

A Practical Exploration of Improving Clinical Thinking Skills of Nursing Interns Based on the Human Figure Diagram Ward Round Model

Shasha Liu*

Deyang People's Hospital, Deyang 618000, Sichuan, China

**Author to whom correspondence should be addressed.*

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Abstract: *Objective:* To explore the practical application value of the human figure diagram ward round model in cultivating clinical thinking ability of nursing interns, based on the actual situation of clinical nursing internship teaching. *Methods:* Eighty nursing interns from a hospital were selected as the research subjects and randomly divided into a control group and an observation group, with 40 in each group. The control group adopted the traditional clinical teaching ward round model, while the observation group adopted the human figure diagram ward round model for clinical teaching. The internship period for both groups was 8 weeks. *Result:* After 8 weeks of internship, the average score of clinical reasoning ability in the observation group was (89.62 ± 4.35), which was higher than that in the control group (76.35 ± 5.12). The average score of patient observation ability in the observation group was (88.75 ± 3.89), which was higher than that in the control group (74.28 ± 4.76). The average score of nursing documentation quality in the observation group was (90.15 ± 3.26), which was significantly higher than that in the control group (77.58 ± 4.53). These differences were statistically significant ($p < 0.05$). *Conclusion:* The human figure ward round model can effectively help nursing interns integrate clinical theoretical knowledge with practical skills and is worthy of promotion and application in nursing internship teaching at all levels of hospitals.

Keywords: Human figure ward round model; Nursing interns; Clinical reasoning ability; Clinical teaching

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1. Introduction

Clinical thinking ability is the core competency of nursing staff in carrying out clinical nursing work, and it is also the key ability for nursing interns to transition from classroom theoretical learning to clinical practice, which is directly related to the quality and efficiency of their future nursing work^[1]. The human figure ward round model is a new ward round method that has been gradually promoted in clinical nursing teaching in recent years. Based on the human figure, the patient's symptoms, signs, nursing focus, and various abnormal examination indicators are presented in the form of visual graphics, guiding nursing students to sort out the condition, analyze nursing problems, and formulate targeted nursing measures around the graphics. In view of the current status of clinical nursing internship teaching, in order to further optimize the teaching model and improve the clinical thinking ability of nursing interns, this study applied the human figure ward round

model to the clinical teaching of nursing interns and compared the teaching effect with the traditional ward round model. The specific research results are reported as follows.

2. Materials and methods

2.1. General information

Eighty nursing interns admitted to a tertiary-level Class A hospital between September 2024 and September 2025 were selected. All interns were full-time undergraduate or associate degree students in nursing, had completed all classroom theoretical learning, and were entering clinical practice for the first time. The internship period was uniformly 8 weeks, and none had any prior clinical nursing work experience. Exclusion criteria included: students who withdrew midway through the internship, those who accumulated more than one week of leave, or those with cognitive impairments that prevented them from participating normally in teaching activities. The 80 interns were randomly divided into a control group and an observation group, with 40 students in each group, to ensure the comparability of baseline data between the two groups.

In the control group, there were 38 females and 2 males, aged 19–22 years, with a mean age of (20.52 ± 0.85) years; 22 were undergraduate nursing students, and 18 were associate degree nursing students. In the observation group, there were 37 females and 3 males, aged 19–23 years, with a mean age of (20.65 ± 0.92) years; 23 were undergraduate nursing students, and 17 were associate degree nursing students. Statistical analysis of general information such as gender, age, and educational background of the two groups showed no statistically significant differences between the groups ($p > 0.05$), indicating comparability and ensuring the objectivity and fairness of subsequent comparisons of teaching effectiveness.

2.2. Methods

2.2.1. Control group method

Every day, teaching staff lead nursing students into the wards to conduct ward rounds. During the rounds, the teaching staff first inquire about changes in the patient's condition, review medical records and examination results, and then explain the patient's clinical diagnosis, treatment plan, and core nursing points to the nursing students in detail. A case discussion is organized once a week, where the teaching staff selects typical clinical cases and guides the nursing students to analyze the cases simply. The discussion focuses on the teaching staff's explanation and summary.

