

The Impact of Operating Room Detailed Nursing Based on Risk Management on Surgical Patient Satisfaction and Intraoperative Risk Control

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Background The operating room has always been a key clinical inspection high-risk department. The "Detailed Rules for the Implementation of Evaluation Standards for Tertiary General Hospitals" issued by the Ministry of Health in 2011 emphasized the establishment of operating room quality and safety indicators, which can be evaluated regularly, and continuous improvement is required. The nursing level of nurses in the room is directly related to the overall nursing quality of the hospital. **Objective** To observe the impact of detailed nursing in operating room based on risk management on surgical patient satisfaction and intraoperative risk control. **Methods** A retrospective selection of 130 patients who were treated in the operating room of our hospital from January 2018 to March 2020 was retrospectively selected. Among them, 65 patients used conventional operating room nursing procedures, and the other 65 patients used risk management-based operating room detailed nursing procedures. The intraoperative rescue, secondary intubation, incidence of > 3 h in room, nursing error rate, postoperative general situation (recovery time of bowel sounds, first exhaust time, ambulation time, postoperative complication rate) and satisfaction were compared between the two groups. Visual analogue scale (VAS) score was used to evaluate the degree of postoperative pain. Nursing quality score and health survey short form (SF-36) were used to evaluate nursing quality and quality of life. **Results:** Intraoperative rescue (0.00%), secondary intubation (0.00%), in-room > 3h incidence (1.54%) and nursing error rate (0.00%) in the observation group were compared with those in the control group, which were not statistically significant ($P > 0.05$). The recovery time of bowel sounds in the observation group was (41.71 ± 3.46) h, the time to first exhaust (59.47 ± 5.23) h, and the time to get out of bed (54.36 ± 4.78) d were shorter than those in the control group. The postoperative complication rate (3.08%) was lower than that of the control group, which had statistical significance ($P < 0.05$). The VAS scores of the observation group at 6h, 12h, and 24h after surgery were lower than those of the control group, and the satisfaction level of the observation group (93.85%) was higher than that of the control group, which had statistical significance ($P < 0.05$). Observation group's nursing quality score (nursing skills, environmental management, nursing quality monitoring, disinfection and isolation, nursing document management), quality of life score (physical function, social support, pain, mental health, social function, mood, mental state, general health) All were higher than the control group, which had statistical significance ($P < 0.05$). **Conclusion:** The application of operation room detail nursing based on risk management in surgery can reduce postoperative pain, promote the recovery of gastrointestinal function, improve patient satisfaction and quality of life, and effectively control intraoperative risks.

Keywords risk management; detailed care in the operating room; surgery; satisfaction; intraoperative risk

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The operating room is one of the important departments of the hospital, which mainly rescues the lives of critically ill patients through surgery. Therefore, the operating room is characterized by fast pace and heavy tasks. Therefore, only by improving the working efficiency of the operating room can we better provide effective medical technology for patients. The management of the operating room has been one of the important works of the hospital. Operating room nursing has always been an important part of clinically improving the prognosis of surgical patients. An effective nursing model can reduce post-operative complications and improve patient satisfaction. Nursing risk management is an emerging nursing work model, through comprehensive analysis and assessment of patients' conditions Find out the hidden risks and formulate preventive measures, obtain the support of evidence-based medicine, and effectively improve the quality of clinical care ¹. ². This study analyzed the impact of detailed nursing in the operating room based on risk management on the satisfaction of surgical patients and intraoperative risk, in order to provide guidance and basis for clinical practice. The report is as follows.

MATERIALS AND METHODS

General information

We retrospectively selected 130 patients who were treated in the operating room of our hospital from January 2018 to March 2020, including 71 males and 59 females, with an average age of (56.69 ± 10.47) years. Inclusion criteria: (1) All have surgical indications. (2) Age ≥ 18 years, ≤ 75 years. (3) American Academy of Anesthesiologists³(ASA) grade I~II; (4) Tracheal intubation was used for general anesthesia; (5) The clinical data was complete. Exclusion criteria: (1) Accompanied by coma; (2) Pregnant women; (3) With central nervous system or psychological diseases; (5) Past alcoholism or drug dependence; (6) Accompanied by cardiovascular and cerebrovascular diseases. Among all patients, 65 cases used the routine operating room nursing process, and the other 65 cases used the operating room detailed nursing process based on risk

management. There was no significant difference in general data between the two groups ($P > 0.05$). Table 1.

