

Study on Clinical Teaching of Dev Respiratory Diseases Based on PBL Teaching Mode

Tao Zhou

The 920th Hospital of the PLA Joint Logisticsupport Force, Kunming, 6500213, Yunnan, China

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Abstract: PBL (Problem Based Learning) teaching method focuses on learners' ability to solve practical problems, breaks the boundaries between disciplines, completely combines traditional theoretical learning with actual clinical practice, and pays special attention to the cultivation of learners' independent thinking ability. The classic PBL model overcomes the disadvantages that conventional theoretical teaching is not conducive to students' systematic study of basic knowledge and basic theory. In the clinical teaching of Dev respiratory diseases after the theoretical class, PBL teaching method is easy to be accepted by students. This paper discusses the clinical teaching of Dev respiratory diseases based on PBL teaching mode. Select 100 students who practice in our college as the research object, randomly divide them into two groups, 50 students in the observation group, and teach them with PBL teaching method; 50 students in the control group received regular teaching methods. The application practice shows that the two groups of students were given a closed-book exam for 2.5h, and the contents of the exam were the same. Comparing the test scores of the observation group and the control group in consultation, special discussion, medical record writing and physical examination, the test scores of the observation group were significantly higher than those of the control group ($P < 0.05$). PBL model can effectively stimulate students' interest in respiratory internship and improve the teaching quality, which is worth popularizing in clinical teaching of Dev respiratory diseases.

1. Introduction

Clinical teaching of Dev respiratory diseases is an integral part of mastering the skills of diagnosis, treatment and clinical practice of respiratory diseases, and it is one of the important means to ensure medical students to form systematic clinical thinking. It plays an important role in cultivating medical students' clinical thinking and stimulating clinical interest[1]. PBL (Problem Based Learning) has become a widely recognized teaching model internationally in recent years. This model is a student-centered teaching approach guided by teachers, emphasizing the setting of learning in complex and meaningful problem situations. Through collaborative problem-solving, students can learn the scientific knowledge hidden behind problems, develop problem-solving skills, and cultivate the ability to learn independently.

Classical PBL mode overcomes the disadvantages that conventional theory teaching is not conducive to students' systematic study of basic knowledge and basic theory. In the clinical teaching of Dev respiratory diseases after the theory class, PBL teaching method is easily accepted by students[2-3]. This paper discusses the clinical teaching of Dev respiratory diseases based on PBL teaching mode.

2. PBL Teaching Method

The PBL teaching method asks questions and learns relevant knowledge through self-learning and discussion among students. The problem here is not only the focus of learning, but also a collection of related disciplines. It is usually used in medical school teaching, school education, and in-service and continuing education for senior management personnel. PBL teaching breaks the traditional teaching mode of "teacher as the main body and classroom as the center". It obtains relevant knowledge through the logical process of "asking questions-establishing hypotheses-self-

learning to solve doubts-demonstrating hypotheses-summarizing”, which stimulates students' initiative and enthusiasm to the greatest extent, and is more in line with the concept of higher medical education in modern society.

PBL teaching method pays attention to learners' ability to solve practical problems, breaks the boundaries between disciplines, completely combines traditional theoretical learning with actual clinical practice, and pays special attention to the cultivation of learners' independent thinking ability[4]. It has a very positive impact on the improvement of learners' ability to solve problems and analyze problems[5]. PBL teaching method of respiratory medicine is based on the syllabus and content of respiratory medicine, in which teachers set up actual cases for a certain disease, bring students into specific clinical diagnosis and treatment situations, stimulate their interest in learning around clinical cases, and make students actively think and explore solutions to problems, and draw conclusions after full discussion.

