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Evaluation of the Effect of Individualized Nursing Intervention on Nursing Satisfaction in Uremic Patients Undergoing Blood Purification Therapy

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Abstract: **Objective:** To explore the application value of individualized nursing in uremic patients undergoing blood purification therapy. **Methods:** A total of 100 uremic patients who received blood purification therapy in our hospital from February 2024 to February 2025 were divided into two groups (control group and experimental group) using the random number table method. The control group was given routine nursing, while the experimental group received individualized nursing. The effects of the two nursing modes were compared. **Results:** After intervention, the experimental group (with individualized nursing) showed significant advantages in uremic patients' emotional state, Pittsburgh Sleep Quality Index (PSQI) score, total effective rate, complication rate, and nursing satisfaction (all $P < 0.05$). **Conclusion:** Individualized nursing has a definite effect during blood purification therapy for uremic patients and is worthy of clinical promotion.

Key words: Uremia; Blood Purification; Individualized Nursing

Uremia is a kidney disease that represents the end-stage of renal failure. It severely impairs patients' renal function and poses high harm to their health^[1]. Clinical investigations have shown that uremic patients present with symptoms such as anorexia, frequent nausea and vomiting, pallor, gingival bleeding during tooth brushing, anemia, chest tightness, pain, and dyspnea. If the disease progresses continuously, it will seriously threaten patients' life safety^[2]. At present, there are multiple clinical treatment options for uremia, among which blood purification is widely used. It helps remove toxins and metabolic wastes from the body, maintain the stability of the internal environment, and thereby alleviate uncomfortable symptoms. However, during blood purification therapy, attention to and satisfaction of patients' personal needs are also crucial; therefore, effective nursing support is clinically necessary^[3]. In view of this, this study analyzed uremic patients who received blood purification therapy in our hospital from February 2024 to February 2025, aiming to explore the effect of individualized nursing intervention. The details are organized as follows.

1 Clinical Data and Methods

1.1 General Data

All patients in the study were clinically diagnosed with uremia after admission. A total of 100 eligible uremic

patients (n=100) admitted from February 2024 to February 2025 were divided into two groups (control group and experimental group) according to the random number table method. The detailed data of the two groups are as follows:

- Control group: 50 patients were included, including 23 females and 27 males. Their ages ranged from 28 to 76 years, with an average of (52.09 ± 2.45) years.
- Experimental group: 50 patients were included, including 24 females and 26 males. Their ages ranged from 30 to 75 years, with an average of (52.43 ± 2.01) years.

Statistical analysis of the above general data (gender and age) showed no significant difference between the two groups of uremic patients ($P > 0.05$), indicating that this study was feasible.

1.1.1 Inclusion Criteria

- (1) The study was approved by the ethical committee of the hospital after a special discussion meeting.
- (2) Uremia was confirmed; the results of basic and specialized examinations of the selected patients were highly consistent with the clinical diagnostic guidelines for uremia, and patients were accompanied by disease symptoms of varying degrees.
- (3) Uremic patients had complete personal data and met all the relevant conditions for blood purification therapy.
- (4) Uremic patients had a normal mental state and could clearly express their medical needs to medical staff.
- (5) Specialized staff provided detailed explanations to uremic patients and their family members regarding the study's purpose, content, potential risks, and expected benefits. Patients and their family members expressed full understanding and signed the informed consent form.

1.1.2 Exclusion Criteria

- (1) Patients with immune deficiency or severe infectious diseases.
- (2) Uremic patients with severe bleeding tendencies.
- (3) Uremic patients with organic lesions in vital organs (confirmed by examination).
- (4) Uremic patients who strongly requested to withdraw from the study midway due to multiple factors.

1.2 Methods

Control Group: Routine Nursing

During blood purification therapy, clinical staff closely monitored patients' personal reactions and vital signs (e.g., blood pressure, pulse, heart rate), recorded them in detail, and provided symptomatic interventions when necessary.

Experimental Group: Individualized Nursing

The individualized nursing mainly included the following aspects:

- (1) Environment optimization: To improve patients' treatment experience, dedicated staff cleaned the ward, conducted strict disinfection, and opened windows for ventilation daily. Nursing staff adjusted the temperature and

humidity in the ward in a timely manner according to actual conditions. Additionally, bed sheets and quilt covers were changed daily to enhance patient comfort.

(2) Emotional regulation: Blood purification therapy takes a long time, making patients prone to negative emotions such as irritability and anxiety, which may lead to low treatment compliance and poor prognosis. To address this, professional nursing staff proactively established effective communication with patients, provided comfort and encouragement, shared cases of well-controlled uremia in the hospital, and summarized relevant experience to help patients rebuild confidence in overcoming the disease and reduce psychological burden.

(3) Health education: Nursing staff compiled information on uremia (inducing factors, symptoms), blood purification therapy (process, advantages), and distributed corresponding promotional brochures to patients and their family members, encouraging active reading. To strengthen the educational effect, staff also provided face-to-face explanations in plain language, answered questions carefully, and corrected patients' misconceptions.

(4) Specialized guidance: During blood purification therapy, nursing staff closely monitored and recorded patients' vital signs. After treatment, to protect the catheter, staff cleaned the pipeline with sodium chloride injection and performed heparin positive pressure tube sealing. Patients were instructed not to scratch their skin randomly, maintain personal hygiene, and relieve pruritus by gentle patting; for severe pruritus, cold towels were provided for external application.

(5) Scientific diet guidance: During blood purification therapy, uremic patients lose nutrients rapidly, resulting in poor physical fitness and increased risk of complications. Therefore, nursing staff formulated targeted diets based on patients' conditions and personal preferences. Specifically, sodium and fat intake was strictly controlled, while the proportion of high-protein and vitamin-rich foods (e.g., eggs, lean meat, fish) in three meals was appropriately increased to supplement essential nutrients.

(6) Physical exercise guidance: After blood purification therapy, patients were advised to engage in moderate aerobic exercises (e.g., simple stretching, walking, stair climbing) under the accompaniment of family members. Nursing staff reminded patients to adjust exercise time and intensity based on their tolerance, avoid rushing for results, and prevent accidental injuries.

1.3 Evaluation Indicators

(1) Nursing indicators: Differences in emotional state [evaluated by Self-Rating Anxiety Scale (SAS) and Self-Rating Depression Scale (SDS)] and PSQI score between the two groups were statistically analyzed.

(2) Nursing effect: Divided into three levels: *markedly effective* (symptoms significantly relieved, vital signs stable), *moderately effective* (symptoms partially relieved, vital signs basically stable), and *ineffective* (symptoms unchanged or aggravated). Total effective rate = (number of markedly effective cases + number of moderately effective cases) / total number of cases × 100%.

(3) Complication rate: The incidence of common complications during blood purification therapy (infection,

hypotension, skin pruritus, nausea and vomiting) was counted in both groups.

(4) Nursing satisfaction: Evaluated by a self-designed questionnaire, divided into three levels: *very satisfied*, *moderately satisfied*, and *dissatisfied*. Total satisfaction rate = (number of very satisfied cases + number of moderately satisfied cases) / total number of cases \times 100%.

1.4 Statistical Analysis

The measurement data (expressed as mean \pm standard deviation, $\bar{x}\pm s$) and count data (expressed as percentage, %) included in this study were analyzed using SPSS 25.0 software. The t-test was used for comparing nursing indicators (SAS, SDS, PSQI scores), and the chi-square test was used for comparing total effective rate, complication rate, and nursing satisfaction. A P-value $<$ 0.05 indicated a statistically significant difference.

2 Results

2.1 Comparison of Nursing Indicators

The experimental group had significantly lower SAS score, SDS score, and PSQI score than the control group (all $P <$ 0.05). See Table 1 for details.

Table 1 Comparison of Nursing Indicators between Control Group and Experimental Group ($\bar{x}\pm s$, score)

Group Name	SAS Score	SDS Score	PSQI Score
Control Group (n=50)	50.08 \pm 3.44	53.29 \pm 3.17	9.18 \pm 1.57
Experimental Group (n=50)	42.69 \pm 3.15	45.08 \pm 3.31	5.02 \pm 0.64
t-value	11.203	12.667	17.350
P-value	0.000	0.000	0.000

2.2 Comparison of Nursing Effect

The total effective rate of the experimental group (94.00%) was significantly higher than that of the control group (80.00%) ($P <$ 0.05). See Table 2 for details.

Table 2 Comparison of Nursing Effects between Control Group and Experimental Group (%)

Group Name	Markedly Effective (n, %)	Moderately Effective (n, %)	Ineffective (n, %)	Total Effective Rate (n, %)
Control Group (n=50)	23 (46.00)	17 (34.00)	10 (20.00)	40 (80.00)
Experimental Group (n=50)	25 (50.00)	22 (44.00)	3 (6.00)	47 (94.00)
χ^2 -value	-	-	-	4.332
P-value	-	-	-	0.037

2.3 Comparison of Complication Rate

The complication rate of the experimental group (6.00%) was significantly lower than that of the control group (22.00%) ($P <$ 0.05). See Table 3 for details.

Table 3 Comparison of Complication Rates between Control Group and Experimental Group (%)

Group Name	Infection (n, %)	Hypotension (n, %)	Skin Pruritus (n, %)	Nausea and Vomiting (n, %)	Total Complication Rate (n, %)
Control Group (n=50)	3 (6.00)	2 (4.00)	3 (6.00)	3 (6.00)	11 (22.00)
Experimental Group (n=50)	1 (2.00)	0 (0.00)	1 (2.00)	1 (2.00)	3 (6.00)
χ^2 -value	-	-	-	-	5.316
P-value	-	-	-	-	0.021

2.4 Comparison of Nursing Satisfaction

The total nursing satisfaction rate of the experimental group (96.00%) was significantly higher than that of the control group (82.00%) ($P < 0.05$). See Table 4 for details.

Table 4 Comparison of Nursing Satisfaction between Control Group and Experimental Group (%)

Group Name	Very Satisfied (n, %)	Moderately Satisfied (n, %)	Dissatisfied (n, %)	Total Satisfaction Rate (n, %)
Control Group (n=50)	23 (46.00)	18 (36.00)	9 (18.00)	41 (82.00)
Experimental Group (n=50)	26 (52.00)	22 (44.00)	2 (4.00)	48 (96.00)
χ^2 -value	-	-	-	5.005
P-value	-	-	-	0.025

3 Discussion

Uremia is a common clinical kidney disease with high harm. Its inducing factors include primary kidney disease, secondary kidney disease, hereditary kidney disease, sudden kidney injury, circulatory disorders, metabolic abnormalities, nutritional imbalance, and bad habits. Once developed, uremia causes comprehensive dysfunction in the body, seriously endangering patients' life safety [4].

The results of this study showed that:

(1) The experimental group had significantly lower SAS score, SDS score, and PSQI score than the control group (all $P < 0.05$);

(2) The total effective rate was 80.00% in the control group (routine nursing) and 94.00% in the experimental group (individualized nursing), with the experimental group showing a significantly higher rate ($P < 0.05$);

(3) During blood purification therapy, the complication rate was 22.00% (11/50) in the control group and 6.00% (3/50) in the experimental group, with the experimental group showing a significantly lower rate ($P < 0.05$);

(4) The nursing satisfaction rate was 96.00% (48/50) in the experimental group and 82.00% (41/50) in the control group, with the experimental group showing a significantly higher rate ($P < 0.05$).

The reasons for these results are as follows: Individualized nursing during blood purification therapy is highly comprehensive and fully embodies the "patient-centered" nursing concept. In clinical practice, measures such as ward

hygiene management and temperature/humidity adjustment improve patient comfort and sleep quality. In terms of psychology, nursing staff actively identify the root causes of patients' negative emotions, provide targeted counseling, and integrate disease-related health education—these efforts help alleviate psychological pressure, improve negative moods, correct misconceptions, rebuild treatment confidence, and enhance treatment compliance^[5]. Additionally, to ensure safety during blood purification therapy, nursing staff monitor vital signs throughout the process, inquire about patients' discomfort in a timely manner, guide patients to maintain personal hygiene, and properly manage pruritus, thereby effectively preventing infections^[6]. In daily life, personalized diet plans formulated based on patients' conditions and preferences help supplement essential nutrients, improving physical fitness and immunity. Scientific aerobic exercise promotes internal circulation and maintains the balance of bodily functions. Combined, these interventions effectively alleviate uremic symptoms and ensure optimal prognosis^[7].

