

# Analysis of Comprehensive Nursing Care for Acute Appendicitis Treated by Laparotomy

Jiying Qin\*, Xiaoyan Liu

Department of General Surgery, Liaoning Electric Power Central Hospital, Shenyang 110006, Liaoning Province, China

**ABSTRACT** **Objective:** To study the effect of comprehensive nursing intervention on patients with acute appendicitis treated by open surgery. **Methods:** 86 patients with acute appendicitis who underwent laparotomy in our hospital from May 2014 to August 2015 were randomly divided into two groups ( $n = 43$ ). The control group adopted routine nursing; observation group adopted comprehensive nursing, the nursing effect of two groups was compared. **Results:** The incidence of complications in the control group (30.23%) was significantly higher than that in the observation group (6.98%) and ( $P < 0.05$ ). The operation time, hospital stay and bleeding volume in the control group were significantly higher than those in the observation group ( $P < 0.05$ ). **Conclusion** Comprehensive nursing intervention has comprehensive nursing care before and after operation, the patients' psychological pressure and anxiety can be relieved, which will improve the success rate and reduce the incidence of complications. Comprehensive nursing intervention will also reduce the operation time and the amount of bleeding, shorten the hospital stay, improve the quality of life of patients, and prompt the patient with early rehabilitation. Comprehensive nursing intervention has a high clinical value

## KEYWORDS

Laparotomy  
Acute Appendicitis  
Comprehensive Nursing

## Introduction

Acute appendicitis is the most common clinical disease among the acute abdomen diseases. The clinical manifestations are seriously affecting the quality of life of patients, including nausea, vomiting, fever, abdominal muscle tension and right lower abdominal pain [1]. At present, laparotomy is one of the most effective treatments. Post-operation easily leads to infection and related complications, thus it is not conducive to postoperative recovery in patients [2]. Therefore, the implementation of appropriate nursing care measures in the operation is particularly critical. This study aims to explore the comprehensive nursing intervention on laparotomy in patients with acute appendicitis.

## 1. Materials and methods

### 1.1 General information

86 patients who received laparotomy of acute appendicitis were selected from May 2014 to August 2015 in our hospital. Patients

were randomly divided into observation group ( $n = 43$ ) and control group ( $n = 43$ ). In the observation group, there are 22 males and 21 females, aged from 19 to 46 years, mean age ( $28.66 \pm 4.62$ ) years. In the control group, there are 23 males and 20 females, aged from 20 to 45 years, mean age ( $29.08 \pm 4.73$ ) years. There was no significant difference between the two groups in the general data ( $P > 0.05$ ).

### 1.2 Methods

Two groups were underwent laparotomy. The control group was treated with conventional care. The basic knowledge and treatment of the disease were explained to patients. The patient's diet, exercise and psychological interventions were conducted. The observation group was treated with comprehensive care, including:

(1) Preoperative care: medical staff should fully understand the condition of patient before operation, discuss and develop a detailed surgical program, assess the occurrence of emergencies and postoperative complications that may occur, and develop appropriate emergency measures. One day before surgery, skin preparation should be performed, medication should be controlled, and any laxative or painkillers should be prohibited. Medical staff should actively communicate with patients, inform patients of surgical treatment and attention to the course of treatment, and patiently solve the patient's queries. Before the surgery, patients will inevitably feel tension, anxiety and other emotions. Medical staff should take active and effective measures based on the

patient's personality characteristics to ease the negative emotions, so that the patient will coordinate with the treatment.

(2) Postoperative care: after surgery, medical staffs should closely monitor the patient's vital signs. Abnormal circumstances should be promptly informed to the attending physician. Medical staffs should take the initiative to communicate with patient and inform patient of successful surgery, in order to eliminate the worries of patient. Medical staffs should also pay close attention to patient's wound to prevent postoperative infection-related complications. Medical staffs should guide the patient to adopt half lying position to eliminate abdominal tension and reduce pain. In addition, medical staffs should inform patients of postoperative pain is a normal phenomenon, and take measures to divert the patient's attention in order to relieve pain. According to the patient's preferences, medical staffs should develop a personalized exercise program for the patient and perform diet intervention to enhance the patient's immune system and to prompt early recovery of patient.

### 1.3 Comparison of indicators

Indicators of the two groups were observed for the incidence of postoperative complications, including: abdominal abscess, fecal fistula, wound infection and cecum abscess. Clinical indicators of two groups were compared, including the operation time, hospital stay and surgical bleeding [3].

### 1.4 Statistical analysis

SPSS 18.0 software was used for statistical analysis. Data measurements were presented as mean  $\pm$  standard deviation. Comparison of two groups was carried out using *t* test. Count data were expressed as percentage,  $\chi^2$  test were used.  $P < 0.05$  shows statistically significant different.

## 2. Result

### 2.1 Postoperative complications

Table 1 shows the incidence of complications in the control group (30.23%) was significantly higher ( $P < 0.05$ ) than the observation group (6.98%).

**Table 1.** Comparison of postoperative complications in two groups, n (%)

Group	Abdominal abscess	Fecal fistula	Incision infection	Cecal abscess	Complication rate
Control ( <i>n</i> = 43)	2 (4.65)	4 (9.30)	5 (11.63)	2 (4.65)	13 (30.23)
Observation ( <i>n</i> = 43)	0 (0.00)	1 (2.33)	2 (4.65)	0 (0.00)	3 (6.98)
$\chi^2$	-	-	-	-	7.679
<i>P</i>	-	-	-	-	<0.05

### 2.2 Clinical indicators

Table 2 shows the operation time, hospital stay and bleeding time in the control group were significantly higher than the observation group ( $P < 0.05$ ).

