Application of Clinical Pathway Teaching Model In nursing Teaching of Respiratory Department

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Abstract: Respiratory medicine is one of the important specialized courses in clinical medicine. Its main purpose is to improve students' mastery of TCM theoretical knowledge and medical practice skills, so as to lay a good foundation for doctors in the future. In the traditional teaching mode, the problems such as individual differences and physiological factors of patients are often ignored, resulting in low classroom efficiency and unable to effectively connect medical personnel with patients. In view of the above situation, this paper studies the application of clinical pathway teaching model in nursing teaching of respiratory department. Firstly, this paper introduces the basic concepts, characteristics and functions of nursing teaching in respiratory medicine, then studies the application of clinical pathway teaching mode, and uses the method of questionnaire survey to study its practical application. Finally, the survey results showed that both the control group and the experimental group had excellent scores in theory and operation examination, and the two groups were improved to a higher degree, including theoretical knowledge, skill proficiency and clinical practice experience, but the results of the experimental group were higher than those of the control group. The satisfaction of teachers and patients with nursing students in the experimental group was higher than that in the control group.

Keywords: Clinical Pathway Teaching; Respiratory Medicine; Nursing Teaching; Teaching Mode

1. Introduction

Respiratory medicine is an important part of clinical medicine. In the process of daily teaching, how to effectively cultivate students' good learning habits and master basic knowledge and skills is particularly key [1, 2]. As one of the teaching departments in medical institutes, respiratory department plays a great role in improving patients' quality of life and preventing diseases. The rational application of respiratory related theories and methods in clinical basic nursing is of great significance for clinicians to carry out guidance. Therefore, how to combine theoretical teaching with practical teaching has become the focus of research [3, 4].

Many scholars have conducted relevant research on nursing teaching in respiratory medicine. The research on the teaching mode of respiratory medicine in foreign countries started earlier, and has formed a relatively mature and complete theoretical system and practical experience. Chinese scholars also explore it from different angles. Some scholars mentioned that medical college students lack of basic knowledge of traditional Chinese medicine theory and doctor-patient communication. Other scholars believe that the curriculum of medical college is mainly based on classroom teaching, ignoring the importance and insufficient attention of extracurricular practice and practice, resulting in poor teaching effect and difficult to achieve the expected goal [5, 6]. Other scholars systematically analyze the physiological and psychological characteristics of patients, through clinical pathway teaching, make them master correct and effective life skills, improve their self-protection ability, and strengthen cooperation, exchange and learning with medical colleges [7, 8]. The above research has laid a research foundation for this paper.

Respiratory medicine is an important part of clinical pathway teaching. It plays an important role in learning basic medical knowledge and skill training. Under the traditional mode, theory teaching is the main form. Under the influence of factors such as the continuous progress and development of modern society, the improvement of medical technology and the change of patients' needs, the content of respiratory courses is gradually increasing and the requirements are more strict. At the same time, due

to the need of clinical practice, the number of students and the overburden of nursing staff, coupled with the tense relationship between doctors and patients, resulting in the aggravation of teaching tasks and limited time. It is urgent for teachers to carry out targeted comprehensive quality education and training.

2. Discussion on Clinical Pathway Teaching Mode in Nursing Teaching of Respiratory Department

2.1 Nursing Teaching in Respiratory Medicine

2.1.1. Basic Concepts

Nursing teaching in respiratory medicine is a specialized teaching integrating multiple disciplines, which takes patients' clinical as the object, combines medical technology and nursing, and carries out targeted, systematic and comprehensive teaching for patients. Its main task is to cultivate students' good self-care ability, improve the level of clinical practice, and master basic knowledge and skills [9, 10]. During the internship, it is found that the course has high requirements for medical personnel. First of all, we should skillfully master the basic theory, professional operation and clinical experience. Secondly, we should have strong communication skills and comprehensive qualities such as emotional close contact with patients. Finally, we should exercise our own psychological endurance, sense of self-control and interpersonal skills, so as to improve students' independence and sense of responsibility in dealing with problems. In daily work, we should pay attention to cultivating students' ability and comprehensive quality level in terms of good habits and health knowledge, strengthen the construction of classroom practical learning process management and quality evaluation system, and pay attention to improving teachers' professional skills and professional literacy.