In conclusion, individualized nursing during blood purification therapy exerts a definite clinical effect. For uremic patients, it can significantly improve anxiety, depression, and sleep quality, while enhancing nursing satisfaction. Moreover, it meets patients' physiological needs, alleviates symptoms, increases the total effective rate, and reduces the complication rate. With high clinical safety, individualized nursing is worthy of extensive promotion.

References

[1] Li Y X, Xu D L. Effect of hierarchical intervention combined with intensive psychological nursing on the psychological state of patients undergoing continuous blood purification therapy [J]. *Guizhou Medical Journal*, 2024, 48(9):1484-1485.

[2] Bian L Y. Analysis of the intervention effect of early enteral nutrition support nursing combined with cognitive behavioral nursing in uremic patients during blood purification therapy [J]. *Smart Healthcare*, 2024, 10(5):210-214.

[3] Luo J Y, Zhang S S, Liang L Y, et al. Effect of predictive nursing intervention on the incidence of hypotension in patients undergoing blood purification therapy [J]. *Contemporary Medical Symposium*, 2024, 22(21):189-192.

[4] Wang Q P, Gao Y P. Application of the advantage model of case management in uremic patients undergoing blood purification [J]. *Nursing of Integrated Traditional Chinese and Western Medicine (Chinese & English)*, 2023, 9(9):133-135.

[5] Zhang Z Z. Effect of high-quality blood purification nursing model on the quality of life of uremic patients [J]. *Guide of China Medicine*, 2024, 22(15):147-150.

[6] Li C H. Effect of evidence-based nursing intervention guided by health education on dialysis compliance, nutritional status and quality of life of uremic patients undergoing hemodialysis [J]. *International Journal of Transplantation and Hemopurification*, 2023, 21(02):37-39.

[7] Lu H Q, Wang L, Liu Y Y. Application of phased nursing plan based on nursing quality evaluation indicators in blood purification of uremic patients [J]. *Qilu Journal of Nursing*, 2024, 30(1):150-152.

Application Effect of Operating Room Detailed Nursing in Laparoscopic Appendectomy for Appendicitis in Adolescent Patients

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Abstract: **Objective:** To analyze the application effect of operating room detailed nursing. **Methods:** Eighty adolescent patients with appendicitis who underwent laparoscopic surgery from January 2021 to December 2023 were selected and randomly divided into two groups. The control group received routine nursing, while the observation group received operating room detailed nursing. The differences in postoperative prognostic indicators between the two groups were compared; the changes in anxiety, depression scores and stress indicators before and after nursing were observed; and the differences in nursing satisfaction between the two groups were compared. **Results:** Compared with the control group, the observation group had better postoperative prognostic indicators, with a statistically significant difference ($P < 0.05$); after nursing, the observation group had lower anxiety and depression scores, with a statistically significant difference ($P < 0.05$); after nursing, the levels of epinephrine and norepinephrine in the observation group were lower, with a statistically significant difference ($P < 0.05$); the observation group had higher nursing satisfaction, with a statistically significant difference ($P < 0.05$). **Conclusion:** The implementation of operating room detailed nursing helps improve patients' postoperative prognosis and promotes early discharge of patients, which is worthy of promotion and application.

Keywords: Operating Room Detailed Nursing; Adolescent Patients; Laparoscopic Appendectomy for Appendicitis

Appendicitis is a common emergency disease, referring to an inflammatory condition caused by appendiceal infection. It is mainly characterized by severe pain in the right lower abdomen and may lead to gastrointestinal and systemic symptoms [1]. Currently, surgery is the primary clinical treatment for this disease, among which laparoscopic appendectomy has multiple advantages and has been promoted and applied in primary medical institutions [2]. However, laparoscopic surgery may also cause certain complications, so it is necessary to strengthen clinical nursing care [3]. Operating room detailed nursing is mainly carried out by operating room nurses. By refining the perioperative nursing content, it reduces the occurrence of various risk factors and improves patients' postoperative prognosis [4]. This nursing model is more in line with the requirements of modern medical models, as it can promote early patient recovery and shorten the length of hospital stay. This study selected 80 adolescent patients with appendicitis from January 2021 to December 2023 for a comparative observation, and the research is reported as follows.

1. Materials and Methods

1.1 Clinical Data

Eighty adolescent patients with appendicitis who underwent laparoscopic surgery from January 2021 to December 2023 were selected and randomly divided into two groups.

- Observation group: 22 males and 18 females; aged 12-17 years, with an average of (15.5±2.0) years.
- Control group: 21 males and 19 females; aged 13-18 years, with an average of (15.4±1.8) years.

Inclusion criteria: Aged 12-18 years; meeting the diagnostic criteria for appendicitis; and conforming to the indications for laparoscopic surgery.

Exclusion criteria: Patients with comorbid mental illnesses or intolerance to laparoscopic surgery.

There was no statistically significant difference in general data between the two groups, indicating they were comparable.

1.2 Methods

Control Group: Routine Nursing

- Preoperatively: Evaluate the patient's condition and health status, inquire about the patient's medical history, medication history, surgical history and other information, and make detailed records.
- On the day of surgery: Prepare intraoperative instruments and equipment, conduct inspection to ensure the smooth progress of the operation; closely monitor the patient's vital signs during the operation, promptly inform the doctor of any abnormalities, accurately pass instruments, and assist in the operation.
- At the end of surgery: Conduct double-person verification to ensure the number of instruments and dressings matches; after surgery, hand over the patient to the ward, visit and observe the patient's postoperative prognosis, provide health education to family members, and urge them to cooperate with nursing care.

Observation Group: Operating Room Detailed Nursing

The specific measures were as follows:

① Preoperative visit: After confirming the operation time, operating room nurses should conduct visits, explain the advantages of laparoscopic surgery and precautions before and after surgery to patients and their families to improve their understanding, and promptly answer questions raised by patients and families to ensure patients are physically and mentally prepared.

② Psychological nursing: Appendicitis causes severe abdominal pain, and adolescents have insufficient understanding of surgery, making them prone to tension and anxiety before surgery. To soothe the patients' emotions, psychological counseling should be provided. Through suggestion and encouragement, patients' tension is alleviated; other patients with successful treatment experiences are invited to share their stories to enhance patients' confidence in surgical treatment.

③ Preoperative preparation: Guide patients to complete preoperative examinations, especially intestinal

preparation and skin preparation.

④ Pre-entry nursing: Before the patient enters the operating room, properly adjust the temperature and humidity of the operating room, prepare medications, instruments and equipment for intraoperative use, and turn on the laminar flow purifier to ensure a sterile environment in the operating room.

⑤ Post-entry nursing: After the patient enters the operating room, carefully verify the patient's information, assist the patient in adjusting the body position, soothe the patient's emotions, and use protective pads to protect the patient's skin from pressure injuries. During the operation, maintain appropriate room temperature and humidity, heat blood transfusion and infusion solutions, and use heating blankets if necessary to prevent hypothermia. Adjust the surgical position according to the type of surgery and the chief surgeon's habits, and properly fix the patient's body. For patients using an electrocoagulator during surgery, take protective measures to avoid accidental injuries caused by the patient's body parts coming into contact with metal objects. For pathological tissue samples collected during the operation, conduct registration and preservation, and promptly send them for pathological examination. Regularly inspect and maintain intraoperative equipment (such as microscopes, electrocoagulators, and ultrasonic scalpels) to extend their service life.

⑥ Postoperative nursing: After the operation, send the patient back to the ward, complete the handover work, and advise family members to assist the patient in adjusting to a semi-recumbent position 6-8 hours after surgery. Strengthen warmth retention, keep the incision clean, avoid strenuous activities to prevent incision dehiscence. Use the Visual Analogue Scale (VAS) to assess the patient's pain level and strengthen analgesic intervention: for patients with mild pain, provide infrared irradiation and non-steroidal anti-inflammatory drugs; for patients with moderate to severe pain, promptly check for various complications and provide corresponding interventions as prescribed by the doctor. Encourage patients to get out of bed and move around in a timely manner after their condition stabilizes to avoid prolonged bed rest. Advise patients to maintain a light diet and avoid spicy, greasy and stimulating foods. Provide rehabilitation nursing guidance, urge patients to actively cooperate with rehabilitation exercises, and restore normal life as soon as possible. For patients with anxiety and depression, organize patient exchange meetings to allow patients to share their experiences in rehabilitation exercises, problems encountered in life and solutions, and guide patients to encourage and support each other.

1.3 Observation Indicators

(1) Postoperative prognostic indicators: Compare the time to get out of bed and move, length of hospital stay, and incidence of postoperative complications between the two groups.

(2) Anxiety and depression scores: The Self-Rating Anxiety Scale (SAS) was used to assess anxiety, and the Self-Rating Depression Scale (SDS) was used to assess depression. Both scales range from 0 to 100 points, with higher scores indicating more severe anxiety or depression.

(3) Stress indicators: Collect 3 mL of elbow venous blood for biochemical testing to measure the levels of

epinephrine and norepinephrine.

(4) Nursing satisfaction: A self-designed questionnaire was used to evaluate nursing satisfaction, with a total score of 0-100 points. Scores ≥ 80 were defined as "very satisfied", 40-79 as "basically satisfied", and < 40 as "dissatisfied".

1.4 Statistical Analysis

SPSS 22.0 statistical software was used for data analysis. Measurement data were expressed as standard deviation, and the t-test was used to compare the mean values between the two groups. Count data were expressed as percentages, and the chi-square (χ^2) test was used to compare the count values between the two groups. A P-value < 0.05 was considered statistically significant.

2. Results

2.1 Comparison of Postoperative Prognostic Indicators Between the Two Groups

The observation group had better postoperative prognostic indicators than the control group, with a statistically significant difference ($P < 0.05$). See Table 1.

Table 1 Comparison of Postoperative Prognostic Indicators Between the Two Groups

Group	Time to get out of bed and move (h)	Length of hospital stay (d)	Incidence of postoperative complications (n, %)
Observation group (n=40)	18.5 \pm 3.8	6.3 \pm 1.5	2 (5.0)
Control group (n=40)	23.4 \pm 4.6	8.5 \pm 2.4	6 (15.0)
χ^2 /t value	5.235	5.416	5.332
P value	0.042	0.044	0.043

2.2 Comparison of Anxiety and Depression Scores Between the Two Groups

After nursing, the observation group had lower anxiety and depression scores than the control group, with statistically significant differences ($P < 0.05$). See Table 2.

Table 2 Comparison of Anxiety and Depression Scores Between the Two Groups (Scores)

Group	Anxiety Score		Depression Score	
	Pre-nursing	Post-nursing	Pre-nursing	Post-nursing
Observation group (n=40)	62.1 \pm 7.5	56.2 \pm 6.2	60.3 \pm 7.2	54.1 \pm 6.0
Control group (n=40)	62.2 \pm 7.6	59.4 \pm 6.8	60.2 \pm 7.1	57.4 \pm 6.3
t value	1.235	5.432	1.158	5.326
P value	0.114	0.044	0.106	0.043

2.3 Comparison of Stress Indicators Between the Two Groups

After nursing, the observation group had lower levels of epinephrine and norepinephrine than the control group, with statistically significant differences ($P < 0.05$). See Table 3.

