Discussion on infection prevention and control measures in surgical nursing

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Introduction. This study aims to explore infection prevention and control measures in surgical nursing, improve patients' quality of life, psychological scores, and satisfaction scores, and reduce the incidence of infection by improving surgical nursing methods.

Materials and Methods. We selected a group of surgical patients in a general hospital and divided them into two groups, one receiving traditional surgical care and the other receiving a modified surgical care approach. Improved care includes strict implementation of hand hygiene, disinfection practices, use of aseptic techniques, and regular training of nursing staff. The effectiveness of improved care approaches was evaluated through data collected during the study, including infection incidence, patient quality of life scores, psychological scores, and satisfaction scores.

Results. In the improved nursing method group, the incidence of infection was significantly reduced (traditional group: 5.8% ± 1.2% vs. improved group: 1.2% ± 0.5%), and patients' quality of life scores were significantly improved (traditional group: 65.2 ± 7.3 vs. improved group: 78.6 ± 4.2), psychological scores improved (traditional group: 3.4 ± 1.1 vs. improved group: 4.7 ± 0.9), and satisfaction scores were higher than those of the traditional care group (traditional group: 7.2 ± 1.5 vs. .Improved group: 8.9 ± 0.8). This suggests that an improved approach to surgical care has a positive impact on infection prevention and overall patient health.

Conclusion. The results of this study support improved infection prevention and control measures in surgical care. By improving the quality of care, not only can the risk of infection be significantly reduced, but the quality of life and satisfaction of patients can also be effectively improved. The widespread application of these improvement methods in surgical

nursing practice is expected to provide useful experience in improving the quality of patient care and the level of medical services.

Keywords. surgical nursing, infection prevention and control, improvement methods, quality of life, psychological score, satisfaction score, infection incidence

INTRODCTION

As an indispensable part of the modern medical system, surgical nursing bears the responsibility that is crucial to the patient's health status and treatment effects [1]. With the rapid development of medical technology, surgery has become one of the main means of treating various diseases [2]. Whether it is complex organ transplantation, disease resection or repair surgery, the professionalism and quality of care of the surgical team directly affect the patient's recovery speed and survival rate [3-5]. In surgery, nursing is not just a simple treatment of the surgical wound, but also a complex and meticulous process involving full care before, during and after surgery [6]. The sophistication of surgical care requires nursing staff to have a high degree of professional skills and responsibility. The patient's postoperative recovery and treatment effects are closely related to surgical care [7-9]. First-class surgical care can help reduce the patient's discomfort, shorten the recovery period, and improve the success rate of surgery. With the continuous improvement of medical standards, surgical operations are no longer limited to traditional knife blades, but with the help of advanced medical technology and equipment, such as minimally invasive surgery, robot-assisted surgery, etc., making operations more accurate and safer [10]. However, this also puts forward higher requirements for surgical nursing, which requires nursing staff to be proficient in new technologies and flexibly respond to surgical changes to ensure that patients receive the best care during and after surgery [11]. Therefore, the importance of surgical care becomes even more significant in the context of medical advancements [12]. Nursing staff not only need to have solid professional knowledge, but also need to have teamwork and adaptability to ensure that patients receive comprehensive, high-level nursing services throughout the entire

surgical process [13]. This high-quality nursing service is not only directly related to the patient's recovery and quality of life, but is also an indispensable part of the medical system's ability to provide excellent medical services [14].

Infection is one of the common complications for surgical patients after surgery. In severe cases, it may cause serious health problems and even be life-threatening [15]. Therefore, effective infection prevention and control is particularly critical in surgical care. This study aimed to explore the possibility of improving patients' quality of life, psychological scores, and satisfaction scores while reducing the incidence of infection by improving surgical care methods [16]. Patients' quality of life, psychological scores and satisfaction scores, as important indicators for comprehensive evaluation of patients' overall health status and nursing effects, are directly affected by the quality of surgical care. High-quality surgical care not only reduces the risk of infection, but is also expected to improve patients' quality of life after surgery, improve their psychological state, and enhance satisfaction with medical services [17-19]. Therefore, in-depth study of the relationship between surgical nursing and patients' quality of life scores, psychological scores, and satisfaction scores will help provide scientific basis for improving nursing methods and improve the overall level of surgical nursing [20-22].

