

Analysis of The Use of Implicit Nursing Knowledge in The Teaching of Cardiovascular Internal Medicine Nursing

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Abstract: *Objective:* To explore the utilization of implicit nursing knowledge in the teaching of cardiovascular internal medicine nursing and to provide a reference for improving the quality and efficiency of cardiovascular internal medicine nursing work. *Methods:* Thirty-six trainee nurses working in the cardiovascular internal medicine department of our hospital from September 2022 to September 2023 were selected and randomly divided into a control group and an observation group of 18 trainees each. The control adopted the traditional teaching methods while the observation group adopted the implicit nursing knowledge in their clinical practice work. The assessment scores and teamwork ability of the two groups were analyzed and compared. *Results:* The performance of the observation group was better than that of the control group, and the difference between the two groups was statistically significant ($P < 0.05$). The teamwork ability of the observation group was significantly better than that of the control group in teamwork ability ($P < 0.05$). *Conclusion:* Implicit nursing knowledge teaching is conducive to the cultivation of high-quality nursing talents and meets the development needs of hospitals. Therefore, the importance of implicit nursing knowledge should be strengthened in the teaching of cardiovascular internal medicine nursing and it should be comprehensively organized to improve the quality of nursing services.

Keywords: Implicit nursing knowledge; Cardiovascular internal medicine; Nursing teaching

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1. Introduction

With the continuous progress of medical technology and the updating of nursing concepts, the nursing work of cardiovascular internal medicine is becoming more complex and delicate. In this context, implicit nursing knowledge, i.e., those nursing experiences and skills that are not explicitly defined and difficult to verbalize but are crucial in practice are receiving more attention from nursing educators and practitioners^[1]. In a high-risk, highly specialized field such as cardiovascular medicine, the transmission and application of implicit nursing knowledge is of crucial for improving the quality of care and ensuring patient safety^[3]. However, the traditional nursing teaching model often focuses too much on the transmission of explicit knowledge, such as

nursing theory and operational skills, and neglects the transmission and learning of implicit nursing knowledge, which leads to the difficulty of new nursing staff to adapt quickly to the actual work. Furthermore, they often lack resilience and clinical experience when facing complex and changing conditions, thus affecting the quality of care [3]. This paper analyzes the use of implicit nursing knowledge in the teaching of cardiovascular internal medicine, with 36 trainees as the study subjects.

2. Information and methods

2.1. General information

Thirty-six nursing trainees working in the cardiovascular internal medicine department of our hospital from September 2022 to September 2023 were selected as the subjects of the study. There were 8 male nurses and 28 female nurses aged 20–35 years old, with an average age of 27.91 ± 4.52 years. There were 29 people with bachelor's degree or above and there were 7 people with specialized education. During the study period, all subjects participated in different forms of nursing teaching. Through observation and comparison, it was found that 30 subjects selected in this study possess good nursing professional knowledge and skills, and were able to skillfully master commonly used medical devices and medicines in the Department of Cardiology, as well as a variety of nursing operation techniques. At the same time, they have a good sense of nursing service, which meet the needs of clinical work. Most of the subjects were able to take the initiative to learn from the instructors when carrying out clinical nursing work and constantly summarize their experiences to improve their own professional level. The 36 subjects were divided into a control group and an observation group, with 18 subjects in each group. The control group consisted of 3 male nurses and 15 female nurses aged 20–32 years old, with an average age of 27.61 ± 2.42 years. The observation group consisted of 5 male nurses and 13 female nurses aged 25–35 years old, with an average age of 27.81 ± 2.98 years. General information between both groups were comparable and did not show significant difference ($P < 0.05$).

2.2. Methods

The control group received traditional teaching methods with theoretical lectures held following the syllabus, including basic nursing knowledge and specialized nursing knowledge.

The observation group received implicit nursing knowledge teaching methods. Before training, the hospital rules and regulations were organized, including job responsibilities and relevant laws and regulations. Each teacher was responsible for 10–20 intern nurses, where a detailed nursing plan was developed and the content was scheduled to be completed in the weekly meeting. A senior nurse was assigned to be the class head and was responsible for the implementation of the assessment, inspection, and guidance. The practical nurses were guided to understand the basic conditions of the patients, such as past medical history and history of allergies, and familiarize themselves with commonly used resuscitation equipment and first aid medicines. Practical and trainee nurses were encouraged to actively publicize the knowledge of health education to the patients and their family members. The family members were also informed of problems that may arise in the course of treatment and were taught to make corresponding emergency preparations.

