicine and Clinic, no. 9, pp. 1293-1295, 2015.