2.2.2. Observation group method

The observation group adopted the anthropomorphic diagram ward round model for clinical teaching, which was divided into three stages: preliminary training, ward round implementation, and consolidation and improvement. The specific implementation details are as follows:

(1) Preliminary training

During the first week of the internship, nursing teachers with more than 5 years of clinical teaching experience and intermediate or higher professional titles will provide special training to the nursing students in the observation group. The training will focus on the method of drawing human figure diagrams, the core process of human figure diagram ward rounds, and precautions for clinical application. The human figure diagram is based on the standard human body outline. Nursing students are required to combine the patient's specific condition with the actual clinical cases during the training. The teaching teachers will provide on-site guidance to the nursing students in the drawing process and correct any errors in labeling or lack of emphasis in the drawing process.

(2) Implementation of ward rounds

Before the ward rounds each day, nursing students need to enter the ward 15 to 20 minutes in advance, actively communicate with the patients, ask about the patients' subjective feelings and changes in their condition, carefully review the medical records, blood routine, urine routine, imaging and other examination results, and draw personalized human figure diagrams based on the patient's specific symptoms and signs. The abnormal manifestations, positive test results, and

current nursing problems of the patients should be clearly marked on the diagrams. During ward rounds, nursing students take turns displaying the anthropomorphic diagrams they have drawn, explaining in detail the patient's condition, the initial nursing problems they have identified, and the proposed nursing measures. Other nursing students supplement and discuss based on their own observations.

(3) Consolidation and improvement

A case review activity based on anthropomorphic diagrams is conducted once a week. Typical cases encountered in clinical practice during the week are selected, and nursing students are organized to redraw anthropomorphic diagrams. They compare the diagrams drawn initially, analyze their own shortcomings and omissions in observing the condition and judging nursing problems, summarize experiences and lessons learned, and form a virtuous cycle of self-improvement. The supervising teacher explains the construction method of clinical thinking based on the nursing students' review, and guides the nursing students to establish a complete thinking model of "collecting information–analyzing problems–formulating measures–evaluating effects" based on the practical experience of anthropomorphic diagram ward rounds at Binzhou Central Hospital. At the end of the internship, nursing students are organized to conduct a simulated assessment of anthropomorphic diagram ward rounds. Real clinical cases are selected, and nursing students are allowed to independently complete the drawing of anthropomorphic diagrams, analysis of the condition, and formulation of nursing plans to test the teaching effect.

2.3. Observation indicators

(1) Clinical thinking ability

The evaluation was conducted using the Nursing Clinical Thinking Ability Evaluation Scale, which covers four core dimensions: disease judgment, nursing problem analysis, nursing plan formulation, and emergency treatment. There are 20 items in total, and each item is scored from 1 to 5 points (1 point = very poor, 5 points = excellent). The total score is 100 points. The higher the score, the stronger the nursing student's clinical thinking ability.

(2) Ability to observe the condition

The self-made "Ability to Observe the Condition" evaluation scale was used to evaluate the condition. It is combined with the actual needs of clinical nursing and covers three dimensions: symptom observation, physical sign observation, and interpretation of auxiliary examination results. There are a total of 15 items. Each item is scored from 1 to 5 points, with a total score of 75 points. After conversion to a 100-point system, statistical analysis was performed. The higher the score, the more comprehensive and detailed the nursing student's observation of the condition.

(3) Quality of nursing documentation

The evaluation is based on the hospital's nursing documentation standards. The evaluation focuses on three core parts: temperature chart, nursing record sheet, and doctor's order execution sheet, totaling 10 items. Each item is scored from 1 to 10 points, for a total of 100 points. The higher the score, the more standardized the nursing documentation is.

2.4. Statistical methods

All data in this study were processed and analyzed using SPSS 22.0 statistical software. Quantitative data were expressed as ($\bar{x} \pm s$), and *t*-tests were used for comparisons between groups. Categorical data were expressed as percentages (%), and χ^2 tests were used for comparisons between groups. A *p*-value < 0.05 was considered statistically significant to ensure the scientific validity and reliability of the research data and to provide data support for the research conclusions.

3. Results

3.1. Comparison of clinical reasoning ability scores between two groups of nursing interns

Before the training, there was no significant difference in the clinical reasoning ability scores between the two groups of nursing students (*p* > 0.05); after the internship, the scores of the observation group were significantly higher than those of

the control group ($p < 0.05$). For details, please refer to **Table 1**.

