

## ARTICLE

# Application Research of Clinical Nursing Teaching Model Based on PBL Mode

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### ABSTRACT

**Objective:** To explore the application effect of PBL mode in clinical nursing teaching model. **Methods:** 40 nursing students who were internships from June 2017 to April 2018 in our hospital were selected as subjects. They were divided into two groups, the control group and the experimental group, with 20 in each group. The control group used the traditional teaching model, and the experimental group used the PBL teaching model to compare the clinical teaching effects of the two groups of nursing students. **Results:** There was no significant difference between the two groups of nursing students in the basic nursing knowledge, the professional practice operation under the simulated clinical operating environment and the basic nursing operation ( $P>0.05$ ), in the clinical operation environment, the professional practice evaluation results of the experimental group were significantly better than those of the control group, and the difference was statistically significant ( $P<0.05$ ). **Conclusion:** The PBL teaching model has a good teaching effect in clinical nursing teaching, which can effectively improve the professional practice level of nursing students in the clinical environment and meet the requirements of modern clinical nursing professional ability level, therefore, the PBL mode is worthy of popularization and application in clinical nursing teaching.

## 1. Introduction

The PBL teaching model is a new type of teaching method, which is mainly problem-oriented and aims to improve students' comprehensive ability and interest in learning. In clinical nursing teaching, the traditional teaching model has a good teaching effect in

theoretical knowledge and simulation practice. However, with the development of society, the quality of teaching for clinical nursing is getting higher and higher. In order to improve the professional literacy and professional knowledge and skills of clinical nursing students, so that they can become professional talents to adapt to social

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development and job requirements, it is very feasible to apply PBL teaching model in clinical nursing teaching<sup>[1]</sup>. In this research, 40 nursing students who were internships from June 2017 to April 2018 in our hospital will be studied. The PBL teaching model will be applied in clinical nursing teaching, and the application effect will be analyzed and discussed.

## **2. Data and Methods**

### **2.1 Clinical Data**

The 40 nursing students who were internships from June 2017 to April 2018 in our hospital were divided into the control group and the experimental group, with 20 in each group. In the control group, 2 males and 18 females; the average age was (20.39±0.75) years old, including 8 undergraduates and 12 specialists; in the experimental group, there were 3 males and 17 females; the average age was (20.45±0.72) years, including 7 undergraduates and 13 specialists. Differences in age, education, and gender between the two groups of nursing students were not statistically significant and could be compared.

### **2.2 Teaching Methods**

In this clinical nursing teaching research, all teachers are undergraduate or above, with titles of supervisors and above, and engaged in clinical nursing work for more than 10 years. Teachers not only have a high level of professional knowledge and practical skills, but also have a wealth of practical experience and comprehensive ability. The teaching contents of the two groups of nursing students are the basic knowledge and practical skills of clinical nursing. The contents of the teaching materials are the same. Multimedia teaching is used in the teaching of theoretical knowledge; in the teaching of practical skills in the simulated clinical operating environment, physical demonstration teaching is used; in the clinical operating environment, practical skill teaching uses on-the-spot teaching. The two groups of nursing students use the same practical equipment in teaching. Teachers write the syllabus according to the characteristics of their teaching methods, and fully prepare for the development of teaching activities.

In the clinical nursing teaching of the nursing students in the control group, the traditional teaching model was adopted. The teacher teaches the basic theoretical knowledge of nursing students' clinical nursing, and then selects some common cases for teaching, so that the nursing students can evaluate their condition through the patient's case data, and then carry out nursing work according to the patient's physiological characteristics and psycholog-

ical characteristics; for some typical cases, the teacher asks the students to observe their own treatment and then guides the students to care for them. At the same time, after the theoretical knowledge teaching, the clinical environment can be simulated to allow the nursing students to operate, so that the nursing students can effectively combine the theoretical knowledge and practice in the learning process, thereby effectively improving the teaching efficiency.

In the clinical nursing teaching of the experimental group nursing students, the teaching of theoretical knowledge still adopts the traditional teaching model. The PBL teaching model is adopted in the practical skills teaching in the simulated clinical operating environment and the practical skills teaching in the clinical operating environment. First of all, before the practical skills teaching, teachers can reasonably design clinical nursing tasks and nursing problems according to the teaching content, and prepare some common or typical teaching cases. Then, the nursing students are divided into 4 groups, 5 in each group, and the patient's medical records are sent to each nursing student, so that the nursing students can analyze the clinical symptoms of the patients by consulting network information resources, teaching materials, books, etc. The group discussed the search questions, and then the teacher collected the results of the student discussions, evaluated them, and added explanations to the deficiencies to improve the student's knowledge system. In terms of nursing students, teachers should introduce the PBL teaching model to the nursing students before class, so that they have a comprehensive and detailed understanding of the PBL teaching model, so that the PBL teaching model can be smoothly implemented in clinical nursing teaching. Finally, in the teaching process, we must ensure that the time of study is unchanged, promote the consistency of teaching, and combine the PBL teaching model with the traditional teaching model to complement and infiltrate each other. Answer and extend the problem of nursing students, enrich the practical skills of nursing students, and let the nursing students summarize and summarize the learning content after the study. The teacher will test and evaluate the students' summary report.

