Matte Analysis of Self-management Model of Chronic Disease in Breast Cancer Patients

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Abstract

To explore the clinical intervention effect of self-management model on chronic breast cancer patients and provide practical reference for the implementation of self-management model. By searching the key words of "breast cancer" and "chronic disease self-management" in major medical databases such as CNKI, Wanfang Medical Network, and VIP Journal Network, we screened randomized controlled studies on the effect of self-management behavior intervention on chronic diseases of breast cancer patients, and analyzed the local indicators with Review manager 5.3 software. Through meta-analysis, it was found that the implementation of five research intervention strategies for breast cancer patients in the short term after surgery (including one month within one month) had statistical significance on the effectiveness of self-management behavior of breast cancer patients in the short term after surgery. Among them, the intervention effect of sunshine service nursing path [95% CL=14.98 (11.67, 14.86), P<0.00001] was superior to the intervention strategies in other four articles. The intervention strategies in the five literatures can help improve the self-management ability of patients with breast cancer after surgery to varying degrees. Among the intervention strategies within one month, the sunshine nursing path has the best effect on improving the self-management ability of patients.

Keywords

Breast cancer, Chronic disease, Self-management, Matte analysis

1. Introduction

The breast is an important organ of women and also a frequent part of diseases. According to statistics, the global incidence rate of breast cancer accounts for 25% of female malignant tumors, ranking first in female malignant tumors. Although the incidence rate of breast cancer is on the rise, with the continuous improvement of people's health awareness and the realization of the concept of "early detection, early diagnosis, and early treatment", NCCN's guidelines and norms for the diagnosis and treatment of breast cancer are becoming more and more perfect, and its mortality is significantly reduced. The self-care ability and self-management level of patients are directly related to their future rehabilitation, and are important means to improve the curative effect and prognosis of patients with malignant tumors [1]. In order to make breast cancer patients have better quality of life in the ideal survival period, further psychological adjustment, rehabilitation function exercise, and healthy lifestyle guidance are needed. Due to the lack of planning, continuity and pertinence in the traditional health education model, as well as the fact that clinical nurses are faced with a shortage of staff, high work pressure and poor working environment, health education is easy to become a mere formality. To find a scientific model that can meet the needs of patients with breast cancer, improve their awareness of disease, effectively promote rehabilitation, reduce complications and
strengthen their own management is the problem we are facing at present. At present, this "self-management" model has been widely used in the field of nursing, the most typical of which is the self-management project proposed by Kate Lorig, the patient education research center of Stanford University in the United States, including the self-management of symptoms, emotions, behaviors and disease-related knowledge. Domestic and foreign literature research shows that there are different intervention measures that affect the formation of self-management behavior after breast cancer surgery, but the review of domestic and foreign literature did not find a systematic evaluation of the effectiveness of different intervention strategies [2]. This article uses the meta analysis method to explore the effect of intervention strategies for the self-management behavior of patients after breast cancer surgery, so as to provide a basis for promoting the selection of intervention strategies for the self-management behavior of patients after breast cancer surgery in clinical nursing work, so as to improve the quality of life of patients.

2. Data and methods

2.1 Document inclusion criteria

Chinese and English literatures: (1) Randomized controlled study. (2) Strategies to improve the self-management ability of patients with breast cancer after surgery. Intervention strategies include nursing and psychology related interventions, including symptom management, case management, continuous nursing, self-management education, decompression psychological nursing, and cancer care strategies. The conventional strategy was the control group. Patients with breast cancer after operation. (3) Outcome indicators: the main outcome indicator self-efficacy reflected the level of self-management ability of patients after breast cancer surgery.

2.2 Literature screening and data extraction

All the documents were imported into the Endnote X6 software. Two people independently screened the title and abstract. All the documents included after the preliminary screening were screened again after reading the full text. If there was any objection to the documents, consensus was reached through negotiation [3]. The extracted data include: the first author and the years of publication, the type of study included, the inclusion and exclusion criteria, the total sample size, the effective sample size of intervention, outcome indicators, and the methodological quality evaluation indicators of the study included. Flow chart of literature screening and inclusion (see Figure 1).

