Journal of Clinical and Nursing Research, 2025, Volume 9, Issue 3
http://ojs.bbwpublisher.com/index.php/JCNR
Online ISSN: 2208-3693
Print ISSN: 2208-3685

Application Effect of Refined Management Mode in Orthopedic Nursing Management

Xiaoyan He*

Boe Hospital, Suzhou 215200, Jiangsu Province, China

***Corresponding author:** Xiaoyan He, 43878805@qq.com

Abstract: This study aimed to explore the application method and effect of a refined management model in orthopedic nursing management. A total of 190 patients treated at our hospital were enrolled and divided into two groups. Ninety-five patients treated from January to May 2023 served as the control group, receiving conventional orthopedic nursing management, while another 95 patients treated from June to December 2023 formed the observation group, in which a refined management model was implemented. The nursing management outcomes of the two groups were compared. The results showed that patients in the observation group had a shorter hospital stay, a lower incidence of postoperative complications and nursing risk events, and higher nursing satisfaction compared to the control group ($P < 0.05$). These findings indicate that the refined management model can effectively improve nursing quality, reduce orthopedic nursing risk events, and enhance patient satisfaction, demonstrating significant clinical value.

Keywords: Refined management mode; Nursing management; Patient satisfaction

Online publication: April 3, 2025

1. Introduction

Nursing management plays an important role in the quality of nursing and the treatment and rehabilitation of patients. Nursing management covers a wide range of contents and managers need to understand the situation of department personnel, patients, department technology, potential risk factors, and other aspects to better guide the development of nursing work [1]. The number of orthopedic nursing staff is relatively insufficient, while the number of patients continues to increase, resulting in greater work pressure on nursing personnel. This growing burden not only affects the continuity and stability of the nursing team's work but also poses significant challenges to effective nursing management, making it difficult to ensure high-quality and consistent patient care. In addition, the orthopedic nursing management system needs to be further improved. Although the basic nursing management system has been developed, the system is not detailed enough and the implementation is not in place due to the particularity of orthopedic nursing. With its advantages of economy, convenience, and high efficiency, fine

management brings new ideas and methods for nursing management of departments. Relevant literature points out that by promoting refined management, the nursing management level of departments can be improved, and more high-quality and efficient medical services can be provided to patients [2]. Based on this, a total of 190 orthopedic patients were selected as research objects in this paper, and the analysis was as follows.

2. Data and methods

2.1. General information

A total of 190 patients receiving treatment in the Department of Orthopedics of our hospital were selected as the study subjects. Among them, 95 patients admitted from January to May 2023 were designated as the control group, including 58 males and 37 females, aged between 28 and 81 years, with an average age of (55.42 ± 8.71) years. Another 95 patients admitted from June to December 2023 were assigned to the observation group, including 60 males and 35 females, aged between 28 and 86 years, with an average age of (54.84 ± 8.36) years. There were no statistically significant differences in general baseline data between the two groups ($P > 0.05$), indicating comparability.

Inclusion criteria: (1) Patients with confirmed orthopedic-related diseases, including traumatic fractures, lumbar disc herniation, cervical spondylosis, osteomyelitis, etc., meeting the corresponding diagnostic criteria. (2) Inpatients receiving treatment in the orthopedics department of our hospital. (3) Patients capable of cooperating with various examinations and treatments, with good compliance. (4) Patients or their family members provided signed informed consent.

Exclusion criteria: (1) Patients with mental illnesses or cognitive impairments who could not cooperate with treatment and evaluation. (2) Patients with malignant tumors or other serious wasting diseases. (3) Patients who withdrew from the study for any reason.

2.2. Methods

For the control group, routine orthopedic nursing management mode was implemented. As for the observation group, the refined management model was implemented and the specific measures are as follows:

2.2.1. Refinement of personnel management

(1) Rational allocation of human resources

The professional skills, work experience, and personality traits of nursing staff are comprehensively evaluated to achieve rational allocation of human resources. Based on the workload of the department and the specific needs of patients, nursing staff are assigned to appropriate positions and shifts to optimize efficiency. This approach ensures that each nursing post is adequately staffed, thereby guaranteeing the smooth and orderly delivery of nursing care and enhancing the overall quality and continuity of patient services.

(2) Strengthen training and assessment

Based on the actual situation of all nursing staff, detailed and regular training programs are formulated and implemented, covering new theories, new technologies, and new methods related to orthopedic nursing, as well as nursing operation skills and emergency response capabilities. These training programs aim to improve the professional competence of nursing staff, enhance their job satisfaction, and promote

personal career development. In addition, a comprehensive assessment mechanism is established to evaluate the effectiveness of the training. Regular assessments are conducted, including examinations on theoretical knowledge, evaluations of operational skills, and patient satisfaction surveys. The results of these assessments are directly linked to performance-based salaries, professional title promotions, and other incentives, thereby motivating nurses to continuously improve their skills and overall quality of care.

