

Study on Home Management of Preventing Edema after Operation of Breast Cancer

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Keywords: Keywords: Breast cancer, lymphedema, postoperative rehabilitation, home exercise management.

Abstract: The paper selected from January 2019 to June 2020 to conduct individualized face-to-face in-depth interviews with breast cancer patients who have been doing home exercises for upper limb lymphedema more than 3 times a week, and analysed the data using content analysis. The purpose of this operation is to describe the home exercise rehabilitation experience of breast cancer rehabilitation patients to prevent upper limb lymphedema, and to provide feasible and operable home exercise rehabilitation information for clinical medical staff to guide the exercise rehabilitation program of breast cancer patients after discharge from the hospital. The study found that including 100 interviewees who can provide rich experience, extract the exercise experience of breast cancer rehabilitation patients to prevent upper extremity lymphedema, including exercise type, name, time, frequency, intensity, precautions and detailed actionable Sexual home sports rehabilitation experience. This study refines and describes the exercise rehabilitation experience of breast cancer rehabilitation patients to prevent upper extremity lymphedema, enriches and refines the current behavioural guidelines for breast cancer rehabilitation patients to prevent upper extremity lymphedema, and helps to deepen the medical staff's prevention of upper limb lymphedema for breast cancer rehabilitation patients The understanding of the actual situation of lymphedema provides reference materials for medical staff to develop preventive intervention measures for lymphedema.

1. Introduction

Postoperative lymphedema of breast cancer (BCRL) is caused by surgery or radiotherapy that hinders the transport capacity of the lymphatic system, causing lymphatic fluid to accumulate in the tissues. It is one of the most serious complications of breast cancer. About 20% of breast cancer operations occur each year. Later, the patient will develop BCRL. Studies have shown that the incidence of BCRL reaches 75% within 2 years. Accompanied by physical discomfort and arm disability, it will cause a decline in the quality of life, requiring long-term life-long treatment. The guidance on home sports rehabilitation is relatively general, no specific guidance on sports rehabilitation is given, and the principles and precautions in sports are not mentioned [1]. Clinical medical staff generally lack practical experience and reference evidence for home exercise rehabilitation guidance for the prevention of lymphedema. Therefore, home exercise rehabilitation

guidance for discharged patients appears vague and lacking in persuasiveness. In the process of preventing postoperative edema of breast cancer, exercise rehabilitation is realized in family management.

2. Materials and methods

2.1 General information

The thesis selected as the research object the postoperative review in the breast department of two tertiary first-class hospitals from January 2019 to June 2020. A total of 100 subjects were included in the study. Inclusion criteria: postoperative pathological diagnosis of breast cancer; no serious respiratory or circulatory system diseases; normal circumference of the affected limb before surgery and normal activities; clear consciousness; patient informed consent; approved by the ethics committee of this hospital [2]. Exclusion criteria: breast cancer metastasis; skin infection of the affected limb; lymphedema caused by reasons other than surgery; deep vein thrombosis of the affected limb.

2.2 Investigation method

The paper adopts the method of anonymous questionnaire survey, and the investigator is a member of the research team. After the investigator has made a unified explanation, it shall be completed by the investigator independently on the spot; for those who cannot fill in by himself, the investigator shall interpret to him one by one and record the answer [3]. The investigator retrieved it on the spot and checked whether it was completely filled in to ensure the validity of the questionnaire. Distribute 100 questionnaires.

2.3 Observation indicators

2.3.1 Lymphedema of the affected limb

We use the circumference measurement method to judge, divided into the following three levels: for mild edema, the increase in the healthy side circumference is less than 3cm, for moderate lymphadenopathy, increase by 3-5cm, and for neutral lymphadenopathy, increase by more than 3cm. 5cm is a large amount of severe lymph node swelling. Figure 1 shows the grade of lymphedema. In severe cases, the joints of the hands will swell.



Figure 1: The grade of lymphedema.

2.3.2 The functional recovery of the affected limb

We evaluated based on the ROM joint mobility evaluation criteria, including shoulder introversion, shoulder abduction, shoulder lift, and shoulder extension. The larger the angle, the better the recovery.