**Table 2.** Comparison of clinical indicators in two groups ( $\bar{x} \pm s$ )

Group	Operation Time (min)	Hospital stay (d)	Bleeding volume (mL)
Control ( <i>n</i> = 43)	33.25 $\pm$ 7.45	60.22 $\pm$ 5.22	8.67 $\pm$ 1.57
Observation ( <i>n</i> = 43)	16.58 $\pm$ 6.02	40.87 $\pm$ 5.03	5.45 $\pm$ 1.42
$\chi^2$	11.413	17.504	9.974
<i>P</i>	< 0.05	< 0.05	< 0.05

## 3. Discussion

Development of acute appendicitis is rapid and serious. Clinical treatment has a high recurrence rate, while recurrence of the condition is not conducive to the recovery of patients. Currently, majority of patients mainly receive surgical treatment [4]. As laparotomy is a very mature surgical method, with a small incision and only cause light injury, it has been widely used in the clinical practice [5]. However, the incidence of post-surgery complications cannot be controlled, which seriously affects the prognosis of patients [6]. Therefore, the implementation nursing measures and laparotomy at the same time is particularly critical to effectively reduce the incidence of complications and improve patient prognosis. Comprehensive nursing care intervention is a patient-centered care model. Through the implementation of pain care, diet care, sports guidance, psychological care and other meticulous care, comprehensive nursing intervention can significantly reduce the incidence of postoperative complications in patients and promote early rehabilitation of patients [7-8].

In present study, the operative time, hospitalization time and the blood loss in the control group were significantly higher than those in the observation group ( $P < 0.05$ ). The incidence of complications in the control group (30.23%) was significantly higher ( $P < 0.05$ ) than that of the observation group (6.98%). These results indicate that comprehensive care can significantly reduce complications of acute appendicitis after laparotomy, shorten hospital stay, and reduce the amount of bleeding and operation time. The reason is that comprehensive care model is developed according to conditions of patients before surgery. A reasonable treatment plan and appropriate emergency programs can ensure smooth operation for the patient. At the same time, treatment and surgical attention were explained to patient, so that patient had mental preparation before surgical treatment. This action eliminates tension that caused by fear if patient does not understand the treatment. Communication with patients, timely detection of patients with negative emotions, and measurements to relieve the patient anxiety can help patient to establish confidence in the fight against the disease and improve treatment compliance. Quality of postoperative care directly affects the success of surgery and postoperative rehabilitation process. Success of surgery should be promptly informed to patients after surgery to eliminate the worries of patients. The patient's vital signs should be closely monitored. The appropriate disinfectant should be carefully selected for patient's wound disinfection. Wounds of patients should be checked regularly to prevent infection. Appropriate postoperative measures should be taken to alleviate pain in patients. Diet, exercise and other related care can enhance the patient's immune system, reduce hospital stay, reduce the incidence of complications and prompt

rehabilitation of patients.

In summary, the implementation of comprehensive nursing intervention has significant effect in the treatment of acute appendicitis. Through the implementation of all-round care before and after surgery, comprehensive nursing intervention can reduce the psychological stress and anxiety, improve the success rate of surgery, reduce the incidence of postoperative complications, reduce the operation time and amount of bleeding, shorten the hospital stay, improve the quality of life of patients, and prompt patients with early rehabilitation.

## References

1. Zhou R. Effect observation of acute appendicitis comprehensive nursing intervention. *Chinese and Foreign Medical Research*, 2016,14(17):71-72.
2. Wang S. Value of evidence-based care in the prevention of postoperative complications of acute appendicitis in patients. *China Pharmaceutical Economics*, 2016,11(1):172-173. doi: 10.12010/j.issn.1673-5846.2016.01.091
3. Zhang J. Perioperative nursing intervention of acute appendicitis. *Chinese Journal of Modern Drug Application*, 2016,10(7):224-225. doi: 10.14164/j.cnki.cn11-5581/r.2016.07.171
4. Deng W. Effect analysis of perioperative nursing intervention in patients with appendicitis surgery. *China Practical Medical*, 2016,11(14):241-243. doi: 10.14163/j.cnki.11-5547/r.2016.14.179
5. Tang X, Wen J, Zhang T. The control study of clinical efficacy of laparoscopic and laparotomy in the treatment of children with complex appendicitis. *Chinese Journal of Physicians*, 2016,18(5):767-768.
6. Wang Q. Comparative study of laparoscopic appendectomy in different appendicitis patients. *China Journal of Endocrinology*, 2015,21(10):1053-1055.
7. Yao M, Cao F, Tao G, *et al.* Impact of continuous use of aspirin on intraoperative and postoperative bleeding in emergency appendectomy. *Journal of Clinical Surgery*, 2016,24(1):53-55. doi: 10.3969/j.issn.1005-6483.2016.01.018
8. Li L, Liu B. Image examination and treatment of acute appendicitis. *Chinese Journal of Gastroenterology and Hepatology*, 2016,25(3):352-355. doi: 10.3969/j.issn.1006-5709.2016.03.033