

Positive Role of Standardized Nursing Management on Limb Function after Breast Cancer Surgery

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Abstract: Objective: This study aims to analyze and observe the rehabilitation nursing outcome in the functional recovery of limbs after breast cancer surgery using standardized nursing management measures. Methods: A total of 100 patients underwent breast cancer surgery in our hospital were divided into two groups according to the digital method, among which the control group adopted the conventional hospital method while the nursing group implemented the standardized nursing management on the basis of the treatment of control group. The changes of clinical efficacy have been evaluated in patients between the two groups. Results: Compared with the control group, the overall response rate and satisfaction showed a rising trend in the nursing group. The scores of limb function increased obviously and the improvement was evident. The difference was significant ($P < 0.05$) between the two groups. Conclusion: The outcome of the standardized nursing management is good on limb function recovery after breast cancer surgery. It has actively improved the quality of life of patients and is worthy of clinical promotion.

Keywords: Breast Cancer; Postoperative/Postoperation; Standardized Nursing Management; Limb Function

1. Introduction

Breast cancer is a common malignant tumor in women and its incidence has been increasing year by year recently. In order to accelerate and promote the recovery of the patients, the surgical method is currently used to treat this disease and it has become an important means of enhancing efficacy. In order to relieve various clinical symptoms, simple drug therapy cannot play a corresponding role and unable to reach the relevant efficacy. Domestic modified radical mastectomy is a common treatment method for breast cancer. However, it has a wide range of resection and destroyed the normal blood circulation and lymphatic circulation of the operative limb. It is prone to local scar tissue contracture of the upper limb and lymphedema on the affected limb, even with multiple postoperative complications^[1] such as paralysis and pain, etc. Therefore, the patients must start effective functional exercise in time after operation in order avoid affecting the motion of the shoulder and reducing the self-care ability of daily living. The complex causes of the disease consist of various factors such as unhealthy life styles, environment and overwork, etc.^[2-4]. It may have an adverse impact on the quality of life of patients, including poor self-care ability, difficulties in performing some limb activities normally, high recurrence and high disability. This not only brings pain to elderly patients, but also puts heavy economic and spiritual burden on their families.

Therefore, there is a particularly urgent need for an appropriate and effective treatment method. In order to prevent limb dysfunction in breast cancer patients and effectively promote the rehabilitation of limb function of the body, this paper has implemented the standardized nursing management mode after breast cancer surgery. The incidence of limb

lymphedema decreases. It improves the quality of life with a good clinical outcome.

2. Samples and methods

2.1 Samples

A total of 100 breast cancer patients were selected in our hospital from January 2019 to January 2021 as clinical research subjects. According to the clinical data, all patients met the diagnostic criteria of the disease and were divided into control group and nursing group according to the digital method. Inclusion criteria: Female patients who have been diagnosed with breast cancer, with pathological grades Ia-IIIa; who underwent unilateral breast cancer surgery; who has no preoperative limb dysfunction; and who provided the informed consent and voluntarily participated in the present study. Exclusion criteria: Female patients who have a history of psychosis or taken antipsychotic drugs; who have experienced the distant metastasis, recurrence or organ failure; and who have suffered from important organ disease or other tumors. All the participants have been approved by the hospital Ethics Committee and signed in the informed consent form.

There were 50 patients in the control group, having an age range within 29-63 years and mean age of 45.9 ± 7.9 years, of which 19 patients (38.0%) had an education level of junior high school or below and 31 patients (62.0%) with an diploma of high school/technical secondary school; 11 patients (22%) lived in the rural areas, 17 patients (34%) in the towns and 22 patients (44%) in the cities; 30 patients (60.0%) had a cancer stage of I-II and 20 patients (40.0%) with a cancer stage of III. While there were 50 patients in the intervention group, having an age range within 32-61 years and mean age of 46.2 ± 7.5 years, of which 20 patients (40.0%) had an education level of junior high school or below and 30 patients (60.0%) with an diploma of high school/technical secondary school; 12 patients (24.0%) lived in the rural areas, 15 patients (30.0%) in the towns and 23 patients (46.0%) in the cities; 31 patients (62.0%) had a cancer stage of I-II and 19 patients (38.0%) with a cancer stage of III. General data (age, education level, place of residence and cancer stages, etc.) were compared between the two groups with no statistical significance. The difference was not significant ($P > 0.05$) but comparable.