2.4 Statistical methods

We use RevMan 5.3 software for Meta-analysis. The relative risk (RR) and its 95% confidence interval (95% CI) were used for the count data in the main outcome indicators, and the mean difference (MD) and its 95% CI were used as the indicator analysis statistics for the continuous variables. The χ^2 test and the heterogeneity index (I²) were used to analyse the statistical heterogeneity among the studies. The studies with good homogeneity (P>0.10, I²<50) were used for Meta-analysis using a fixed-effects model; if statistics exist Heterogeneity (P<0.10, I²≥50%) first analyse the source of heterogeneity, and if necessary, perform sensitivity analysis or subgroup analysis. If there is no obvious clinical heterogeneity among the studies, a random effects model can be used for combined analysis [4]. If the heterogeneity is too large and the source cannot be determined, a descriptive analysis is performed.

3. Results

3.1 General data analysis

The 100 study subjects were all females, aged 29-82 years old, with an average age of (57.62±6.35) years old. It is shown in Table 1.

Table 1: Basic information of research objects

Project	Classification	n	Composition ratio/%
Gender	Female	100	100
Age	20-40 years old	11	11
	40-50 years old	23	23
	50-60 years old	37	37
	>60 years old	29	29
Marital status	unmarried	14	14
	married	75	75
	Divorced or widowed	11	11
Working conditions	On-job	43	42
	Not working or retired	28	28
	housewife	29	29
Education	Junior high school and below	21	21
	High school	34	34
	Junior college	31	31
	Undergraduate	11	11
	Master degree and above	3	3
Character	Active	62	62
	Negative	38	38
Tumour site	Left breast	47	47
	Right breast	37	37
	Bilateral breasts	16	16

3.2 The subjects' mastery of knowledge related to lymphedema

3.2.1 The knowledge of age and lymphedema

People with high awareness of postoperative complications of breast cancer are mainly concentrated in the 40-60 years old, and the awareness rate is above 70%. The awareness rates of patients aged <40 or >60 about postoperative complications of breast cancer is respectively 63.6% and 51.7%. In the awareness of the clinical manifestations of lymphedema, the awareness of people aged 50 to 60 is better than that of other age groups, with an awareness rate of 56.8%. In terms of risk factors for lymphedema and related knowledge of nursing measures, people aged 40 to 50 have a better grasp of the situation, and the awareness rate of risk factors is 69.6%, which is significantly higher than that of other age groups ($P < 0.05$). It is shown in Table 2.

3.2.2 The level of education and the knowledge of lymphedema

The knowledge of lymphedema-related knowledge of people with middle and higher education level is relatively better than that of people with elementary school education and below, but the difference is not statistically significant ($P > 0.05$). It is shown in Table 2.

Table 2: Awareness of the subjects' knowledge about lymphedema

Project	Classification	n	Lymphedema	Treatment	Risk factors	Nursing measures
Age	20-40 years old	11	2(18.2)	2(18.2)	4(36.4)	6(54.5)
	40-50 years old	23	11(47.8)	11(47.8)	16(69.6)	15(65.2)
	50-60 years old	37	19(51.4)	15(40.5)	18(48.6)	19(51.4)
	> 60 years old	29	12(41.4)	9(31.0)	4(13.8)	9(31.0)
Marital status	unmarried	14	1(7.1)	2(14.3)	4(28.6)	5(35.7)
	married	75	38(50.7)	31(41.3)	33(44.0)	40(53.3)
	Divorced or widowed	11	5(45.5)	4(36.4)	5(45.5)	4(36.4)
Working conditions	On-the-job	43	18(41.9)	15(34.9)	14(32.6)	24(55.9)
	Not working or retired	28	17(60.7)	16(57.1)	21(75.0)	16(57.1)
	housewife	29	9(31.0)	6(20.7)	7(24.1)	9(31.0)
Education	Junior high school and below	21	5(23.8)	3(14.3)	5(23.8)	6(28.6)
	High school	34	13(38.2)	11(32.4)	9(26.5)	16(47.1)
	Junior college	31	19(61.3)	17(54.8)	19(61.3)	17(54.8)
	Undergraduate	11	5(54.5)	5(54.5)	7(63.6)	8(72.7)
	Master degree and above	3	2(66.7)	1(33.3)	2(66.7)	2(66.7)
Character	Active	62	34(54.8)	19(30.6)	19(30.6)	24(38.7)
	Negative	38	10(26.3)	18(47.4)	23(60.5)	25(65.8)

