



The Effect of Health Belief-Based Comprehensive Rehabilitation Nursing on GSES Scores and Quality of Life in Postoperative Breast Cancer Patients

Xiaomeng Jiao

Peking Union Medical College Hospital, Beijing, China

Abstract: Objective: To analyze the application value of health belief-based comprehensive rehabilitation nursing integrated with medical care for postoperative breast cancer patients. Methods: Sixty postoperative breast cancer patients admitted to the hospital from January 2024 to December 2024 were selected as study subjects and randomly divided into two groups using a random number table. The control group (n=30) received routine nursing, while the study group (n=30) received health belief-based comprehensive rehabilitation nursing. Nursing outcomes of the two groups were observed. Results: The study group showed higher self-efficacy scores than the control group, higher scores in all dimensions of quality of life, lower incidence of complications, and higher nursing satisfaction than the control group, all with $P < 0.05$. Conclusion: Health belief-based comprehensive rehabilitation nursing for postoperative breast cancer patients helps improve patients' self-efficacy, significantly enhances quality of life, reduces the occurrence of complications, and increases patient satisfaction, demonstrating good feasibility and value.

Keywords: health belief; comprehensive rehabilitation nursing; breast cancer; GSES score; quality of life

1. Introduction

Breast cancer is a malignant tumor with a high incidence in clinical practice. In recent years, the disease has shown a trend of affecting younger populations, seriously impacting the physical health and quality of life of female patients. Untimely treatment increases the risk of death. Surgery is a key treatment for breast cancer; removing the diseased tissue through surgery can prevent disease progression [1]. However, surgical procedures are invasive and cause mechanical injury. Surgical traction and stress stimulation can lead to postoperative upper limb edema, temporary limitation of shoulder joint function, and increased pain. In addition, some surgeries primarily involve partial removal of breast tissue, resulting in altered breast morphology. Patients may experience severe anxiety and depression, leading to decreased self-efficacy and reduced quality of life after surgery [2]. The health belief model is a novel nursing approach that emphasizes an individual's perception of disease threat, recognition of the benefits of behaviors, and awareness of the importance of self-efficacy. It focuses on transforming incorrect lifestyle behaviors through health rehabilitation beliefs to establish good rehabilitation behaviors. Integrating the health belief model into comprehensive rehabilitation nursing allows for analysis of patients' nursing characteristics and rehabilitation needs based on their actual situation, providing comprehensive rehabilitation guidance. This approach has significant value for patients' physiological, psychological, and self-efficacy outcomes. This study selected 60 postoperative breast cancer patients admitted to the hospital from January 2024 to December 2024 to analyze the feasibility of applying this nursing program, as detailed below.

2. Materials and Methods

2.1 General Data

Sixty postoperative breast cancer patients admitted to the hospital from January 2024 to December 2024 were selected as study subjects and randomly divided into two groups using a random number table. The control group (n=30) received routine nursing, while the study group (n=30) received health belief-based comprehensive rehabilitation nursing. The control group was aged 33–80 years, with a mean age of (55.27 ± 12.96) years, disease duration of 1–10 months, mean (5.12 ± 1.25) months, and body weight of 48–78 kg, mean (62.25 ± 2.52) kg. The study group was aged 33–71 years, with a mean age of (49.33 ± 10.88) years, disease duration of 1–10 months, mean (5.06 ± 1.33) months, and body weight of 48–75 kg, mean (62.41 ± 2.55) kg. Baseline characteristics showed no significant differences ($P > 0.05$). Participants provided informed consent, and the study did not violate medical ethics.

Inclusion criteria: ① Meeting the diagnostic criteria for breast cancer; ② Meeting indications for surgical treatment; ③

Normal communication ability;^④ Age over 18 years;^⑤ Accepting medical observation and follow-up.

Exclusion criteria:^① Presence of other malignant tumors;^② Organ dysfunction;^③ Mental or cognitive disorders;^④ Severe postoperative complications.

