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Effect of Comprehensive Nursing Intervention on Rehabilitation of Patients after Total Hip Arthroplasty

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Abstract. To explore the effect of comprehensive nursing intervention on rehabilitation of patients after total hip arthroplasty. 100 patients with femoral neck fracture underwent total hip replacement from May 2017 to March 2018. According to the random number method, 50 patients in each group were divided into observation group and control group. The control group was given postoperative routine nursing, the observation group was treated with comprehensive nursing intervention, and the two groups were treated with Minnesota Heart failure quality of Life questionnaire (MLHFQ) before nursing. The effect of nursing intervention and the influence on limb function were compared between the two groups. Results 1 month after operation, 3 patients in the observation group The Harris score of the observation group was higher than that of the control group ($P < 0.05$), and the Barthel index of the observation group was higher than that of the control group ($P < 0.05$). The comprehensive nursing intervention for the patients with femoral neck fracture undergoing hip arthroplasty has positive effect on the early recovery of the patients.

INTRODUCTION

The incidence of femoral neck fractures is increasing year by year [1-2], which is prone to nonunion, avascular necrosis of the femoral head and other diseases [3] and increases pneumonia after fracture due to bed rest. Incidence of venous thrombosis and urinary system diseases [4]. Artificial hip arthroplasty can improve limb function and quality of life of patients, but proper nursing methods have great influence on postoperative quality of life. The comprehensive nursing intervention provides the patients with high quality nursing care according to the psychological, physiological, social and cultural aspects of the patients, and has achieved satisfactory results. The report is as follows:

CLINICAL DATA

General Information

From May 2017 to March 2018, 100 patients with femoral neck fracture underwent total hip replacement in our hospital. They were divided into observation group (n = 50) and control group (n = 50) according to random number method. There were 23 males and 27 females in observation group. The mean age was (70.6 ± 4.1) years old. In the control group, there were 26 males and 24 females with an average age of (70.3 ± 3.5) years. Inclusive criteria: a. Imaging, clinical manifestations were in line with the clinical diagnosis of femoral neck fractures; b. in accordance with the indications for surgical treatment; c. the first time to accept artificial hip arthroplasty. Exclusion criteria: a. not in accordance with the clinical diagnostic criteria for femoral neck fractures; b. complicated with strict Patients with abnormal center of gravity, liver and kidney function, and indications of unsuitable operation; c. patients with mental illness who are unable to cooperate with the operation.

NURSING METHODS

Routine Care Used in Control Group

Include admission education, health education, disease and pre-operative education and so on. Observation group adopted comprehensive nursing intervention

Mental Nursing

The fracture is relatively sudden. After admission, the nurse should use appropriate methods to assess the patient's occupation and social status, use kind language to comfort the patient, and relieve the patient's negative emotions. Help build confidence in the fight against disease [5].

Disease Education

According to the patient's age, sex, educational background and so on, nurses should select appropriate methods and means to educate the patients about femoral neck fracture in detail, so that the patients can have a comprehensive understanding of the disease, before, and after the operation.

Dietary Guidance

Eat vegetables, fruits and other foods as easy to digest, high nutritional value of food, and adequate drinking water to promote gastrointestinal peristalsis, to prevent the occurrence of constipation.

Posture Nursing

If there is nausea and vomiting, the head is inclined to one side, the limbs keep the neutral position of abduction and wear anti-rotation shoes, can massage the affected limbs regularly and promote the local blood circulation.

Pain Nursing

Postoperative pain relief pump, close observation of the patient's vital signs, but also in the ward can play mild and comfortable music, distraction of the patient's attention; reduce the degree of pain [6].

Dirigation

Guide the patient to turn over, exercise muscle strength, such as quadriceps femoris exercise and ankle pump exercise, and cooperate with CPM machine, carry on the active and passive movement of the affected limb, promote the local blood circulation and strengthen the muscle strength.

Discharge Guidance

The methods of using walking aids, moving up and down beds, toilet, chair, stair, etc. After 6 weeks of operation, standing exercises, resistance exercises, joint motion training and so on were carried out, so that the family members could participate in the exercise. And regularly to the hospital review, nurses to strengthen follow-up, to understand the recovery of patients after discharge.

Observation Index

Harris score was used to evaluate the limb function before operation, 1 month, 3 months and 6 months after operation, including pain, joint function, joint motion and deformity, using Harris score (full score 100). The higher

the score, the better the hip function. The 2Barthel index (a full score of 100) evaluated the patients' daily life ability, including eating, dressing, bathing and decorating. The higher the score, the better the self-care ability.

Statistical Method

The data were processed by SPSS19.0. The measurement data were expressed as (mean \pm standard deviation). *T* test was used for the comparison between groups ($P < 0.05$).

RESULTS

There was no significant difference between the two groups before operation ($P > 0.05$). The Harris score in the observation group was higher than that in the control group at 1 month, 3 months and 6 months postoperatively ($P < 0.05$). The difference was statistically significant (see Table 1).

There was no significant difference in Barthel index at discharge between the two groups ($P > 0.05$). The observation group was higher than the control group at 1 month, 3 months and 6 months after discharge ($P < 0.05$), and the difference was statistically significant (see Table 2).

Table 1. Comparison of Harris scores between two groups (\pm s)

Group	Number of examples	Preoperative	1 month after operation	Postoperative 3 months	6 months after operation
observation group	50	65 \pm 6.1	82 \pm 6.5	90 \pm 5.7	95 \pm 4.8
control group	50	64 \pm 6.3	71 \pm 6.4	82 \pm 4.9	86 \pm 5.0
<i>t</i>		1.126	2.479	2.586	2.652
<i>p</i>		>0.05	<0.05	<0.05	<0.05

Table 2. Comparison of Barthel index between two groups (\pm s).

Group	Number of examples	When discharged from hospital	Discharged for 1 month	Discharged for 3 months	Discharged for 6 months
observation group	50	75.21 \pm 7.52	85.82 \pm 7.25	90.72 \pm 5.23	97.32 \pm 2.14
control group	50	76.16 \pm 8.31	80.80 \pm 7.16	86.12 \pm 5.11	91.26 \pm 1.56
<i>t</i>		1.103	2.191	2.363	2.882
<i>p</i>		>0.05	<0.05	<0.05	<0.05

DISCUSSION

With the aging of population in China, the incidence of femoral neck fracture is increasing and younger. The effect of postoperative rehabilitation depends not only on the level of surgery, but also on proper nursing. The incidence of postoperative complications is high, affecting the quality of life. Rehabilitation exercise after discharge is particularly important for the recovery of joint function [7]. Comprehensive nursing intervention has been widely used in patients undergoing total hip arthroplasty, so that patients have a comprehensive understanding of their own treatment methods, and 3 months after operation is the best time to recover limb function [8]. The recovery period was 4-6 months postoperatively [9]. The results of this study are clear. The results showed that the Harris score in the observation group was higher than that in the control group at 1 month, 3 months and 6 months postoperatively, which indicated that comprehensive nursing intervention could effectively promote the recovery of limb function after total hip arthroplasty. After total hip arthroplasty, there was pain in the incision, and the function of the hip joint did not recover. The daily life of the patients still needed some help from others. However, the Barthel index of the two groups was higher than that of the control group after 1 month and 6 months after discharge, and the observation group was superior to the control group. Comprehensive nursing intervention, the patient's bed, turn over, walk, toilet, chair, up and down stairs and other stages of functional exercise have achieved a comprehensive, normative demonstration.

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