2.3. Observation indicators

The assessment scores (nursing theory scores and nursing practice scores are 100 points) and teamwork ability (100 points) of the two groups were analyzed and compared.

2.4. Statistical methods

Data were analyzed using the SPSS 22.0 software. Measurement data were expressed as mean \pm standard deviation and the count data were expressed as %. Measurement data were analyzed using a *t*-test, and count data were analyzed using a chi-squared (χ^2) test. Results were considered statistically significant at $P < 0.05$.

3. Results

3.1. Comparison of nurses' assessment scores between the two groups

As shown in **Table 1**, the assessment scores of the observation group were higher than those of the control group ($P < 0.05$).

Table 1. Comparison of nurses' appraisal scores between the two groups (mean \pm standard deviation)

Group	Nursing theory scores	Nursing practice grades
Observation group ($n = 18$)	86.97 \pm 7.65	86.03 \pm 7.64
Control group ($n = 18$)	79.26 \pm 8.95	78.83 \pm 8.67
<i>t</i>	2.778	2.643
<i>P</i>	0.009	0.012

3.2. Comparison of teamwork ability between the two groups

As shown in **Table 2**, the teamwork ability of the observation group was higher than that of the control group.

Table 2. Comparison of teamwork ability between the two groups [n (%)]

Group	Cases, n	Collaborative skills scoring
Observation group	18	87.13 \pm 8.66
Control group	18	77.53 \pm 8.61
<i>t</i>		3.335
<i>P</i>		0.002

4. Discussion

Explicit nursing knowledge refers to the knowledge that can be directly seen or heard by patients, healthcare workers, and other related personnel, such as nursing operation procedures, disease care points, rules, and regulations. It mainly includes nurses' professional ethical qualities, responsibilities, humanistic care, communication abilities, and emergency response abilities^[5]. In this study, the concept of implicit nursing knowledge was defined by reviewing the literature and conducting a questionnaire survey on cardiovascular internal medicine nurses. It is known as the experience and skills with certain value that was summarized after a long period in clinical nursing practice. It is a type of "hidden" knowledge that is not usually shared. Implicit nursing knowledge refers to patients or nurses in the specific clinical nursing work summarized in the nursing experience with universal applicability, such as "one touch, two listen, three see, four check, five right, six observation," which contains a wealth of clinical knowledge and skills, and is easily ignored. Recently, with the deepening of nursing education reform, the clinical teaching method has gradually changed from traditional classroom lectures to a teaching mode that emphasizes practice. The instructor is required to flexibly combine explicit and implicit nursing knowledge and reasonably apply them in nursing teaching^[6]. Since the cardiovascular department of our hospital has carried out nursing teaching, it has established a relatively perfect

system of teaching implicit nursing knowledge, so that nursing staff at all levels can master the essence of implicit nursing knowledge, which effectively promotes the smooth implementation of nursing work.

In this study, the theoretical knowledge score of the observation group (86.97 ± 7.65) was significantly higher than that of the control group (79.26 ± 8.95) ($P < 0.05$). This was mainly due to the fact that both groups of taught nurses were able to grasp the basic nursing knowledge related to cardiovascular diseases. In some specific knowledge points, such as heart failure and arrhythmia, the taught nurses showed certain knowledge blindness under the traditional teaching method, and the theoretical knowledge level of the taught nurses significantly improved upon adopting the method of teaching of implicit nursing knowledge. The observation group's score practical performance score (86.03 ± 7.64) was significantly higher than that of the control group (78.83 ± 8.67) ($P < 0.05$). This is because both groups were able to skillfully use the basic nursing techniques and mastered a variety of specialized nursing techniques such as cardiopulmonary resuscitation and oxygen absorption. However, due to the lack of sufficient practical experience of the nurses under the traditional teaching method, there were still some problems in their operation skills, such as failure to strictly follow the principle of "one person, one machine" in cardiac monitoring, inaccurate calculation of drug dosage, and inaccurate venipuncture. Cao and Wang found that implicit nursing knowledge teaching was a new teaching concept and the use of this approach in nursing practice can give full play to the subjective initiative of nurses, improve the communication and interaction between the instructor and the student, effectively solve the problems in clinical nursing, and significantly improve patient satisfaction, which was in line with the results of this study^[7,8].

