

Observation on the Application Effect of Scene Simulation Teaching in Intensive Care of Department of Neurology

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Abstract: The purpose is to explore the application effect of scene simulation teaching in neurology intensive care. 104 nursing students who were interned in the intensive care unit of Department of Neurology of our hospital from January 2020 to April 2021 were randomly divided into control group and experimental group, with 52 in each group. Traditional nursing education was used in the control group, and scene simulation education was carried out in the experimental group. After the internship, the test scores, comprehensive ability and educational effect satisfaction of the two groups were compared. Results: the scores of clinical cases in the experimental group were significantly higher than those in the control group ($P < 0.05$). The total scores of nursing operation skills, emergency response ability, tacit understanding dimension, communication and cooperation of students in the experimental group were significantly higher than those in the control group ($P < 0.05$), and the satisfaction of the experimental group was significantly higher than that in the control group ($P < 0.05$). Conclusion: the implementation of scenario simulation teaching in neurology intensive care can significantly improve theoretical achievement, practical skill achievement, clinical case nursing ability and education satisfaction of nursing students in nursing department, and enhance their comprehensive ability.

Keywords: Situational Simulation Teaching; Internal Medicine-Neurology; Intensive Care; Application Effect; Observation

Introduction

Neurology is an important hospital department. Severe patients in neurology department have poor self-management ability, high requirements for nursing work and heavy workload of nurses. Pre job clinical nursing practice education can improve the level of practice and nurses' relevant professional knowledge, enhance comprehensive ability and communication ability, and effectively ensure work efficiency and quality. The traditional severe clinical nursing practice education is dominated by teachers. Teachers use the teaching method of single person narration to explain and teach relevant knowledge and operations. Students' learning enthusiasm is poor and the educational effect is not ideal. Situational simulation teaching method is a problem-oriented teaching method, which has been carried out in colleges and universities and achieved good teaching results [1]. Scene simulation teaching simulates the occurrence and development of clinical cases. Nurses operate various nursing skills through roles to obtain knowledge, improve professional skills and increase emotional experience. The situational simulation teaching method was introduced into the practical teaching of Neurology nursing.

1. Data and methods

1.1 Basic data

104 interns in the intensive care unit of the Department of Neurology of our hospital from September 2020 to June 2021 were selected as the research objects. They were randomly divided into control group and experimental group according to the digital table method, including 14 boys and 90 girls, aged from 20 to 22 years, with an average age of (21.3 ± 0.6) years. In the control group, there were 52 people, 8 boys and 44 girls, with an average age of (21.5 ± 0.5) years; in the experimental group, there were 52 people, 5 boys and 47 girls, with an average age of (21.6 ± 0.7) years. There was no

significant difference between the two groups ($P > 0.05$).

1.2 Method

The control group used the traditional teaching methods. The specific steps were as follows: first, the students were taught intensively according to the syllabus, and explained the relevant knowledge of Neurology through multimedia teaching methods (including teaching courseware PPT demonstration, pictures and video playback, etc.), focusing on the key and difficult points, and assigned after-school tasks. Select appropriate cases and the teaching teacher will carry out teaching rounds, and practice each item to get familiar with the knowledge points in the teaching [2].

The experimental group was divided into 13 groups. (1) Problem inspiration of situational teaching method: guide students to preview the teaching content before class, and give targeted teaching according to the students' mastery. The teaching teacher selects typical cases, carefully designs questions, arranges students to search and consult relevant materials and make PPT in groups, and the members of the group discuss according to clinical thinking in combination with the teaching materials, then the representatives from each group will speak and other group members will supplement; finally, the teacher will supplement and summarize the questions raised by the students and answer them one by one to form a more unified answer. Guide students to stay in the situation, and students can freely choose roles for cooperative exercises^[3], such as: executing medical orders, interpreting various indicators of auxiliary examination, and inferring possible nursing diagnosis; quickly analyze and judge the dynamic changes of clinical manifestations, find and deal with new problems, formulate nursing objectives and implement nursing measures. The whole process is monitored by the teaching secretary or teacher. After the drill, the teaching secretary or teaching teacher commented on the whole drill process, focused on correcting the problems in the drill, and optimized nursing measures according to the photos and videos of the teaching process [4].