(3) Pay attention to the psychological state of nursing staff

Regular seminars are organized for nursing staff to openly discuss and address the problems and challenges they encounter in both work and daily life, providing timely care and support. Additionally, psychological counseling activities are carried out to help alleviate work-related stress. By inviting psychological experts to deliver professional lectures and conducting outdoor team-building activities, the mental well-being of nursing staff is promoted. These initiatives aim to relieve work pressure, enhance their ability to manage psychological stress, and foster a supportive and positive work environment.

2.2.2. Refinement nursing process

(1) Optimize nursing workflow

All aspects of orthopedic nursing were comprehensively reviewed to identify bottlenecks and unreasonable steps within existing processes, followed by targeted optimization and improvement. For example, the patient admission process was refined by preparing beds in advance and entering patient information ahead of time to reduce patient waiting periods. The documentation process was also optimized to enhance the efficiency and accuracy of nursing record-keeping. Furthermore, standardized nursing operation protocols were established, including procedures for handling fracture patients, wound dressing, and providing rehabilitation training guidance. For each nursing task, detailed operational procedures and specifications were formulated to ensure the consistency, standardization, and safety of nursing practices, ultimately improving the overall quality of orthopedic nursing care.

(2) Strengthen nursing quality control

A three-level nursing quality control system was established, composed of the head nurse, deputy head nurse, and responsible nurse, with clearly defined quality control responsibilities at each level. Regular nursing quality inspections and evaluations were conducted to ensure accountability and continuous oversight. Nursing quality assessment indicators were developed, including the qualification rate of basic nursing, standard rate of nursing documentation, and patient satisfaction levels. These indicators were quantitatively managed through regular statistical analysis to promptly identify issues and implement corrective measures. Additionally, continuous improvement activities were carried out, where nursing staff collectively analyzed the causes of problems identified during quality inspections, formulated targeted improvement strategies, and tracked the effectiveness of rectifications to ensure sustained progress. Moreover, the management of nursing documents was reinforced by standardizing both the format and content, with regular inspections and evaluations implemented to enhance the quality and accuracy of nursing records, ensuring consistency and professionalism in documentation practices [3].

2.2.3. Refinement risk management

(1) Nurses are organized to comprehensively identify and analyze potential risk factors in orthopedic nursing

to ensure patient safety and improve care quality. This includes a thorough assessment of the patient's own factors (such as age, illness, psychological state, etc.), treatment factors (such as surgical risks, adverse drug reactions, etc.), nursing factors (such as improper operation, poor communication, etc.).

(2) Based on the identified risk factors, targeted risk prevention and control measures are formulated to enhance patient safety and minimize adverse events. For elderly patients and those with severe illnesses, nursing staff are required to strengthen observation and conduct frequent nursing rounds to closely monitor patients' conditions and prevent complications such as falls and pressure sores. For surgical patients, preoperative preparation and postoperative care should be done to reduce surgical risks and complications.

(3) A nursing risk early warning mechanism should be established to provide timely alerts for potential risk events. For instance, when a patient's vital signs show abnormalities, the system can immediately respond and send out signals to notify the medical team. This ensures that healthcare staff are promptly aware of the situation and can take appropriate action at the earliest opportunity, helping to prevent complications and improve patient safety.

(4) Risk education and training should be carried out for nursing staff to enhance their awareness of risks and their ability to prevent them. Regular nursing risk case analysis meetings can be organized to review and summarize experiences and lessons, continuously improving risk prevention and control measures. A nursing adverse event reporting system should also be established to encourage nurses to actively report any adverse events. By analyzing these events in clinical practice, potential risks can be identified, helping to improve the overall quality of medical care. Additionally, timely analysis and handling of adverse events can reduce the likelihood of similar incidents occurring in the future.

2.2.4. Refinement of material management

To improve the efficiency of material usage, the material management process should be optimized, and a sound material management system should be established. This includes strengthening the inventory management of materials through regular checks and inventory updates. By rationally controlling inventory levels, overstocking and material waste can be avoided. Additionally, drugs, consumables, equipment, and other materials should be classified and managed properly to ensure their reasonable use and timely supply, thereby supporting the smooth progress of nursing work and improving overall management efficiency.

2.2.5. Advanced technology development refinement

(1) An information collection team composed of experienced and capable nursing staff should be established to ensure timely access to the latest developments in orthopedic care. Team members should browse well-known orthopedic professional websites at least once a week to stay updated on new treatment methods, surgical techniques, and relevant research findings. These updates should be organized and compiled into briefings that are distributed to all nursing staff on a monthly basis. Additionally, a "New Technology Trends" section should be set up on the department's bulletin board to share and update this information in a timely manner, helping all staff stay informed and improve their professional knowledge.