2.3 Retrieval strategy

The computer searches Pub Med, EMBASE, the Cochrane Library, CNKI, Wanfang, and the Chinese Biomedical Literature Database, supplemented by manual work, and uses the snowball method to further search the references included in the literature [4]. The time limit is from 2012 to 2022, English search terms include: "Break Neoplasm OR Break Tumors OR Neoplasms, Break OR Break Cancer OR Mammary Cancer OR Malignant Neoplasm of Break OR Break Malignant Tumor OR Carcinomas, Break OR Human Mammary Carcinomas OR Mammary Neoplasms, Human) OR Break Carcinomas OR Mammary Carcinoma; Human" Methods "[Mesh] AND Early Medical Intervention "[Mesh] AND" East rly Intervention (Education) "[Mesh] AND" Clinical Trial "[Publication Type]) AND (" Self Care "[Mesh] OR Models, Nursing "[Mesh]) AND (" Postoperative Care "[Mesh] OR"
Postoperative Complexions "[Mesh] OR" Postoperative Period "[Mesh];" Chinese keywords include: "Postoperative breast cancer surgery, self-management, self-care, self-management education, intervention measures, intervention strategies, randomized controlled study".

2.4 Literature quality evaluation

The two researchers used the Cochrane collaboration network bias risk assessment tool to evaluate the quality of each document separately, including the random distribution of research subjects, the distribution of intervention strategies, the blind method, the integrity of the result data, selective reporting of research results and other sources of bias. Each evaluation item includes three evaluation levels: correct (low risk), incorrect (high risk) and unclear. The low risk is the high quality of the literature, and the high risk is the low quality of the literature. It is unclear why.

2.5 Statistical methods

The review manager 5.3 software was used to conduct a meta-analysis of the literature. First, the research data were tested for heterogeneity by Q test and I² test, p>0.1, I²<50%, it is considered that there is homogeneity among the included literature studies, and the fixed effect model is used to calculate the mediation amount; If P<0.1 and I²>50%, it is considered that there is heterogeneity among the included literature studies. The random effect model is adopted, and 95% CL is reported for each effect index [5].

3. Results

3.1 Basic characteristics of literature retrieval results and inclusion study

328 articles were obtained in the initial examination, and 5 articles were finally obtained after screening according to the inclusion criteria, all of which were randomized controlled studies. There were 5 Chinese literatures, 590 patients with breast cancer after operation, 295 patients in the intervention group. Basic characteristics of the literature (see Table 1).

Table 1. Basic characteristics of included research documents

<table>
<thead>
<tr>
<th>Inclusion study/country</th>
<th>Number of cases in intervention group</th>
<th>Number of cases in the control group</th>
<th>Intervention strategy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Literature [6]/China</td>
<td>43</td>
<td>43</td>
<td>Clinical pathway</td>
</tr>
<tr>
<td>Literature [7]/China</td>
<td>75</td>
<td>75</td>
<td>&quot;Sunshine service&quot; nursing mode</td>
</tr>
<tr>
<td>Literature [8]/China</td>
<td>40</td>
<td>40</td>
<td>Cognitive behavior nursing intervention</td>
</tr>
<tr>
<td>Literature [9]/China</td>
<td>82</td>
<td>82</td>
<td>Empowerment education guides health education of functional exercise for patients</td>
</tr>
<tr>
<td>Literature [10]/China</td>
<td>60</td>
<td>60</td>
<td>Establish health education model</td>
</tr>
</tbody>
</table>

3.2 Meta analysis results of application effect of self-management model for breast cancer patients

Analysis of the effect of short-term (including one month) intervention strategy after surgery: five literatures studied the intervention strategy within one month after surgery for breast cancer. The heterogeneity test results of the literature study two groups (the intervention group and the control group) showed that I²=7%, which can be considered that the data of the five research literatures are homogeneous [6]. Therefore, the mediation effect was analyzed using the fixed effect model, and the mediation effect was 15.44 (13.68, 17.20), P<0.00001 can be considered that the implementation of intervention strategies in the intervention group has statistical significance on the effectiveness of self-management behavior of short-term patients after breast cancer surgery. Literature analysis showed that the intervention effect of sunshine service nursing path was 95% with a CL of 14.98 (11.67, 14.86), superior to the other 4 articles.
4. Discussion

The intervention strategies in the five literatures can help improve the self-management ability of patients after breast cancer surgery to varying degrees. Among the intervention strategies within one month, the sunshine nursing path has the best effect on the self-management ability of patients. The contents and methods of the intervention strategies in the other four literatures include perioperative symptom care, complications care, medication guidance, psychological intervention, exercise and diet guidance, personalized health education, discharge guidance and follow-up. The construction and research of the professional team will provide an evidence-based basis for further clinical research and development of the project to improve the self-management ability of postoperative breast cancer patients.

