

Effects of Comprehensive Nursing Based on Feed forward Control Concept on Postoperative Fma and Sf-36 Levels in Patients with Femoral Intertrochanteric Fractures

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Abstract: The purpose of this study is to verify the effect of comprehensive nursing based on the concept of feedforward control on postoperative FMA and SF-36 levels in patients with intertrochanteric fractures. Patients in the control group received routine nursing, including preoperative routine education and nursing assessment. Patients in the observation group received comprehensive nursing based on the feedforward control concept. The SAS score scale and SDS score scale was used to evaluate and compare the two groups of patients. Anxiety and depression before and after; compare the changes of FMA score and SF-36 level before and after surgery in the two groups. The two indicators are out of 100 points. Applying interventions based on the concept of feedforward control to patients with comminuted femoral intertrochanteric fractures can significantly improve clinical efficacy, the incidence of postoperative complications, and the degree of negative emotions, and improve patients' daily lives and skin Motor function, quality of life and satisfaction are worthy of clinical promotion and application.

1. Introduction

Comminuted femoral intertrochanteric fractures are mostly caused by direct or indirect external force, and they occur in elderly patients [1,2]. The traditional incision and reduction internal fixation treatment method uses steel plate for internal fixation. Complications such as plate breakage, infection, and bone nonunion often occur. In addition, elderly patients often have chronic diseases such as cardiovascular, cerebrovascular, respiratory system, and endocrine. They need to stay in bed for a long time. Seriously affect patients' quality of life and recovery [3-6]. Although closed reduction and intramedullary nail internal fixation technology is difficult, it is widely used in clinical practice due to its good effect, low incidence of complications, and rapid recovery of patients after surgery [7-9].

Some femoral neck fractures are incarcerated, but the pain is not obvious. The tender point of the femoral neck fracture is near the outer part of the inguinal ligament. The tender point of the femoral intertrochanteric fracture is usually the large tuberosity. Trauma and osteoporosis are the main injury mechanisms of femoral intertrochanteric fractures. [10]. PFN continues the traditional advantages of intramedullary fixation. The stress on its axis is greater than that of nail plate fixation such as DHS and DCS. The requirements for fracture stability are relatively low. The surgery does not require major exposure and minor trauma, and can bear weight early. The design of the long rod-shaped groove between the distal end of the intramedullary nail and the interlocking hole strengthens the flexibility of the intramedullary nail in this range, effectively avoiding the femoral shaft fracture caused by the local stress concentration of the intramedullary nail. The AO Society reports that its nail breakage rate is less than 0.6%. In addition, the disadvantages of PFN are the zigzag effect caused by the withdrawal of tension screws or anti-rotation nails. 191 patients with intertrochanteric fractures were followed up [11-13], and the incidence of screw-cut femoral head and neck was 0.6%. It was confirmed through clinical research that PFNA It can successfully treat

unstable femoral intertrochanteric fractures, and can also be applied to some cases of PFN or DHS treatment failure. Literature [14-16] and other studies believe that PFNA has a higher healing rate after surgery and is suitable for unstable femoral trochanters. Interstitial fractures are conducive to early weight-bearing activities in elderly patients after surgery and to restore their preoperative mobility quickly.

This article explores the effect of interventions based on the concept of feedforward control in patients with postoperative fixation of intertrochanteric fractures. Fifty-seven patients with comminuted femoral intertrochanteric fractures were divided into experimental group and control group with 57 cases each according to the random number table method. The control group adopted conventional nursing methods, and the experimental group implemented reasonable and effective nursing measures based on the feedforward control concept. Postoperative clinical efficacy, complication rate, anxiety and depression, body mass index (BMI) skin motor function assessment (CFMA), quality of life (QOL-BREF) score and nursing satisfaction were compared between the two groups. The clinical efficacy of the experimental group was better than that of the control group ($P < 0.05$), and the incidence of complications, anxiety and depression were lower than those of the control group ($P < 0.05$). BMI, FMA, QOL-BREF scores and nursing satisfaction were higher than those of the control group ($P < 0.05$). Applying interventions based on the concept of feedforward control to patients with comminuted femoral intertrochanteric fractures can significantly improve clinical efficacy, the incidence of postoperative complications, and the degree of negative emotions, and improve patients' daily lives and skin Motor function, quality of life and satisfaction are worthy of clinical promotion and application.