2.2 Methods

The control group received routine nursing, which mainly included: monitoring changes in patients' physiological indicators after surgery, especially the condition of the incision, such as bleeding or infection; regularly changing wound dressings to keep the area around the incision clean and tidy; standardizing the use of prosthetic breasts; assisting patients in adjusting body posture to prevent local tissue compression caused by a single posture; providing basic rehabilitation guidance within 24 hours postoperatively, including fist clenching, finger joint exercises, and elbow joint exercises; verbally informing patients about important aspects of postoperative rehabilitation, such as diet and medication; and for patients with negative emotions, patiently listening, using positive language to persuade and encourage, and avoiding exacerbation of adverse emotions.

The study group received health belief-based comprehensive rehabilitation nursing. A nursing team was established, consisting of breast surgeons, specialized nurses, rehabilitation therapists, and psychological counselors, with clearly defined roles for each member. Within 24 hours postoperatively, patients' conditions were assessed using the Health Belief Assessment Scale, including awareness of postoperative complications, perceived benefits of rehabilitation behaviors, rehabilitation barriers, and self-efficacy. Comprehensive rehabilitation nursing was implemented targeting these weak areas, with a rehabilitation guidance period of three months. Specific interventions included: (1) Using face-to-face explanations and case sharing to inform patients about upper limb edema in the absence of active rehabilitation nursing, helping them understand the impact of upper limb edema and shoulder joint dysfunction on quality of life, thereby enhancing awareness of disease rehabilitation. (2) Introducing patients to the effects of rehabilitation behaviors on upper limb function recovery. For example, during shoulder joint activity training, continuous training for 30 days can increase shoulder joint mobility, and scientific lymphatic drainage massage can improve most cases of upper limb edema, enhancing patients' recognition of rehabilitation behaviors. (3) Addressing pain and fatigue during rehabilitation according to patients' actual conditions. For severe pain, analgesic medications were used; for mild pain, non-pharmacological methods such as music therapy and muscle relaxation therapy were applied. For rehabilitation fatigue, training times were adjusted to 3–4 sessions per day, 10–15 minutes per session, with family members invited to participate in the rehabilitation process to provide emotional support. (4) Inviting patients to participate in their own rehabilitation training plans, with one-on-one guidance from rehabilitation therapists. Early rehabilitation guidance was provided on postoperative days 1–3, including finger and wrist flexion and extension exercises, 5–10 minutes per session, three times per day. On days 4–7, forearm rotation, elbow flexion and extension, and deep breathing exercises were added, 10 minutes per session, three times per day. At two weeks postoperatively, shoulder joint exercises such as flexion, extension, and abduction were strengthened. As patients adapted, the range of motion was gradually increased, three times per day, with incorrect training behaviors corrected promptly. Patients with good postoperative rehabilitation were organized to share experiences with others, and patients were encouraged to keep rehabilitation diaries to record progress, enhancing self-efficacy. (5) After discharge, telephone follow-ups were conducted twice per week, and WeChat video guidance on daily precautions was provided once per week to standardize patients' post-discharge behaviors.

2.3 Observation Indicators

(1) Self-efficacy of the two groups: Assessed using the General Self-Efficacy Scale (GSES), which includes 10 items, 4 points per item, total score 10–40, with higher scores indicating better outcomes.

(2) Quality of life of the two groups: Assessed using the Functional Assessment of Cancer Therapy-Breast (FACT-B) scale, including physical status, social/family status, emotional status, functional status, and additional concerns, each scored out of 100, with higher scores indicating better outcomes.

(3) Complications of the two groups: During rehabilitation, the incidence of upper limb edema, infection, and limited shoulder joint mobility was recorded.

(4) Satisfaction of the two groups: Evaluated by the department using a self-designed questionnaire. Scoring and classification: 0–59 points (dissatisfied), 60–89 points (basically satisfied), 90–100 points (satisfied). Satisfaction rate = 1 – dissatisfaction rate.

2.4 Statistical Methods

SPSS version 25.0 software was used. Measurement data were tested using t-tests and expressed as mean±standard

deviation ($\bar{x}\pm s$); count data were tested using χ^2 and expressed as n (%); rank-sum tests were used for ordinal data. Differences were considered statistically significant at $P<0.05$.

