

Application of Functional Exercise Nursing Plan Based on Evidence-based Nursing After Hip Replacement

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Abstract: *Objective:* To explore the effect of functional exercise nursing plan based on evidence-based nursing in patients after hip replacement. *Methods:* A total of 150 patients who underwent hip replacement in the orthopedic second ward of our hospital during the research period from January 2010 to January 2020 were selected as the research object. The random number expression method was applied to achieve grouping of patients. Among them, the control group received conventional rehabilitation treatment; the experimental group guided rehabilitation exercises according to the functional exercise nursing plan after hip replacement, and the rehabilitation conditions of the two groups were compared. *Results:* Compared with the patients in the control group, the bed time (7.45 ± 2.10) days and average hospital stay (15.84 ± 3.29) of the experimental group were relatively shorter. The incidence of complications in the experimental group and the control group was 6.67% and 16.00%, which are significantly different. The difference in Harris hip score before surgery was small, and the difference when discharge and after discharge was gradually increased, showing a better care effect in the experimental group. There was no significant difference in preoperative quality of life scores between the two groups before surgery ($P > 0.05$). The life quality of the experimental group was significantly higher than that of the control group at discharge, 1 month after discharge and 3 months after discharge, and showed most significantly after 3 months. *Conclusion:* The effect of functional exercise nursing plan based on evidence-based nursing in patients after hip replacement is remarkable, which can promote the recovery of patients, improve the quality of life, reduce the hospitalization time, reduce the incidence of postoperative complications, and has a positive significance in promoting clinical development

in China.

Keywords: Functional exercise nursing plan; Hip replacement; Postoperative effect

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1 Introduction

In the background of the gradual advancement of China's economic development and the continuous improvement of medical technology, artificial joint replacement technology has developed and matured. However, if the patient cannot be given effective postoperative rehabilitation, it will have an adverse effect on the effectiveness of the corresponding treatment. According to the research data of relevant scholars, early rehabilitation training for hip replacement surgery can promote the surgical effect and ensure the functional recovery of patients, and the rehabilitation plan is an important part to ensure the rehabilitation effect^[1]. Based on this, relevant research is carried out in our hospital, and the analysis is as follows.

2 Information and methods

2.1 General information

A total of 150 patients who underwent hip replacement in the orthopedic second ward of our hospital during the research period from January 2010 to January 2020 were selected as the research object. The random number expression method was applied to achieve grouping of patients. Among them, the control group

received conventional rehabilitation treatment; the experimental group guided rehabilitation exercises according to the functional exercise nursing plan after hip replacement. The number of patients in each group was 75. The number of males and females in all patients was 88 and 62. The age selection range for patients was 46-89 years with an average age of (56.57±3.40). At the same time, the possibility of patients with tumors, cardiovascular and cerebrovascular diseases and cognitive impairment was excluded.

2.2 Research methods

In this study, patients in the control group were given routine rehabilitation guidance, while rehabilitation exercise of patients in the experimental group were guided by the functional exercise care plan after hip replacement surgery. Relevant duty nurses are required to guide the patient's exercise items in accordance with the specific plan on time, and give patients the bedside guidance and supervision they need to ensure that the patients' postoperative care is reasonable, strictly prohibited, scientific and efficient. After the guidance is completed, the duty nurses signed the exercise plan and handed it at the end of the bed to ensure that the patient can effectively communicate with the doctor when there is a problem, which can promote the continuous optimization of functional exercise programs, so that specialist nursing staff can carry out technical guidance work, and the head nurses can provide regular guidance and inspection. It can improve the nurse's sense of responsibility and strengthen the patient's enthusiasm for exercise.

2.3 Observation index

The patient's bed time and the average length of stay in hospital, etc. were compared. The postoperative complications of the patients mainly included prosthesis dislocation, lung infection, constipation, pressure ulcers and deep vein thrombosis of the lower extremities. The total incidence of complications between the two groups was compared.

Compare patients' hip function before surgery, at the time of discharge, 1 month and 3 months after surgery. The Harris hip score is mainly used, and the medical outcome study short scale is applied to evaluate the patients' quality of life. The follow-up method is mainly telephone consultation^[2].

2.4 Statistical methods

Use statistical software SPSS20.0 to perform statistical analysis on the data appearing in this study. The comparison result of the measurement data($x\pm s$) is verified by value t , and the comparison result of the count data (n, %) is verified by value χ^2 . When the result showed $P<0.05$, it indicated that the difference between the groups had statistical analysis value^[3].

3 Result

3.1 Comparison of bed time and hospital stay

Compared with the control group, the bed time (7.45 ± 2.10) days and average hospital stay (15.84 ± 3.29) days of the experimental group were relatively short. The intervention effect was more significant and meaningful.

Table 1. Comparison of bed time and hospital stay of two groups ($\bar{x} \pm s$)

Groups	Bed time(days)	Average hospital stay(days)
experimental group(n=75)	7.45±2.10	15.84±3.29
control group(n=75)	12.20±2.34	20.20±4.95
<i>t</i>	9.094	14.395
<i>P</i>	<0.05	<0.05

3.2 The incidence of complication

The incidence of complications in the experimental group and the control group was 6.67% and 16.00%.