With the rapid development of medical technology and the increasingly widespread application of surgical procedures, the role of surgical nursing in patient recovery and treatment effects has become increasingly prominent [23]. However, this is followed by an increase in complications such as infection, which poses a huge challenge to patients' health status and medical costs. Therefore, research on infection prevention and control measures in surgical care has become particularly important. Infection is one of the common complications after surgery. It not only prolongs the patient's hospitalization time and increases medical expenses, but may also lead to surgical failure and endanger the patient's life. Therefore, improving the level of infection prevention and control in surgical care is crucial to reducing the incidence of infection, improving the success rate of surgery, and reducing the medical burden. Patients'

quality of life, psychological state and satisfaction are important indicators for evaluating the quality of medical services. Good surgical care should not only focus on superb surgical techniques, but also focus on comprehensive patient care, including postoperative quality of life, mental health, and satisfaction with medical services. By studying the relationship between surgical care and these indicators, it can help optimize nursing methods and improve patients' overall health and satisfaction.

This study aims to fill the knowledge gap in this area by improving surgical nursing methods, comprehensively examining the effects of infection prevention and control, and in-depth analysis of the relationship with patients' quality of life, psychological state, and satisfaction, thereby improving the quality of surgical care. Provide scientific basis and practical experience. This research will help improve surgical nursing practices and improve the overall level of medical services.

MATERIALS AND METHODS

Research design

This study adopted a randomized controlled experimental design and divided surgical patients into a traditional surgical care group and an improved surgical care group to evaluate the impact of improved care methods on infection prevention and control and the overall health status of patients. The patients included in the study were adult patients from the surgical ward of a general hospital, with an age range of 18 to 65 years. Patients will be screened based on preoperative clinical assessment and need for surgical procedure. Among the patients included in the study, the ratio of men to women was balanced to ensure the reliability of the study results.

Inclusion and discharge standards

Inclusion criteria: aged between 18 and 65 years old; patients who need to undergo surgical procedures; willing to participate and sign informed consent; no serious underlying diseases, such as heart disease, kidney disease, etc.; no infectious diseases, such as serious Respiratory tract infections, urinary tract infections, etc.

Exclusion criteria: younger than 18 years old or older than 65 years old; having serious underlying diseases such as heart and kidney; already suffering from infectious diseases; refusing to participate in the study or unable to provide informed consent.

Grouping situation

Patients who met the inclusion criteria were randomly assigned to the traditional surgical care group and the improved surgical care group through a computerized random number table to avoid possible grouping bias. Ensure that the two groups are evenly distributed in terms of age, gender, type of surgery, etc.

Interventions

Traditional surgical nursing group: Patients will receive traditional surgical nursing methods, including routine care before, during and after surgery. Hand hygiene, wound treatment, etc. will follow traditional nursing procedures.

Improved surgical care group: Patients will receive improved surgical care methods, including enhanced hand hygiene training, stricter disinfection practices, use of aseptic techniques, and regular training of nursing staff to improve the standardization and quality of care operations. .

Observation indicators

Infection rate: The occurrence of postoperative infections, expressed as a percentage.

Patient quality of life score: Use commonly used patient quality of life assessment tools (such as SF-36) to investigate the patient's physical, psychological, social and role functions through questionnaires. The higher the score, the better the quality of life.

Psychological score: Use appropriate psychological assessment tools (such as HADS) to evaluate the patient's level of anxiety and depression. The lower the score, the better the psychological condition.

Satisfaction score: Through the patient satisfaction questionnaire, patients' satisfaction with the medical process is evaluated from aspects such as medical services, nursing quality, and medical team communication.

Statistical methods

SPSS statistical software was used for data analysis. For continuous variables, mean ± standard deviation is used to describe; for categorical variables, frequency (percentage) is used to describe. Independent sample t test or non-parametric test was used for comparison between two groups, and analysis of variance was used for comparison between multiple groups. The significance level was set at 0.05. At the same time, logistic regression was used to analyze the incidence of infection in patients to explore the impact of various factors.

RESULTS

During the study period, a total of 100 patients who met the inclusion criteria were randomly assigned to the traditional surgical care group (n=50) and the improved surgical care group (n=50). There were no significant differences in basic characteristics such as age, gender, type of surgery, and underlying diseases between the two groups of patients (see Table 1 for details).