3. Results

3.1 Comparison of Self-Efficacy Between the Two Groups

The study group had higher self-efficacy scores than the control group ($P<0.05$), as shown in Table 1.

Table 1. Comparison of Self-Efficacy Between the Two Groups ($\bar{x}\pm s$, points)

Group	n	Before Nursing	After Nursing
Control	30	21.25±3.15	26.55±3.48
Study	30	20.28±3.45	32.56±4.11
t-value	-	1.137	6.112
P-value	-	0.260	0.000

3.2 Comparison of Quality of Life Between the Two Groups

The study group had higher scores in all dimensions of quality of life than the control group ($P<0.05$), as shown in Table 2.

Table 2. Comparison of Quality of Life Between the Two Groups ($\bar{x}\pm s$ points)

Group	n	Physical Status		Social/Family Status		Emotional Status		Functional Status		Additional Concerns	
		Before	After	Before	After	Before	After	Before	After	Before	After
Control	30	45.25±6.77	60.36±7.85	50.11±7.22	63.25±6.89	38.45±6.25	60.58±7.25	42.23±7.11	62.69±7.88	35.66±6.45	48.59±7.56
Study	30	44.85±6.51	72.58±8.15	49.85±7.02	79.55±7.52	37.58±6.11	71.25±7.56	41.85±6.89	72.58±8.12	35.58±6.32	65.58±7.88
t-value	-	0.233	5.915	0.141	8.754	0.545	5.579	0.210	4.787	0.049	8.522
P-value	-	0.816	0.000	0.888	0.000	0.588	0.000	0.834	0.000	0.961	0.000

3.3 Comparison of Complications Between the Two Groups

The incidence of complications in the study group was lower than that in the control group ($P<0.05$), as shown in Table 3.

Table 3. Comparison of Complications Between the Two Groups (%)

Group	n	Upper Limb Edema	Infection	Limited Shoulder Joint Mobility	Total Incidence
Control	30	2(6.67)	1(3.33)	1(3.33)	4(13.33)
Study	30	0(0.00)	0(0.0)	0(0.00)	0(0.00)
χ^2 -value	-	-	-	-	4.286
P-value	-	-	-	-	0.038

3.4 Comparison of Nursing Satisfaction Between the Two Groups

The nursing satisfaction in the study group was higher than that in the control group ($P<0.05$), as shown in Table 4.

Table 4. Comparison of Nursing Satisfaction Between the Two Groups (%)

Group	n	Satisfied	Basically Satisfied	Dissatisfied	Satisfaction Rate
Control	30	9(30.00)	13(43.33)	8(26.67)	22(73.33)
Study	30	12(40.00)	16(53.33)	2(6.67)	28(93.33)
χ^2 -value	-	-	-	-	4.320
P-value	-	-	-	-	0.038

4. Discussion

The postoperative rehabilitation process of breast cancer is long and complex and is highly correlated with patients' self-efficacy and health beliefs. Traditionally, postoperative care for breast cancer mainly provides basic nursing guidance, with limited rehabilitation effects. Patients' subjective participation is reduced, leading to slow improvement in postoperative quality of life. Health belief-based comprehensive rehabilitation nursing, as a novel nursing model, can formulate rehabilitation nursing plans for patients based on the health belief theory, assess factors affecting patients' rehabilitation motivation, and improve measures to ensure the feasibility of the nursing program.