2. Materials and methods

(1) Clinical data

A total of 114 patients with intertrochanteric fractures treated in a hospital from February 2016 to February 2018 were selected as the research objects. All patients had closed fractures and the injury time was within 10 days. Exclusion of other serious organ diseases and mental illness were excluded. Numbers 1-114 were assigned according to the order of admission. The single number was the control group and the double number was the observation group. There were 57 cases in each group. Among them, there were 37 males and 20 females in the control group, aged 65 to 81 years, with an average age of (77.49 ± 3.46) years; 36 males and 21 females in the observation group, aged 66 to 79 years the average age was (77.88 ± 3.46) years. The two groups of patients were not significantly different in all aspects and were comparable.

(2) Research methods

Patients in the control group received routine nursing, including preoperative routine education and nursing evaluation. Patients in the observation group received comprehensive nursing based on the feedforward control concept. The specific measures are as follows: ① Implement feedforward control retrieval to view previous cases of intertrochanteric fracture Record and organize to understand the most common complications or adverse events in the care of this type of patients, such as pressure ulcers, pain and incision infections, and delayed anal exhaustion and anxiety, and find out the causes of these complications or adverse events And risk factors, and make detailed records, and develop follow-up nursing measures after meeting research; ② Intensified preoperative care of patients: a. Do a good job of psychological counseling for patients, explain the successful cases of previous surgery, and improve patients' confidence in treatment , By means of reading, reading newspapers, listening to music to divert attention and forget about sorrow; establish a good relationship between nurses and patients; b. Carefully evaluate the patient's disease status, pay special attention to patients with other medical history, and prepare for disease prevention and control in advance C. Instruct the patient to rest on time and perform muscle contraction exercises, and guide the patient to learn to sputum on the bed , Defecation, turning over to ensure that the patient can grasp; ③ do good postoperative care: a. Strengthen anti-infective care, ask the nursing staff to closely observe the patient's physical changes, ensure that the surgical wound is clean and

dry, and report it to the doctor in a timely manner if there is any adverse situation ; For patients who have signs of infection, first confirm the type of bacteria, and carry out anti-infective treatment to avoid blindness; guide patients to use water and cough methods to prevent lung and urinary system infections; b. Exercise guidance: nurses Guide the patient's activity intensity according to the actual situation of the patient, avoiding overnight; patients can perform hip and knee exercises during bedridden; evaluate the patient's recovery, and increase the intensity of the exercise appropriately, can stand or walk with the assistance of the nursing staff; c .Intensify dietary care for patients: instruct patients to eat more digestible food, avoid spicy, greasy, irritating food, eggs, fish, shrimp and other foods are preferred; ④Discharge health guidance: inform patients of the precautions after discharge, and instruct The patient insists on physical function exercises, fills in the data, and tracks the condition. For, to do regular telephone follow-up, the patient understand the recovery of fractures.

(3) Observation indicators [3]

The recovery of general indicators of patients after surgery was compared between the two groups.

The SAS score scale and the SDS score scale was used to evaluate and compare the anxiety and depression of the two groups of patients before and after surgery.

The changes of the FMA score and SF-36 level before and after surgery were compared between the two groups of patients. The two indicators were out of 100 points.

The incidence of complications was compared between the two groups.

(4) Statistical methods

By SPSS19.0 statistical software analysis, quantitative data was expressed as ($\bar{x} \pm s$), t-test was used for comparison between groups, χ^2 test was used for comparison between qualitative data, $P < 0.05$ was considered statistically significant.

3. Result

(1) Comparison of recovery of general indicators after operation between two groups of patients

Patients in the observation group were significantly better than the control group in the time of first anal exhaust, bed time, and hospital stay ($P < 0.05$), as shown in Table 1.

Table 1 Comparison of General Indicators of Recovery between Two Groups of Patients($\bar{x} \pm s$)

Group	Number of cases	Time of first anal exhaust (h)	Bedtime (min)	Hospital stay (d)
Control group	57	25.68±6.58	99.93±11.41	8.04±0.57
Observation group	57	17.98±5.39	78.17±10.53	4.31±0.46
t value	-	6.835	10.581	38.447
P value	-	0.000	0.000	0.000

(2) Comparison of anxiety and depression before and after surgery in two groups of patients

The differences in SAS scores and SDS scores between the two groups of patients before nursing were not significant, but after nursing, the SAS scores and SDS scores of the observation group were significantly lower than those of the control group ($P < 0.05$), as shown in Table 2.