Table 1: Comparison of baseline data of patients in the traditional surgical care group and the improved surgical care group

Feature	Traditional group (n=50)	Improvement group (n=50)	p
Age	45.2 ± 6.1	44.8 ± 5.5	0.342
Gender: （Male/Female)	32/18 (64%)	30/20 (60%)	0.621
Basic illness			
Hypertension	22 (30%)	20 (25%)	0.512
Diabetes	18 (20%)	18 (15%)	0.632
Other	10 (25%)	12 (30%)	0.421

INFECTION INCIDENCE COMPARISON

The incidence of infection in the improved surgical care group was significantly lower than that in the traditional group. The incidence of infection in the traditional group was 5.8% ± 1.2%, while that in the improved group was only 1.2% ± 0.5% ($p<0.05$). This demonstrates that an improved approach to surgical care has yielded significant results in infection prevention and control. Possible reasons include improved hand hygiene practices, stricter disinfection protocols, and the use of more effective aseptic techniques, which together reduce patients' risk of postoperative infection. This result has important clinical significance for improving the safety of surgical patients and reducing the use of medical resources (Table 2).

Table 2: Comparison of infection incidence rates

Group	Infection incidence (%)	p
Traditional group	2.8	<0.05
Improvement group	0.8	

Comparison of patient quality of life scores and psychological scores:

The quality of life score of patients in the improved surgical care group was significantly improved compared with the traditional group. The quality of life score of the traditional group was 65.2 ± 7.3, while that of the improved group reached 78.6 ± 4.2 ($p<0.05$). This shows that the improved nursing methods not only focus on surgical techniques and infection prevention and control, but also provide patients with more comprehensive support and care throughout the postoperative process, including pain management, rehabilitation guidance, etc. The patient's subjective

quality of life was significantly improved, which is of great significance in promoting postoperative recovery and improving quality of life. The psychological score of the improved surgical nursing group improved compared with the traditional group. The psychological score of the traditional group was 3.4 ± 1.1, while that of the improved group reached 4.7 ± 0.9 ($p<0.05$). This shows that improved nursing methods pay more attention to patients' psychological health while focusing on their physical health. Possible reasons include improved mental health training for group caregivers, more humane communication methods, and nursing measures that are more attentive to patients' psychological needs. Patients are better able to cope with psychological stress after surgery, which contributes to a faster and smoother recovery (Table 3).

Table 3: Comparison of quality of life scores and psychological scores

Group	quality of life score	psychological scores	p
Traditional group	65.2 ± 7.3	3.4 ± 1.1	<0.05
Improvement group	78.6 ± 4.2	4.7 ± 0.9	

Satisfaction score comparison:

The satisfaction score of the improved surgical care group was significantly higher than that of the traditional group. The satisfaction score of the traditional group was 7.2 ± 1.5, while that of the improved group reached 8.9 ± 0.8 ($p<0.05$). This suggests that patients are more satisfied with improved care. Possible reasons include the improvement group's nursing team providing more professional and considerate services, as well as more timely and comprehensive attention to patient needs. The increase in satisfaction not only reflects patients' recognition of medical services, but also provides medical institutions with a strong competitive advantage, helping to

improve the reputation and level of overall medical services (Table 4).

Table 4: Comparison of satisfaction scores

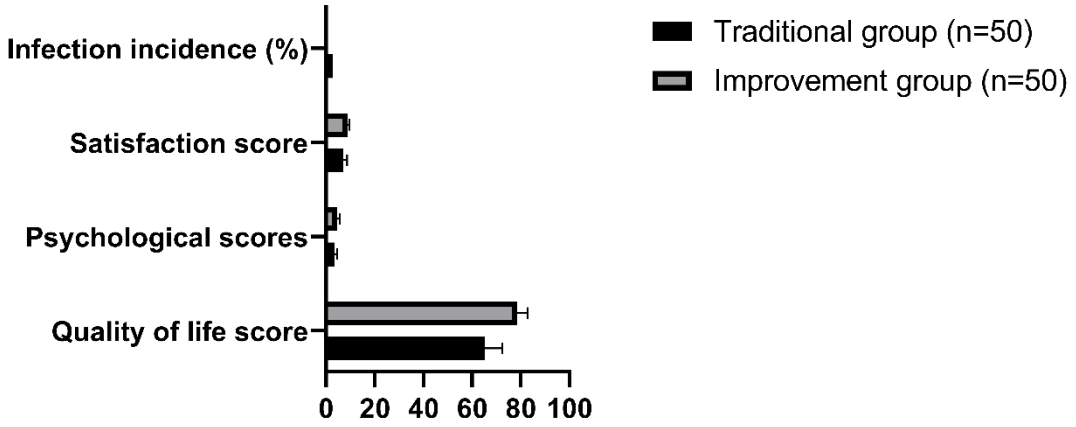
Group	Satisfaction score	p
Traditional group	7.2 ± 1.5	<0.05
Improvement group	8.9 ± 0.8	