2.1.2. Characteristics of Teaching

(1) Teaching methods according to materials, with strong flexibility. During the course setting, students should be taught according to their aptitude according to their own situation and clinical progress. For example, for students with common cardiovascular diseases such as acute bronchitis and chronic cor pulmonale, their main learning contents are respiratory function exercise and daily nursing. For those with severe respiratory symptoms or risk factors of respiratory tract infection, conventional teaching methods can be selected to explain relevant theoretical knowledge. For the physiological metabolism involved in surgical teaching, the course can be adjusted and supplemented according to the patient's own situation, so as to better improve the classroom effect.

(2) Targeted and effective. The purpose of giving targeted guidance and help in theory is to improve students' understanding of diseases and related knowledge. Select appropriate nursing measures and methods according to different patients' physical function, psychological status and their own needs. At the same time, we should also strengthen the cultivation and training of nurses' comprehensive quality such as cooperation ability and mutual communication skills in practical teaching. Through classroom education, students can master the teaching content and skillfully use various operation skills for practical clinical application.

(3) Pay attention to students' individual differential development. Targeted training for different individuals to adapt to their physical health. The individualized nursing mode is carried out by focusing on and layering the patients. Formulate corresponding plans and schemes according to each person's environment and their own situation, implement targeted sex education in combination with the specific characteristics of each patient, pay attention to students' physical and psychological development, analyze their influencing factors, and put forward reasonable and effective suggestions and measures to help patients recover, so as to improve the overall treatment effect [11, 12].

2.1.3. Role of Nursing Teaching in Respiratory Medicine

Respiratory medicine is the most common emergency department in clinic. Its main task is to carry out health education for patients and implement clinical teaching into daily nursing. In view of nursing teaching, we pay great attention to the cultivation of students' comprehensive quality and practical exercise when carrying out routine first aid training for patients. Through long-term close contact and communication with medical personnel, we can master the disease-related knowledge and condition changes. At the same time, we can timely adjust the teaching plan, improve the classroom atmosphere and mobilize the teaching methods according to the actual needs, so as to achieve better results, make it easier for patients to receive clinical experience and improve the quality of nursing.

2.2 Clinical Pathway Teaching Mode

2.2.1. Concept

Clinical pathway teaching mode refers to the combination of clinical medical theory, basic knowledge and practical operation, so that students can learn independently in class, and predict the patient's condition and nursing measures through group discussion and communication. The teaching method is mainly "case type". Teachers choose different types of cases according to the situation of patients. For example, for those with respiratory dysfunction, congenital heart disease or other special symptoms, cases with high frequency, strong infection ability and treatment advantages in the clinical pathway course can be selected and trained in practice. By observing the relationship between patients and doctors and analyzing the effect of disease diagnosis and treatment in the hospital, we can provide theoretical basis and guidance help to improve students' interest and enthusiasm in learning and improve their own ability. At the same time, we can also enable teachers to timely understand students' mastery of nursing course content and better adjust teaching plans, In order to achieve the best clinical effect and finally promote the realization of the goal of health education for college students.

2.2.2. Application of Simple Clustering Algorithm in Clinical Pathway Teaching

CLIQUE clustering algorithm combines the essence of density and grid clustering algorithm to deal with mixed type and high-dimensional spatial data in large databases. It has high efficiency and can get good clustering results. Clique algorithm is not sensitive to the input order of data objects and does not need to assume any standardized data distribution. It expands linearly with the size of the input data. When the dimension of the data increases, the algorithm has good scalability. However, due to the complexity of the method process, the clustering steps should be simplified as much as possible, which affects the accuracy of clustering results.