Methods

The control group: the routine operating room nursing process, including perioperative health education, infusion nursing, drug care, routine skin preparation methods, nurses according to the doctor 's advice for clinical nursing operation.

Observation group: adopt the detailed nursing process of operating room based on risk management, set up a risk nursing group, with the head nurse as the group leader, members include surgeons, responsible nurses, etc., organize the members of the group to convene perioperative risk prevention meetings and discuss intensively For the hidden risks in the perioperative period, evidence-based medicine is adopted to formulate preventive measures against the hidden risks, and the perioperative nursing risk working mechanism is formulated. To carry out the implementation of nursing risk management measures, preoperative nurses should visit patients, understand the patient 's psychological anxiety, evaluate the psychological state, explain the matters needing attention in surgery, introduce successful surgical cases to enhance confidence in treatment, strengthen the management of hand disinfection in nurses ' nursing work, and give 10 % glucose injection 500 ml to regulate the body 's metabolic state before operation. During the operation, patients were given warm-keeping measures. When necessary, methods such as thermal insulation blanket can be used. The infusion was heated by a heating device and the temperature was controlled at 40°C. Postoperative care strictly controls the amount of fluid replacement, generally within 2L, and appropriately reduces fluid replacement based on the patient's eating status on the first day after surgery; Postoperative epidural anesthesia analgesia pump for analgesia, if necessary to give non-opioid drugs combined with analgesia. encourage patients to get out of bed early, and guide patients to get out of bed for urination at 4 hours after surgery, move their limbs at 6 hours after surgery, and proceed gradually; diet instruct patients to start

eating early, drink water at 4 hours after surgery, and gradually increase, eat light liquid diet 24 hours after surgery, gradually transition to a semi-liquid diet and return to a normal diet. Concentrate on information feedback and improvement, regularly collect opinions and suggestions by the nursing team, and conduct a centralized analysis of the perioperative patient care and prognosis, identify potential risks that may be missed, and formulate improvement measures after intensive discussion to manage the nursing risk management plan. Make adjustments.

Observation indicators

The intraoperative rescue, secondary intubation, incidence of > 3 h in room, nursing error rate, postoperative general situation (recovery time of bowel sounds, first exhaust time, ambulation time, postoperative complication rate) and satisfaction were compared between the two groups.

Scoring standard

Nursing quality: the hospital self-developed scale is used for evaluation, including 5 aspects of nursing skills, environmental management, nursing quality monitoring, disinfection and isolation, and nursing document management. A single aspect is assigned a score of 0 to 10, the closer the value to 10 points corresponding to the higher quality of care.

Visual analogue (VAS) score: evaluate the degree of pain at 6h, 12h, and 24h after the operation. The scoring of the modified item adopts a ten-point scale, and the closer the value is to 10, the more severe the pain is.

Quality of life: Use the health survey short form (SF-36) to evaluate, including physical function, social support, pain, mental health, social function, mood, mental state, overall health, etc. 8 aspects, each aspect is evaluated by a percentile system, and the score is the higher the corresponding quality of life, the better.

Satisfaction: It is evaluated by the hospital self-developed scale, and the score is evaluated by a percentile system, where ≥ 95 is very satisfied; 80 to 94 is satisfied; 65 to 79 is fair; < 65 is unsatisfactory.

Statistical methods

The data were processed with SPSS19.0, and the measurement indicators conforming to the normal distribution were described by ($\bar{x} \pm s$). The t test was used for comparison, and the count data was compared by the χ^2 test. $P < 0.05$, which had statistical significance.