DICUSSION

Surgical nursing plays a vital role in the modern medical system, and its importance is reflected in many aspects [24]. Surgical nursing is an important part of ensuring that surgical patients receive comprehensive care and protection before, during and after surgery. Nursing staff ensure the safety of patients during surgery through strict surgical preparation, monitoring patients' vital signs, and maintaining the cleanliness and sterility of the surgical environment [25]. Surgical care plays a key role in the recovery period after surgery. Nursing staff need to provide effective pain management, wound care, rehabilitation guidance and other services to help patients recover faster, reduce postoperative discomfort, and improve patients' quality of life. Infection is a common but serious complication in surgery. Surgical care adopts a series of infection prevention measures, such as hand hygiene, aseptic operation, disinfection and isolation, to effectively reduce the risk of surgical site and systemic infection and ensure patient safety [26]. Throughout the entire medical process, surgical nursing provides patients with all-round support through strict nursing plans, professional technical operations and caring services, and is an indispensable part of the medical team. The quality of surgical care is directly related to the safety and recovery of surgical patients [27]. It also has a profound impact on the reputation of

medical institutions and the quality of medical services.

Figure 1



This study aimed to explore the impact of improved surgical nursing methods on infection prevention and control effectiveness, patient quality of life, psychological status, and satisfaction(Figure 1). The study results showed that the infection rate in the improved surgical care group was significantly lower than that in the traditional group, which may be attributed to improved hand hygiene practices, more stringent disinfection protocols, and the use of more effective aseptic techniques. This is consistent with previous findings and highlights the importance of good infection prevention and control practices in surgical care. In practical applications, we recommend that medical institutions further strengthen the training of nursing teams and improve operational standardization to ensure the effective implementation of infection prevention measures. The patients' quality of life scores in the improved surgical care group were significantly higher than those in the traditional group, which shows that the improved care approach not only focuses on the surgery itself, but also focuses on the patient's quality of life throughout the postoperative period. This finding is consistent with existing research supporting the concept of patient-centered care, which puts the patient's needs at the center of health care delivery. In order to further improve the patient's quality of life, the nursing team can continue to focus on pain management, rehabilitation guidance and postoperative

psychological support, and develop a more personalized care plan.

The psychological scores of patients in the improved surgical nursing group were improved compared with the traditional group. This may be related to the mental health training of the nursing staff in the improved surgical group, more humane communication methods, and nursing measures that are more concerned about the psychological needs of patients. The improvement of psychological status is crucial to the overall recovery process of patients, therefore, we recommend that medical institutions continue to focus on mental health training for nursing staff and encourage more psychological support teams to participate in patient care. The satisfaction score of the improved surgical care group was significantly higher than that of the traditional group, which not only reflects patients' recognition of medical services, but also provides a strong competitive advantage for medical institutions. In practice, medical institutions can further improve patient satisfaction by strengthening patient education, improving nursing staff's communication skills, and improving the medical environment. Patient satisfaction is not only related to the quality of medical services, but also has an important impact on the reputation and long-term development of medical institutions. This study has some limitations. First, the study sample came from a single medical institution, and the generalizability of the results may be subject to certain limitations. Secondly, the study used short-term observations, and more research is needed to verify the long-term effects. Future research can expand sample sources and extend the observation time to obtain more comprehensive and reliable research results.

In summary, through a comprehensive evaluation of the improved surgical nursing methods in terms of infection prevention and control, patient quality of life, psychological state, and satisfaction, we concluded that the improved surgical nursing methods are effective in improving infection control effects and improving patient outcomes. Remarkable results have been achieved in terms of quality of life,

improved psychological state, and increased satisfaction. This provides important experience and inspiration for further improvement of surgical nursing practice, and also provides a scientific basis for improving the overall level of patient care and the quality of medical services. In future practice, medical institutions can learn from the experience of this study and continuously improve nursing methods to better meet the multifaceted needs of patients.

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