2.2 Methods of intervention

A routine treatment plan was carried out by medical staff in the control group while the standardized nursing management means for rehabilitation was performed in the nursing group. At the same time, the relevant staff was trained and the training and studying courses about the basic nursing concept, purpose, methods and practical operation skills were conducted in all departments. Standardized training was taken place for all nurses. They learned the knowledge related to breast cancer, made themselves master of essentials of breast cancer rehabilitation gymnastics, knew about the details of the functional exercise plan on the affected limb, and studied various methods to improve patients' compliance, such as in-depth conversation and group counseling, etc.

Implementation of a micro-video mode for rehabilitation gymnastics: A video team was set up for the breast cancer rehabilitation gymnastics. Exercise details and procedures for the improvement of modified radical mastectomy were formulated. After being reviewed by the head of the department, it was personally explained and demonstrated by team members. Three sets of rehabilitation gymnastics were developed upon morning, noon and afternoon according to postoperative rehabilitation time of breast cancer. Each set of rehabilitation gymnastics included two parts: The first part is the purpose, significance, exercise time and matters for attention of breast cancer rehabilitation gymnastics. The second part is to demonstrate the whole movement of rehabilitation gymnastics jointly by three medical personnel. Each set of rehabilitation gymnastics lasted for 15 minutes, with soft and cheerful light music and simple content. It has a highly targeted nature and it is easy to do.

Training time and methods: The standardized limb function exercise started after operation. The limb function exercise was guided by primary nurse every 3 hours from 9 am to 5 pm daily, lasting 15-20 minutes. The collective

rehabilitation exercise was conducted at 4 pm every day, about 0.5 hours each time. Psychological nursing: According to the difference of the patient's age and psychological characteristics, various methods were provided for guidance. Through health education, the patients and their family members were guided to understand the role and significance of body exercises. The oral communication with patients was improved and the functional exercise methods and means were demonstrated at the same time to make the patients much easier to understand.

Psychological rehabilitation nursing: Different nursing methods were implemented according to the psychological characteristics of different patients in different periods based on psychological nursing skills, including targeted intervention and communication, giving encouragement and confidence using friendly language and suggestion. Patients who are discharged from hospital still need to strengthen the intervention and improve their compliance. Early ground exercise shall be avoided after injury in order to make a good recovery of the damaged areas after full recuperation. In a persistent adverse condition, it may affect the curative effect or even aggravate the illness. The nurse shall repeatedly give the patient advice and guidance or cordial and kind smooth communication, so as to remove their self-defense, increases the sense of trust, and strengthens the confidence in disease treatment.

Before communication, nurses have to help patients comprehensively understand their own symptoms and therapeutic regimens and actively cooperate with nursing actions, thereby further promoting the body recovery. The patients shall be informed to continue to carry out functional exercise on the affected limbs, so that the range of motion of limbs and shoulder joints will slowly turn normal. They have to adhere to the exercise. The duration of the exercise is at least 3 times a day, lasting 20-30 minutes each time. The breast cancer rehabilitation gymnastics video shall be uploaded to the platform. Then the nurses communicate with the patients in order to know the patient's exercise and rehabilitation and guide the relatives to supervise the completion on time. Nurses shall help the patients develop a good living habit and give clear and reasonable guidance for their diet, ensuring that they have enough food intakes daily and eat more protein-rich food with more frequent, smaller meals^[5-8].

2.3 Evaluation methods

The efficiency of limb function exercise, limb function recovery and nursing satisfaction were compared between the two groups. According to the Quality Standards of Nursing Services, the satisfaction of the nursing mode is divided into three levels, respectively, including satisfactory, general and unsatisfactory. Satisfaction (%) is the sum of the satisfaction rate and the general satisfaction rate. Excellent limb function exercise is the patient's elbow flexion and arm extension has been significantly improved. The effective limb function exercise is that patient's elbow flexion and arm extension have been improved to some extent. Ineffective limb function exercise means that patients have no significant changes^[9]. Overall response rate = Excellent rate + Effective rate.

The limb function exercise scores in the intervention group and the control group were investigated by the upper limb function assessment scale after operation (before intervention), 1 month and 3 months after operation. The scale consists of 30 items, which are divided into 5 levels, with a score of 0-5^[10]. The scale has good reliability and validity in the application among breast cancer patients. Its Cronbach coefficient is 0.94. The lower the total score of the scale is, the better the recovery after limb function exercise will be^[10].

