



Application of Integrated Medical and Nursing Care Model in the Perioperative Period of Endoscopic Precision Surgery

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Abstract: Objective: This study aims to evaluate the application effects of the integrated medical and nursing care model in the perioperative period of endoscopic precision surgery, to improve surgical efficiency and patient satisfaction. Methods: A prospective randomized controlled study design was adopted. From January 2023 to December 2023, 240 patients who underwent endoscopic precision surgery in our hospital were selected and randomly divided into an experimental group (120 patients) and a control group (120 patients). The experimental group implemented an integrated medical and nursing care management model, while the control group used traditional perioperative management. The surgery time, hospital stay, postoperative complication rate, and patient satisfaction of the two groups were compared. Results: The average surgery time of the experimental group was 15% shorter than that of the control group ($P < 0.05$), and the average hospital stay was reduced by 20% ($P < 0.01$). The postoperative complication rate of the experimental group was 5%, compared to 15% for the control group ($P < 0.05$). In the patient satisfaction survey, the satisfaction score of the experimental group (9.2 ± 0.8) was significantly higher than that of the control group (7.5 ± 1.2) ($P < 0.001$). Conclusion: The integrated medical and nursing care model can significantly improve the efficiency and quality of perioperative management in endoscopic precision surgery, shorten surgery time and hospital stay, reduce the incidence of complications, and enhance patient satisfaction. It is recommended that the integrated medical and nursing care model be widely used in perioperative management of endoscopic precision surgery. **Keywords:** integrated medical and nursing care model; endoscopic precision surgery; perioperative management; patient satisfaction

1. Introduction

In contemporary medical practice, endoscopic precision surgery is increasingly valued for its high precision, minimal trauma, and quick recovery. With the advancement of medical technology, the demand for perioperative management models is also increasing. As an emerging management model, the integrated medical and nursing care model shows great potential in improving surgical efficiency, shortening recovery time, reducing the risk of complications, and enhancing patient satisfaction. However, despite the application and research of the integrated medical and nursing care model in other surgical fields, its application in the perioperative period of endoscopic precision surgery is rarely reported, and research in this area is still in its early stages. The integrated medical and nursing care model emphasizes interdisciplinary team collaboration, integrating medical resources, and optimizing processes to improve the quality of medical services and patient treatment experience. The model suggests that doctors, nurses, and other medical staff should work together to participate in the perioperative management of patients, providing continuous and comprehensive medical care services from preoperative assessment to postoperative rehabilitation. This integrated working mechanism not only helps to improve the efficiency of the surgical team but also helps to reduce medical errors, ensuring patient safety, and ultimately achieving a dual improvement in patient satisfaction and treatment outcomes.

2. Materials and Methods

2.1 General Information

This study used a prospective randomized controlled trial design, involving patients who underwent endoscopic precision surgery in our hospital from January 2023 to December 2023. Inclusion criteria included: patients aged 18-65 diagnosed with middle ear disease requiring endoscopic surgery. Exclusion criteria included: patients with severe cardiovascular and cerebrovascular diseases, immune system diseases, or serious complications before surgery. A total of 240 patients were included and randomly divided into an experimental group (120 patients) and a control group (120 patients) using a random number table method.

2.2 Methods

The experimental group received integrated medical and nursing care management for the perioperative period, i.e., an interdisciplinary team consisting of otolaryngologists, nursing staff, anesthesiologists, and rehabilitation therapists jointly participated in the perioperative management of patients, providing continuous and comprehensive medical care services from preoperative assessment to postoperative rehabilitation. The control group received traditional perioperative management, i.e., professionals in their respective fields worked independently, lacking interdisciplinary collaboration.

2.3 Observation Indicators

The main observation indicators included: surgery time, hospital stay, postoperative complication rate, and patient satisfaction. Surgery time was calculated from the insertion to the removal of the endoscope; hospital stay was calculated from the day of surgery to discharge; the postoperative complication rate was calculated based on complications recorded within a week after surgery; patient satisfaction was surveyed within a month after surgery using a standardized questionnaire, with a full score of 10 points, higher scores indicating higher satisfaction.

2.4 Statistical Analysis

Data were analyzed using SPSS 22.0 software. Quantitative data were expressed as mean±standard deviation (s) and analyzed using t-tests between the two groups; categorical data were analyzed using chi-square tests. Patient satisfaction was analyzed using the non-parametric Mann-Whitney U test. $P<0.05$ was considered statistically significant.

3. Results

A total of 240 patients were included in this study, divided into an experimental group and a control group, with 120 patients in each group. There was no statistically significant difference between the two groups in terms of age, gender, and type of disease, indicating comparability.

3.1 Surgery Time and Hospital Stay

The average surgery time of the experimental group was 55.3 ± 10.2 minutes, and the average surgery time of the control group was 65.7 ± 11.8 minutes. The difference between the two groups was statistically significant ($P<0.05$). The average hospital stay of the experimental group was 4.8 ± 1.5 days, and the average hospital stay of the control group was 6.3 ± 2.1 days. The difference between the two groups was also statistically significant ($P<0.01$). This indicates that the integrated medical and nursing care model can effectively shorten the surgery time and hospital stay for endoscopic precision surgery.

3.2 Postoperative Complication Rate

In terms of postoperative complications, the complication rate of the experimental group was 5% (6/120), while that of the control group was 15% (18/120). The difference between the two groups was statistically significant ($P<0.05$). This shows that perioperative management using the integrated medical and nursing care model can effectively reduce the risk of postoperative complications in endoscopic precision surgery.

3.3 Patient Satisfaction

Regarding patient satisfaction, the average satisfaction score of the experimental group was 9.2 ± 0.8 , while the average satisfaction score of the control group was 7.5 ± 1.2 . The difference between the two groups was statistically significant ($P<0.001$) through the non-parametric Mann-Whitney U test. This result further confirms the significant effect of the integrated medical and nursing care model on enhancing patient satisfaction during the perioperative period.

Table 1. Comparison of Surgery Time and Hospital Stay

Group	Average Surgery Time (minutes)	Standard Deviation	Average Hospital Stay (days)	Standard Deviation
Experimental Group	55.3	10.2	4.8	1.5
Control Group	65.7	11.8	6.3	2.1

This study's results indicate that the application of the integrated medical and nursing care model in the perioperative management of endoscopic precision surgery can significantly shorten the surgery time and hospital stay, reduce the incidence of postoperative complications, and improve patient satisfaction.

4. Conclusion

Through a prospective randomized controlled trial design, this study thoroughly explored the application effects of the

integrated medical and nursing care model in the perioperative management of endoscopic precision surgery. The results show that this model can significantly optimize the surgical process, enhance patient satisfaction, reduce the incidence of postoperative complications, and provide a more effective perioperative management strategy for endoscopic precision surgery.

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