

Construction and practice of comprehensive nursing mode in nursing center of neonatal intensive care unit

Danhua Jia

Department of Pediatric, The 980th Hospital of the PLA Joint Logistic Support Force, Shijiazhuang, Hebei, 050082, China

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Abstract: The purpose of this study is to explore the construction and practice of comprehensive nursing mode in neonatal intensive care unit (NICU) nursing center. By collecting and analyzing the data before and after the implementation of comprehensive nursing mode, the paper evaluates the influence of this mode on nursing efficiency, nursing quality and satisfaction of patients and their families. The results show that after the implementation of comprehensive nursing mode, nursing efficiency has been improved, nursing time and expenses have been reduced, and nursing quality and safety have been improved. Family members' satisfaction with nursing service has also been improved, and improvements in nursing quality, communication effect and medical safety have been recognized. In addition, the discharge rate of patients has improved, and the cure rate and recovery speed have also improved. The construction and practice of comprehensive nursing model provides an effective nursing service model for NICU nursing center, which is helpful to improve nursing efficiency and quality, enhance the satisfaction of patients and their families, and promote the recovery and cure of patients.

1. Introduction

Neonatal intensive care unit (NICU) is one of the most critical and complicated nursing environments in the hospital, which undertakes the important task of treating the dying newborn. With the continuous progress of medical technology and the development of neonatal medicine, the nursing needs of NICU have become more complex and diverse [1]. However, the traditional nursing mode is often difficult to meet the needs of children and their families in NICU, and there are many challenges and problems [2-3]. For example, the monitoring and treatment of children's vital signs require a high degree of professional skills and clinical experience, while family members are often troubled by psychological pressure and lack of information.

In this context, it is particularly important and necessary to construct and implement a comprehensive nursing model. This comprehensive nursing model organically combines nursing team, medical technology and children's families to provide more comprehensive, humanized and efficient nursing services. The purpose of this paper is to explore the construction and practice of comprehensive nursing mode in NICU nursing center, in order to provide new ideas and methods for improving nursing quality and efficiency in NICU. Through this study, we hope to provide more

scientific, humanized and effective solutions for NICU nursing, so as to ensure that every newborn can get the best care and treatment.

2. Research design

2.1. Research method

The purpose of this study is to explore and construct a comprehensive nursing model suitable for NICU, so as to improve the quality of nursing, optimize the utilization of medical resources, improve the satisfaction of children and their families, and provide new ideas and methods for nursing practice in NICU. In this study, a mixed research method was adopted, combining qualitative and quantitative research, to fully understand the construction and practice of comprehensive nursing mode in NICU [4-5].

Qualitative research will deeply understand the understanding, attitude and experience of nursing team members, medical managers and children's families on comprehensive nursing model through semi-structured interviews and focus group discussions. Through open interviews and exchanges, the participants' cognition, expectations and suggestions on nursing mode, as well as their evaluation of nursing quality and effect were collected.

The quantitative study will adopt questionnaire survey to collect opinions and feedback from NICU nursing team members and children's families. The questionnaire covers all aspects of nursing mode, including nursing process, technical support, communication and cooperation, patient safety, etc., in order to quantitatively evaluate the implementation effect and satisfaction of nursing mode.

Through mixed research methods, qualitative and quantitative data are integrated and analyzed to obtain more comprehensive and in-depth research results. Qualitative data can help to deeply understand participants' views and experiences, while quantitative data can provide objective quantitative indicators and statistical analysis, thus verifying and enriching the findings of qualitative research and promoting the in-depth understanding and evaluation of comprehensive nursing model [6].

2.2. Research object and sample selection

In this study, NICU of a large general hospital and a county hospital in a certain area is selected as the research scene. The research objects mainly include nursing team members, medical managers and family members of children in NICU.

Ten nurses and five doctors were selected from the NICU of this hospital as research samples. The working experience of these nurses and doctors ranges from 1 to 10 years, covering all nursing levels and professional titles. Among them, five nurses and three doctors participated in the reform and practice of nursing mode in NICU. Six nurses and three doctors were selected to participate in the study. These nurses and doctors have working experience ranging from 2 to 8 years, representing the main personnel of NICU nursing team in county hospitals in this area. Including the nursing director and clinical department director of NICU. A total of 3 medical managers participated in the study. Including the hospital president, director of clinical nursing department, etc. A total of 2 medical managers participated in the study. Fifteen children's families were selected to participate in the study, including parents, grandparents and other different family members. Ten children's families were selected to participate in the study, which also covered participants with different family roles and backgrounds.

2.3. Data collection methods and tools

Semi-structured interviews were conducted with nursing team members, medical managers and children's families to explore their cognition, attitude and experience of NICU comprehensive nursing model. The interview content includes the understanding of nursing mode, challenges and problems in the implementation process, evaluation of nursing effect and suggestions for future development. Nursing administrators can organize nursing team members and medical managers to participate in focus group discussions, and conduct in-depth exchanges and discussions around the design and implementation of nursing models. Through group discussion, the administrators can collect the opinions and perspectives of different participants, and promote the collision of ideas and the formation of consensus.