3. Implementation of PBL Teaching Method in Clinical Teaching of Dev Respiratory Diseases

3.1 Arrange Teaching Cases

Teachers compile clinical teaching cases according to clinical experience and teaching materials. The main contents are respiratory diseases, such as pneumonia, lung cancer, respiratory inflammation, chronic obstructive pulmonary disease and emphysema. Based on the requirements of the syllabus and the students' existing theoretical level and knowledge structure, teachers divide the teaching content into several small questions, and at the same time send the thinking questions to the students, so that they can prepare for collecting clinical related materials in advance, including how to collect medical history, physical examination and auxiliary examination reports.

3.2 Group Learning

According to the requirements of the syllabus, the teaching objectives are clearly defined, and the knowledge points required for each disease are combined. In the teaching process, the problems with strong clinical practicality are designed, and the students are gradually guided into the actual cases, analyzed and guided to solve the problems. Divide the students into 2 ~ 5 groups, usually choose one student to collect the current medical history, and other students can supplement it at any time in the process, and then another student will have a physical examination and report the results to the whole group of students, and the teacher will supplement the necessary clinical data and related information[6-7].

After all the clinical data are collected, the teacher will organize each group to have clinical discussion. Finally, each group reports and summarizes, including: the characteristics of the patient's medical history, the positive signs of physical examination, the positive results of auxiliary examination, the preliminary diagnosis and diagnostic basis, the diseases that need to be differentiated from, the related examinations that need to be improved in the next diagnosis, and the specific treatment plan.

3.3 Summary and Assessment

After the collection of clinical data, teachers organize students to start discussions, and once again clarify the problems that students need to solve, such as the patient's chief complaint, current medical history, past history, typical signs, diagnosis basis and treatment measures, so as to facilitate students to discuss better.

“Student-centered, problem-centered” is the focus of PBL teaching practice, in which teachers play the role of guiding, grasping the progress and summarizing, and giving evaluation and feedback[8]. Generally speaking, clinical probation is carried out according to the procedure of “case probation-asking questions-discussing and answering questions-summarizing and analyzing-feedback and improvement”, so as to deepen the understanding of knowledge, acquire new knowledge and master the ability to solve new problems.

4. Application Practice

Select 100 students who practice in our college as the research object, and randomly divide them into two groups. There are 50 students in the observation group, including 32 males and 18 females, who are taught by PBL teaching method. 50 students in the control group, including 30 males and 20 females, received regular teaching methods. All the 100 students used the textbook Internal Medicine published by Higher Education Press, and all received 15 hours of study. There is no statistical significance in comparing the general data of age, sex and study hours between the two groups ($P>0.05$), which is comparable.

Observation group: On the basis of mastering the syllabus, teachers chose lobar pneumonia as the teaching method for PBL teaching. The cases are given to the students one by one according to the relevant clues, and the clinical trainee students learn and analyze themselves according to the clues given, and ask related questions by reasoning[9]. After discussion in groups, further diagnosis and treatment plans are given until the problems are solved. Finally, the teacher summarizes some problems and deficiencies that appear in the students' learning process.

In the control group, traditional bedside teaching was carried out, and interns participated in the management of hospital beds.

Finally, the achievements of the two groups of interns in consultation, special discussion, theoretical examination and case writing are analyzed and studied. The data in this study were analyzed by SPSS22.0 software, and the group measurement data were tested by T test. When $P<0.05$, the difference was statistically significant.

In order to compare the effects of medical students' mastery of theoretical knowledge and ability and probation after adopting PBL teaching method, two groups of students were given a 2.5h closed-book exam with the same content. The test scores of the observation group and the control group in consultation, special discussion, medical record writing and physical examination were compared. The test scores of the observation group were significantly higher than those of the control group ($P<0.05$), as shown in Table 1.