Table 2 Comparison of Anxiety and Depression Before and after Surgery in Two Groups of Patients (Score, $\bar{x} \pm s$)

Group	Number of cases	SAS score		SDSscore	
		Before nursing	After nursing	Before nursing	After nursing
Control group					
Observation group	57	55.81±10.21	50.97±9.77	53.34±7.44	51.64±8.99
t value	57	55.76±11.67	45.09±6.87	53.25±8.66	43.24±7.47
P value	-	0.024	3.717	0.060	5.426
	-	0.981	0.000	0.953	0.000

(3) Comparison of changes in FMA score and SF-36 level before and after surgery in the two

groups of patients

There were no significant differences in FMA scores and SE-36 levels between the two groups of patients before surgery, but the FMA scores and SE-36 levels of patients after surgery were significantly higher than those in the control group ($P < 0.05$), as shown in Table 3.

Table 3 Comparison of Changes in Fma Scores and Sf-36 Levels Before and after Surgery in Two Groups of Patients (Eg, Points)

Group	Number of cases	FMA score		SF-36 score	
		Before nursing	After nursing	Before nursing	After nursing
Control group	57	33.54±8.38	58.33±9.41	45.44±8.67	61.15±16.73
Observation group	57	33.28±7.41	67.17±8.53	45.31±8.46	76.35±14.44
t value	-	0.175	5.255	0.087	5.193
P value	-	0.861	0.000	0.931	0.000

(4) Comparison of the incidence of complications between the two groups of patients

Complications such as pressure ulcers, pain, and incision infections occurred in both groups of patients, but the total incidence of complications in the observation group was 10.53%, which was significantly lower than the control group's 28.07% ($P < 0.05$), as shown in Table 4 and Figure 1.

Table 4 Comparison of The Incidence of Complications between the Two Groups of Patients (Eg,%)

Group	Number of cases	Pressure ulcer	pain	Incision infection	other	Total incidence
Control group	57	2(3.51)	3(5.26)	4(7.02)	7(12.28)	16(28.07)
Observation group	57	1(1.75)	1(1.75)	1(1.75)	3(5.26)	6(10.53)
χ^2	-	0.342	1.036	1.883	1.754	5.632
P value	-	0.558	0.309	0.170	0.185	0.018

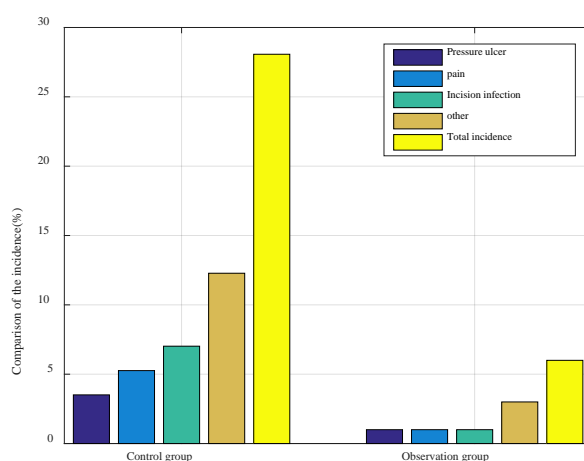


Fig.1 Comparison of the Incidence of Complications

4. Conclusion

The results of this study showed that the degree of anxiety and depression in the experimental group were significantly lower than those in the control group ($P < 0.05$), and the quality of life and satisfaction scores for nursing in the experimental group were significantly higher than those in the control group ($P < 0.05$). Due to the difficulty of rehabilitation training for elderly patients during the postoperative recovery period, nursing staff should target the patient's psychological and physical characteristics and conduct reasonable education based on the patient's receptive ability to help patients master and accept and channel their negative emotions. . With the assistance of

medical staff, guide patients to perform reasonable limb function exercises. After the fixation of elderly femoral intertrochanteric fractures, reasonable and effective interventions based on the concept of feedforward control can significantly reduce postoperative complications and negative emotions and improve the quality of life of patients. It is worthy of clinical application.

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