Table 3 Comparison of Stress Indicators Between the Two Groups

Group	Epinephrine (ng/L)		Norepinephrine (ng/L)	
	Pre-nursing	Post-nursing	Pre-nursing	Post-nursing
Observation group (n=40)	25.2±6.4	21.2±4.2	101.2±21.0	82.5±12.8
Control group (n=40)	25.4±6.5	23.4±5.3	101.1±20.8	85.8±14.9
t value	1.465	5.265	1.332	5.168
P value	0.137	0.042	0.124	0.041

2.4 Comparison of Nursing Satisfaction Between the Two Groups

The observation group had higher nursing satisfaction than the control group, with a statistically significant difference ($P < 0.05$). See Table 4.

Table 4 Comparison of Nursing Satisfaction Between the Two Groups

Group	Very Satisfied	Basically Satisfied	Dissatisfied	Total Satisfaction (%)
Observation group (n=40)	20	18	2	95.0
Control group (n=40)	16	16	8	80.0
χ^2 value	-	-	-	5.234
P value	-	-	-	0.042

3. Discussion

Appendicitis is a common disease in general surgery. Currently, laparoscopic surgery is an effective treatment method for this disease, with the advantages of small incisions and fast recovery, and has been widely promoted and applied in clinical practice [5]. Due to insufficient understanding of surgical treatment, adolescent patients with appendicitis have poor cooperation during the perioperative period, which affects their postoperative recovery [6]. Therefore, effective nursing measures are needed to promote early patient recovery.

Operating room detailed nursing is divided into three stages: preoperative, intraoperative, and postoperative. Different nursing measures are implemented in each stage to alleviate patients' tension and anxiety, promote their active cooperation with surgical treatment, and help shorten the length of hospital stay [7]. Preoperatively, it is necessary to conduct visits, strengthen health guidance, and address the doubts of patients and their families to ensure patients maintain a stable mood and complete preoperative preparations, thus ensuring the smooth progress of the operation [8]. Before the patient enters the operating room, preparations for the operating room (such as proper instrument preparation) should be completed to prevent intraoperative infections. After the patient enters the

operating room, assistance should be provided to adjust the patient's position and soothe their emotions; intraoperative warming measures should be optimized to prevent hypothermia. Postoperatively, ward nursing should be strengthened to guard against complications and improve patients' quality of life [9-10].

The operating room is an important treatment site in hospitals, and its nursing quality is directly related to the life and health of surgical patients. Detailed nursing has unique advantages in operating room care, as it can formulate personalized nursing plans for patients to improve their postoperative prognosis. For example, preoperatively, comprehensive visits are conducted to assess the patient's condition and psychological state, and corresponding nursing support (especially psychological comfort) is provided to alleviate the patient's fear and anxiety. In addition, explanations about various preoperative preparations (such as fasting, water deprivation, and skin preparation) are given to help patients complete preparations and avoid risk events caused by inadequate preparation. Postoperatively, strengthened nursing support (especially pain nursing and rehabilitation nursing) can alleviate patients' pain, promote early recovery, and shorten the length of hospital stay. In this study, the observation group had better postoperative prognostic indicators than the control group ($P < 0.05$), which is mainly due to the application of detailed nursing, which reduces intraoperative nursing errors, improves patients' postoperative prognosis, and helps patients return to normal life as soon as possible.

Operating room detailed nursing focuses not only on the patient's physical condition but also on their psychological state. Preoperatively, nurses alleviate patients' tension and anxiety through patient guidance and comfort. After the patient enters the operating room, nurses make every effort to protect the patient's privacy, pay attention to the patient's feelings and needs, and improve the patient's physical and mental state (such as strengthening warmth retention to reduce intraoperative hypothermia). Postoperatively, nurses explain postoperative precautions in detail to help patients manage themselves and improve their psychological state. In this study, the observation group had lower anxiety and depression scores than the control group after nursing ($P < 0.05$), which is mainly because detailed nursing can meet the patients' nursing needs at different levels, helping patients adjust their psychological state and actively cooperate with surgical treatment.

Surgery is an invasive treatment method, and intraoperative operations can cause intense stress responses, which affect patients' prognosis. Operating room detailed nursing can standardize nursing operations, improve surgical safety, and alleviate stress responses. For example, preoperative visits help patients master surgery-related health knowledge, become familiar with the surgical process, and make psychological preparations, thereby alleviating stress responses caused by tension and anxiety. In this study, the observation group had lower levels of epinephrine and norepinephrine than the control group after nursing ($P < 0.05$), which is mainly because detailed nursing can soothe patients' emotions, reduce stress responses, and lower surgical risks.

Operating room detailed nursing can provide personalized nursing support and improve patients' medical experience. Preoperatively, psychological support alleviates patients' tension and anxiety, making patients feel the

care of medical staff. During the operation, nurses can reduce discomfort caused by hypothermia by strengthening warming measures. Postoperatively, a quantitative assessment method is used to evaluate the patient's pain level, and timely analgesic measures are provided to improve the patient's pain experience. In this study, the observation group had higher nursing satisfaction than the control group ($P < 0.05$), indicating that operating room detailed nursing has a good nursing effect and can improve patient satisfaction.

In conclusion, the implementation of operating room detailed nursing helps improve patients' postoperative prognosis and promotes early discharge of patients, which is worthy of promotion and application.

References

- [1] Bai R, Mi J R, Lü Y. Study on the effect of detailed nursing in preventing postoperative infection of appendicitis [J]. Guizhou Medical Journal, 2021, 45(10):1646-1647.
- [2] Han Q Q. Application effect of detailed nursing in the nursing of acute appendicitis treated with Tibetan medicine Yixi Zhougua Kaca Jian combined with laparoscopic surgery [J]. Journal of Medicine & Pharmacy of Chinese Minorities, 2021, 27(2):64-65.
- [3] SEEMA P. ANANDALWAR, DIONNE A. GRAHAM, MARK A. KASHTAN, et al. Influence of Oral Antibiotics Following Discharge on Organ Space Infections in Children With Complicated Appendicitis[J]. Annals of Surgery, 2021, 273(4):821-825.
- [4] KOVLER M L, PEDROSO F E, ETCHILL E W, et al. Prolonged In-hospital Time to Appendectomy is Associated With Increased Complicated Appendicitis in Children[J]. Annals of Surgery, 2022, 275(6):1200-1205.
- [5] Fang L H. Discussion on the application effect of detailed nursing management model in the perioperative period of laparoscopic appendectomy for acute appendicitis [J]. China Health Care & Nutrition, 2020, 30(18):149.
- [6] Wang J J. Analysis of the application effect of operating room detailed nursing in laparoscopic appendectomy for appendicitis in children [J]. Maternal and Child Nursing, 2023, 3(3):567-569, 573.
- [7] KOMANCHUK J, MARTIN D A, KILLAM R, et al. Magnetic Resonance Imaging Provides Useful Diagnostic Information Following Equivocal Ultrasound in Children With Suspected Appendicitis[J]. Canadian Association of Radiologists Journal, 2021, 72(4):797-805.
- [8] PRADA - ARIAS M, GÓMEZ - VEIRAS J, VÁZQUEZ J L, et al. Appendicitis or non - specific abdominal pain in pre - school children: When to request abdominal ultrasound?[J]. Journal of Paediatrics and Child Health, 2020, 56(3):367-371.
- [9] Li W L. Operating room nursing strategy for appendicitis treated with high-definition laparoscopic system surgery [J]. Journal of Contemporary Clinical Medicine, 2022, 35(6):116-118.
- [10] Tan M Y, Huang G X. Analysis of operating room nursing for appendicitis treated with high-definition laparoscopic system surgery [J]. Modern Instruments & Medical Treatment, 2021, 27(4):63-65, 77.

Application Effect Analysis of Scenario Simulation Teaching in the Training of Core Emergency Response Capabilities for Gynecological Nurses

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Abstract : Objective: To explore the application effect of scenario simulation teaching in the training of core emergency response capabilities for gynecological nurses, and to provide empirical evidence for optimizing the training model of gynecological nurses. **Methods:** A total of 20 in-service gynecological nurses in the gynecology department of our hospital from January 2024 to January 2025 were selected and randomly divided into a control group (10 nurses, receiving traditional lecture-based training) and an observation group (10 nurses, receiving scenario simulation teaching training). The theoretical scores of emergency response, operational assessment scores, and emergency response capability scores of the two groups were compared before and after training, and the nurses' satisfaction with the teaching model was counted after training. **Results:** After training, the theoretical score (89.6 ± 5.2 points) and operational score (91.3 ± 4.8 points) of the observation group were significantly higher than those of the control group (78.5 ± 6.1 points, 80.2 ± 5.5 points), with statistically significant differences ($P < 0.05$); the scores of the observation group in the dimensions of "rapid assessment", "decision-making", and "teamwork" in emergency response capability were better than those of the control group ($P < 0.05$); the satisfaction of the observation group with the training model (90.00%) was higher than that of the control group (40.00%). **Conclusion:** Scenario simulation teaching can significantly improve the core emergency response capabilities of gynecological nurses, enhance the effectiveness of training and nurses' satisfaction, and is worthy of promotion and application in the emergency training of gynecological nurses.

Key words: Scenario simulation teaching; Gynecological nurses; Emergency response; Core capabilities; Training effect

0 Introduction

In clinical gynecological work, sudden acute conditions such as ruptured corpus luteum hematoma with hemorrhage, ovarian cyst torsion, and ruptured ectopic pregnancy with hemorrhage are characterized by acute onset, rapid progression, and high risk. The nurses' emergency response capabilities are directly related to the patients' life safety [1]. Traditional training mainly focuses on "theoretical explanation + video viewing", where nurses passively accept knowledge and lack practical scenario-based decision-making and operational drills, making it difficult to translate theory into clinical emergency capabilities. Scenario simulation teaching, by constructing emergency scenarios close to clinical practice and allowing nurses to practice response procedures in simulated real combat, has

shown advantages in the training of departments such as emergency and operating rooms [2]. This study applied scenario simulation teaching to the emergency response training of gynecological nurses and compared its effect with traditional training, aiming to provide a feasible path for improving the core capabilities of gynecological nurses.

1 Materials and Methods

1.1 General Information

A total of 20 in-service gynecological nurses in the gynecology department of our hospital were selected. Inclusion criteria: Engaged in clinical gynecological nursing work for ≥ 1 year; Voluntarily participated in this study. Exclusion criteria: Going out for further study or taking leave for ≥ 1 week during the training period; Having received similar emergency special training. The nurses were divided into a control group and an observation group using a random number table method, with 10 nurses in each group. In the control group, the age ranged from 27 to 36 years, with an average of (31 ± 1.4) years; Professional titles: 3 staff nurses, 4 senior nurses, and 3 charge nurses. In the observation group, the age ranged from 25 to 39 years, with an average of (30.1 ± 4.5) years; Professional titles: 3 staff nurses, 4 senior nurses, and 3 charge nurses. There were no statistically significant differences in general information between the two groups ($P > 0.05$), indicating comparability.

1.2 Training Methods

Both groups had a training cycle of 4 weeks, with 2 training sessions per week and 120 minutes per session. The training content focused on the emergency response of common gynecological acute conditions (ruptured corpus luteum hematoma with hemorrhage, ovarian cyst torsion, ruptured ectopic pregnancy with hemorrhage).

Control group: Adopted traditional lecture-based training. The head nurse of the gynecology department and senior nurses explained theoretical knowledge such as the etiology, clinical manifestations, response procedures, and drug use of acute conditions through PPT, played videos of emergency response operations, and assigned written assignments after class to consolidate knowledge points.

Observation group: Adopted scenario simulation teaching training, with specific steps as follows:

(1) Scenario design: Based on the clinical characteristics of gynecological acute conditions, 3 typical emergency scenarios were designed in collaboration with gynecologists and experts from the nursing department, equipped with simulated patients (played by nursing simulators), simulated first-aid equipment (ECG monitors, suction devices, etc.), and simulated drugs.