RESULTS

Comparison of intraoperative rescue, secondary intubation, incidence of > 3 h in room and nursing error rate between the two groups

Intraoperative rescue (0.00%), second intubation (0.00%), incidence rate of more than 3 hours in the room (1.54%) and nursing error rate (0.00%) in the observation group compared with the control group (0.00%), second time Intubation (1.54%), the incidence of more than 3 hours in the room (3.08%) and the nursing error rate (4.62%) were not statistically significant ($P > 0.05$). table 2.

Comparison of the general conditions of the two groups after surgery.

The recovery time of bowel sounds in the observation group is (41.71 ± 3.46) h, the time to first exhaust (59.47 ± 5.23) h, and the time to get out of bed (54.36 ± 4.78) d are shorter than those in the control group. Sound recovery time (45.23 ± 5.85)h, first exhaust time (68.96 ± 6.11)h, time to get out of bed (61.58 ± 5.63)d], postoperative complication rate (3.08%) is lower than the control group (12.31), which had statistical significance ($P < 0.05$). Table 3.

Comparison of nursing quality between two groups

The scores of nursing skills, environmental management, nursing quality control, disinfection and isolation, and nursing document management in the observation group were higher than those in the control group, with statistical significance ($P < 0.05$). table 4.

Comparison of postoperative VAS scores between the two groups.

The VAS scores of the two groups at 12h and 24h after surgery were lower than those at 6h after surgery. The VAS scores of the observation group at 6h, 12h, and 24h after surgery were lower than those of the control group, which was statistically

significant ($P < 0.05$). Table 5.

Comparison of the two groups of nursing satisfaction

The observation group was very satisfied with 30 cases, satisfied with 21 cases, and 10 cases in general. The satisfaction rate was 93.85%, which was higher than that of the control group (21 cases were very satisfied, 18 cases were satisfied, and 14 cases were generally satisfied. 93.85%), which had statistical significance ($P < 0.05$) Table 6

Comparison of the quality of life between the two groups

The quality-of-life scores of physical function, social support, pain, mental health, social function, mood, mental state, and general health of the observation group were higher than those of the control group, which had statistical significance ($P < 0.05$. Table 7.

DISCUSSION

Studies have shown that surgery can cause special trauma to the human body, and its degree is affected by many factors such as operation time, incision length, intraoperative blood loss and perioperative medication. The stress response and immune function damage caused by surgical trauma to the human body are exactly the same as other forms of trauma in general. The trauma during the operation will have a more obvious stimulating effect on the hypothalamic-pituitary-adrenal axis of the patient's body, resulting in postoperative Normal physiological and metabolic processes such as the body's neuroendocrine, metabolic response and immune function are inhibited to a certain extent ⁴. ⁵. In addition, most patients need to stay in bed after surgery, so bladder irritation, back pain and strong discomfort will occur. Some patients are older and stay in bed for a long time, which will increase the probability of bedsores and thrombosis. It is difficult for patients to adhere to the absolute bed position for a long time, resulting in complications such as wound bleeding. In severe cases, interventional embolization is required to stop bleeding, which increases the patient's physical discomfort, Poor postoperative recovery and economic burden ⁶.

Nursing safety management refers to the application of system, technology, education and other measures to effectively prevent nursing safety accidents and create a safe, healthy and efficient nursing environment for patients. As the core and foundation of nursing quality management, nursing safety is only required as a part of management for a long time. In recent years, with the continuous enhancement of patients' requirements for medical care quality, service quality, etc. and legal concepts, nursing safety has become an important indicator for measuring nursing services, and it is also one of the most direct and important indicators for patients to choose for medical treatment ⁷. Traditional perioperative nursing nurses only act as the executors of doctors' orders, and carry out clinical care in accordance with routine nursing operations, often neglecting the occurrence of clinical risk events. Nurses pay more attention to how to deal with risk events and lack early prevention of risk time^{8, 9}. With the continuous advancement of medical science and technology, the gradual deepening of my country's medical system reform, and the increasing health needs of residents, hospitals, as providers of medical services, must especially establish a patient-centered business philosophy and continue to pursue high-quality and efficient medical services. Continuously improve the level of professional technology, with a good medical experience and the best treatment effect as the core, and gain a firm foothold in the fierce medical market competition ¹⁰. For patients, what they need more is stable, high-quality, safe and efficient medical service products, and the active selectivity of medical treatment gradually increases. Modern nursing theory believes that the goal of nursing is to improve the patient's health and improve the body's coping ability. The core is to actively mobilize the patient's subjective initiative, so that the patient actively participates in the evaluation, monitoring and treatment of their own diseases. Through targeted care based on risk management, the risk events in the perioperative period are analyzed and summarized, and evidence-based medicine is used to find evidence and formulate measures to provide patients with