3.3 Analysis of home movement

3.3.1 Local upper limb movement

Local upper extremity exercise refers to the movement of upper extremities, mainly including stretching exercises and massaging of the affected limbs. Stretching exercises mainly include arm lifting, abduction, forward pushing, external rotation, internal rotation, etc. The main purpose is to expand and restore the shoulder extension range of the affected limb, reduce local adhesions caused by surgical scars, and promote cell growth and Tissue repair, improve the discomfort symptoms of upper limbs after surgery [5]. Respondent 1 said: "I have participated in breast cancer promotion and learned a set of rehabilitation exercises for breast cancer recovery, which is a relatively simple lifting and stretching exercise." Massage activities refer to raising the swollen limbs above the level of the heart. The therapist or family member performs massage in a slow, gentle and specific sequence, from

the distal end to the proximal end of the limb gently. 10-15min each time, 3-4 times a day, mainly to help the lymphatic fluid drain through the undamaged lymphatic vessels, thereby alleviating the slight swelling of the limbs. Respondent 2 said: "I received lymphatic conservative treatment after the operation. I followed the massage technique taught by the doctor. The effect was very good. My family will also learn to massage for me."

Respondents suggested that it is appropriate to "not feel tired". Respondent 8 said: "At the beginning of exercise, I will feel the degree of fatigue, and then slowly extend the exercise time." Respondent 9 said: "Be careful not to be tired, not to force yourself to do it."

3.3.2 The effect of aerobic exercise on the recovery of edema after breast cancer surgery

Aerobic exercise refers to exercise performed by the human body under sufficient oxygen. In this state, the energy provided by the body comes from the oxidation of sugar and fat in the cells. 1g of glucose is completely oxidized to produce 38 ATP energy, thereby ensuring a continuous supply of energy for exercise, which can effectively ensure the balance between the absorption and utilization of oxygen in the body [6], and you can use aerobic exercise for most of the body's muscle groups. Exercise types, such as walking, jogging, etc., can effectively increase the speed of blood flow in the body, promote cell metabolism, and improve the ability of cell tissue repair. This has a very positive effect on preventing edema after breast cancer surgery. The patient is in the family It is possible to gradually increase the amount of activity through a step-by-step method, which is also a very effective strategy for preventing postoperative edema of breast cancer.

4. Discussion

At present, radical mastectomy is still widely used as a more effective option for the treatment of breast cancer, and the necessary surgical procedure is to clean the axillary lymph nodes, which will lead to the formation of lymphatic drainage obstacles in the affected upper limbs and eventually induce lymphedema. Lymphedema is the most common complication after breast cancer surgery. Relevant statistics show that this complication has an incidence of as high as 32% to 93%. Patients not only need to bear the resulting abnormal appearance, repeated infections, and fatigue [7]. Waiting for pain, at the same time, the quality of life will go from bad to worse, and it may even lead to lifelong disability. Therefore, postoperative rehabilitation is of great significance for optimizing the treatment effect and promoting the recovery of the patient's prognosis.

Studies have shown that in addition to breast cancer surgical treatment factors, exercise rehabilitation of the affected limbs of breast cancer patients is a protective factor for the occurrence of lymphedema. The incidence of lymphedema in patients who do not take exercise at home is about 1.24 times that of those who exercise regularly. Early postoperative functional exercises for breast cancer rehabilitation patients can not only help restore the function of the limbs, avoid the adhesion of the wound after the operation, but also promote the return of blood and lymph fluid of the upper limbs, reduce the swelling of the limbs, and are used in the daily life of breast cancer patients. Plays an important role in it.

5. Conclusion

This study uses a qualitative and descriptive method to explore the exercise rehabilitation experience of patients with upper extremity lymphedema after breast cancer surgery, reproduce the details of exercise rehabilitation for patients after breast cancer surgery, and summarize some rules based on the patient's exercise rehabilitation practice. However, the effects of these sports rehabilitation projects still need to be developed and verified by the interventional research design in quantitative research, so as to form a relatively mature home sports rehabilitation program suitable

for such rehabilitation patients for clinical promotion and application.

Acknowledgements

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