(2) Group drills: The 20 nurses were divided into 5 groups, with 4 nurses in each group, playing roles such as "primary nurse", "assistant nurse", and "recording nurse". They completed the full-process drill of "patient assessment - calling for help - first-aid operations (e.g., establishment of intravenous access, hemostasis treatment, fluid replacement and blood transfusion) - condition monitoring - recording" in the simulated scenarios. After each group's drill, the instructor paused to comment on problems.

(3) Review and summary: After each drill, nurses in each group first reflected on operational loopholes, then the instructor analyzed deficiencies in combination with clinical standards and clarified improvement points; Finally, all nurses were organized to discuss the optimization plan for response in different scenarios.

1.3 Observation Indicators

(1) Core competency scores: A self-designed scale was used for evaluation before and after training, including "theoretical knowledge" (full score 100 points, covering key points of acute condition diagnosis, response principles, etc.), "operational skills" (full score 100 points, including proficiency in first-aid operations, standardization of equipment use, etc.), and "emergency response capabilities" (including 4 dimensions: rapid assessment, decision-making, teamwork, and communication skills, 25 points for each dimension, total score 100 points). The scale was reviewed by experts, with a Cronbach's α coefficient of 0.89, indicating good reliability and validity.

(2) Training satisfaction: A questionnaire survey was conducted after training, covering 5 dimensions such as "teaching practicality", "content relevance", and "help for capability improvement". The options were "very satisfied", "satisfied", "average", and "dissatisfied". Satisfaction rate = (number of very satisfied + satisfied cases) / total number of cases \times 100%.

1.4 Statistical Methods

SPSS 26.0 software was used for data analysis. Measurement data were expressed as ($\bar{x}\pm s$), and inter-group comparison was conducted using t-test; Count data were expressed as [n(%)], and comparison was conducted using chi-square test. $P < 0.05$ was considered statistically significant.

2 Results

2.1 Comparison of Core Competency Scores between the Two Groups before and after Training

Before training, there were no statistically significant differences in theoretical knowledge, operational skills, and emergency response capability scores between the two groups ($P > 0.05$); After training, the scores of the observation group in all indicators were significantly higher than those of the control group, with statistically significant differences ($P < 0.05$), as shown in Table 1.

Table 1 Comparison of Core Competency Scores between the Two Groups before and after Training ($\bar{x}\pm s$, points)

Group	Time	Theoretical Knowledge	Operational Skills	Emergency Response Capabilities
Control Group	Before Training	70.2 \pm 5.8	71.5 \pm 6.0	68.3 \pm 5.6
	After Training	78.5 \pm 6.1	80.2 \pm 5.5	76.5 \pm 5.2
Observation Group	Before Training	70.5 \pm 5.6	72.1 \pm 5.8	69.1 \pm 5.4
	After Training	89.6 \pm 5.2	91.3 \pm 4.8	88.7 \pm 4.6

2.2 Comparison of Training Satisfaction between the Two Groups

The training satisfaction rate of the observation group was 90.00% (9/10), including 7 cases of "very satisfied", 2 cases of "satisfied", and 1 case of "dissatisfied"; The satisfaction rate of the control group was 40.00% (4/10), including 1 case of "very satisfied", 3 cases of "satisfied", and 6 cases of "dissatisfied". There was a statistically significant difference in satisfaction rate between the two groups ($\chi^2=5.238$, $P=0.048$; $P < 0.05$).

3 Discussion

Emergency response to gynecological acute conditions requires nurses to complete the coherent process of

"assessment - decision-making - operation - collaboration" in a short time. In traditional training, nurses lack practical experience, which easily leads to problems such as "understanding theory but cannot operate" and "panicking in emergency situations" [3]. Scenario simulation teaching, through "immersive drills", allows nurses to actively think and operate in simulated scenarios, effectively making up for the shortcomings of traditional training.

The results of this study showed that after training, the scores of theoretical knowledge, operational skills, and emergency response capabilities of the observation group were significantly higher than those of the control group, indicating that scenario simulation teaching can promote nurses' in-depth understanding of knowledge and proficient mastery of skills. The reasons are as follows: On the one hand, the simulated scenarios restore the urgency and complexity of acute conditions such as ruptured corpus luteum hematoma with hemorrhage, ovarian cyst torsion, and ruptured ectopic pregnancy with hemorrhage. Nurses need to quickly judge the condition based on theoretical knowledge, forcing them to actively sort out the response logic; On the other hand, group role-playing strengthens the awareness of "teamwork". For example, in the scenario of ruptured ectopic pregnancy with hemorrhage, the coordination proficiency between the primary nurse and the assistant nurse directly affects the efficiency of first aid, and repeated drills can optimize the team collaboration process [4]. In addition, the training satisfaction rate of the observation group was as high as 90.00%, indicating that this teaching model is more in line with the learning needs of nurses - compared with passively listening to lectures, nurses are more inclined to improve their capabilities through "hands-on practice and real-time evaluation".

It should be noted that scenario simulation teaching has high requirements for teachers and equipment. Scenario cases need to be updated regularly to align with new clinical developments, and VR technology can be combined to further enhance the realism of scenarios [5]. In conclusion, scenario simulation teaching has a significant effect in the training of core emergency response capabilities for gynecological nurses and can be promoted and applied as a preferred model for special training of gynecological nurses.

References

- [1] Zhang L, Wang J. Investigation on the Current Situation of Emergency Response Capabilities and Training Needs of Gynecological Nurses [J]. *Nursing Practice and Research*, 2022, 19(12): 1865-1868.
- [2] Liu M, Li N. Application of Scenario Simulation Teaching in the Training of First-Aid Capabilities for Emergency Nurses [J]. *Chinese Journal of Nursing Education*, 2021, 18(8): 712-715.
- [3] Chen J, Zhao Y. Comparative Study on the Effects of Traditional Training and Scenario Simulation Training in Improving the Emergency Capabilities of Gynecological Nurses [J]. *Maternal and Child Health Care of China*, 2023, 38(5): 987-989.
- [4] Wang L, Zhang X M. Practice of Role-Playing Combined with Scenario Simulation in Emergency Training for Gynecological Acute Conditions [J]. *Journal of Nursing*, 2022, 29(3): 73-76.
- [5] Li M, Chen Y. Research Progress on the Application of VR Combined with Scenario Simulation in Nurse Emergency Response Training [J]. *Chinese Journal of Modern Nursing*, 2023, 29(10): 1395-1398.

Application of Optimized Process in Trauma Emergency Nursing

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Abstract: Objective: This study aims to explore the effect evaluation and impact deepening of implementing process optimization strategies in the nursing practice for critically ill trauma patients. **Methods:** A total of 100 critically ill trauma patients facing severe life challenges, admitted to the hospital from October 2021 to August 2023, were selected as the research subjects. These patients were divided into a control group and an observation group according to the emergency nursing mode they received, with 50 patients in each group. The control group received routine nursing services based on the traditional framework to meet basic medical needs, while the observation group benefited from the optimized nursing process. The core of this study was to comprehensively examine and compare the efficiency of the two groups in multiple key treatment links, including admission response speed, ability to quickly establish intravenous access, accuracy and timeliness of condition assessment, implementation efficiency of cardiopulmonary resuscitation (CPR), adequacy and speed of surgical preparation, and guarantee of timely oxygen supply. **Results:** In the comparative analysis, the observation group showed a significant reduction in all key treatment time indicators—admission time, time to establish intravenous access, condition assessment time, CPR time, surgical preparation time, and oxygen inhalation time—compared with the control group, and this difference was highly statistically significant ($P < 0.05$), demonstrating the remarkable effect of the optimized nursing process in improving treatment efficiency. At the same time, the incidence of adverse reactions in the observation group during the prognosis period was significantly lower than that in the control group, which further confirmed the significant advantage of the optimized nursing process in reducing the risk of complications and promoting patient recovery, with a significant difference ($P < 0.05$). Finally, in terms of patient satisfaction, the satisfaction of the observation group was significantly higher than that of the control group, and this difference also reached statistical significance ($P < 0.05$), fully illustrating the important role of the optimized nursing process in improving patients' medical experience and enhancing doctor-patient trust. **Conclusion:** The implementation of optimized emergency nursing strategies in the field of trauma emergency can significantly improve the success rate of rescue and effectively promote the positive improvement of patients' prognosis.

Key words: Trauma; Emergency; Nursing Quality; Satisfaction; Effect

Trauma, as an acute injury to the body's physiological structure and psychological state caused by the external environment, involves multiple injury-causing factors such as mechanical, physical, chemical, and biological factors. It may cause mild symptoms like superficial pain, or severe consequences such as functional loss, disability, and even

death. With the rapid development of social economy and technology, especially the increasing frequency of traffic accidents, high-alt operations, and sports-related injuries, trauma has shown a trend of severity, multiplicity, and group occurrence, which puts forward higher requirements for the timeliness, accuracy, and effectiveness of on-site emergency rescue.

Given the suddenness and urgency of trauma incidents, rapid and accurate injury assessment and immediate resuscitation intervention are crucial to improving treatment efficiency and gaining valuable time. By optimizing the trauma emergency nursing process, not only can the work efficiency of each link be significantly improved, but also the life threats to patients can be effectively eliminated within the golden rescue time, thereby improving the success rate of emergency rescue and the overall quality of prognosis.

Therefore, this study focuses on the application effect of the optimized process in trauma emergency nursing practice. It aims to strengthen the emergency response ability of medical staff through systematic training, ensure that they can carry out rescue operations quickly and orderly when facing trauma patients, bring hope to more patients, further improve the overall efficiency and success rate of emergency work, and ultimately achieve the goal of optimizing patients' prognosis. The specific content and findings of this study are elaborated in detail below.

1 Materials and Methods

1.1 General Data

In this study, 100 critically ill trauma patients treated in Wuzhou Hospital of Traditional Chinese Medicine from October 2021 to August 2023 were carefully selected as the research objects. To ensure the objectivity and fairness of the research results, these patients were scientifically divided into a control group and an observation group according to the emergency nursing methods they received, with 50 representative cases in each group.

In the control group, detailed information of 24 male patients and 26 female patients was recorded. Their ages ranged from 34 to 52 years, with an average age of (45.32 ± 4.16) years, showing a high degree of age concentration. In terms of trauma types, this group covered a variety of injury conditions, including 11 cases of multiple injuries, 10 cases of craniocerebral injuries, 10 cases of chest injuries, 8 cases of abdominal injuries, 7 cases of pelvic injuries, and 5 cases of limb injuries, fully reflecting the complexity and diversity of critically ill trauma.

The observation group included 27 male patients and 23 female patients, with a slightly wider age distribution ranging from 34 to 53 years and an average age of (43.52 ± 8.75) years, which maintained good comparability with the control group in terms of age structure. In terms of trauma types, the observation group also showed comprehensive representativeness, including 13 cases of multiple injuries, 12 cases of craniocerebral injuries, 9 cases of chest injuries, 7 cases of abdominal injuries, 6 cases of pelvic injuries, and 4 cases of limb injuries. The diversity of these cases ensures the wide applicability of the research results.

During the grouping process, we strictly followed statistical principles and conducted a detailed comparative

analysis of the general data (such as gender, age, and trauma type) of the two groups of patients. The results showed no significant difference between the two groups ($P>0.05$), thus ensuring the scientificity and reliability of the study. In addition, all patients and their family members voluntarily signed the informed consent form after fully understanding the research content, reflecting respect and protection for the rights and interests of patients. This study protocol has also been strictly reviewed and approved by the hospital's Medical Ethics Committee to ensure the ethical compliance of the study.

1.2 Inclusion and Exclusion Criteria

To ensure the comprehensiveness and accuracy of the research results, strict inclusion criteria were set in this study. All patients included in the analysis must meet the core requirement of “complete clinical data”. This means that key information such as patients' medical records, diagnostic reports, treatment processes, nursing records, and follow-up data must be complete. This allows the research team to systematically review the patients' treatment process and comprehensively evaluate the impact of nursing process optimization on their rescue efficiency, nursing quality, prognostic effect, and patient satisfaction. The establishment of this criterion aims to provide a solid evidence base for optimizing the trauma emergency nursing process through detailed data support.

