

# Evidence-based Care for Rehabilitation Nursing Effect of Patients with Patellar Fracture

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**Abstract: Objective.** To analyze the effect of applying evidence-based care in rehabilitation nursing effect of patients with patellar fractures. **Methods.** A total of 54 patients with patellar fractures were randomly selected from the hospital. The diagnosis and treatment time were from the beginning of July 2018 to end of June 2019. The digital table grouping was adopted to divide patients into two groups with each group consists of 27 patients with this disease. Both groups underwent routine nursing and the experimental group with increased evidence-based care. **Results.** Compared with the control group, the knee function evaluation, complications and nursing satisfaction of the experimental group were more ideal, and the difference was statistically significant ( $P < 0.05$ ). **Conclusion.** Evidence-based care in rehabilitation nursing of patients with patellar fracture can obtain ideal nursing effect.

**Keywords:** Patellar fracture, Rehabilitation nursing, Evidence-based care

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## 1 Introduction

Fractures are common in the clinic, including patellar fractures, which are intra-articular fractures that accounting for 1.65%. Clinically, the understanding of disease-related knowledge in patients with patellar fractures has increased gradually, more and more attention has been focused onto the biomechanical function of knee joint activities. Therefore, clinically, the postoperative rehabilitation effect of patients with patellar fractures was analyzed and explored to

study how to improve the recovery time of knee joint function and reduce postoperative complications<sup>[1]</sup>. The analysis shows that the implementation of routine care for patients with patellar fractures is not ideal. Hence, there are 54 patients enrolled in this study, whereby the research topic was to analyze the effect of applying evidence-based care in rehabilitation nursing of patients with patellar fractures.

## 2 Materials and methods

### 2.1 Information

From the beginning of July 2018 to the end of June 2019, 54 patients with patellar fractures were randomly selected. Informed consents were obtained. The grouping method was a digital table method. There are 27 patients in the control group with a ratio of male and female in 14: 13 whose age is ranging from 29 to 69 years old, with a median age of 46.5 years. Moreover, the comminuted fractures and transverse fractures were 22 cases and 5 cases, respectively. Likewise, there are also 27 patients in the experimental group with a ratio of male and female in 15: 12 whose age is ranging from 28 to 68 years old, with a median age of 46 years. Furthermore, the comminuted fractures and transverse fractures were 21 cases and 6 cases, respectively. The data of these two groups of patients can be compared. Should there is no significant difference in mathematical expression,  $P > 0.05$ .

### 2.2 Method

Both groups carry out routine nursing, whereby nurses should guide patients to exercise with step by step following the doctor's advice. They should also provide various routine nursing services for patients and actively implement various measures following relevant

rules and regulations to improve the knee functions of patients.

Whereas, the experimental group has increased evidence-based care: (1) ask the question encountered. To understand the characteristics of patients' diseases, master the complications of patients are prone to during rehabilitation, understand the reasons for delayed rehabilitation as well as raise the problems encountered in evidence-based care. (2) Access the information. A comprehensive review of relevant literature, combined with clinical rehabilitation nursing experience, rational formulation of predictive care programs, strict implementation of nursing procedures as well as implementation of various nursing measures. (3) Implement a care plan. In the process of rehabilitation and nursing, the evidence-based care program should be strictly implemented, and the various nursing services should be completed following the order. During the nursing period, the nurse should make reasonable plans for the patients' exercise program. The nursing measures include psychological intervention, health education, exercise guidance and others to guide the patient how to exercise correctly as well as to follow the doctor's advice, inform the patient of the critical points of the training, standards and rehabilitation, promote patients to better understand the disease and care, encourage patients to enhance the confidence in the treatment of disease, comfort the patients' bad emotion caused by the disease as well as further improve the overall quality of patients care. Lastly, both groups

were accessed for the knee joint function at six weeks after the operation<sup>[2]</sup>.

### 2.3 Effect analysis

After knee joint rehabilitation, the patient who can actively stretch or overstretch with flexing 131~140° is judged as excellent. The patient who can actively stretch with flexing 121~130° is judged as good while compared with normal range, and the active knee extension is 10~20°. The patient who has normal passive knee extension with flexing 91~120° is judged as normal. Who does not meet the above is considered as poor. Good rate=excellent rate+yield<sup>[3]</sup>.

### 2.4 Statistical calculation

In this study, the measurement data and count data of the enrolled patients were analyzed comprehensively. The t-test and X<sup>2</sup> test were performed, respectively. The SPSS 19.0 software was used in the process of calculating the data. The representative methods were (mean±standard deviation), rate, and statistical significance,  $P < 0.05$ .

## 3 Results

In the experimental group, knee function evaluation, complications (infection, joint hematoma, pain, steel needle slippage, wire fracture, knee joint dysfunction, traumatic arthritis), and nursing satisfaction were significantly more ideal compared with the control group,  $P < 0.05$ .

**Table 1.** Comparison of knee joint function evaluation in both groups

Grouping	Number of corresponding cases in each group	Excellent	Good	Normal	Poor	Rate
Experimental group	27	14	10	2	1	88.88%
Control group	27	8	8	7	4	59.25%
X <sup>2</sup>						6.1714
P						<0.05

**Table 2.** Comparison of complications and nursing satisfaction of patients in both groups

Grouping	Number of cases per group	Complications	Nursing satisfaction
Experimental group	27	2 (7.40%)	26 (96.29%)
Control group	27	8 (29.62%)	20 (74.07%)
X <sup>2</sup>		4.4182	5.2826
P		<0.05	<0.05

## 4 Discussion

The relevant factors affecting the success rate of fracture surgery are postoperative rehabilitation care. Therefore,

nursing should be strengthened for patients with patellar fractures. According to the analysis, due to the built-in steel plate in the patient's operation, postoperative problems such as steel plate slippage and wire fracture

are prone to occur. During the rehabilitation period, joint hematoma, infection, pain, traumatic arthritis and knee dysfunction are likely to occur if the patient's activity is too intense or inappropriate training<sup>[4]</sup>.