(2) Orthopedic experts and surgeons are regularly invited to give special lectures that incorporate real clinical cases to explain the principles, operation procedures, and key nursing points of new technologies in detail. After each lecture, a Q&A session is arranged to ensure that nursing staff fully understand the content and

can apply the knowledge effectively in their clinical practice.

(3) A case analysis meeting is organized every month to select orthopedic cases treated with new technologies. During the meeting, nursing staff involved in these cases share their experiences and the problems encountered in the nursing process, while discussing possible solutions. This helps deepen the understanding and mastery of nursing standards related to new technologies. In addition, simulation exercises are conducted to mimic possible emergency situations that may arise when using new technologies, thereby improving the practical skills and emergency response abilities of the nursing staff.

2.2.6. Patient service refinement

(1) Health education for patients should be strengthened by providing targeted guidance based on their specific condition, treatment plan, and rehabilitation needs. Various forms of health education, including oral explanations, distribution of educational materials, and health talks, should be used to ensure that patients and their families fully understand the disease, treatment process, and recovery methods. This approach helps improve patients' self-care ability, promotes better cooperation with medical care, and supports smoother recovery.

(2) Attention should be paid to the psychological care of patients by encouraging nursing staff to communicate with patients in a kind and friendly manner, providing care and support, and building a good nurse-patient relationship. Nurses should closely observe patients' emotional and mental states, promptly identifying and addressing any psychological issues. For patients suffering from severe psychological problems such as anxiety and depression, psychological experts should be consulted to develop individualized psychological care plans tailored to the patients' specific situations, helping to relieve emotional distress and promote recovery.

(3) Regular patient satisfaction surveys should be conducted to assess patients' satisfaction with nursing services. The feedback, opinions, and suggestions provided by patients should be carefully analyzed and used to make necessary improvements in the quality of care. Additionally, a patient complaint handling mechanism should be established to ensure that complaints are addressed promptly and effectively. All complaints must be recorded, resolved with clear outcomes, and feedback should be provided to patients in a timely manner. This process helps to continuously improve nursing services and enhance overall patient satisfaction [4].

2.3. Observation indicators

(1) The average length of hospital stay of patients: The average length of hospital stay of patients in the two groups was calculated and compared.

(2) Incidence of postoperative complications: Postoperative complications mainly include incision infection, deep vein thrombosis of lower limbs, delayed healing, etc. The number of complications in the 2 groups were observed and recorded, and the incidence rate was calculated.

(3) Incidence of nursing risk events: Nursing risk events, such as pressure sores, tube slippage, falls or bed falls, and medication errors, should be closely monitored. A monitoring mechanism should be established to ensure that nursing staff promptly record any occurrence of these risk events. Regular statistics on the incidence of risk events and risk assessments should be conducted to identify potential issues in a timely manner.

(4) Nursing satisfaction: Nursing satisfaction questionnaire was designed and distributed to patients for evaluation before discharge. Questionnaire data were analyzed to calculate satisfaction.

2.4. Statistical methods

The data were analyzed using SPSS 21.0 software. Measurement data were expressed as mean ± standard deviation ($x \pm s$) and analyzed by independent sample *t*-test. Count data were expressed as number and percentage [n (%)] and analyzed using the chi-square (χ^2) test. A *P*-value < 0.05 was considered statistically significant.

3. Results

3.1. Comparison of patients' average length of stay

The average length of hospital stay in the observation group was (11.74 ± 2.28) days, while in the control group it was (15.16 ± 3.10) days. The comparison between the two groups showed a statistically significant difference (t = 8.662, *P* = 0.000). The incidence of postoperative complications is compared in **Table 1**.

Table 1. Comparative complication rate (n, %)

Group	Number of cases	Incision infection	Deep venous thrombosis of lower extremity	Other	Incidence (%)
Observation group	95	2	0	0	2.11
Control group	95	4	2	3	9.47
x^2					4.728
P					0.030

The incidence of nursing risk events is compared in **Table 2**.

Table 2. Comparison of incidence of nursing risk events between the two groups (n, %)

Group	Number of cases	Pressure sore	Pipeline slip	Fall/fall out of bed	Incidence (%)
Observation group	95	1	0	0	1.05
Control group	95	4	3	1	8.42
x^2					5.715
P					0.017

The comparison of nursing satisfaction is shown in **Table 3**.