To exclude interfering factors that may affect the accuracy of the research results, clear exclusion criteria were also set in this study. First, patients with “severe organ dysfunction” were excluded because their conditions are complex and changeable, the treatment is difficult, and they are prone to be affected by various complications. This decision is based on the consideration of patient safety and also to ensure that the research results can more accurately reflect the application effect of nursing process optimization in general critically ill trauma patients.

Patients with “mental disorders or communication barriers” were also excluded. Due to their inability to accurately express their feelings and needs, such patients may not be able to provide effective feedback to researchers, thereby affecting the evaluation of nursing effects. In addition, communication barriers may also affect the information transmission and doctor-patient communication during the nursing process, further increasing the difficulty and risk of nursing. Therefore, excluding such patients helps to improve the scientificity and reliability of the study.

In summary, by strictly setting inclusion and exclusion criteria, this study ensures the homogeneity and representativeness of the research objects, laying a solid foundation for the study on optimizing the trauma emergency nursing process.

1.3 Methods

The control group followed the standard routine nursing mode, which focused on the preliminary assessment of the patient's condition and the immediate implementation of first-aid measures to maintain the stability of vital signs, ensuring that the patient received basic and necessary emergency treatment.

The observation group adopted a well-designed optimized nursing process intervention strategy, which aimed

to improve nursing efficiency and quality through a series of innovative measures: (1) First, comprehensive and in-depth standardized training was conducted for general medical and nursing staff. The training content not only included the strengthening of nursing management knowledge but also focused on simulated drills of emergency scenes to improve the practical operation skills and emergency response ability of the nursing team. An assessment mechanism was established to ensure that only qualified personnel could participate in nursing management work. At the same time, a special trauma emergency nursing team was set up to strengthen team collaboration and communication, optimize the inspection and handover process, so as to gain valuable rescue time and improve the success rate of rescue. (2) After the patient was admitted to the hospital, the green channel mechanism was activated immediately. During the transfer to the rescue room, the nursing staff were required to complete the preliminary condition assessment within an extremely short time (no more than 30 seconds), prioritize rescue over registration procedures, then quickly arrange in-hospital examinations, and accurately implement treatment measures and flexibly adjust the rescue strategy according to the examination results to ensure the patient's life safety. (3) During the surgical preparation stage, members of the nursing team had clear divisions of responsibilities according to the established duties, quickly assembled the required surgical instruments to ensure that the equipment was in good condition and thoroughly disinfected. At the same time, a dedicated person was assigned to monitor the environment of the rescue room and maintain appropriate temperature and humidity to create the best treatment environment for the patient. (4) After entering the rescue room, the nursing team stood in positions in strict accordance with the optimized process, assisted doctors in the secondary assessment of the patient's condition, quickly prepared first-aid items, adjusted equipment parameters, closely monitored the patient's vital signs, and maintained efficient communication with doctors to ensure the orderly progress of the treatment work. Especially for patients with shock, the nursing team adopted simultaneous operation by two nurses to quickly establish intravenous access, collect blood samples, implement fluid resuscitation and other key measures. At the same time, they closely monitored changes in the patient's various indicators and reported abnormal situations in a timely manner. (5) In addition, the optimized nursing process also focused on the close cooperation and reasonable scheduling of medical and nursing staff. According to the work experience and ability level of medical and nursing staff, the on-duty personnel during the day and night were scientifically arranged to ensure that each shift had sufficient staff to deal with emergency situations and improve the overall work efficiency. Through the implementation of this series of measures, the observation group showed significant advantages in rescue efficiency, nursing quality, and patient satisfaction.

1.4 Evaluation Criteria

To comprehensively evaluate the actual effectiveness of the two nursing strategies, we first focused on the core indicator of rescue efficiency. Specifically, we recorded in detail key time nodes such as admission time, time to establish intravenous access, condition assessment time, CPR time, surgical preparation time, and oxygen inhalation time. Through the comparative analysis of these specific data, the difference in rescue speed between the control

group and the observation group was intuitively demonstrated.

To ensure the objectivity and comprehensiveness of the evaluation, the Hospice Care Quality Assessment Scale was used as a tool to score the nursing quality of the two groups in five dimensions: emergency management, environmental management, disinfection and isolation, rescue drug and equipment management, and health education. Each dimension had a maximum score limit, and a higher total score indicated better nursing quality. Through this quantitative evaluation, we could more accurately understand the quality performance of the two groups in the nursing process.

In the evaluation of rescue effect, patients were divided into three grades according to their recovery status: Recovery, Improvement, and Death. “Recovery” meant that the patient’s respiratory distress symptoms were significantly improved, the respiratory rate returned to normal, the skin color recovered, the results of blood gas and chest X-ray examinations improved, and all vital signs remained stable. “Improvement” referred to the improvement of the patient’s vital signs such as respiration and blood gas, airflow through the nasal cavity, and gradual improvement of skin and mucous membrane color. “Death” directly reflected the failure of rescue. Based on these criteria, the effective rescue rate was calculated to objectively reflect the actual effect of the two nursing strategies.

In addition to the above evaluation contents, the prognostic status of patients was also tracked and counted. Focus was placed on the occurrence of serious complications such as shock, multiple organ dysfunction syndrome (MODS), respiratory distress syndrome, and infection. These data not only reflected the health status of patients after treatment but also provided an important basis for us to evaluate the impact of different nursing strategies on patients’ prognosis.

In terms of data processing and analysis, SPSS 20.0 statistical software was used for statistical analysis. Measurement data were described by mean \pm standard deviation ($\bar{x}\pm s$), and the t-test was used for inter-group comparison; count data were expressed by frequency and percentage [$n(\%)$], and the chi-square (χ^2) test was used for statistical analysis. Finally, $P<0.05$ was taken as the standard to judge that the difference was statistically significant.

2 Results

2.1 Comparison of Rescue Efficiency Between the Two Groups

The observation group was not only faster in admitting patients but also established intravenous access earlier for drug infusion or fluid replacement. At the same time, the timeliness of condition assessment was significantly better than that of the control group. In emergency situations, the observation group initiated CPR more promptly, had a more compact and efficient surgical preparation process, and provided necessary oxygen support to patients earlier. The significant differences in these time indicators ($P<0.05$) fully proved the effectiveness of the observation group in optimizing the emergency process, allocating resources, and improving response speed, significantly enhancing the treatment efficiency and quality of patients.

Table 1 Comparison of Rescue Efficiency Between the Two Groups

Group	Number of Cases	Admission Time (min)	Time to Establish Intravenous Access (s)	Condition Assessment Time (s)	Oxygen Inhalation Time (s)
Observation Group	50	13.42±3.42	19.63±2.03	8.13±2.36	19.36±3.56
Control Group	50	16.56±3.37	27.69±2.36	10.65±2.03	26.47±2.53
t	-	4.382	17.586	5.134	11.43
P	-	<0.001	<0.001	<0.001	<0.001

2.2 Comparison of Nursing Quality Between the Two Groups

The observation group showed higher efficiency and professionalism in the organization, coordination, and decision-making implementation of emergency management; in terms of environmental management, the observation group created a safer and more orderly treatment environment for patients; the strict implementation of disinfection and isolation measures effectively reduced the risk of cross-infection; the management of rescue drugs and equipment was more standardized, ensuring that they could be quickly and accurately put into use in emergency situations; in addition, the investment and effectiveness of the observation group in health education were also more significant, improving the patients' and their family members' awareness of first-aid knowledge and response capabilities. The scores in these dimensions were all higher than those of the control group, and the differences were statistically significant ($P<0.05$), fully proving the comprehensiveness and efficiency of the observation group in emergency nursing management.

Table 2 Comparison of Nursing Quality Between the Two Groups

Group	Number of Cases	Emergency Management	Environmental Management	Disinfection and Isolation	Medication Management
Observation Group	50	13.49±1.57	13.67±1.36	23.24±1.26	23.36±1.39
Control Group	50	11.79±2.43	11.36±1.76	20.69±2.79	21.89±2.56
t	-	4.698	17.586	5.126	4.869
P	-	<0.001	<0.001	<0.001	<0.001

2.3 Comparison of Rescue Effect Between the Two Groups

Through its more scientific and efficient emergency management process and measures, the observation group successfully improved the treatment success rate of patients, enabling more patients to receive timely and effective treatment in emergency situations. This significant difference ($P<0.05$) not only reflected the advantages of the observation group in emergency technology and strategies but also demonstrated the professional ability and teamwork spirit of its team in dealing with complex medical situations. Therefore, it can be said that the effective rescue rate of the observation group was significantly higher than that of the control group, which was statistically significant.

Table 3 Comparison of Rescue Effect Between the Two Groups (n/%)

Group	Number of Cases	Recovery	Improvement	Death	Effective Rate
Observation Group	50	32(64)	14(28)	4(8)	46(92)
Control Group	50	29(56.86)	12(24)	9(18)	40(80)
χ^2	-	-	-	-	5.796
P	-	-	-	-	0.015

3 Discussion

In the field of trauma treatment, the condition of a single trauma is relatively clear and easy to handle. However, when facing open trauma and complex trauma, the situation becomes complicated and severe. Such injuries are often more serious, and patients may even be in critical condition before emergency measures are taken. Therefore, the task of trauma treatment is not only to save the patient's life but also to focus on adopting humanized methods during the treatment process to minimize the physical and mental pain of the patient. At the same time, the treatment work should also focus on the long-term recovery of the patient, and strive to ensure that they can enjoy a good quality of life after recovery. In summary, the success of trauma treatment is not only a direct guarantee for the patient's life safety but also has a profound impact on their future quality of life and prognostic improvement.

The optimization of the emergency nursing process has significant benefits for the treatment of trauma patients. It can not only accelerate the rescue process and improve treatment efficiency but also significantly improve nursing quality while ensuring the patient's life safety. Through measures such as rapid condition assessment, effective hemostasis and bandaging, proper fixation of fractures, and efficient transportation, the observation group took significantly less time than the control group in key links such as admission, establishment of intravenous access, condition assessment, CPR, surgical preparation, and oxygen inhalation, which fully proved the effectiveness of the optimized process.

In addition, the optimized emergency nursing process not only improved the professional quality and operational ability of nursing staff but also reduced the handover and preparation time through standardized processes, ensuring that patients could receive treatment immediately after admission, thereby improving the success rate of rescue and nursing quality. This improvement is reflected not only in time efficiency but also in the reduction of the incidence of patient complications and the improvement of overall nursing satisfaction.

The optimized process of emergency nursing also emphasizes the overall and detailed care of patients, which effectively reduces the physical and mental pain of patients and improves their nursing experience. Through reasonable shift arrangement and clear responsibilities, the collaboration and cooperation between the medical and nursing teams are enhanced, the occurrence of medical accidents is reduced, and the safety of patients is further guaranteed. At the same time, combining with necessary psychological treatment helps patients better cope with the

psychological challenges after trauma and promote comprehensive recovery.

In conclusion, the application of the optimized emergency nursing process in trauma treatment not only accelerates the rescue process and improves nursing quality but also significantly improves the patient's prognosis and quality of life. It is an important way to improve the level of trauma treatment.