In a subspace set {S1, S2,..., Sn}, the pruning method calculates the number of records contained in each subspace:

$$x_{sj} = \sum_{u_i \in s_j} count(u_i) \tag{1}$$

Where, count (UI) is the number of points contained in the dense unit UI, and X is a coverage of the subspace SJ. The algorithm arranges the subspaces in descending order according to the coverage, and then divides the subspace into two sets: the selected set R and the pruned set P. For each set, calculate the average value covered by the area and the difference between each subspace in the set and the average value, and add the digits required for the computer to store these values, which is the encoded objective function:

$$CL(i) = \log_2(u_I(i)) + \log_2(x_{ij} - u_i(i)) + \log_2(u_p(i)) + \log2(x_{sj} - u_p(i)) \tag{2}$$
$$\scriptstyle{1 < j < i}$$

Determine a parameter I value to minimize the objective function Cl (I), which is the segmentation point to be found in the process of algorithm analysis.

3. Application of Clinical Pathway Teaching Mode in Nursing Teaching of Respiratory Department

3.1 Investigation Purpose

Clinical pathway teaching mode is a new type of teaching mode, which is based on theory and practice. It is practiced in the traditional classroom and applied to clinical nursing. Based on the analysis of the psychological status of patients and their families, it formulates personalized courses according to the differences of physiological structure of different patients. This topic mainly investigates the basic situation of patients, analyzes and summarizes the influencing factors and puts forward corresponding countermeasures according to the survey results, so as to provide reference for the application of clinical pathway teaching mode in respiratory medicine nursing.

3.2 Respondents

60 nursing students in one group of respiratory medicine were set as the control group, and 60

nursing students in the other group were set as the experimental group. There was no significant difference between the two groups in terms of age, gender, educational background and admission evaluation theory test scores (P > 0.05), which was comparable. The teaching teachers were clinical nurses with teaching qualifications who were employed through the examination of the nursing department.

3.3 Investigation Contents

Each course content in the clinical pathway chart is completed within a specific time frame. Respiratory medicine students are guided and demonstrated by subject teachers. They work under the guidance of teachers. Each content should be clearly explained in the clinical treatment plan and when to summarize and evaluate. The head nurse and head teacher monitor the performance and teaching quality of each learning step according to the implementation of the path table, constantly find problems and improve the teaching plan in time. At the same time, complete the contents of nursing training at this level and the reasons for random test, discuss and master the operation, so as to achieve the expected educational objectives.

4. Investigation and Analysis on the Application of Clinical Pathway Teaching Mode in Nursing Teaching of Respiratory Department

4.1. Comparison of Theoretical and Operational Assessment Results of Nursing Students

Table 1 shows the comparative data of theory and operation assessment results of two groups.

Table 1: Comparison of the nursing student theory and operation assessment performance of the two groups

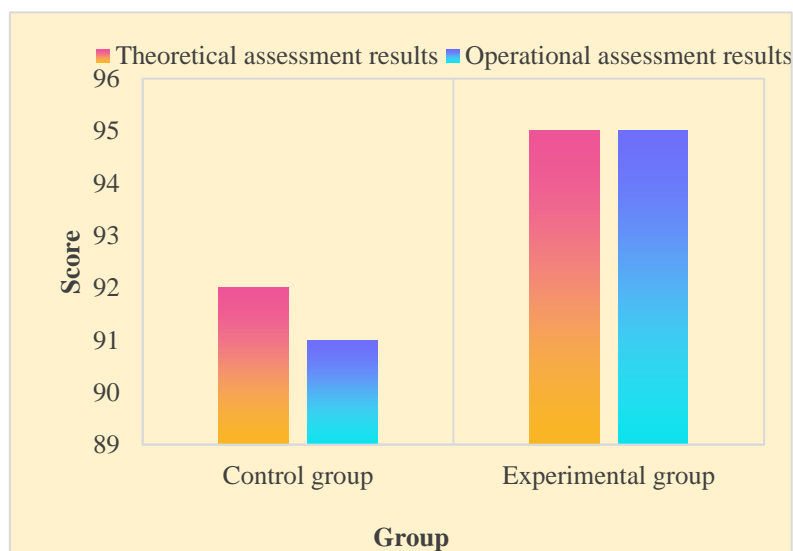| Group	Theoretical assessment results	Operational assessment results	P
Control group	92	91	0.001
Experimental group	95	95	0.003

Figure 1: Comparison of the nursing student theory and operation assessment performance of the two groups

Theoretical assessment is not only an important content of clinical pathway teaching, but also an intuitive display of students' understanding of their role in hospital work and their mastery of nursing professional knowledge. At the same time, corresponding scoring standards and method systems are formulated according to the level of clinical medical knowledge and practical experience. As can be seen from Figure 1, the theoretical and operational assessment results of the nursing department of the control group and the experimental group are excellent, and both groups have been improved to a high extent, including theoretical knowledge, skill proficiency and clinical practice experience, but the

results of the experimental group are higher than those of the control group.