In this study, the teamwork ability of the observation group (87.13 ± 8.66) was higher than that of the control group (77.53 ± 8.61) ($P < 0.05$). This is because nurses need to continuously accumulate experience in clinical nursing, where this process will gradually form a personal unique nursing thinking mode. Nurses can apply the skills they learned to analyze and evaluate the patient's condition, and ultimately adopt appropriate nursing measures. This thinking mode is also based on individual differences and the special characteristics of the working environment, which is also known as implicit nursing knowledge. Due to the lack of actual clinical experience, although their theoretical knowledge is relatively solid, nurses are often unable to apply what they have learned in real life, thus failing to achieve the expected teaching effect. Therefore, targeted implicit nursing knowledge teaching work for nursing practice nurses can effectively improve their professional skills and enhance their comprehensive quality to better serve patients. Zhang found that the use of implicit nursing knowledge in cardiovascular internal medicine nursing teaching improved the self-confidence and enthusiasm of the nurses, effectively improved their communication ability, emergency response-ability, and service consciousness. Hence, the nurses could better adapt to the clinical nursing work environment, which was conducive to the realization of the goal of quality care^[9]. Therefore, the teaching staff of the cardiovascular internal medicine department should pay more attention to the implicit nursing knowledge and take this as an opportunity to continuously improve their comprehensive quality, to make a positive contribution to the long-term development of the hospital.

5. Conclusion

The teaching of implicit nursing knowledge can improve the professionalism of nurses, promote good teamwork, and enhance the work enthusiasm of nursing staff. In this study, the use of implicit nursing knowledge in cardiovascular internal medicine nursing teaching has achieved remarkable results, not only cultivated excellent nursing talents, but also effectively increased patient satisfaction with nursing services.

According to the relevant provisions of China's Nursing Regulations, nurses should receive formalized nursing education and training to attain a higher level of nursing competence and service consciousness, to better provide patients with high-quality nursing services. Strengthening the training of nursing intern nurses' implicit nursing knowledge is conducive to improving their comprehensive quality and helping them grow rapidly. Focusing on the training of practical operation skills constantly strengthens the clinical thinking ability of nursing practice nurses. Focusing on the education of nurses' humanistic qualities encourages them to actively participate in social welfare activities^[10]. Hospitals should also assign a head nurse to different departments to develop a nursing teaching program, standardize the internship behavior of nursing practice nurses, and promote their comprehensive development.

Currently, the theoretical study of implicit nursing knowledge is still in preliminary stages, with many problems that need to be solved. The teaching of implicit nursing knowledge lacks systematic and scientific theoretical guidance, hence it is difficult to teach the key points. Some hospitals have yet to include implicit nursing knowledge into the nursing teaching curriculum, or have not elaborated on the relevant contents although they were mentioned during the lectures, thus affecting the quality and outcome of teaching. Furthermore, some hospitals, due to human resource constraints, cannot provide each teacher with a full-time nurse to assist in completing teaching work, which makes the nurses not fully competent in all aspects of the work of nursing internship nurses. Given this, the author believes that in the future, we should strengthen theoretical learning, constantly improve the nurses' comprehensive quality, and master the connotation and extension of implicit nursing knowledge. Third-party services should be actively introduced and fully utilize social forces to make up for the lack of resources in the hospital. Teaching systems should be improved by formulating a clear and quantifiable rewards and punishment mechanism, so that the management personnel and the teaching staff can jointly commit to the implementation of implicit nursing knowledge teaching. Feedback meetings can be held regularly to summarize lessons learned promptly, optimize the teaching program, and continuously improve the professional level of nursing internship nurses, to promote the sustained development of the nursing career of cardiovascular internal medicine.

Disclosure statement

The author declares no conflict of interest.

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