References

- [1] Dong Z Z, Shen X, Zhang Y, et al. Influence of optimized surgical nursing cooperation and emergency process on rescue efficiency and nursing quality of critically ill trauma patients [J]. *Chinese Journal of Integrated Traditional and Western Medicine in Critical Care*, 2020, 27(3):334-337.
- [2] Li L. Influence of optimized surgical nursing combined with emergency process on rescue efficiency and nursing quality of critically ill trauma patients [J]. *Journal of Practical Medical Techniques*, 2021, 28(6):829-830.
- [3] Sun Y, Hua W, Li X Y. Influence of optimized cooperative emergency process on rescue efficiency in emergency surgery for critically ill trauma patients [J]. *Hebei Medical Journal*, 2021, 43(12):1876-1882.
- [4] Fu Y H, Yin L D, Yang Z Y. Application of emergency nursing process in the rescue of patients with traumatic shock [J]. *Qilu Journal of Nursing*, 2022, 28(21):99-101.
- [5] Nie X F, Lü F F, Chen J L, et al. Sinicization and reliability and validity test of the Hospice Care Quality Assessment Scale [J]. *Chinese Nursing Management*, 2023, 23(2):266-270.
- [6] Wu Y Q. Application of chain process nursing management in emergency patients with severe trauma [J]. *Chinese Journal of Management in Chinese Medicine*, 2020, 28(10):64-65.
- [7] Meng F D. Influence of optimized emergency nursing process on emergency rescue effect of patients with traumatic shock [J]. *Medical Journal of Chinese People's Health*, 2020, 32(5):145-146.
- [8] Fu L X. Observation on the influence of optimized emergency nursing process on the treatment effect of patients with severe craniocerebral trauma undergoing emergency surgery [J]. *Forum of Basic Medicine*, 2022, 26(17):118-120.
- [9] Zhang H X. Application effect of optimized emergency nursing process in the treatment of emergency patients with severe trauma [J]. *Chinese Journal of Metallurgical Medicine*, 2023, 40(1):45-46.
- [10] Wang S J. Application effect of optimized trauma emergency nursing process in trauma emergency patients [J]. *China Modern Medicine*, 2020, 27(14):215-217.
- [11] Hu X Y, Chen H Y. Application of optimized trauma chain rescue in emergency nursing and its influence on rescue effectiveness [J]. *China Medicine and Pharmacy*, 2020, 10(2):161-163.
- [12] Rao T, Liang L L, Huang X Y. Clinical effect of optimized trauma emergency process in the treatment of trauma patients [J]. *Electronic Journal of Practical Clinical Nursing Science*, 2020, 5(17):120-124.

Nursing Analysis of a Patient with Left Lung Adenocarcinoma Complicated by Intrapulmonary Metastasis and Bone Metastasis

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Abstract: This article retrospectively analyzes the clinical data and nursing process of a 77-year-old patient with postoperative left lung mucinous adenocarcinoma complicated by intrapulmonary metastasis and bone metastasis. Upon admission, the patient presented with clinical symptoms including general soreness, nausea and vomiting, chest tightness, and fatigue, along with comorbidities such as chronic renal insufficiency and hypertension. During the nursing period, the nursing team developed a nursing plan focusing on pain management, symptom care, complication prevention, psychological support, and discharge guidance based on a comprehensive assessment. After 12 days of nursing intervention, the patient achieved well-controlled pain, relieved infection, and improved symptoms before being discharged. This case provides a reference for the nursing of patients with advanced lung cancer metastasis, contributing to enhancing the nursing quality and quality of life for similar patients.

Key words: One Case; Left Lung Adenocarcinoma with Intrapulmonary Metastasis; Bone Metastasis; Nursing

Introduction

Lung cancer is one of the most common malignant tumors worldwide, among which non-small cell lung cancer (NSCLC) accounts for a high proportion. As a subtype of NSCLC, mucinous adenocarcinoma is characterized by high malignancy, easy metastasis, and poor prognosis [1]. Bone metastasis is a common complication in advanced lung cancer, which can cause bone pain, limited mobility, and other symptoms in patients. Patients often also suffer from infections, anemia, and other issues, increasing the difficulty of nursing care. Elderly patients with advanced disease have declined physical functions and multiple comorbidities, so nursing care needs to balance disease treatment with symptom management, psychological support, and safety protection. This article elaborates on the nursing process through a specific case, providing practical reference for clinical practice.

1 Case Data

The patient, a 77-year-old female farmer (hospitalization number: 2205044), was admitted on March 3, 2022, due to "recurrence of left lung cancer 7 years after surgery and general soreness for 1 week".

1.1 Past Medical History and Treatment History

In 2015, she was diagnosed with left upper lung cancer due to cough and underwent "left upper lobectomy + partial left lower lobectomy + mediastinal lymph node dissection". Postoperative pathology confirmed mucinous adenocarcinoma involving the pleura with no lymph node metastasis, and no chemotherapy was administered. In August 2016, intrapulmonary metastasis in the left lung occurred, and she received 2 cycles of oral tegafur gimeracil oteracil potassium capsules for chemotherapy; in November, due to blood-tinged sputum, she received 3 cycles of "pemetrexed + oxaliplatin" chemotherapy. From 2017 to 2021, as the disease progressed, she underwent a total of 13 cycles of pemetrexed monotherapy or maintenance therapy. In January 2018, she developed renal insufficiency, which improved after treatment with Niaoduqing Granules, and she took Niaoduqing Granules and Bailing Capsules long-term. In January 2022, bone metastasis was suspected, and she received 2 cycles of tislelizumab immunotherapy.

She had a history of radical mastectomy for right breast cancer (over 30 years ago) and partial thyroidectomy (over 10 years ago), as well as long-term hypertension (controlled with oral nifedipine controlled-release tablets). She had no history of diabetes, heart disease, drug allergies, smoking, or alcohol consumption.

1.2 Clinical Manifestations on Admission

One week prior to admission, she experienced general soreness, with prominent left knee joint pain (ineffective after oral etoricoxib administration); accompanied by nausea, anorexia, vomiting, mild chest tightness (worsened after activity), fatigue, dry cough occasionally with dark red blood-tinged sputum, dizziness, acid regurgitation, belching, and occasional chest pain. She had poor mental state and sleep quality, normal urine and stool output, and no significant weight change.

Physical examination: Body temperature 36.9°C, pulse 79 beats/min, respiratory rate 18 breaths/min, blood pressure 131/68 mmHg; emaciated body shape, clear consciousness, absence of the right breast, surgical scars on the chest wall and neck with good healing; coarse breath sounds in the right lung, decreased breath sounds in the left lung, and a small amount of moist rales in the lower lung fields; regular heart rhythm, soft abdomen without tenderness, positive tenderness and percussion pain in the lumbosacral region; no edema in both lower limbs, normal muscle strength.

1.3 Auxiliary Examinations

Before admission: Lumbar spine MRI on January 15, 2022, showed abnormal signals in multiple vertebral bodies (considering progressive bone metastasis); chest and abdominal CT showed multiple metastases in both lungs, left lung inflammation, and a small amount of pleural and pericardial effusion, with high-density shadows in multiple bones (cannot rule out metastasis); negative COVID-19 nucleic acid test on March 2.

After admission: Abnormal thyroid function, significantly elevated tumor markers (carcinoembryonic antigen [CEA] 179.00ng/mL, etc.), abnormal coagulation function, blood lipids, and liver-kidney function, and low hemoglobin level. On March 7, hypotension occurred; on March 8, anemia worsened, inflammatory indicators increased, and blood calcium decreased; on March 10, knee joint MRI showed degenerative changes, etc.; on March 12, pharyngeal swab culture was positive for *Candida albicans*.

1.4 Diagnosis and Treatment

Admission diagnosis: 7 conditions including postoperative metastasis of left lung mucinous adenocarcinoma (Stage IV, Zubrod Performance Status [ZPS] 1, Numerical Rating Scale [NRS] 2), chronic renal insufficiency, and Grade 2 hypertension (high risk).

Treatment: After admission, cantharidin vitamin B6 was administered for anti-tumor therapy, omeprazole for gastric protection, and morphine sustained-release tablets for pain relief; on March 8, anti-infection treatment was added, and indwelling urinary catheterization was performed due to suspected urinary retention caused by bladder distension; on March 10, the amount of coffee-ground-like sputum increased significantly, so Yunnan Baiyao was used for hemostasis; skin pruritus occurred, which was considered possibly due to skin allergy, so anti-allergy treatment was given; on March 12, the patient still had obvious cough and expectoration, so moxifloxacin was added for combined anti-infection therapy; on March 14, the patient's cough and expectoration symptoms improved significantly, and infection indicators returned to normal, so fluid infusion was discontinued; the patient was discharged on March 15.

2 Nursing Care

2.1 Nursing Assessment

2.1.1 Physical Assessment

Pain: NRS score 2, with general soreness and prominent left knee joint pain, related to bone metastasis and joint lesions, worsened after activity.

Symptoms: Nausea, vomiting, chest tightness, cough, etc., related to tumor, inflammation, and medication; comorbidities including renal insufficiency and hypertension.

Nutritional metabolism: Emaciated body shape, slightly low prealbumin, decreased hemoglobin, indicating nutritional deficiency and tumor consumption.

Safety risks: Elderly and weak, with a history of dizziness and hypotension, high risk of falls, pressure injuries, and thrombosis.

2.1.2 Psychological and Social Assessment

The patient had advanced cancer with a long disease course, resulting in high psychological pressure, anxiety, and worry; poor economic conditions, insufficient family awareness, and inadequate family support; low educational level, leading to limited understanding of the disease.

2.2 Nursing Goals

Short-term: NRS pain score < 1, relieved symptoms, corrected abnormal indicators, prevented complications, and enabled the patient and family members to master basic nursing knowledge.

Long-term: The patient can take medications correctly, master pain management methods, maintain stable nutrition, improve psychological status, and enhance quality of life.

2.3 Nursing Measures

2.3.1 Pain Management

Medication care: Prioritize analgesic drugs with minimal impact on renal function (e.g., strict adherence to

medical advice for non-steroidal anti-inflammatory drugs [NSAIDs] to avoid renal damage). For the patient's moderate to severe pain, morphine sustained-release tablets were administered as prescribed:

(1) Administer drugs on time and in the prescribed dose; do not adjust the dose or discontinue medication without authorization.

(2) Prioritize oral dosage form; swallow the tablet whole, do not break or chew it.

(3) Regularly assess pain scores (e.g., NRS score) and gradually adjust the dose based on score changes, with the goal of "no pain or mild pain".

Pain assessment and documentation: Assess pain regularly (e.g., once in the morning and once in the evening) every day, and record pain location, nature (e.g., stabbing pain, distending pain), NRS score, morphine dosage, and therapeutic effect. If the pain pattern changes (e.g., increased resting pain, pain in new locations), promptly inform the doctor to check for pathological fractures, progressive bone metastasis, or other conditions.

Monitoring and nursing for medication adverse reactions:

(1) Prevent constipation: Administer laxatives as prescribed at the initial stage of medication, and encourage appropriate gentle activities (e.g., turning in bed, walking beside the bed).

(2) Closely monitor respiratory rate and rhythm, and be alert to respiratory depression. If respiratory rate < 10 breaths/min, accompanied by drowsiness and confusion (indicating respiratory depression), immediately discontinue medication and call the doctor.

(3) For elderly, weak, or first-time medication users, start with a low dose and strengthen nighttime monitoring.

(4) Drowsiness, dizziness, and other symptoms may occur during medication; the patient should avoid getting out of bed independently to prevent falls. If symptoms worsen continuously, inform the doctor to adjust the dose.

Non-pharmacological care: Guide the patient to take a comfortable position, play music to divert attention, perform local massage, and avoid strenuous activities to prevent fractures.

2.3.2 Renal Function Protection Care

Medication management: Strictly administer medications as prescribed; prohibit the patient from using nephrotoxic drugs (e.g., some antibiotics, NSAIDs) without authorization; record urine output and changes in renal function indicators (serum creatinine, blood urea nitrogen) after medication.

Diet and fluid control: Adjust the diet according to the stage of renal function, limit protein intake (prioritize high-quality protein such as eggs and milk), control fluid intake (calculate the daily allowable intake as prescribed), and avoid high-potassium and high-phosphorus foods (e.g., bananas, animal offal).

Monitoring of urine output and vital signs: Record urine output and urine color daily; measure blood pressure regularly (to avoid aggravated renal damage due to hypertension); if sudden decrease in urine output or worsening edema occurs, promptly inform the doctor.