Table 1. Clinical reasoning ability scores of the two groups of nursing interns

Group	Number of examples	Pre-training assessment ($\bar{x} \pm s$, points)	Post-training assessment ($\bar{x} \pm s$, points)	Between-group t -values (after training)	p -value (after training)
Control group	40	68.25 $\pm$ 4.89	76.35 $\pm$ 5.12	11.892	< 0.001
Observation group	40	67.98 $\pm$ 4.95	89.62 $\pm$ 4.35	11.892	< 0.001
Between-group t -values (before training)	-	0.235	-	-	0.815

3.2. Comparison of patient observation skills scores between the two groups of nursing interns

Before the training, there was no significant difference in the patient observation ability scores between the two groups of nursing students ($p > 0.05$); after the internship, the scores of the observation group were significantly higher than those of the control group ($p < 0.05$). For details, please refer to **Table 2**.

Table 2. Comparison of patient observation ability scores between the two groups of nursing interns

Group	Number of examples	Pre-training assessment ($\bar{x} \pm s$, points)	Post-training assessment ($\bar{x} \pm s$, points)	Between-group t -values (after training)	p -value (after training)
Control group	40	66.32 $\pm$ 4.72	74.28 $\pm$ 4.76	12.305	< 0.001
Observation group	40	65.98 $\pm$ 4.81	88.75 $\pm$ 3.89	12.305	< 0.001
Between-group t -values (before training)	-	0.312	-	-	0.756

3.3. Comparison of nursing documentation quality scores between two groups of nursing interns

Before the training, there was no significant difference in the nursing documentation writing quality scores between the two groups of nursing students ($p > 0.05$); after the internship, the scores of the observation group were significantly higher than those of the control group ($p < 0.05$), as shown in **Table 3**.

Table 3. Comparison of nursing documentation quality scores between the two groups of nursing interns

Group	Number of examples	Pre-training assessment ($\bar{x} \pm s$, points)	Post-training assessment ($\bar{x} \pm s$, points)	Between-group t -values (after training)	p -value (after training)
Control group	40	69.15 $\pm$ 4.63	77.58 $\pm$ 4.53	11.568	< 0.001
Observation group	40	68.89 $\pm$ 4.71	90.15 $\pm$ 3.26	11.568	< 0.001
Between-group t -values (before training)	-	0.258	-	-	0.797

4. Discussion

The core of cultivating clinical thinking ability in interns is to guide them to break down the barriers between theoretical knowledge and clinical practice, form a complete thinking chain of “observation-analysis-judgment-solution”, and be able to flexibly apply the nursing theoretical knowledge learned in class to clinical nursing work and independently deal with various clinical nursing problems^[2]. The results of this study clearly show that the nursing students in the observation group who adopted the anthropomorphic ward round model scored significantly higher than the control group who adopted

the traditional ward round model in the three core dimensions of clinical thinking ability, disease observation ability, and nursing documentation quality.

From the perspective of cultivating clinical thinking ability, the human figure ward round mode guides nursing students to actively go into the ward through a visual graphic presentation method, comprehensively collect patients' symptoms, signs and various examination information, integrate these fragmented information into the human figure, prompting nursing students to actively think about "what are the abnormal manifestations of the patients", "what are the potential causes of these abnormal manifestations", and "how to formulate targeted nursing measures", and gradually establish a systematic and complete clinical thinking framework; in terms of the ability to observe the condition, the human figure ward round mode requires nursing students to draw human figures in advance before the ward round. This process requires nursing students to communicate with patients actively, carefully review medical records, sort out the patient's symptoms, signs and abnormal indicators one by one, and accurately mark them on the human figure, effectively guiding nursing students to develop a habit of meticulous observation of the condition^[3]. In the human figure ward round mode, the human figure drawn by the nursing students contains the patient's condition information, providing a reliable basis for writing nursing documents. Nursing students can sort out the key points of nursing records according to the human figure, ensuring that the content of nursing documents is complete, accurate, and coherent, and truly reflects the changes in the patient's condition.

In summary, the anthropomorphic ward round model, through its visual and interactive teaching methods, can effectively guide nursing interns to establish a systematic clinical thinking framework.

Disclosure statement

The author declares no conflict of interest.

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