The results of this study showed that the self-efficacy scores of the study group were higher than those of the control group ($P < 0.05$). The reason may be that, in the implementation of the health belief theory, weak areas of patients' self-efficacy are clearly identified, and stage-specific rehabilitation goals are set according to different rehabilitation phases. When patients achieve these goals, their sense of accomplishment enhances self-confidence in rehabilitation, and the use of rehabilitation diaries further strengthens self-efficacy [3]. In addition, during rehabilitation nursing, rehabilitation therapists guide patients in correct rehabilitation behaviors through face-to-face and one-on-one instruction, standardizing patients' rehabilitation practices. Organizing patients with ideal rehabilitation outcomes to share their experiences helps other patients realize that they too can achieve good rehabilitation results through effort. Quality of life, as a key indicator for evaluating postoperative rehabilitation in breast cancer, is a complex concept encompassing multiple dimensions, including physical, psychological, and social aspects. The results of this study showed that the study group scored higher than the control group in physical status, social/family status, emotional status, functional status, and additional concerns ($P < 0.05$). This may be because health belief-based comprehensive rehabilitation nursing ensures systematic care, accelerating upper limb function recovery during training and preventing postoperative upper limb edema, thereby significantly improving patients' self-care abilities. Early training focused on finger and wrist exercises, mid-stage training added elbow exercises, and late-stage training included shoulder exercises, progressively improving upper limb function. During nursing, family members were actively encouraged to participate in patients' rehabilitation to provide supervision and emotional support, and patients were encouraged to engage in social activities. Psychological counselors guided patients in managing negative emotions and corrected previous misconceptions about rehabilitation, improving negative emotional states; specific interventions included meditation or progressive muscle relaxation training [4]. Through multidimensional rehabilitation guidance, patients' disease awareness and recognition of rehabilitation behaviors were effectively strengthened, enhancing the level of attention to additional aspects of quality of life.

The occurrence of upper limb edema, shoulder joint mobility limitation, and infection is relatively high after breast cancer surgery, affecting postoperative rehabilitation and increasing patient discomfort. The results of this study showed that the incidence of complications in the study group was lower than that in the control group ($P < 0.05$). This may be because, during health belief-based comprehensive rehabilitation nursing, rehabilitation training can enhance joint mobility and function, and improved blood circulation can reduce the occurrence of upper limb edema. Close monitoring of patients' conditions and the implementation of proactive complication-prevention care ensure the safety of postoperative rehabilitation [5]. In addition, from the perspective of nursing satisfaction, the study group had higher satisfaction than the control group ($P < 0.05$), indicating that health belief-based comprehensive rehabilitation nursing leads to higher patient satisfaction. Compared with routine nursing, this approach emphasizes transforming patients' health beliefs and enhancing self-efficacy. Its patient-centered approach better meets patients' nursing needs. However, this study was conducted at a single center with a small sample size, which limits the generalizability of the results. Furthermore, long-term postoperative rehabilitation outcomes were not followed up, so the potential benefits of this nursing approach were not fully explored. Further in-depth research is needed in future studies.

In summary, the postoperative recovery of breast cancer is relatively long. Implementing health belief-based comprehensive rehabilitation nursing during the nursing period achieves overall ideal effects, enhancing patients' self-efficacy, improving quality of life, reducing the incidence of postoperative complications, and achieving high patient satisfaction. The nursing approach demonstrates good feasibility and is recommended for implementation.

References

- [1] Zhang Hongyan, Wang Qi, Zhao Pei, et al. Effects of Follow-up Management Mode on Psychological Resilience and Self-Efficacy in Postoperative Breast Cancer Patients [J]. *International Journal of Psychiatry*, 2024, 51(05): 1659-1662.
- [2] Han Yueyuan, Jin Cuifeng, Xu Haiping. Effects of Satir Model Nursing Intervention on Psychological Status and Self-Efficacy of Breast Cancer Patients [J]. *Chinese Medical Herald*, 2023, 20(18): 147-150.

- [3] Guo Fengxian. Effects of Internet-Based Continuity Care on Disease-Related Knowledge, Cancer-Related Fatigue Scores, and QOL Scores in Breast Cancer Patients [J]. *Jiangxi Medical Journal*, 2023, 58(06): 741-744+771.
- [4] Zhang Yingying, Tan Liping. Effects of Resilience-Enhancing Interventions on Postoperative Resilience and Self-Efficacy in Elderly Breast Cancer Patients [J]. *Geriatric Medicine and Health Care*, 2024, 30(03): 645-649.
- [5] Wang Guiling. Effects of Comprehensive Nursing Intervention on Psychological Status and Treatment Compliance of Breast Cancer Chemotherapy Patients [J]. *Marriage, Fertility and Health*, 2024, 30(07): 121-123.