2.3.3 Symptom Care

Gastrointestinal tract: Assist the patient in adjusting position during vomiting, clean the oral cavity^[2], guide the patient to take small and frequent meals; symptoms improved after medication.

Respiratory tract: Keep the ward well-ventilated, guide the patient to perform effective coughing, observe sputum characteristics; blood-tinged sputum decreased after medication.

Hypotension and dizziness: During hypotension, keep the patient in bed, provide oxygen therapy and monitoring, and guide the patient to follow the "three-step position change" (lie down → sit up → stand up slowly); no recurrence after discontinuing the relevant drugs.

Urinary retention: Indwelling urinary catheterization was performed after ineffective hot compress-induced urination [3]; strict aseptic operation was conducted, urethral orifice care was provided, and the catheter was removed successfully after bladder function training.

2.3.4 Complication Prevention

Infection: The patient had low immunity; maintain oral and skin cleanliness, reduce visits, and avoid crowded places; administer antibiotics as prescribed, collect specimens correctly to adjust medication, strengthen oral care for the patient, assist in turning in bed, and control infection.

Deep vein thrombosis (DVT): Avoid prolonged bed rest or sitting; assist bedridden patients in turning every 2 hours; guide the patient to perform ankle pump exercises and massage the lower limbs; avoid tight clothing (e.g., tight pants, socks) when in bed, do not place soft pillows under the knees or overflex the knees (to prevent hindered venous return and vascular compression); avoid lower limb venous puncture as much as possible during infusion to reduce vascular damage; maintain a light diet, reduce high-fat and high-sugar foods, monitor coagulation function, and pay attention to symptoms of thrombosis.

Anemia and fatigue care: Supplement hematopoietic materials (e.g., iron supplements, erythropoietin) as prescribed; assist the patient in slow activities to avoid orthostatic hypotension; provide bedside walkers if necessary. Recheck relevant indicators [4], guide dietary adjustments, and supplement calcium; indicators improved.

2.3.5 Psychological Care and Nutritional Support

Psychological intervention: The patient was prone to anxiety and despair; communicate and listen to the patient more, explain the progress of treatment and nursing care, encourage family members to participate in companionship, and contact psychologists if necessary.

Nutritional support: Ensure calorie intake within the allowable range of renal function (e.g., rice porridge, soft foods); provide enteral nutritional supplements if necessary to avoid aggravated illness due to malnutrition.

2.3.6 Discharge and Follow-Up Guidance

Home care education: Guide family members to master pain assessment, medication methods, and key points of renal function monitoring; remind them to conduct regular reexaminations (bone scan, renal function, electrolytes); advise the patient to avoid overexertion; provide regular telephone follow-up for the patient [5].

Emergency management education: Inform the patient and family members to seek medical attention immediately if the following conditions occur: sudden severe bone pain or limited limb movement (possible fracture); significant decrease in urine output or worsening edema; high fever, difficulty breathing, etc.

Reexamination and follow-up: Inform the patient of the reexamination time, specialist clinic information, and

circumstances requiring emergency medical treatment [6].

2.4 Nursing Evaluation

After 12 days of hospitalization, the patient's NRS pain score was < 1 , symptoms such as nausea, vomiting, chest tightness, and cough were relieved, blood-tinged sputum decreased, anemia and electrolyte imbalance were corrected, and no complications occurred; the patient mastered knowledge of medication and reexamination, had improved psychological status, enhanced quality of life, and was discharged smoothly. Follow-up 1 month later showed no severe discomfort, regular reexaminations, standardized medication use, and well-controlled pain.

3 Discussion

Nursing care for patients with advanced lung cancer metastasis requires comprehensive assessment and individualized intervention. Pain management should combine pharmacological and non-pharmacological methods, with attention to side effects. Symptom care should address symptoms promptly to prevent complications. Psychological and social support cannot be ignored, requiring the participation of family members and society. Discharge guidance and follow-up ensure continuous care. In this case, multidisciplinary collaboration, dynamic assessment and plan adjustment, and humanistic care were the keys to successful nursing. However, there were still shortcomings; in the future, it is necessary to optimize nutritional support and strengthen psychological intervention to provide better-quality nursing care for patients.

References

- [1] Zhang C C, Zhan Y F. Application of 5A Model Nursing Intervention in Patients with Postoperative Lung Adenocarcinoma Treated with Seretide Aerosol [J]. Qilu Journal of Nursing, 2024, 30(16):1-4.
- [2] Chang Y, Liu J L, Liu L H, et al. Efficacy Observation and Nursing Experience of Whole-Brain Simultaneous Integrated Boost Intensity-Modulated Radiation Therapy (SIB-IMRT) in the Treatment of Brain Metastases from EGFR Wild-Type or Drug-Resistant Lung Adenocarcinoma [J]. Journal of Shandong Medical College, 2024, 46(04):1-4.
- [3] Wei P. Nursing Care of 1 Elderly Patient with Lung Adenocarcinoma Complicated by Malignant Pleural Effusion [J]. Journal of Frontiers of Medicine, 2024, 14(15):117-119.
- [4] Sun X M, He N, An Y J. Observation on the Application Effect of Refined Operating Room Nursing in Patients with Lung Adenocarcinoma Undergoing Thoracoscopic Radical Lung Tumor Resection [J]. Chinese and Foreign Medicine Research, 2024, 3(09):105-107.
- [5] Guo L, Chen L, Han M, et al. Effect of Hogan Phased Nursing on Pulmonary Function, Cancer-Related Fatigue, Self-Efficacy, and Perceived Social Support in Patients Undergoing Thoracoscopic Lung Cancer Surgery [J]. Journal of North Sichuan Medical College, 2025, 40(05):671-675.
- [6] Ma Y P, Wu Y H, An M M. Nursing Observation of Sintilimab Combined with Bevacizumab in the Treatment of Driver Gene-Negative Advanced Lung Adenocarcinoma [J]. Journal of Basic and Clinical Oncology, 2022, 35(03):266-268.

Effect of Kangaroo Mother Care Combined with Tactile Massage in the Nursing of Premature Infants and Its Impact on Sleep Status

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Abstract: **Objective:** To study the effect of Kangaroo Mother Care (KMC) combined with tactile massage in nursing intervention for premature infants and analyze the improvement of infants' sleep quality. **Methods:** A total of 80 premature infants admitted to our hospital from July 2024 to July 2025 were selected and randomly divided into a control group and an observation group, with 40 cases in each group. The control group received conventional nursing intervention, while the observation group was additionally given KMC combined with tactile massage intervention. Differences in sleep quality and nursing effect between the two groups were observed. **Results:** The nursing satisfaction of the observation group was higher than that of the control group, and the incidence of adverse reactions was lower than that of the control group. The observation group had longer sleep duration, fewer number of awakenings, and shorter awakening duration than the control group. After nursing, the observation group showed higher scores in parents' care ability, height, weight, daily milk intake, and Neonatal Behavioral Neurological Assessment (NBNA) scale, while the score of the Chinese Infant Sleep Assessment Scale (ISAS) was lower than that of the control group. All differences were statistically significant ($P < 0.05$). **Conclusion:** Due to immature intrauterine development, premature infants have slow postnatal growth and development and sleep disorders. Conventional nursing can only ensure the infants' life safety but has poor effects in improving their growth and development and sleep quality. The implementation of KMC combined with tactile massage intervention has a better effect, which can help infants restore normal feeding tolerance and sleep quality as soon as possible and ensure their growth and development. This intervention is worthy of clinical attention.

Key words: Kangaroo Mother Care; Tactile Massage; Premature Infants; Sleep Quality

Premature infants have a relatively short intrauterine development period, resulting in immature organ functions and immune systems. After birth, they may face problems such as weak physical constitution, feeding difficulties, sleep disorders, and even complications, which seriously affect their survival ^[1-2]. Clinically, interventions such as incubator care and artificial feeding are commonly used to ensure the life safety of premature infants until their organs mature and they can perform normal physiological activities, but the effect is relatively slow. Conventional nursing has poor effects on addressing sleep disorders in infants, so it cannot significantly improve growth retardation and sleep disorders caused by the above factors. To improve infants' sleep quality and enhance their growth and development, clinical practice has adopted KMC combined with tactile massage intervention, which has achieved

certain effects [3-4]. This study implemented KMC combined with tactile massage intervention for selected premature infants, and the results are reported as follows.

1 Materials and Methods

1.1 Clinical Data

A total of 80 premature infants admitted to our hospital from July 2024 to July 2025 were selected and randomly divided into a control group and an observation group, with 40 cases in each group.

- Observation group: 21 males and 19 females; gestational age of 28–36 weeks, with an average of (33.82±2.14) weeks; weight of 1.5–2.5 kg, with an average of (1.94±0.48) kg.
- Control group: 19 males and 21 females; gestational age of 29–36 weeks, with an average of (33.58±2.23) weeks; weight of 1.6–2.6 kg, with an average of (1.95±0.52) kg.

Family members of all infants signed informed consent forms, understood the study, and cooperated throughout the study. There were no cases of dropout due to early discharge, death, or data loss. No statistically significant difference was found in general data between the two groups ($P>0.05$), indicating comparability.

Inclusion criteria: (1) Infants born in our hospital; (2) Meeting the diagnostic criteria for premature infants.

Exclusion criteria: (1) Complicated with congenital major organ developmental defects or diseases; (2) Neonatal hemolysis; (3) Maternal postpartum hemorrhage, shock, or death; (4) Inability to tolerate the study's nursing intervention due to other reasons.

1.2 Methods

Control Group: Conventional Nursing Intervention

Nursing was provided according to the infants' treatment status to maintain stable vital signs until the infants could eat and breathe normally and restore regular physiological rhythms.

Observation Group: Conventional Nursing + KMC Combined with Tactile Massage

① Establishment of a nursing team: A nursing team was formed, with the head nurse as the team leader, 2 specialist nurses, and 3 general nurses. The team leader organized training on knowledge related to KMC and tactile massage for the team, and specialist nurses received comprehensive training until all nursing staff mastered the nursing skills proficiently before conducting clinical nursing intervention.

② Kangaroo Mother Care (KMC): Before implementing KMC, health education was provided to the mother to explain knowledge about KMC, including nursing risks of premature infants, the significance and operation methods of KMC, and expected effects. Meanwhile, the mother's physical condition was evaluated to check for infectious diseases. After confirming the mother's ability to cooperate with the nursing intervention, the mother was trained on skills such as eating, drinking, using the toilet, and changing the infant's diapers. Before KMC, the mother was provided with clean, neat, and soft clothing, and assisted in taking a bath and trimming nails to prepare for KMC. The ward environment was adjusted: the ward was cleaned, temperature and humidity were regulated, and natural

light and other environmental disturbances were blocked using curtains or bed screens to protect the privacy of the infant and mother. During KMC, the mother was guided to lie on a recliner at an angle of approximately 60°, with her lower limbs elevated using soft pillows to form a “kangaroo hug” posture. The premature infant’s clothes were removed to increase skin contact between the mother and the infant. The infant was placed on the mother’s chest in a supine position; the mother supported the infant’s buttocks with one hand and fixed the infant’s back with the other to maintain a stable posture. The mother was instructed to communicate verbally with the infant (e.g., calling the infant’s name), gently stroke the infant’s back, or kiss the infant’s forehead. Each KMC session lasted 60 minutes, conducted twice a day (between 10:00–11:00 or 16:00–18:00).

③ Tactile massage: After KMC, nurses took the infant from the mother and performed tactile massage. Nurses applied an appropriate amount of moisturizing oil to their hands, covered the infant’s skin with their palms, and massaged the infant from head to toe:

- Head and face massage: The pulp of the thumbs was used to massage from the temples to the jaw and ear tragus slowly; other fingers gently pressed the infant’s scalp from front to back.
- Chest and abdomen massage: The palms were used to massage from the outer chest to the shoulders; the palm was used to knead the precordial area. Fingers were closed to knead the abdomen in a clockwise direction. The infant’s hands were raised to shoulder height, and the palms were used to gently hold and squeeze the infant’s limbs.
- Back massage: The infant was placed in a lateral position with a soft pillow fixed in front of the chest. One hand stabilized the infant’s posture, and the other hand kneaded the spine with the thumb and index finger. The infant was then turned to a prone position with the head tilted to the left or right, and the back was massaged repeatedly from the neck to the buttocks with both hands.

