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Effect of the Concept of Fast-Track Surgery in the Nursing of Renal Calculi and Patient Satisfaction with Nursing Quality

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Abstract: The objective is to explore the effect of the concept of fast-track surgery (FTS) in the nursing of patients with renal calculi and patient satisfaction with nursing quality. A total of 58 patients with renal calculi treated in our hospital between Jun. 2021 and Jun. 2024 were selected and divided into the conventional group and the rehabilitation group according to the nursing intervention they received. Patients in the conventional group were given conventional nursing, and those in the rehabilitation group were given nursing with the concept of FTS. The nursing effect was compared between the two groups. The nursing effect and patient satisfaction level were increased in the rehabilitation group compared with those in the conventional group, and the differences were statistically significant ($P<0.05$). The application of the concept of FTS in the nursing of patients with renal calculi is significantly effective with favorable patient satisfaction, which is worthy of clinical application.

1. Introduction

Renal calculi are common urological diseases, and the main clinical manifestations are lumbar pain, sometimes accompanied by nausea and vomiting. With the development of the disease, surgical treatment is a commonly used modality for treating kidney stones. In the context of the continuous development of medical technology, the types of minimally invasive surgery have increased, which not only shortens the operation time, but also reduces the damage to patients. However, patients often fall into an anxious state due to fear of the unknown surgical procedure, uncertainty about the effect of postoperative rehabilitation, and concern that their quality of life may be affected after surgery. Moreover, recurrence of symptoms and postoperative complications still occur after minimally invasive surgery. Therefore, it is essential to strengthen physical and psychological care during the perioperative period[1].The main purpose of the concept of FTS is to expedite recovery, shorten the treatment time, and promote the physical rehabilitation of patients[2]. This study aimed to explore the effect and patient satisfaction of the concept of FTS in the nursing of patients with renal calculi and was reported below.

2. Materials and Methods

2.1. Clinical Data

A total of 58 patients with renal calculi were selected for the study. There were 17 males and 12 females in the conventional group, with a mean age of 47.11±1.05 years (range: 31-65 years), and 18 males and 11 females in the rehabilitation group, with a mean age of 47.19±1.03 years (range: 32-67 years). No significant differences in basic data were observed between the two groups (P>0.05). The study was reviewed and approved by the Hospital Ethics Committee.

Inclusion criteria included patients (1) with symptoms that met the relevant criteria for renal calculi; and (2) who signed the informed consent form.

Exclusion criteria included patients with (1) mental disorders; (2) surgical contraindications; and (3) abnormal liver and kidney functions.

2.2. Methods

Patients in the conventional group received conventional nursing, and the corresponding procedures were conducted according to the original protocol.

Patients in the rehabilitation group received nursing with the concept of FTS[3]. Briefly, (1) Preoperative nursing: Medical staff examined the patients according to their actual conditions, communicated with them before surgery, answered the questions of the patients, and informed them of precautions; (2) Intraoperative nursing: Fast-track anesthesia was established, and appropriate position was selected for the patients according to the requirements of minimally invasive surgery. Medical staff observed the stress response of patients during the operation, kept normal body temperature of the patients, and made records; and (3) Postoperative nursing: For patients who needed catheterization, catheterization nursing was provided. Preventive measures and health education services should be provided in advance according to the possible adverse reactions of patients to reduce the negative effects and promote their recovery.

2.3. Outcome Measures and Evaluation Criteria

(1) The level of patient satisfaction with nursing quality in the two groups was evaluated using a self-designed questionnaire on a one-to-one basis. One questionnaire was distributed to each patient and the questionnaire recovery rate was 100%. The total score of the questionnaire was 100 points, and higher scores indicated that the corresponding patients were more satisfied with the nursing quality.

(2) The total effective rate (%) of the two groups of patients after nursing intervention was calculated as the sum of the markedly effective rate and the effective rate, and nursing effect was evaluated as markedly effective (the symptoms disappeared or improved significantly after nursing, and the quality of life returned to normal), effective (the symptoms did not disappear after nursing, with only slightly improved symptoms, and the quality of life returned to normal), and ineffective (the symptoms did not improve, and even worsened in some patients).