Table 1 Comparison of Scores between Two Groups of Students

group	interrogation	seminar	Theoretical examination	Medical record writing	physical examination
Observation group	9.627±0.517	9.296±0.515	9.703±0.607	10.659±0.604	10.149±0.606
control group	7.887±0.393	8.794±0.363	7.678±0.424	7.41±0.413	8.014±0.369
t	14.858	14.842	14.055	15.123	13.999
p	0.041	0.027	0.034	0.046	0.03

5. Experience of PBL Teaching Method in Application

The complexity and versatility of clinical medicine determine that it is a subject of continuous innovation, continuous exploration and learning, and at the same time it is a science that closely integrates theory with practice. The traditional teaching mode only requires students to master theoretical knowledge, students are passive, and the classroom lacks passion. It is basically a "spoon-feeding" of teachers and cannot train students' diagnostic thinking. The study of clinical medicine specialty must combine theory with practice, and practical operation and clinical thinking are the only standards to test the study of medical specialty. In the implementation of PBL teaching, students learn from the questions raised by teachers before class, actively consult various relevant materials and seek answers to questions. Finally, students gain a sense of accomplishment in the process of analyzing and solving problems, and their interest in learning and active participation are improved, so that learning becomes an autonomous learning.

The content of respiratory system of internal medicine is the key point. Students' academic performance is not only determined by the outstanding efforts of students, but also puts forward

new requirements for teachers' teaching. In the internship stage, teachers' teaching can encourage students to further strengthen their understanding of the content of theoretical courses, deepen their impression of theoretical knowledge of diseases, diagnose, treat and differentiate diseases, and gradually cultivate students' comprehensive clinical thinking ability. At present, PBL teaching method is seldom used in clinical teaching of Dev respiratory diseases, but in fact, the clinical teaching of Dev respiratory diseases in groups is the most needed, most suitable and easiest to implement PBL teaching[10]. Therefore, the content and form of PBL teaching are not static, which is conducive to the mutual promotion of "teaching and learning". The simple "cramming" and "instilling" teaching models have gradually faded out of the podium.

The application practice shows that the two groups of students were given a closed-book exam for 2.5h, and the contents of the exam were the same. Comparing the test scores of the observation group and the control group in consultation, special discussion, medical record writing and physical examination, the test scores of the observation group were significantly higher than those of the control group ($P<0.05$). PBL teaching method can overcome students' inertia, enlighten logical thinking and develop creative thinking, thus greatly improving clinical logical thinking ability. Through self-study, independent thinking and independent judgment, students' clinical skills are improved, and their cooperation ability is also improved to a certain extent. It is more suitable for undergraduate teaching of medical students in China at this stage to adopt the improved mode of combining lecture method or case discussion teaching method with PBL teaching method. After the theoretical teaching of clinical interns, PBL teaching method is adopted to carry out clinical teaching of Dev respiratory diseases, which is convenient for the management and education of students and does not affect students' autonomous learning.

In traditional teaching, the teacher is the protagonist in the whole teaching activity, while in PBL teaching mode, students' active learning is emphasized. After PBL teaching method is applied in clinical respiratory medicine probation stage, the role relationship between teachers and students will change constantly in different teaching stages. Students also learned clinical thinking methods in PBL teaching mode, and better combined theoretical knowledge with clinical practice. In the teaching process, the role exchange between teachers and students can significantly improve students' self-learning ability, better analyze the teaching materials and comprehensively summarize the teaching materials. In teaching practice, teachers should pay more attention to the reasonable arrangement of teaching time, course content and preview content before class, and constantly summarize and improve it to make it a good teaching method for students to better master clinical practice. Therefore, in the process of carrying out PBL teaching, we should fully consider each student's own characteristics, the content of clinical probation class and the commonness of students' questions, so that students can better adapt to PBL teaching.

6. Conclusions

In recent years, PBL has become a kind of teaching mode that has been widely paid attention to internationally. This mode is a student-centered teaching mode under the guidance of teachers, which emphasizes setting learning in complex and meaningful problem situations, learning the scientific knowledge behind problems through cooperative problem solving, forming problem-solving skills and cultivating the ability of autonomous learning. PBL teaching method plays an extremely important role in clinical probation. While deepening students' understanding of various diseases, students' basic skills such as asking patients' medical history and physical examination have also been significantly strengthened, and students' clinical comprehensive thinking ability has also been better cultivated.

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