Each body part was massaged for 10 minutes, three times a day.

Both groups received nursing until the infants were discharged.

1.3 Observation Indicators

(1) Nursing satisfaction: Calculated as (number of “very satisfied” + “satisfied” cases) / 40 × 100%.

• *Very satisfied*: Family members fully understood and cooperated with the nursing work, with a satisfaction score of ≥ 85 points;

• *Satisfied*: Family members gave a nursing score of 60–84 points;

• *Dissatisfied*: Did not meet the above standards.

(2) Incidence of adverse reactions: Calculated as (number of cases with infection + feeding intolerance + growth retardation) / 40 × 100%.

(3) Sleep indicators: Sleep duration, number of awakenings, and awakening duration.

(4) ISAS scale and parents’ care ability score before and after nursing:

• *ISAS scale (Chinese Infant Sleep Assessment Scale)*: Score range 0–56 points; higher scores indicate poorer sleep quality.

- *Parents' care ability score*: Evaluated using a self-designed scale (score range 0–90 points); higher scores indicate better care ability of parents.

(5) Growth and development indicators: Height, weight, daily milk intake, and NBNA scale score.

- *NBNA scale (Neonatal Behavioral Neurological Assessment scale)*: Score range 0–50 points; higher scores indicate better neurological function.

1.4 Statistical Methods

SPSS 27.0 software was used for data analysis. Count data were expressed as percentages (%), and categorical data were expressed as mean \pm standard deviation ($\bar{x}\pm s$). The chi-square (χ^2) test was used for count data, and the t-test was used for categorical data. A P-value <0.05 was considered statistically significant.

2 Results

2.1 Comparison of Nursing Satisfaction Between the Two Groups

The nursing satisfaction of the observation group was higher than that of the control group, with a statistically significant difference ($P<0.05$). See Table 1.

Table 1 Comparison of Nursing Satisfaction Between the Two Groups (%) [n (%)]

Group	Number of Cases	Very Satisfied	Satisfied	Dissatisfied	Nursing Satisfaction
Observation Group	40	26 (65.00)	12 (30.00)	2 (5.00)	38 (95.00)
Control Group	40	18 (45.00)	15 (37.50)	7 (17.50)	33 (82.50)
χ^2	-	-	-	-	7.51
P	-	-	-	-	<0.05

2.2 Comparison of Adverse Reaction Incidence Between the Two Groups

The incidence of adverse reactions in the observation group was lower than that in the control group, with a statistically significant difference ($P<0.05$). See Table 2.

Table 2 Comparison of Adverse Reaction Incidence Between the Two Groups (%) [n (%)]

Group	Number of Cases	Infection	Feeding Intolerance	Growth Retardation	Adverse Reaction Incidence
Observation Group	40	1 (2.50)	0 (0.00)	1 (2.50)	2 (5.00)
Control Group	40	2 (5.00)	1 (2.50)	2 (5.00)	5 (12.50)
χ^2	-	-	-	-	7.45
P	-	-	-	-	<0.05

2.3 Comparison of Sleep Indicators Between the Two Groups

The observation group had longer sleep duration, fewer number of awakenings, and shorter awakening duration than the control group, with statistically significant differences ($P<0.05$). See Table 3.

Table 3 Comparison of Sleep Duration, Number of Awakenings, and Awakening Duration Between the Two Groups

($\bar{x}\pm s$)

Group	Number of Cases	Sleep Duration (h)	Number of Awakenings (times)	Awakening Duration (h)
Observation Group	40	7.55±0.45	2.42±0.28	2.25±0.14
Control Group	40	5.24±0.22	4.34±0.41	3.82±0.27
t	-	12.5532	11.2813	10.2338
P	-	<0.05	<0.05	<0.05

2.4 Comparison of ISAS Scale Score and Parents' Care Ability Score Before and After Nursing

Before nursing, there were no significant differences in ISAS scale score or parents' care ability score between the two groups ($P>0.05$). After nursing, the observation group had a higher parents' care ability score and a lower ISAS scale score than the control group, with statistically significant differences ($P<0.05$). See Table 4.

Table 4 Comparison of ISAS Scale Score and Parents' Care Ability Score Before and After Nursing ($\bar{x}\pm s$) [n (points)]

Group	Number of Cases	ISAS Scale Score	ISAS Scale Score	Parents' Care Ability Score	Parents' Care Ability Score
		Pre-intervention	Post-intervention	Pre-intervention	Post-intervention
Observation Group	40	38.57±2.63	22.21±4.25	56.83±6.28	82.82±4.62
Control Group	40	38.44±2.13	30.71±3.58	58.77±6.12	69.47±3.55
t	-	0.8815	12.6352	0.4412	13.2814
P	-	>0.05	<0.05	>0.05	<0.05

2.5 Comparison of Growth and Development Indicators Between the Two Groups

The observation group had higher height, weight, daily milk intake, and NBNA scale score than the control group, with statistically significant differences ($P<0.05$). See Table 5.

Table 5 Comparison of Height, Weight, Daily Milk Intake, and NBNA Scale Score Between the Two Groups ($\bar{x}\pm s$)

Group	Number of Cases	Height (cm)	Weight (kg)	Daily Milk Intake (ml)	NBNA Scale Score
Observation Group	40	78.28±3.41	6.47±0.38	355.83±12.28	43.47±4.63
Control Group	40	65.25±3.25	4.62±0.25	255.12±10.17	35.12±3.54
t	-	11.2621	10.2831	10.6622	11.6235
P	-	<0.05	<0.05	<0.05	<0.05

3. Discussion

Premature infants are newborns delivered before full term, with immature central nervous systems and tissues/organs. In the early postnatal period, they need to continue developing outside the mother's body to gradually restore normal physiological functions. During this stage, infants have high sensitivity to neurodevelopment and are

highly sensitive to the external environment. Without a safe and stable growth environment, they are more likely to experience stress responses such as sleep disorders and feeding intolerance^[5-6]. Sleep disorders can affect the infants' growth and development process and hinder their neurodevelopment; therefore, clinical practice attaches great importance to sleep quality management for premature infants.

Kangaroo Mother Care is a nursing intervention that simulates the "kangaroo pouch". Its main purpose is to provide a safe, stable, and comfortable growth environment for premature infants through scientific early contact between the mother and the infant. KMC can provide 2–3 hours of mother-infant contact per day, which effectively relieves the infant's tension, reduces adverse external stimuli, alleviates the infant's anxiety and separation anxiety, and thereby improves sleep disorders^[7-8]. In addition, tactile massage, when combined with KMC, can stimulate the infant's skin and nerves through massaging the head, trunk, limbs, and back, improving the development of the central nervous system and accelerating the maturation of growth and development.

The results of this study showed that the observation group had higher nursing satisfaction and lower incidence of adverse reactions than the control group ($P < 0.05$), indicating that KMC combined with tactile massage has a more significant effect in nursing premature infants. After birth, premature infants have poor daily milk intake and sleep quality due to immature organs, which seriously affects their growth and development. Conventional nursing can only assist in treatment but has poor effects in improving infant comfort and sleep quality. In contrast, KMC combined with tactile massage can enhance the infant's skin blood circulation and stimulate the skin and limbs through massage, promoting better growth and development. KMC involves the mother in nursing, providing more opportunities for intimate contact between the mother and the infant. This helps the mother massage the infant scientifically, provides the infant with a greater sense of security, and creates a "uterus-like" environment for the infant, effectively relieving neurological tension. Thus, it significantly improves growth and development quality and prevents adverse reactions. Moreover, mothers and family members can contact the infant in a more scientific way, which enhances their understanding of nursing work and improves the nurse-patient relationship and family satisfaction.

The observation group had longer sleep duration, fewer number of awakenings, and shorter awakening duration than the control group ($P < 0.05$), indicating that KMC combined with tactile massage has a clear effect on improving the sleep quality of premature infants. Premature infants have short sleep duration and frequent awakenings due to prematurity, which seriously affects their sleep quality and even endangers their growth and development. KMC provides a safer and more stable sleep environment for infants, reducing the number of awakenings and prolonging total sleep duration, thus avoiding the impact of prolonged awakening and crying on growth and development. In addition, tactile massage stimulates the infant's cerebral cortex, enhancing neural stimulation and reducing sleep disorders.

After nursing, the observation group had a higher parents' care ability score and a lower ISAS scale score than the control group ($P < 0.05$), indicating that KMC combined with tactile massage can effectively improve the parents' ability to care for premature infants. Premature infants have congenital developmental deficiencies, and their care differs greatly from that of full-term infants. Parents need to master professional care techniques and actively cooperate with nursing interventions to ensure the infants' growth and development quality. Combined nursing

reduces parental anxiety and tension through scientific contact and tactile massage, teaching parents to care for the newborn in a more scientific and proactive manner. Furthermore, KMC combined with tactile massage effectively alleviates the infant's sleep disorders, relieves breathing difficulties and feeding problems through massage, improves gastrointestinal peristalsis, and enhances sleep quality.

The observation group had higher height, weight, daily milk intake, and NBNA scale score than the control group ($P < 0.05$), indicating that KMC combined with tactile massage significantly improves the growth and development, feeding status, and neurodevelopment of premature infants, helping them safely pass the neonatal period. KMC provides a safer and more comfortable sleep environment for infants, avoiding sleep disorders caused by environmental factors. Meanwhile, massaging the infant's limbs and trunk improves blood circulation and enhances nutritional support, accelerating growth, development, and neurodevelopment, and significantly improving the overall quality of life of premature infants.

In conclusion, KMC combined with tactile massage has a significant effect in nursing premature infants. It plays a crucial role in improving the infants' growth and development, reducing sleep disorders, and enhancing sleep quality, and is worthy of clinical attention.

References

[1] Jin Q X, Jiang C M, Lü Q L. Effect of whole-body tactile intervention combined with early oral motor training on feeding status and growth and development of premature infants [J]. Chinese Journal of Modern Drug Application, 2025, 19(17):167-170.

[2] Tang Z H, Mei M, Wu H Y. Application effect of Kangaroo Mother Care combined with special care diary in mothers of premature infants [J]. China Modern Medicine, 2025, 32(16):157-161.

[3] Guan X Y, Xiao D S, Qiu Y Y, et al. Effect of Kangaroo Mother Care combined with biological nurturing method on breastfeeding and type A nipple confusion in premature infants hospitalized in NICU [J]. Nursing Practice and Research, 2025, 22(05):652-656.

[4] Hu Y F, Jin H F. Application effect of sensory integration training combined with Kangaroo Mother Care in the nursing of high-risk premature infants [J]. Journal of Clinical Research, 2025, 42(04):724-727.

[5] Chen C Y, Han Y P. Qualitative study on promoting and hindering factors of parents' participation in Kangaroo Mother Care for premature infants in NICU [J]. Journal of General Nursing, 2025, 23(08):1508-1512.

[6] Qu F X, Feng J, Ren Y F. Effect of early oral motor training combined with tactile intervention in the nursing of premature infants [J]. Journal of Qiannan Medical College for Nationalities, 2025, 38(01):79-81.

[7] Huang L Y, Zeng X M. Application effect of early tactile massage combined with Kangaroo Mother Care in premature infants [J]. Medical Journal of Chinese People's Health, 2025, 37(03):191-193.

[8] Wang S R, Huang Y. Analysis of the effect of standardized infant tactile massage on early motor development of premature infants using Infant Motor Performance Test [J]. Journal of Medical Science of Yanbian University, 2024, 47(06):767-769.



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