Table 3. Comparison of nursing satisfaction between the two groups (n, %)

Group	Number of cases	Very satisfied	Satisfaction	Dissatisfy	Incidence (%)
Observation group	95	85	9	1	98.95
Control group	95	78	10	7	92.63
x^2					4.698
P					0.030

4. Discussion

Nursing quality and safety are the primary tasks of nursing work. However, due to various factors, such as complex treatment methods, surgical procedures, and the individual conditions of patients, the nursing risks for orthopedic patients are relatively high [5]. This requires nurses to have a good ability to identify risks, have a high sense of responsibility in nursing operations, and grasp the quality of nursing work. However, due to the high intensity and heavy task of orthopedic nursing, nurses are prone to neglect in the process of implementing nursing measures, resulting in low nursing quality. This not only increases the risk of adverse events, but even affects the overall treatment effect of patients in severe cases, resulting in doctor-patient and nurse-patient disputes. Therefore, ensuring the quality and safety of nursing care is crucial for the treatment and rehabilitation of orthopedic patients [6].

The fine management mode defines the standards and requirements of each nursing link by refining the nursing process, making the nursing work more standardized. Nursing staff have rules to follow in their work, which reduces the occurrence of nursing errors and improves the quality of nursing [7]. By strengthening risk prevention measures and proactively identifying and addressing potential nursing risks, the occurrence of nursing risk events has been effectively reduced [8]. The work flow should be optimized so that nurses can avoid meaningless work and to make their work more efficient. Through the establishment of a perfect nursing quality control system, the whole nursing work is monitored and evaluated. Timely detection of problems and prompt rectification can enhance the pertinence and effectiveness of nursing management. At the same time, the refined management mode emphasizes the participation of all staff, improves the subjective initiative of nursing staff, and enhances the sense of responsibility and mission of nursing staff. Regular training and learning activities are organized to improve the professional level and comprehensive quality of nursing staff. The nursing staff made continuous progress in learning and communication, which enhanced the overall strength of the team [9].

5. Conclusion

To sum up, the application of fine management mode in orthopedic nursing management can not only achieve a lower incidence of complications and nursing risk events, but also significantly improve patients' nursing satisfaction, which is worthy of widespread promotion and application in clinical practice.

Disclosure statement

The author declares no conflict of interest.

References

[1] Wang L, 2019, Effect Analysis and Application of Nursing Risk Management in Orthopedic Clinical Nursing. Clinical Medicine Literature Electronic Journal, 6(37): 105–106. DOI: 10.16281/j.cnki.jocml.2019.37.086.

[2] Zhang Y, 2022, Effect Evaluation and Analysis of Implementing Fine Management in Nursing Clinical Management. Wisdom Health, 8(21): 143–147. DOI: 10.19335/j.cnki.2096-1219.2022.21.035.

[3] Yang Y, Li J, 2020, Application of Fine Management Combined with PDCA Management Model in First-Level Nursing Quality Control Management. Medical Food Therapy and Health, 20(11): 162–164 + 185.

[4] Liu D, 2022, Application of Humanistic Spirit and Quality Safety in the Quality Assessment of Traditional Chinese Orthopedic Rehabilitation Nursing. Chinese Medicine Management Journal, 30(16): 100–102. DOI: 10.16690/

j.cnki.1007-9203.2022.16.059.

[5] Zhu L, 2019, Application Value Analysis of Nursing Risk Management Based on the Concept of Circular Quality Control in Orthopedic Nursing Management. Jilin Medical Journal, 42(09): 2290–2292.

[6] Zeng J, 2019, Application of Nursing Risk Management in Elderly Orthopaedic Patients. Orthopaedic and Traumatology Professional Committee of Chinese Society of Integrated Traditional and Western Medicine. 2019 Chutian Orthopaedic Summit Forum and Proceedings of the 26th Annual Conference of Orthopaedic and Traditional Chinese and Western Medicine, Wuhan Hospital of Integrated Traditional Chinese and Western Medicine, 1. DOI: 10.26914/c.cnkihy.2019.019521.

[7] Dai Y, 2020, Implementation and Value Analysis of Fine Management in Operating Room Nursing Management. China's Health Industry, 19: 91–93. DOI: 10.16659/j.cnki.1672-5654.2020.19.091.

[8] Gui T, 2020, Observation on the Application of Nursing Risk Management in Nursing Coordination of Orthopedic Surgery. China Association of Medical Equipment. China Medical Equipment Conference and 2020 Medical Equipment Exhibition Paper Compilation, The Second Affiliated Hospital of Guilin Medical College, 2.

[9] Wang Z, Zhang H, 2020, Our Hospital Based on the Elaborating Management Promote Orthopaedic Inpatients Satisfaction Survey. Journal of Traditional Chinese Medicine Management Journal, 28(18): 153–157. DOI: 10.16690/j.cnki.1007-9203.2020.18.069.