The principle of treating patellar fracture is to repair the articular surface and ensure it is flat, reduce the incidence of knee arthritis, provide routine care for the patient, and significantly reduce the patient's bad emotion. Therefore, evidence-based nursing has been proposed clinically, which can target patients with care and the rehabilitation effect is remarkable.

Evidence-based nursing is a new type of nursing program that commonly used in clinical practice. Focusing on patients can provide evidence-based problems, combine with previous clinical experience and access the information are necessary to formulate and adjust the care plan. The purpose is to significantly improve the overall quality of patients care, lower the cost, increase the efficiency that could provide patients with the best care services with clinical promotion value.

Evidence-based care in rehabilitation nursing of patients with patellar fractures is highly feasible. The nursing method is scientific which can scientifically analyze the disease and can comprehensively analyze the causes of adverse reactions. Combined with the actual clinical situation, the evidence-based problem can be raised. Based on the problem, the literature, and the previous clinical nursing experience is summarized to ensure that the developed nursing plan is predictive and scientific, and the nursing plan can be reasonably adjusted to promote the possible complications and treatment problems<sup>[5]</sup>. The program is more targeted and personalized, reducing unnecessary care and strengthening the pertinence and practicality of care. According to the analysis, the nurse should strengthen the patient's rehabilitation training during the nursing process by using the evidence-based concept to formulate the functional training program step by step. One day after operation, the nurse should guide the patient to carry out the isometric contraction exercise of the quadriceps and the active activities of the toe and ankle joints<sup>[6]</sup>. Two days after post operation, the nurse should assist the patient in the active knee. Three days after operation, the physical method should be selected reasonably to perform proprioceptive stimulation for the patient in order to guide them to perform the tibia activity along the corresponding direction. One week after the operation, the patient was actively trained to perform the reclining of the calf. Two weeks after the operation, the corresponding exercise was performed

to help in enhancing patient's muscle strength and increase the active movement of the knee joint. Three weeks after the operation, the patient was instructed to leave the bed<sup>[7]</sup> and use the brace to perform standing and walking exercises in order to help in promoting the knee joint as soon as possible through postoperative rehabilitation nursing<sup>[8]</sup>.

There are many unfavourable emotions for disease recovery in patients with patellar fractures. For example, worrying about treatment costs, postoperative pain and fracture pain will cause more significant psychological stress in patients. The implementation of routine care for patients is of little value, but evidence-based care for patients can significantly improve patient care outcomes. It can be combined with practice, nursing research theory and previous clinical nursing cases, the patient's overall care quality and functional excellence rate can be significantly improved. Based on the analysis, the application of evidence-based care in the rehabilitation nursing of patients with patellar fracture can comprehensively monitor the patient's condition which can significantly improve the negative emotion of the patient, promote patient's compliance and improve the satisfaction of the patient's nursing service.

Relevant literature reports that the application of evidence-based care in rehabilitation nursing of patients with patellar fractures has a higher clinical value, which can significantly improve the prognosis of patients. Moreover, it can promote the recovery of knee joint function, which can significantly reduce the complications of patients and improve patient care satisfaction. During the nursing process, the nurse should raise the problem for the symptoms and emphasize on the nursing to ensure that the developed care plan is more scientific and predictive to significantly reduce the incidence of adverse care cases. In addition, the nurse should carry out nursing intervention base on the nursing plan and strictly enforce it. Fully understand the rehabilitation of the patients can help in adjusting the details of the nursing plan according to the actual situation of the patient. The nurse should guide the patient's emotion, panic, anxiety and others meanwhile motivate the patient's positive attitude, encourage the patient to actively cooperate with various rehabilitation activities. This can significantly improve the patient care coordination, quality and prognosis in the psychological and physiological aspects. Moreover, this can intervene and comfort patients to promote recovery as soon as possible.

In the rehabilitation nursing of patients with patellar fractures, evidence-based care should be applied. Nurses should pay attention to raise the affected limbs high with the purpose to promote blood circulation, which can effectively alleviate the pain and reduce the swelling. In addition, the nurse should do a good job in patient training and provide active and passive joint activity guidance for the patient. If the patient has severe pain, an analgesic should be used. If the patient has less pain, ice can be used to effectively reduce the pain level of the patient. The nurse should help the patient to turn over and call back and make sure patients do the health work of the affected limb to ensure that the limbs are not affected by friction, shearing force and pressure, and reduce the acne incidence. In addition, the nurse should properly massage the patient's affected limb in order to promote blood circulation. Also, dressing should be replaced in time to avoid wound infection. The nurse should always continue to learn, improve their professional quality and promote the quality of patient care services.

This study demonstrates the knee joint function evaluation, and complication (infection, joint hematoma, pain, steel needle slippage, wire fracture, knee joint dysfunction, traumatic arthritis) and nursing satisfaction in the experimental group were more ideal. The results confirmed that the clinical application value of evidence-based care is higher.

Based on the above data and conclusions, the application of evidence-based nursing in the rehabilitation of patients with patellar fractures is ideal, which can significantly improve the evaluation of knee function and complications (infection, joint hematoma, pain, steel needle slippage, wire fracture, knee joint

dysfunction, traumatic arthritis), nursing satisfaction, worthy of clinical promotion. In the follow-up discussion of this group, the characteristics, mechanism, treatment principles, nursing focus point of the disease should be studied in advanced and evidence-based care should be improved. Large-scale experiments should be performed to enhance the clinical analysis significance of this group.

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