2.4. Statistical Analysis

Data were input into SPSS20.0 for processing. Patient satisfaction with nursing quality was presented as $\bar{x} \pm s$, and t test was used for comparison. The nursing effect was pressed as n/%, and χ^2test was used for comparison. Differences with a p value of less than 0.05 were considered statistically significant.

3. Results

3.1. Patient satisfaction with the nursing quality in the two groups

Comparison of patient satisfaction with nursing quality between the two groups showed that the level of satisfaction was increased in the rehabilitation group compared with that in the conventional group, and the difference was statistically significant(P<0.05)(Table 1).

Table 1. Comparison of patient satisfaction with the nursing quality between the two groups ($\bar{x}$ ±s).

Groups	Patient satisfaction level
The rehabilitation group(n=29)	96.24±0.52
The conventional group (n=29)	81.02±0.95
t	8.055
P	<0.05

3.2. Comparison of nursing effect between the two groups

A comparison of the nursing effect between the two groups showed that the total effective rate was increased in the rehabilitation group compared with that in the conventional group, and the difference was statistically significant(P<0.05)(Table 2).

Table 2. Comparison of nursing effect between the two groups (n/%).

Groups	n	Markedly effective	Effective	Ineffective	Total effective rate
The rehabilitation group	29	19(65.52)	9(31.03)	1(3.45)	28(96.55)
The conventional group	29	15(51.72)	7(24.14)	7(24.14)	22(75.86)
χ^2					7.528
P					<0.05

4. Discussion

The kidney is an important organ of the human body, and kidney stones are stones formed inside the kidney, mostly in young adults, and are more common in male patients than in females [4-5].In urinary system diseases, the clinical manifestations of patients with renal calculi are renal colic and hematuria in the waist and abdomen. These symptoms not only have a significant impact on the patient 's daily work ability and quality of life, but also tend to trigger anxiety. In the early stage, the stones are small and can be cured using conservative methods. With the deterioration of the disease, when the stones cannot be eliminated using drugs, the surgical plan is mostly selected to remove the stones. The common surgical methods include percutaneous nephrolithotripsy, extracorporeal shock wave lithotripsy and flexible ureteroscopic lithotripsy. Before surgery, patients tend to be anxious and fearful about the diagnosis of their disease and about facing the upcoming surgery. Patients will worry about whether they can recover smoothly after surgery, and this psychological state can easily trigger a series of adverse physiological reactions, such as cold limbs, fear in the heart, involuntary rapid heartbeat, emotional anxiety, and elevated blood pressure[6].In addition, the occurrence of complications such as postoperative infection and fever, as well as stone recurrence caused by residual stones, may further aggravate the patient 's physical discomfort, while psychologically more anxious.

No matter which kind of surgery is selected, it will bring some harm to the patients more or less. At this time, the nursing services received by the patients are very important and can directly affect the treatment effect and postoperative recovery of the patients. Studies have shown that in the clinical nursing practice of patients with kidney stones, compared with the traditional conventional nursing model, the use of fast-track surgery concept for patients to implement fast-track nursing, has significant advantages. On the one hand, this nursing model can strongly promote the rehabilitation process of patients after surgery. On the other hand, fast-track care can improve the quality of life of patients from multiple dimensions. In terms of nursing quality, fast-track nursing significantly improves the overall nursing level by paying attention to the patient 's comfort, strengthening health education, optimizing nursing attitude, providing effective psychological guidance, and improving communication skills [2].The concept of FTS is a new intervention approach taking advantage of multi-disciplinary techniques. FTS can be divided into preoperative, intraoperative and postoperative interventions according to the stages of the operation, with an emphasis on "rapid rehabilitation". The concept of FTS can expedite the physical recovery of patients and shorten the treatment time, and is widely used[7].

In summary, the concept of FTS is effectively applied in the nursing of patients with renal calculi. It improves the nursing effect, increases satisfaction with nursing quality, and promotes the physical rehabilitation of patients, making it the preferred nursing method in the selection of intervention programs.

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