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Discussion on the Evidence-Based Nursing for Patients with Pain after Laparoscopic Surgery for Gallbladder Stones

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Abstract: *Objective:* To explore the implementation points, application value, and impact of evidence-based nursing on patients' postoperative pain after laparoscopic surgery for gallbladder stones. *Methods:* According to the guidance of the random number table method, patients with gallbladder stones who underwent laparoscopic surgery in our hospital from January 2025 to December 2025 were divided into a control group and an experimental group, with a total of 86 cases in the two groups; among them, routine nursing was carried out in the control group, and evidence-based nursing was carried out in the experimental group. 43 cases were included in each group to compare the final effects. *Results:* (1) After laparoscopic surgery for patients with gallbladder stones, the experimental group had shorter recovery time and hospitalization time than the control group, $P < 0.05$; (2) In terms of VAS score, there was no difference between the groups among patients with gallstones before nursing, $P > 0.05$; after nursing intervention, the experimental group (1.98 ± 0.74 points) was lower, $P < 0.05$; (3) The incidence of complications after laparoscopic surgery was 18.60% for patients with gallbladder stones in the control group and 4.65% in the experimental group. The comparison results showed that the experimental group was lower, $P < 0.05$; (4) In terms of nursing satisfaction, the patients with gallbladder stones (97.67%) in the experimental group were at a higher level, $P < 0.05$. *Conclusion:* After laparoscopic surgical treatment, the implementation of evidence-based nursing is of great significance. For patients with gallbladder stones, it can significantly shorten the recovery time, reduce the patient's pain symptoms, and ensure satisfaction. More importantly, this nursing can reduce the incidence of patient complications, has a high safety factor, and is worthy of further promotion.

Keywords: Gallbladder stones; Laparoscopic surgery; Evidence-based nursing; VAS score; Complication rate; Satisfaction

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1. Introduction

Among digestive system diseases, gallbladder stones are relatively common and can seriously disturb patients' normal lives. According to specific symptoms, patients with gallbladder stones present: biliary colic, dull pain in the upper abdomen, and in the progressive stage, some are accompanied by nausea, vomiting, belching, etc., which seriously threatens the physical and mental health of patients [1]. In the field of treatment, with the continuous development of national medical technology, laparoscopic surgery has also been relatively improved. This plan is a minimally invasive operation, with a clear surgical field of view and high accuracy. However, in order to better relieve patients' postoperative pain and ensure the best prognosis, active clinical analysis and effective nursing assistance are required [2,3]. This study will

refer to the analysis of patients undergoing laparoscopic surgery for gallbladder stones (n = 86 cases) in our hospital. After randomly grouping them, the application value of routine nursing and evidence-based nursing will be summarized. The details are as follows.

2. Clinical data and methods

2.1. General information

After admission to the hospital, the study patients (n = 86 cases) were all clinically diagnosed with gallbladder stones and underwent laparoscopic surgery. The selected time was from January 2025 to December 2025. After being grouped according to the random number table method, they included a control group and an experimental group. The information of each group is as follows. Control group: 43 cases. After counting the number of female patients and male patients, the proportion was 20:23. In terms of age, the range ranged from 28 to 74 years old, with an average value of 51.09 ± 1.88 years. Experimental group: 43 cases. After counting the number of female patients and male patients, the proportion was 21:22. In terms of age, the range ranged from 29 to 72 years old, with an average value of 50.58 ± 2.01 years. The above information (gender, age) is balanced and comparable. This study has high feasibility, $P > 0.05$.

2.2. Methods

Control group: Carry out routine nursing, such as guiding examinations, continuously monitoring the personal reactions of patients with gallbladder stones and changes in vital signs such as blood pressure, body temperature, and heart rate, recording them in detail and implementing symptomatic intervention.