A questionnaire survey was designed for nursing team members and children's families, which was conducted anonymously to ensure the privacy and freedom of participants. The questionnaire covers all aspects of nursing mode, such as nursing process, technical support, communication and cooperation, patient safety, etc., in order to quantitatively evaluate the implementation effect and satisfaction of nursing mode. Nursing administrators can use related scale tools, such as patient satisfaction scale and job satisfaction scale, to evaluate nursing team members and children's families in order to obtain objective quantitative data.

3. Construction of comprehensive nursing model

The construction of comprehensive nursing mode in NICU is a complex process involving many factors and links, which needs to fully consider the special physical and psychological needs of children, the professional skills and cooperation ability of nursing team, the support and cooperation of medical equipment, the participation and support of children's families and other factors [7]. Here, the paper puts forward the following key points and steps for the construction of comprehensive nursing model:

(1) Formulate nursing concepts and core values. Nursing administrators should establish a patient-centered and comprehensive nursing concept, and emphasize core values such as teamwork, communication, and respect for patient privacy.

(2) Establish a multidisciplinary team. Establishing a multidisciplinary nursing team including nurses, doctors, respiratory therapists, nutritionists, etc., is essential to achieving professional nursing services.

(3) Formulate nursing procedures and standard operating procedures (SOP). Designing a nursing process and SOP suitable for different nursing links and conditions is essential to ensure the standardization and consistency of nursing operation.

(4) Optimize medical equipment and technical support: Equipping medical facilities with advanced medical equipment and technology, such as ventilators and monitors, is essential to provide comprehensive technical support and medical security.

(5) Strengthen the participation and support of patients' families. Carrying out education and support activities for patients' families helps improve their understanding and cooperation with the nursing mode. This initiative also strengthens communication and cooperation between family members and the nursing team.

(6) Establish quality monitoring and evaluation mechanism. Setting up a nursing quality monitoring index and evaluation system allows for the regular evaluation and feedback of nursing effects and patient satisfaction. This facilitates the adjustment and optimization of the nursing mode in a timely manner.

(7) Continuous improvement and innovation. Establishing a continuous improvement mechanism encourages nursing team members to actively participate in the reform and innovation

of the nursing mode, promoting the continuous improvement and development of nursing services.

The construction of comprehensive nursing mode needs the joint efforts and active participation of all nursing team members to ensure the scientificity, feasibility and effectiveness of nursing mode. Through the organic combination of the above steps and measures, a comprehensive nursing model adapted to the nursing needs of NICU is constructed to provide better nursing services for the rehabilitation of patients and the satisfaction of their families.

4. Practice of nursing mode

4.1. Preparation before implementing comprehensive nursing mode

Before a hospital prepared to implement the comprehensive nursing mode of NICU, the following preparations were made:

(1) Determine the implementation plan

The nursing department of the hospital organized a special meeting to discuss with the nursing team members and relevant medical managers and determine the implementation plan. A detailed plan including timetable, training arrangement and task division was made to ensure the orderly implementation process.

(2) Organize training and education

A series of training and education activities were arranged, including theoretical lectures, practical exercises and case studies. Experts and senior nurses provided training on comprehensive nursing model for nursing team members, and introduced the core concept, operation process and technical points of the model.

(3) Develop operational guidelines and procedures.

The nursing department has compiled a detailed operation guide and SOP, including the specific steps and precautions of various nursing operations in NICU, to ensure the standardization and safety of nursing operations.

(4) Prepare necessary equipment and materials.

The nursing department and the medical equipment management department jointly checked the list of medical equipment, drugs and materials needed by NICU to ensure that all necessary equipment and materials were prepared and necessary maintenance and disinfection were carried out.

(5) Establish a communication mechanism

The communication mechanisms within the nursing team and between the nursing team and other medical departments have been established, and team groups and regular meetings have been established to timely transmit information, solve problems and share experiences.

(6) Carry out simulation exercises

Members of the nursing team were arranged to carry out several simulation drills, which simulated various patients' conditions and nursing scenes. During the simulation exercise, the nursing team members were familiar with the nursing operation process, exercised the team cooperation ability, and found some potential problems, which were improved and adjusted in time.

(7) Family education of patients

The nursing department organized an education lecture for patients' family members, introduced the nursing mode of NICU and the cooperation obligation of family members, emphasized the important role of family members in patients' rehabilitation, and improved their understanding and support.

Through the orderly preparation, the hospital successfully made full preparations for the implementation of NICU comprehensive nursing mode, which laid a solid foundation for the smooth transformation of nursing team and the improvement of nursing service.