2.4 Statistical methods

The statistical data were analyzed and compared using SPSS20.0 statistical software between the two groups after treatment. The measurement data adopted the t test and expressed by mean±standard deviation ($\bar{x}\pm s$) while the enumeration data used the X² test and expressed by rate (%). If the $P < 0.05$ between the two groups, it indicates that the difference is significant.

3. Results

3.1 Comparison of postoperative limb function recovery scores

The efficacy of the patients is shown in Table 1. From the data we can see that there are 50 patients in the nursing group. Their postoperative limb function recovery scale score is 65.7 ± 7.3 . Compared with the postoperative limb function recovery scale score (73.6 ± 6.2) in the control group, the efficacy of the nursing group is therefore significantly improved and significantly better than that of the control group with a great difference. The difference is significant ($P<0.05$) between the two groups.

Table 1. Comparison of postoperative limb function recovery scale scores between the two groups

Groups	n	Postoperation (before intervention)	One month after operation	Three months after operation
Nursing group	50	99.9 ± 12.9	70.8 ± 6.3	65.7 ± 7.3
Control group	50	98.8 ± 14.9	83.3 ± 7.3	73.6 ± 6.2
t	—	0.408	9.125	5.837
P	—	0.684	< 0.001	< 0.001

3.2 The efficiency of limb function exercise

See Table 2 for the efficacy between the two groups. From the data, the overall response rate of the control group is 74%. The overall response rate of the nursing group is up to 92% after working out the improvement of limb function recovery and 18% higher than that of the control group. An analysis of the results reveals that the effect of nursing intervention is more obvious and significant ($P<0.05$).

Table 2 Comparison of clinical efficacy between the two groups

Groups	n	Excellent	Effective	Ineffective	Overall response rate (%)
Nursing Group	50	29	17	4	92%
Control group	50	21	16	13	74%
X ²	6.333				
P	0.042				

Post-treatment comparison between the two groups, $P < 0.05$.

3.3 Satisfaction of nursing

See Table 3 for nursing satisfaction of the two groups. The satisfaction reaches 96% after implementing the intervention in the nursing group compared only 70% in the control group. The satisfaction increased by 26% in the nursing group. The difference in satisfaction is significant between the two groups, and intergroup analysis shows significantly ($P<0.05$).

Table 3 Comparison of satisfaction of nursing survey results

Groups	n	Satisfied	General	Unsatisfied	Satisfaction (%)
Nursing Group	50	38	10	2	96
Control group	50	23	12	15	70
X ²	15.161				
P	0.001				

4. Discussion

Breast cancer is a common malignant tumor in women. According to relevant studies, breast cancer accounts for a large proportion of all malignant tumors in China. Moreover, it is on the rise year on year and seriously threatens the health of most women. Postoperative period is the best time to improve the patient's shoulder joint motion, during which the patients may exercise^[10] more effectively. Application of standardized management of functional exercise can strengthen the functional exercise after breast cancer surgery. The patients shall be supervised and inspected to do different types of rehabilitation exercises in time. After the operation, the long muscle exercise shall be carried out through making a plan to move the wrist and the affected upper limb. The patients should be carefully guided with the shoulder joint movement according to their own wound healing, subcutaneous effusion, flap healing and other conditions. It will promote the patient's blood circulation to a certain extent.

Postoperative nursing intervention for patients may effectively reduce the risk of recurrence and complications. Effective nursing measures will enhance the kinetic exercise and play an important role in postoperative quality of life^[11]. In the process of postoperative physical function exercise, reasonable nursing intervention measures should be conducted based on their actual diseases, psychological and behavioral conditions. More concerns shall be given to improve the awareness of the patients about their condition and physical exercise, and establish the confidence in prognosis and recovery. The implementation of targeted functional behavior exercise can improve the compliance of the patients with functional exercise and reduce the edema, thereby effectively improving their quality of life. It is also important to carry out scientific and reasonable rehabilitation training after breast cancer surgery. Nurses shall develop rehabilitation training according to their recovery condition. Psychological support and cognitive guidance should be given at the same time of rehabilitation training in order to improve their compliance^[12-14] with training, thus helping the patients recover, improving their comfort and quality of life, accumulating more experience in clinical practice, and providing better services for patients^[15].

After using a standardized nursing management method in the present study, the results reveal that the efficiency and satisfaction in the nursing group are significantly higher than those in the control group. The limb function scores increase in nursing groups and the patients' symptoms have been significantly improved. It shows that the nursing management measures are beneficial to improve the recovery of limb function, reduce related complications, and effectively improve the quality of life. It is worthy of reference clinically.

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