Experimental group: Carry out evidence-based nursing, the main contents are: (1) Build a nursing team. The head nurse of the department serves as the team leader, selecting highly motivated and experienced personnel to create a team, and then arranges professional training. The core content includes: knowledge of gallbladder stones, characteristics of such patients, communication skills, laparoscopic surgery knowledge, precautions, etc. After the theoretical information training, practical sessions are added to better ensure the overall ability of the staff. (2) Evidence-based support. For patients undergoing laparoscopic surgery for gallbladder stones currently being treated in the department, members of the team need to actively analyze and summarize relevant nursing issues; secondly, review relevant online literature and combine it with clinical case analysis to determine targeted nursing strategies. (3) Plan implementation. (a) Emotional comfort: Patients suffering from symptoms related to gallbladder stones are relatively negative and have serious negative emotions. Nursing staff cannot ignore this. Before laparoscopic surgery, they should actively ask family members about the patient's personality characteristics and past conditions, and then take the initiative to comfort and take actions to encourage intervention, such as shaking hands, patting shoulders, etc., to give patients mental support. At the same time, in order to divert the self-attention of gallbladder stone patients, nursing staff can play soothing music and explain interesting things about the department to help patients relax. (b) Knowledge education: After establishing a good trusting relationship, nursing staff can promptly distribute brochures on gallbladder stones and laparoscopic surgery, and urge patients and their families to learn on their own; at the same time, for some relatively abstract information, nursing staff can adopt a one-to-one communication mode to introduce some of the relatively abstract information and carefully answer patients' questions; clearly inform patients that there will be varying degrees of pain symptoms after laparoscopic surgery and explain specific triggers to make them mentally prepared. (c) Postoperative guidance: After laparoscopic surgery, nursing staff need to closely observe all aspects of patients with gallbladder stones, including: drainage tube conditions, vital signs, incision bleeding, etc. At the same time, incision dressings need to be replaced in a timely manner for the patient. In terms of oral hygiene, nursing staff need to supervise patients to rinse their mouths in time to avoid infection. (d) Pain management: In the early stage after surgery, nursing staff can help patients with gallbladder stones adjust their position to a semi-recumbent state to avoid wound traction pain; at the same time, they can also use the VAS scale to effectively evaluate, and then implement targeted intervention based on the evaluation results: for patients with mild or moderate pain, non-drug

therapies are mainly used, such as local cold compress, music therapy, meditation training, massage, etc.; for patients with severe pain, nursing staff can supervise them to take medications as prescribed by the doctor and record drug reactions in detail. (e) Scientific diet: 6 hours after laparoscopic surgery, if there are no abnormalities in the gallbladder stone patient, the nursing staff can instruct the patient to take in a small amount of warm water and liquid food. During this process, the food should be light and easy to digest. As the condition gradually improves, the nursing staff can also determine a targeted diet based on the actual situation, that is, appropriately increase foods rich in high-quality protein and vitamins, such as eggs, milk, fish, fresh vegetables and fruits, etc. Special attention should be paid to the following: Such patients are strictly prohibited from consuming spicy, highly stimulating foods and foods that are prone to gas production to avoid aggravating abdominal pain.

2.3. Evaluation indicators

(1) Among patients undergoing laparoscopic surgery for gallbladder stones, compare the differences in recovery time between the two groups, including: time to first eating after surgery, time to first flatus, time to first ambulation, and length of stay; (2) Compare VAS scores, namely: visual analog scale for pain; (3) Compare the incidence of complications. Common types of patients with gallstones after laparoscopic surgery include indigestion, infection, bile duct injury, and bleeding; (4) Compare nursing satisfaction.

2.4. Statistical data

SPSS 24.0 software analysis, the measurement data and count data involved in this study were organized, and t and χ^2 tests were used respectively. The representative forms are mean ± standard deviation (SD), (%). When comparing between groups, $P < 0.05$ indicates that the difference is significant.

3. Results

3.1. Postoperative recovery time

As shown in **Table 1**: Comparing the recovery time after laparoscopy in patients with gallbladder stones, the experimental group was shorter, $P < 0.05$.

Table 1. Comparison of postoperative recovery time between the control group and the experimental group (mean ± SD)

Group	Time of first meal after surgery (h)	First exhaust time (h)	Time to first ambulation (d)	Length of stay (d)
Control group (n = 43 cases)	22.26 ± 3.41	32.29 ± 3.07	3.18 ± 0.57	9.34 ± 1.55
Experimental group (n = 43 cases)	18.37 ± 3.26	24.51 ± 3.22	2.01 ± 0.69	6.88 ± 1.21
t	5.407	11.467	8.572	8.204
P	0.000	0.000	0.000	0.000

3.2. VAS score

As shown in **Table 2**: Statistics on the VAS score of gallbladder stones showed no difference before nursing, $P > 0.05$; after nursing, the experimental group was lower than the control group, $P < 0.05$.

Table 2. Comparison of VAS scores between the control group and the experimental group (mean ± SD)

Group	Before nursing (minutes)	After nursing (minutes)
Control group (n = 43 cases)	6.48 ± 1.65	3.57 ± 1.16
Experimental group (n = 43 cases)	6.51 ± 1.59	1.98 ± 0.74
t	0.086	7.578
P	0.932	0.000

3.3. Complication rate

As shown in **Table 3**: Compared with the control group, the incidence of surgical complications in the experimental group was lower, $P < 0.05$.