1.3 Observation indicators

1.3.1 The examination score test evaluated and compared the basic theoretical knowledge, clinical practice ability and learning interest of neuro-internal nursing students in the two groups.

(1) The theoretical knowledge test is randomly generated from the ICU question bank of the Department of Neurology, and the online examination of nursing world is carried out in a unified way by means of closed book measurement. The corresponding test papers are selected according to the initial, middle and later stages of the internship, and the test is carried out on Thursday of the last week after the internship of the Department, with a full score of 100 points.

(2) The practical skill test content is the practical operation content of neurology intensive care unit, with a full score of 100 points. (3) According to the evaluation of nursing ability of clinical cases, 20 operation cases were designed according to the actual clinical cases in the intensive care unit of Neurology. 3 cases were randomly selected by lot, and the average score of 3 times was taken, and each case was 100 points [5].

1.3.2 The comprehensive ability assessment test adopts the comprehensive ability assessment scale of nursing staff.

Evaluate the comprehensive ability of nursing students. The scale consists of four dimensions: skilled nursing operation, tacit understanding of work cooperation, improvement of emergency response ability and communication. Each dimension has 25 points, and the total score is 100 points. The higher is the score, the better is the comprehensive ability of nursing students.

1.3.3 The teaching effect satisfaction evaluation adopting the Chinese teaching effect satisfaction evaluation scale to evaluate the teaching effect satisfaction.

The scale consists of 7 items: establishing the overall concept of nursing, improving autonomous learning ability, improving communication ability, improving teamwork ability, improving professional identity, clarifying roles and responsibilities, and mastering nursing practice skills [6].

1.4 Statistical processing

SPSS 25.0 software was used. The measurement data were expressed as mean \pm standard deviation ($x \pm s$). The test results and comprehensive ability were tested by t. The counting data is expressed in [n (%)]. The satisfaction line was tested by χ^2 . $P < 0.05$ indicates that the difference is statistically significant [7].

2. Results

2.1 Comparison of test scores

The theoretical scores, clinical case nursing ability and practical skills of nursing students in the experimental group were significantly higher than those in the control group ($P < 0.05$), as shown in **Table 1**.

Table 1. Comparison of test scores between the two groups ($x \pm s$, score)

Group	n	Theoretical achievements	Practical achievement skill	Clinical pathology nursing ability
Experience group	52	93.59 \pm 1.72	91.48 \pm 2.65	91.37 \pm 3.28
Control group	52	81.71 \pm 2.31	79.83 \pm 3.04	80.31 \pm 2.64
T value		9.181	8.746	7.518
P		<0.001	<0.001	<0.001

2.2 Comparison of comprehensive ability

The scores and total scores of skilled nursing operation, improvement of emergency ability, communication and tacit understanding of work cooperation of nursing students in the experimental group were significantly higher than those in the control group ($P < 0.05$), as shown in **Table 2**.

Group	n	Skilled nursing operation	Improvement of emergency capacity	Communication	Tacit understanding of work cooperation	Total score
Experience group	52	22.49±1.02	23.29±1.07	22.81±1.04	22.62±0.97	91.24±1.32
Control group	52	20.17±0.94	20.31±0.83	19.93±0.92	19.97±0.78	80.38±1.14
T value		7.832	8.261	7.746	7.983	9.012
P		<0.01	<0.01	<0.01	<0.01	<0.01

Table 2. Comparison of comprehensive ability scores between the two groups ($x \pm s$, score)

2.3 Comparison of teaching effect satisfaction

The satisfaction of the experimental group was significantly higher than that of the control group ($P < 0.05$), as shown in Table 3.