refined care services. The concept emphasizes that the quality of life is higher than the number of lives, with emphasis on alleviating the suffering of patients, and providing supportive and palliative care. It is necessary to achieve the goal of pursuing a higher quality of life while respecting individual characteristics¹¹.

In perioperative nursing, through the combination of risk management mode and targeted nursing, on the one hand, as far as possible to reduce the hidden dangers of nursing risk, systematically to develop and strengthen the organization's strategy, structure and process, improve the quality of patient care objectives and increase nurses' job satisfaction, in order to improve the safety and effectiveness of the whole system operation. At the same time, by refining health education and enhancing communication, transfer or comfort therapy to soothe the mood of patients, so that patients are in a state of relaxation, communication with medical staff also reduces the sense of strangeness and increases the sense of trust^{12, 13}.

On the other hand, it can continuously promote the improvement of nursing quality, and solve the remaining problems after each cycle. The quality of care will be further improved, and the goals will be timely summarized and updated. The organization quality management system presents a ladder-like rise, and finally realizes the standardization and institutionalization of technology and management. It improved nurses' professional and technical ability, practical ability, language and text expression ability, created a learning atmosphere in the department, stimulated the learning enthusiasm of nursing staff, and improved the comprehensive quality of nursing staff^{14, 15, 16}.

In this study, the incidence of intraoperative rescue, secondary intubation, room for more than 3h, and nursing error rate in the observation group were slightly lower than those in the control group. However, the statistics were not statistically different, which was considered to be related to the small number of patients enrolled in the group. The recovery time of bowel sounds in the observation group was (41.71±3.46)h, the time to

first exhaust (59.47±5.23)h, and the time to get out of bed (54.36±4.78)d were shorter than those in the control group. The postoperative complication rate (3.08%) was lower than that of the control group. In the control group, it is suggested that the application of detailed nursing in the operating room based on risk management to surgery can shorten the recovery of gastrointestinal function after surgery. The nursing quality scores of nursing skills, environmental management, nursing quality monitoring, disinfection and isolation, and nursing document management in the observation group were higher than those in the control group, suggesting that the application of detailed nursing in the operating room based on risk management to surgical operations can significantly improve the quality of care. The VAS scores of the observation group at 6h, 12h, and 24h after surgery were lower than those of the control group, suggesting that the use of detailed care in the operating room based on risk management for surgical operations can effectively reduce postoperative pain. The observation group's satisfaction level (93.85%) was higher than that of the control group. The observation group's quality of life scores such as physical function, social support, pain, mental health, social function, mood, mental state, and general health were higher than those of the control group, suggesting that it is based on risk management. The application of detailed care in the operating room to surgical operations can improve patient satisfaction and postoperative quality of life.

This study further confirms the role of operating room detailed nursing based on risk management in surgical operations, and provides a basis for the clinical further standardization of operating room nursing procedures. Due to the small number of included cases and the failure to analyze biochemical indicators such as perioperative inflammatory factors, it is necessary to further increase the observation indicators and expand the sample size for demonstration and analysis.