Breast cancer, as a high incidence tumor in women, can achieve ideal therapeutic effect through surgical treatment, but if effective rehabilitation care cannot be carried out after surgery, it will have adverse effects on postoperative recovery [7]. Therefore, improving the self-care ability of patients is of great significance to improve the prognosis. In China, the self-management model has been introduced, piloted, localized, innovated and promoted for more than ten years. The domestic research on this model is mainly concentrated in the fields of chronic diseases such as diabetes, hypertension, arthritis, COPD, kidney transplantation, stroke, coronary heart disease, etc. Research confirmed, China's localized self-management health education for patients with chronic diseases can not only improve patients' self-management skills and improve their self-management behavior, but also reduce the number of disease attacks, reduce hospital pressure and patients' economic burden, delay or prevent the occurrence of complications, and improve the overall health status and quality of life of patients. Self-management education is simple, easy to implement, low cost, and great benefit to patients. Many studies have shown that self-management health education can improve the quality of life and prognosis of patients with chronic diseases. Therefore, at present in China, the related research of self-management in the field of cancer has also been paid attention, and the self-management method has been gradually applied to cancer patients. Article 6 points out that breast cancer patients have many problems and obstacles in the process of disease self-management [8]. According to the different stages of the disease, nursing staff should help patients better understand the disease, adapt to the role of patients, actively manage the symptoms of the disease, encourage patients to give supportive help in the process of participating in the change of health behavior, provide social support, and improve patients' confidence in overcoming the disease. Medical staff should actively respond to national policies, popularize cancer prevention propaganda, improve public health literacy, and better promote cancer prevention and treatment.

The included research shows that the self-care ability of the observation group has significantly improved after the intervention, indicating that the rehabilitation nursing intervention of the disease self-management model plays an important role in improving the self-care ability of breast cancer patients [9]. The reason is that this study takes the disease self-management model as the framework, further improves the patients' cognition of the disease through interviews, listening and cognitive reconstruction, at the same time uses professional psychological counseling methods to improve the patients' psychological state, and carries out home diet, wound management, functional exercise and other guidance, which helps to enhance the patients' self-care ability, and lays the foundation for recovering limb function, improving prognosis, and improving quality of life. At the same time, the score of cARES-SF in the observation group was higher than that in the control group after intervention (P<0.05). Breast cancer patients have a special surgical site. In addition to pain and limb dysfunction, the quality of life of patients, especially young patients, has been seriously affected due to fear of image damage and marital life problems. One study included in this meta-analysis proposed that family support should be emphasized in rehabilitation intervention to help alleviate patients' bad emotions and improve their mental health; Pay attention to mutual exchange and communication among patients and share experience, which can improve patients' self-management ability, and then improve their physical status; At the same time, combining the professional support of nursing staff, it is beneficial to improve the role adaptability of patients, thus meeting the needs of patients in physical, mental and social aspects, and finally achieving the goal of improving the quality of life. The multi-channel self-management group was encouraged to play an active role and participate actively. The patient changed from a passive compliance status to a common decision-making status with the medical staff. Self-efficacy and life attitude were mutually causal, self-efficacy was enhanced, and life attitude was optimistic and positive [10]. However, the patient focused on the discomfort in the treatment process, and improved the quality of life of the patient. The correlation analysis also confirmed that the dimensions of self-efficacy such as positive attitude and self-decision were positively correlated with the improvement of the quality of life of patients after chemotherapy.

With regard to the method of self-management of patients with postoperative chemotherapy for breast cancer, li-
terature [11] proposed to empower (authorize) patients; Literature [12] proposed that the educational nursing system based on Dorothea. E. Orem provides humanistic psychological support and education to patients. Instruct patients to build a self-management model through online APP, WeChat group and offline chat, and combine diary therapy, mindfulness meditation, self-help group and other methods for self-management [13]. The quality of life of patients with breast cancer was measured by the quality of life scale. The results showed that the total score of the quality of life of the multi-channel self-management group was significantly higher than that of the control group after various forms of intervention. The self-management ability of patients is related to their own experience and psychological adjustment ability. It can change the behavior of patients by improving their sense of self-efficacy and improving their belief in successfully completing behavioral goals [14].

One of the studies pointed out that the self-management knowledge of breast cancer patients was at a low level, and the education level, whether breast conserving surgery and age affected the self-management knowledge level of patients. The self-management ability of patients is general. Education level and whether breast conserving surgery affects the self-management behavior ability of patients. Self-management knowledge and behavior are positively correlated. Clinical workers should pay attention to the self-management ability of patients, improve the self-management ability of patients by strengthening their health education and improving their knowledge level, so as to promote their physical and mental recovery.

5. Conclusion

Through literature research, it is found that the intervention strategies in the literature can help patients with breast cancer improve their self-management ability to varying degrees, and the sunshine nursing path in the intervention strategy within one month has the best effect on improving patients' self-management ability. Moreover, there are great differences between domestic and foreign research on this aspect, and it is impossible to analyze the effect of the domestic and foreign literature. Therefore, it is limited to include the domestic literature that meets the criteria for the analysis, and further research is needed.

References