4.2. Evaluation of implementation effect

The implementation of comprehensive nursing mode may have a significant impact on the admission, rehabilitation and readmission rate of patients. Before the implementation of comprehensive nursing mode, the admission rate was 30%, but it dropped to 13% after implementation. This shows that the implementation of comprehensive nursing mode may lead to a decrease in the number of hospitalized patients. This is because the comprehensive nursing model has improved patients' health management, preventive measures and rehabilitation support, and reduced the need for patients to be hospitalized. Before the implementation of the comprehensive nursing mode, the discharge rate was 60%, but it increased to 79% after the implementation. This shows that the implementation of comprehensive nursing mode may improve the cure and rehabilitation rate of patients, so that more patients can successfully recover and leave the hospital. This is because the comprehensive nursing mode improves the quality of nursing, medical technology and the implementation of rehabilitation plan, and improves the recovery speed and success rate of patients. Before the implementation of comprehensive nursing mode, the readmission rate was 15%, but it decreased to 6% after implementation. This shows that the implementation of comprehensive nursing mode may reduce the readmission rate of patients and reduce the need for readmission due to recurrence or complications. This is because the comprehensive nursing model emphasizes the continuous monitoring, rehabilitation guidance and health education of patients, which effectively prevents the deterioration of the disease and the need for re-admission. See Table 1 for details.

Table 1: Admission rate, discharge rate and readmission rate before and after the implementation of comprehensive nursing model

Time Period	Admission Rate (%)	Discharge Rate (%)	Readmission Rate (%)
Before Implementation	30	60	15
After Implementation	13	79	6

After implementing the comprehensive nursing mode, the average daily nursing time was reduced from 8.5 hours to 7.0 hours. This shows that the implementation of comprehensive nursing mode can improve nursing efficiency, reduce patients' daily nursing time and make more effective use of nursing resources. After the implementation of comprehensive nursing mode, the average nursing cost per patient was reduced from \$1,000 to \$900. This shows that the implementation of comprehensive nursing mode not only improves nursing efficiency, but also reduces nursing cost, saving nursing resources and economic expenses for hospitals. See Table 2 for details.

Table 2: Comparison of nursing time and nursing expenses

Time Period	Average Nursing Time (hours/day)	Average Nursing Cost (per patient)
Before Implementation	8.5	\$1000
After Implementation	7.0	\$900

The family members' satisfaction score of nursing quality is 9.2, which shows that they think the quality of nursing provided under the comprehensive nursing mode is higher. Family members scored the highest on the communication effect with nursing staff, reaching 9.5 points, indicating that the nursing team performed well in communication and communication with family members. Family members scored 9.4 points on medical safety, indicating that they were satisfied with the medical services and security provided by the hospital. The family members' satisfaction score with the information provided to their families is 9.6, indicating that they are satisfied with the

transparency and timeliness of the information provided by the hospital. The family members' satisfaction score for holistic nursing is 9.4, which reflects that they are very satisfied with the holistic nursing service after the implementation of the comprehensive nursing model. See Table 3 for details.

Table 3: Satisfaction evaluation of patients' families

Aspect of Care	Satisfaction Score (Out of 10)
Nursing Quality	9.2
Communication with Nursing Staff	9.5
Physician Care	9.0
Hospital Facilities and Environment	9.3
Medical Safety	9.4
Information Provided to Family Members	9.6
Overall Care	9.4

5. Discussion and analysis

After the implementation of comprehensive nursing mode, the average daily nursing time was reduced from 8.5 hours to 7.0 hours, and the nursing efficiency was significantly improved. This is because the comprehensive nursing mode improves the nursing process and management mode, reduces unnecessary tedious steps and improves the work efficiency of nursing staff [8]. After the implementation of comprehensive nursing mode, the average nursing cost per patient was reduced from \$1,000 to \$900, and the nursing cost was effectively controlled and reduced. This may be because the comprehensive nursing model optimizes the allocation and utilization of nursing resources and reduces resource waste and cost.

Family members scored high on the overall evaluation of nursing service after the implementation of comprehensive nursing mode, and the nursing quality, communication effect and medical safety were highly recognized and satisfied by family members [9]. This shows that the comprehensive nursing model can provide better nursing service and enhance the trust and satisfaction of family members to the hospital nursing team. After the implementation of comprehensive nursing mode, the discharge rate increased from 60% to 79%, because the comprehensive nursing mode optimized the nursing scheme and rehabilitation plan, and improved the cure rate and rehabilitation speed of patients.

After the implementation of the comprehensive nursing mode, the nursing efficiency has been improved, the nursing cost has been reduced, and the satisfaction of patients' families and the cure rate of patients have also been significantly improved, which shows that the comprehensive nursing mode has obvious advantages and effects in improving the quality of nursing services, optimizing the utilization of resources and enhancing the satisfaction of patients and their families [10]. However, further in-depth research and continuous monitoring are needed to continuously improve and perfect the comprehensive nursing model to ensure the continuous provision of high-quality nursing services and meet the needs of patients and their families.

6. Conclusion

The construction and practice of comprehensive nursing model provides an effective nursing service model for NICU nursing center, which is helpful to improve nursing efficiency and quality, enhance the satisfaction of patients and their families, and promote the recovery and cure of patients. However, we should also realize that the implementation of comprehensive nursing mode is a

process of continuous improvement and optimization, which needs constant adjustment and perfection to adapt to the changing medical environment and patient needs and ensure continuous provision of high-quality nursing services.

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