Table 3. Comparison of the incidence of complications between the control group and the experimental group (%)

Group	Before nursing (minutes)	After nursing (minutes)
Control group (n = 43 cases)	6.48 ± 1.65	3.57 ± 1.16
Experimental group (n = 43 cases)	6.51 ± 1.59	1.98 ± 0.74
t	0.086	7.578
P	0.932	0.000

3.4. Nursing satisfaction

As shown in **Table 4**: Nursing satisfaction of patients with gallbladder stones was higher in the experimental group, $P < 0.05$.

Table 4. Comparison of nursing satisfaction between the control group and the experimental group (%)

Group	Satisfied	Average	Not satisfied	Total satisfaction (%)
Control group (n = 43 cases)	20 (46.51)	16 (37.21)	7 (16.28)	36 (83.72)
Experimental group (n = 43 cases)	22 (51.16)	20 (46.51)	1 (2.33)	42 (97.67)
χ^2	-	-	-	4.962
P	-	-	-	0.026

4. Discussion

Gallbladder stones have a high clinical incidence, and the causative factors are relatively complex. The core indicators include: excessive cholesterol in bile, excessive bile pigments, abnormal gallbladder emptying function, overweight, lack of regular exercise, unreasonable eating habits, etc. Once the disease occurs, it will cause a serious decline in the patient's quality of life and pose a greater threat to the patient's health [4].

The results of this study show: (1) The patients with gallbladder stones were analyzed to compare the recovery time after laparoscopic surgery. Compared with the control group, the experimental group had shorter first eating time, first flatus time, and first time to get out of bed, $P < 0.05$; in the hospitalization time, the experimental group was shorter, $P < 0.05$; (2) Statistics on VAS scores of patients with gallbladder stones showed no difference before nursing, $P > 0.05$; after nursing, compared with the control group, the experimental group had shorter hospitalization time, $P < 0.05$. Compared with the control group, the experimental group was lower, $P < 0.05$; (3) The incidence of surgical complications was lower in the experimental group (4.65%, 2/43) vs. the control group (18.60%, 8/43), $P < 0.05$; (4) After statistics of nursing satisfaction, the control group was 83.72% (36/43) and the experimental group was 97.67% (42/43). The comparison

results showed that the experimental group had higher satisfied gallbladder stone patients, $P < 0.05$. The specific analysis is: During laparoscopic surgery, the implementation of evidence-based nursing is comprehensive and can be analyzed based on scientific evidence, which can effectively meet the different needs of patients with gallbladder stones [5]. In clinical practice, creating working groups and strengthening training measures can effectively cultivate staff's sense of self-responsibility and improve professional skills and comprehensive levels. At the same time, during the staged care process, staff also need to summarize relevant issues in a timely manner and determine follow-up management plans. Among them, nurse-patient communication, emotional comfort, and action encouragement measures can significantly improve patients' negative status and reduce patients' psychological burden; education of disease knowledge and surgical knowledge can also effectively correct patients' misconceptions, rebuild patients' confidence in treatment, and improve treatment cooperation [6]. In addition, after laparoscopic surgery, nursing staff need to continuously monitor, assist patients in adjusting their positions, and change dressings in a timely manner to effectively prevent infection; staff also need to pay great attention to postoperative pain and implement non-pharmacological and pharmaceutical interventions after assessment using the VAS scale, so as to better reduce the discomfort of patients with gallbladder stones [7]. Scientific and reasonable dietary management can reduce irritation for patients with gallbladder stones, ensure the balance of required nutrients, improve patients' physical fitness and immunity, and reduce the risk of various complications [8]. The combination of the above care can provide comprehensive services for patients with gallbladder stones, which can effectively reduce the patient's disease symptoms and improve the therapeutic effect of laparoscopic surgery.

5. Conclusion

In summary, when laparoscopic surgery is used to treat gallbladder stones, the application of evidence-based nursing has significant advantages in many aspects. For such patients, it can shorten the time to first eating after surgery, the time to first exhaust gas, the time to first get out of bed, and the length of hospitalization. At the same time, it can also better reduce the patient's pain symptoms, effectively prevent the occurrence of various complications, ensure patient satisfaction, and has significant clinical promotion value.

Disclosure statement

The authors declare no conflict of interest.

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