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Table 1.
Comparison of general data between two groups

Parameter	Control group (n=65)	Observation group (n=65)	χ^2/t	P
Sex (n)				
Male	39 (60.00)	32 (49.23)	1.521	0.218
Woman	26 (40.00)	33 (50.77)		
Age (year)	57.02±11.32	56.47±11.87	0.270	0.787
Body mass index (kg/m ²)	24.13±1.95	24.06±2.06	0.199	0.843
Type of operation (n)				
Forensic surgery	31 (47.69)	27 (41.54)	0.863	0.843
Chest surgery	15 (23.08)	19 (29.23)		
Gynecological operation	12 (18.46)	13 (20.00)		
Urinary surgery	7 (10.77)	6 (9.23)		

Table 2.

Comparison of the incidence of intraoperative rescue, secondary intubation, in-room > h and nursing error rates between the two groups[n(%)]

Group	Number of cases	Rescue rate	Second intubation rate	Room >3 h rate	Nursing error rate
Control group	65	0 (0.00)	1 (1.54)	2 (3.08)	3 (4.62)
Observation group	65	0 (0.00)	0 (0.00)	1 (1.54)	0 (0.00)
χ^2		-	1.008	0.341	3.071
<i>P</i>		-	0.315	0.559	0.080

Table 3.

Comparison of general postoperative conditions between the two groups

Group	Number of cases	Recovery of bowel sounds (h)	First exhaust time (h)	Get out of bed (d)	Postoperative complication rate (%)
Control group	65	45.23±5.85	68.96±6.11	61.58±5.63	8 (12.31)
Observation group	65	41.71±3.46	59.47±5.23	54.36±4.78	2 (3.08)
χ^2/t		4.175	9.513	7.882	3.900
<i>P</i>		0.000	0.000	0.000	0.048

Table 4.

Comparison of nursing quality between two groups ($\bar{x} \pm s$, Component)

Group	Number of cases	Nursing skills	Environmental control	Nursing quality monitoring	Disinfection and isolation	Nursing document management
Control group	65	8.08±0.63	8.23±1.07	8.41±0.65	8.23±0.51	8.13±0.63
Observation group	65	8.96±0.45	9.12±0.56	9.32±0.41	9.08±0.45	9.08±0.48
χ^2/t		9.164	5.941	9.547	10.076	9.670
<i>P</i>		0.000	0.000	0.000	0.000	0.000

Table 5.

Comparison of postoperative VAS scores between the two groups ($\bar{x} \pm s$, Component)

Group	Number of cases	VAS score		
		6 h postoperatively	12h postoperatively	24h postoperatively
Control group	65	3.23±0.44	2.41±0.23	1.78±0.20
Observation group	65	2.97±0.29	2.03±0.24	1.31±0.18
<i>t</i>		3.978	9.216	14.083
<i>P</i>		0.000	0.000	0.000

注：与术后 6h 比较，**P*<0.05

Table 6.
Comparison of nursing satisfaction between two groups[n(%)]

Group	Number of cases	Very pleased	Satisfied	Commonly	Unsatisfy	Degree of satisfaction
Control group	65	21 (32.31)	18 (27.69)	14 (21.54)	12 (18.46)	53 (81.54)
Observation group	65	30 (46.15)	21 (32.31)	10 (15.38)	4 (6.15)	61 (93.85)
χ^2						4.561
<i>P</i>						0.033

Table 7.
Comparison of quality of life between the two groups ($\bar{x} \pm s$, 分)
($\bar{x} \pm s$, Component)

Group	Number of cases	Somatic function	Social support	Pain	Emotional health	Social function	Mood	Mentation	Overall health
Control group	65	63.69 \pm 5.14	68.36 \pm 4.58	61.58 \pm 6.03	64.56 \pm 5.57	67.69 \pm 6.01	61.23 \pm 6.33	65.36 \pm 4.95	65.33 \pm 4.12
Observation group	65	75.02 \pm 4.32	75.23 \pm 5.06	70.02 \pm 5.89	73.62 \pm 6.02	76.14 \pm 5.14	68.95 \pm 5.27	72.05 \pm 5.01	73.02 \pm 5.27
<i>t</i>		13.605	8.115	8.072	8.906	8.615	7.557	7.658	9.268
<i>P</i>		0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000