The difference between the two groups was significant, and the experimental group was lower. Details are shown below.

Table 2. The incidence of complication in two groups [n(%)]

groups	prosthesis dislocation	lung infection	constipation	pressure ulcers	deep vein thrombosis of the lower extremities	incidence
experimental group (n=75)	1(1.33)	2(2.67)	1(1.33)	1(1.33)	0(0.00)	5(6.67)
control group(n=75)	3(4.00)	3(4.00)	2(2.67)	1(1.33)	3(4.00)	12(16.00)
χ^2						12.294
<i>P</i>						<0.05

3.3 Comparison of Harris hip score of patients

The difference in Harris hip score before surgery was small, and the difference at discharge and after

discharge was gradually increased, showing better care for patients in the experimental group. Details are shown in the following table.

Table 3. Comparison of Harris hip score of patients ($\bar{x} \pm s$)

groups	before surgery	at discharge	1 month after surgery	3 months after surgery
experimental group(n=75)	56.34±2.10	75.45±3.20	82.20±5.45	88.79±4.30
control group(n=75)	55.04±2.33	70.34±2.30	77.45±4.96	80.95±4.39
<i>t</i>	0.486	3.956	5.964	6.054
<i>P</i>	>0.05	<0.05	<0.05	<0.05

3.4 Comparison of life quality score of the patients

There was no significant difference in preoperative life quality score between the two groups before surgery

($P>0.05$). At discharge, 1 month after discharge and 3 months after discharge, the life quality of the experimental group was significantly higher than the control group especially at 3 months after discharge. The details are as follows.

Table 4. Comparison of life quality score of the patients ($\bar{x} \pm s$)

groups	before surgery	at discharge	1 month after surgery	3 months after surgery
experimental group(n=75)	65.87±4.09	78.78±3.09	88.78±2.15	92.35±3.98
control group(n=75)	66.09±4.98	75.09±3.76	80.08±2.97	82.09±3.65
<i>t</i>	0.086	3.594	6.098	9.898
<i>P</i>	>0.05	<0.05	<0.05	<0.05

4 Discussion

Artificial hip replacement is mainly to use artificial hip joints to replace the original damaged hip joints, so as to restore the patient's health function and improve the patient's life quality. According to the results of relevant data, continuous rehabilitation training which is given to patients during the perioperative period can ensure the effect of surgery and reduce the incidence of complications of patients to ensure the health of patients. Giving patients preoperative functional exercise can promote the effective recovery of patients' joint and muscle functions, promote the success rate

of surgery, ensure the surgical effect, and ensure the functional recovery of patients after surgery^[5]. However, from the current clinical development situation, fatigue and pain and other issues will affect the positiveness of patients' rehabilitation training after surgery, resulting in patients with low awareness and poor compliance. Functional exercise after hip replacement is an important issue that affects the postoperative rehabilitation of patients. If the patient's rehabilitation exercise cannot be carried out in a planned and standardized manner after the surgery, it will affect a lot. At present, there is no relatively complete specification and standard for functional exercise of

hip replacement in China. Under this background, our department provides evidence-based nursing, studies relevant literature methods, and combines the actual situation of patients to design a functional exercise care plan for hip replacement patients to regulate the post-operative exercise of the patient, ensure that the specific implementation process is in the relevant plan, promote the improvement of the relevant plan and specification, and supplement the deficiencies. When applying it clinically, the relevant duty nurses are required to ensure the guidance of patients^[5], and follow the concept of rapid rehabilitation and evidence-based nursing to ensure the rehabilitation guidance of the patient's hip functional exercise care plan. In the specific implementation, the patient's daily exercise content, number and time are specifically regulated, the continuous improvement of the rehabilitation training process is promoted, the scientific and active nature of the relevant clinical nursing work is improved, and a good sense of rehabilitation training for patients is established to improve the compliance of patients with functional exercise plans^[6]. The preoperative functional exercise can improve the patient's ability to adapt to the surgery, ensure that he can actively participate in the relevant rehabilitation training and strengthen the training ability. Postoperative functional exercise can reduce the incidence of postoperative complications of the patient, promote the rehabilitation training of the patient's limb function, shorten the hospital stay of the patient, and reduce patient's overall life quality. When the intervention method was applied in this study, the results showed that: when compared with the control group, the bed time (7.45 ± 2.10) days and average hospital stay (15.84 ± 3.29) days of the experimental group were relatively short, and the incidence of complications in the experimental group and the control group were 6.67% and 16.00%. The data between the two groups was significantly different. The difference in Harris hip score before surgery was small, and

the difference at discharge and after discharge was gradually increased, showing better care effect in the experimental group. And there was no significant difference in preoperative life quality score between the two groups before surgery ($P > 0.05$). The life quality of the patients in the experimental group was significantly higher than that in the control group at the time of discharge, 1 month after discharge and 3 months after discharge, and showed the most significantly at 3 months after surgery.

In summary, functional exercise nursing plan based on evidence-based nursing in patients after hip replacement has a significant effect. It can promote the recovery of patients, improve the life quality, reduce the length of hospital stay and the incidence of postoperative complications, which has a positive significance in promoting clinical development in China.

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