### **2.3 Effect Evaluation**

The two groups of nursing students were evaluated in terms of theoretical knowledge, basic nursing operation, practical operation skills under simulated operating environment and practical operation skills in clinical operating environment, and then the scores of the two groups of nursing students were counted. At the same time, investigate and analyze the learning enthusiasm, problem-solv-

ing ability, patient satisfaction, language expression ability and theoretical knowledge of the two groups of nursing students, and explore the teaching effects of two different teaching models from various aspects.

### 2.4 Statistical Analysis

The statistical data were analyzed by SPSS 16.0 statistical software. The scores were expressed by mean ± standard deviation, and the two groups of data were processed by t-value and  $\chi^2$ .  $P < 0.05$  indicates that the difference between the data is statistically significant, if  $P > 0.05$ , the difference is statistically insignificant.

## 3. Results

### 3.1 Performance Assessment of Theoretical Knowledge

After the end of the two groups of nursing students, their theoretical knowledge was assessed, and the scores of the two groups of nursing students were compared and analyzed. It was found that the difference between the two groups was not significant, and it was statistically insignificant ( $P > 0.05$ ), and the specific results are shown in Table 1.

**Table 1.** The theoretical knowledge assessment scores of the nursing students in two groups

Group	Number of students	Basic nursing knowledge assessment (score)	Professional theoretical knowledge assessment (score)
Experimental group	20	88.01±4.85	91.20±3.57
Control group	20	87.96±4.53	90.00±3.15
t-value	-	0.034	1.127
P-value	-	>0.05	>0.05

### 3.2 Performance Assessment of Practical Skills

The statistics of the practice evaluation results of the two groups of nursing students are mainly included in the basic nursing operation, the professional practice operation skill assessment under the simulated clinical operation environment and the three assessment contents of the professional practice operation skills in the clinical operation environment. In the basic nursing operation assessment and the simulated clinical operation environment, the difference between the two groups of nursing students' performance was not statistically significant ( $P > 0.05$ ), in the professional practice skills assessment in the clinical operating environment, the performance of the nursing students in the experimental group was significantly better than the control group, and the difference was statistically

significant ( $P < 0.05$ ). The specific data is shown in Table 2.

**Table 2.** The nursing practice assessment scores of the nursing students in two groups

Group	Number of students	Basic nursing operation	Professional practice operation assessment (in simulated clinical operation environment)	Professional practical operation assessment (in clinical operation environment)
Experimental group	20	89.00±2.55	88.00±5.73	85.00±3.27
Control group	20	90.00±2.05	87.00±3.98	80.00±3.15
t-value	-	1.367	0.641	4.925
P-value	-	>0.05	>0.05	<0.05

### 3.3 Student Self-evaluation Satisfaction

After the assessment, the two groups of nursing students' ability to analyze problems, problem-solving skills, learning ability, professional knowledge application ability, team writing ability, and communication ability were investigated through questionnaires. The satisfaction of the nursing students in the experimental group was higher than that of the control group. Especially in the application of professional knowledge and ability to solve problems, the satisfaction of the two groups of nursing students was significantly lower than other aspects. Teachers still need to improve their teaching in these aspects.

## 4. Discussion

### 4.1 The Connotation of PBL Teaching Model

The PBL mode is also called problem-based learning mode. It appeared in the 1950s and was applied to medical education. The PBL teaching model is mainly a set of learning methods based on problem-oriented and design learning situations<sup>[2]</sup>. The main steps are first of all the teacher asks the question, and then the student finds the relevant information and conducts group discussion. Finally, the teacher summarizes the knowledge points. As an open teaching model, PBL mode requires teachers to have good logical thinking ability and organizational management ability<sup>[3]</sup>, which can be taught through lively activities, so that each student can actively participate in the teaching activities and effectively control the rhythm of the classroom. Only in this way can the teaching effect of the PBL mode be fully utilized. In addition, teachers need to strengthen communication with students, so that students have a comprehensive and detailed understanding of the PBL mode, and then can actively cooperate with teaching activities, so that the PBL mode can be successfully carried out in teaching<sup>[4]</sup>. As a transition period

from nursing to nurses, clinical nursing teaching has an important influence on the work and learning after nursing students. It is very feasible to apply PBL mode in clinical nursing teaching process.

#### **4.2 The Application of PBL Mode in Clinical Nursing Teaching**

The application of PBL mode in clinical nursing teaching is mainly divided into three stages: pre-course preparation, problem discussion and inductive summarization. For each teaching stage, its application characteristics are also different<sup>[5,6]</sup>.