Table 3. Comparison of teaching effect satisfaction between the two groups [n (%)]

Evaluation items (satisfactory)	Experimental group (n = 52)	Control group (n = 52)	T value	P
Establish the overall concept of nursing	49 (94.23)	37 (71.15)	12.05	< 0.01
Improve autonomous learning ability	50 (96.15)	35 (67.31)	12.98	< 0.01
Improve communication skills	46 (88.46)	27 (51.92)	13.07	< 0.01
Improve teamwork	50 (96.15)	36 (69.23)	12.11	< 0.01
Improve professional identity	51 (98.08)	31 (59.62)	12.29	< 0.01
Clarify roles and responsibilities	48 (92.31)	33 (63.46)	12.86	< 0.01
Master nursing practice skills	51 (98.08)	32 (61.54)	12.05	< 0.01

3. Discussion

3.1 Situational simulation teaching method can improve the quality of intensive care of nursing students.

Traditional teaching is mostly taught by teachers. Students have few opportunities to practice, poor initiative, and single memory knowledge points. It is difficult to integrate the basic medical knowledge learned in the classroom with the actual clinical nursing work. Situational simulation teaching is a problem-oriented teaching method, which can combine the contents learned in the classroom with clinical practical problems, create a good teaching situation, stimulate students' interest in learning, and improve students' ability to consult and analyze problems^[8]. Scenario simulation teaching can create scenarios for nursing students, compare and compare the specific cases with the learned knowledge, actively judge the similarity and difference between the problems and the learned knowledge, and correct them in time. Situational cases can enable nursing students to logically integrate basic theoretical knowledge and basic nursing operation skills, improve their diagnosis and treatment ability, and highlight the characteristics of teaching reflection. The reasoning demonstration diagram after the exercise can exercise the ability to solve clinical problems related to nursing treatment, and enable nursing students to form clinical reasoning learning awareness and thinking habits. In this study, the scores of nursing students in the experimental group were higher than those in the control group, indicating that the learning effect of nursing students in the experimental group was better in the teaching process. The reason may be related to the students' high interest in learning and providing a display platform for students to promote students to use their knowledge to reasonably solve problems^[9].

3.2 Situation simulation teaching method can improve the comprehensive ability of internship and nursing intensive care

Scenario simulation teaching method is according to the teaching objectives to design problems, students-centered, students with the problem in the form of scenario simulation solution problems. It develops students' awareness and ability for lifelong learning and teamwork, and puts emphasis on developing their skills to solve practical problems. Scenario simulation teaching method is to conduct hands-on operation after the end of the theory. In the teaching process, middle school students choose role playing and simulate realistic medical scenarios to complete the nursing operation, so that students have a deeper understanding of the teaching content and are more skilled in various operations. In the process of operation, internship nursing students communicate with each other, and then solve problems, can improve the strain ability of internship nursing students. The results of this study showed that the nursing operation proficiency, emergency ability improvement, communication, tacit understanding dimension score and total score of the experimental group were significantly higher than the control group. It shows that the situational simulation teaching method can improve the comprehensive ability of internship and nursing students^[10].

3.3 Scenario simulation teaching methods can improve the satisfaction of internship and nursing students

Traditional teaching methods are mostly dominated by teachers, and students passively accept the teaching content, which is easy to tire students, produce resistance, and reduce the quality of teaching. Through role playing, students simulate realistic medical scenes, while mastering knowledge points, can stimulate their innovation and thinking consciousness, increase their interest in learning, and enhance the communication between teachers and students and students. Through this study found that students are satisfied with this teaching method.

In the process of situational simulation, the teacher will give them more opportunities, but when the actual skills

operation problems and mistakes, the teacher must correct them. At the same time, in order to better play the role of protecting students, we must play a higher quality role before strengthening theoretical knowledge and practical skills, and protect students' theoretical knowledge and practical skills level.

To sum up, the implementation of situational simulation teaching methods in the intensive care teaching of neurology department can significantly improve the theoretical achievements, practical skills, clinical case nursing ability and teaching satisfaction, and strengthen the comprehensive ability, which is worthy of promotion and application.

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