4.2. Comparison of Satisfaction of Guidance Teacher, Nursing Students and Patients
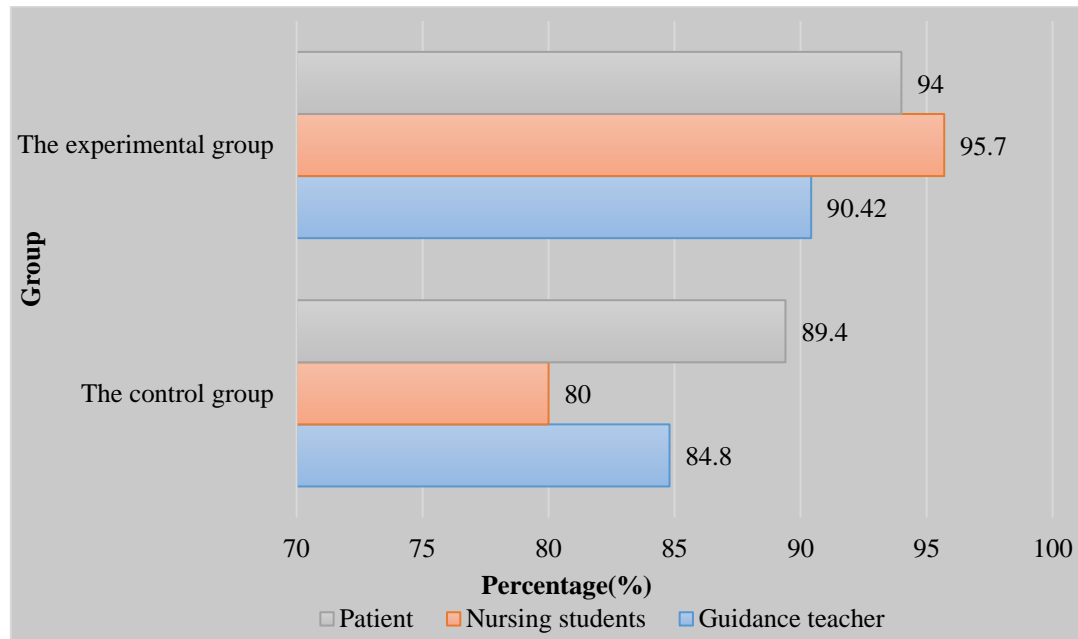

Figure 2: Comparison of satisfaction with teaching teachers, nursing students and patients

The satisfaction survey of teaching teachers mainly includes information feedback provided to patients and medical staff, as well as opinions and suggestions to doctors, nurses and other relevant personnel. Its work content is to evaluate according to clinical experience. From the perspective of communication with patients, it was found that nurses did not describe the patient's condition in detail and clearly during the hospital practice, while nursing students paid more attention to the training and learning of their own professional knowledge, skill level and operation ability, and the completion of teaching tasks. Therefore, it can be seen from Figure 2 that the satisfaction of the teaching teachers and patients with the nursing students in the experimental group is higher than that of the nursing students in the control group.

5. Conclusion

In the clinical pathway teaching mode, the course of respiratory medicine is mainly aimed at patients and students to master basic knowledge, which is taken as the learning content of theory course. Therefore, in the specific implementation process, we need to take corresponding measures according to different situations, and adjust the classroom content in combination with the actual situation of students. This method plays a very important role in helping nurses improve their comprehensive ability and professional quality and meet the needs of social development. In addition, it can also accelerate the transformation of clinical pathway teaching mode to modernization and informatization, and provide new ideas and reference basis for research in the field of clinical medicine.

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