Firstly, in the pre-class preparation stage, teachers should carefully design the representative nursing problems according to the professional practice skills. The design problems should attract the interest of the nursing students, so that the nursing students can actively participate in the teaching activities, at the same time, it is necessary to ensure that the nursing students can complete the tasks in the clinical nursing work in the process of exploring the problem and achieve the purpose of clinical nursing teaching. At this stage, in addition to the need for teachers to have a certain logical thinking ability, teachers also need a comprehensive understanding of the psychological characteristics of nursing students<sup>[7]</sup>, therefore, before implementing the PBL teaching model, teachers must strengthen communication and communication with nursing students to ensure the smooth development of teaching activities.

Secondly, in the problem discussion stage, teachers should prepare some typical cases in advance for the nursing students to learn and distribute the patient's medical records to the nursing students, let them characteristics, psychological characteristics, etc., through the nursing students search, access to information, to understand the relevant knowledge of the patient's signs, eventually, the nursing students will conduct a group discussion on the questions raised by the teachers, and write the results of the discussion into a summary report and submit them to the teacher for evaluation. In this process, active participation of nursing students is required to carry out, therefore, the teacher should let the nursing students have a full understanding of the PBL teaching model before class, which is convenient for the normal development of teaching activities. In this process, teachers need to have strong organizational management capabilities and effectively control the progress of teaching activities.

Finally, in the induction and summary stage, the teacher mainly improves the knowledge system of the nursing students through the analysis and analysis of the nursing students' summary report. Allow nursing students to effec-

tively apply the theoretical knowledge they have learned to the practical operation process in the real situation, thus promoting the comprehensive ability of nursing students' knowledge application ability and practical operation ability<sup>[8]</sup>.

#### **4.3 The Practice Effect of PBL Mode in Clinical Nursing Teaching**

In the PBL mode clinical nursing teaching, it is mainly a series of teaching activities initiated by nursing students, which starts with a problem that needs to be solved, and then the teacher guides the nursing students to explore the problem in a real clinical nursing environment<sup>[9]</sup>, in this process, the nursing students can cooperate with each other, discuss and solve the problems together, and finally summarize them by the teachers, accordingly, the nursing students complete the whole learning process and achieve the teaching purpose of improving the comprehensive ability of nursing students' learning ability, theoretical knowledge application ability and problem solving ability<sup>[10]</sup>. In this research, the PBL teaching model of nursing students in the clinical operating environment is significantly higher than the traditional teaching model of nursing students; therefore, the application of PBL teaching model in clinical nursing teaching is beneficial to the generation of practical talents with high level of theoretical knowledge and practical operation.

### **5. Conclusion**

In summary, the PBL mode has significant application effects in clinical nursing teaching, and it focuses on improving the practical operation ability of nursing students in the clinical surgical environment, which enables the nursing students to have strong practical ability in the real working environment and can effectively improve their clinical nursing level. The PBL mode has great promotion value and application significance in clinical nursing teaching.

### **References**

- [1] Meiling Huang, Yun Chen, Huixin Wang. Application of PBL-based participatory teaching mode in clinical nursing teacher training[J]. *Journal of Nursing*, 2011, 18(22):23-26. (in Chinese)
- [2] Li Zhao. PBL-based teaching model of clinical nursing major in higher vocational colleges[J]. *Modern Vocational Education*, 2016(16):168-170. (in Chinese)
- [3] Liang Ruan, Yucui Gong, Guozhen Gao, et al. Application of PBL mode in nursing teaching rounds[J]. *Chinese Journal of General Practice*, 2012,

- 10(3):144-145 154. (in Chinese)
- [4] Shanshan Wang, Xiaoli Pang, Fanjie Meng, et al. Introduction of integrated teaching mode of nursing theory and practice based on PBL teaching method[J]. *Tianjin Journal of Nursing*, 2014, 22(5):449-450. (in Chinese)
- [5] Mei Xiao, Haiping Zhang, Haiyan Wang. Application of PBL teaching mode in clinical nursing teaching[J]. *Journal of Qilu Nursing*, 2007, 13(7):90-91. (in Chinese)
- [6] Na Zhang, Yujia Liu, Xu'nan Wei. Application of evidence-based nursing and PBL teaching mode in surgical clinical nursing teaching[J]. *Chinese Nursing Research*, 2015(29):3664-3665. (in Chinese)
- [7] Williams AF. An antipodean evaluation of problem-based learning by clinical nurses[J]. *Nurse Educ Today*, 1999 Nov;19(8):659-67.
- [8] Xin Wang, Chunyan Wang. Application of PBL teaching mode based on network environment in clinical nursing teaching of ophthalmology[J]. *Health Vocational Education*, 2013(18):41-42. (in Chinese)
- [9] Martyn J, Terwijn R, Kek MY, et al. Exploring the relationships between teaching, approaches to learning and critical thinking in a problem-based learning foundation nursing course[J]. *Nurse Educ Today*, 2014 May;34(5):829-35.
- [10] Zhen Jin, Yanling Lin, Xingmei Chen. Application of PBL teaching mode in nursing clinical practice teaching[J]. *Chinese Medicine Modern Distance Education of China*, 2012, 10(22):121-122. (in Chinese)