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Outcomes of Breast Care Nurse Training and Follow-up: Body Image, Anxiety, and Quality of Life

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Abstract

Background: The breast care nurse has an important role in helping and guiding women in the decision-making and selection process regarding treatment.

Aim: The aim of this study was to determine the effects of breast care training and follow-up on the body image, anxiety, and quality of life of patients who had undergone breast cancer surgery.

Methods: The pre-test–post-test design without a control group study was completed with 34 patients who had undergone breast cancer surgery between May 2017 and May 2019. Patients were given individual training by the breast care nurse and an informative book describing patient care in the perioperative period. A follow-up appointment was also scheduled. Data were collected with the Functional Assessment of Cancer Therapy–Breast Cancer, the Sexual Adjustment and Body Image Scale, the State-Trait Anxiety Inventory, and questionnaires. Percentage, mean, paired samples *t*-test, repeated measures analysis of variance, and post-hoc analysis were used to analyze data.

Results: The measurements taken 1 month after surgery revealed that when compared to the preoperative period, patients' state anxiety scores (41.14 ± 2.96) and trait anxiety scores (42.35 ± 3.18) had decreased and the quality-of-life scores had increased. All recorded measurements showed a significant improved difference between state anxiety ($P=.009$), trait anxiety ($P < .001$), and quality-of-life ($P < .001$) mean scores. Furthermore, patients' scores for all dependent variables had significantly decreased 6 months after surgery compared to 1 month after surgery ($P < .001$), although the decrease in the body image score was not significant ($P > .05$). One year after, surgical patients' body image ($P > .05$) and quality-of-life ($P < .001$) mean scores had increased, while the state ($P=.009$) and trait anxiety ($P < .001$) mean scores had decreased.

Conclusion: The results show that the education and follow-up of the breast care nurse may be effective in reducing the anxiety of the patients and increasing their quality of life. Considering this role of the breast care nurse, who helps and guides women in the decision-making and selection process regarding treatment, it is recommended to inform and support women before surgery and discharge, to plan training accordingly, and to provide a holistic and empathetic approach to patients.

Keywords: Anxiety, body image, breast care nurse, quality of life

Introduction

Breast cancer is the most common cancer type in women. In 2018, approximately 2.1 million women worldwide were diagnosed with breast cancer.[1] The incidence of breast cancer has been increasing throughout the world and in Turkey, where it is 45.6 per 100 000.[2,3]

Breast cancer is a serious health problem that affects women physically, psychologically, and socially.[4,5] Women with breast cancer experience a sense of heavy loss. Their body image, self-confidence, psychological state, and relationships to their family, friends, and others can be negatively affected and their quality of life may also decrease.[6,7]

Professional support should be provided by the healthcare team to breast cancer patients at every stage of the diagnosis and treatment process in order to enable patients to cope with the problems they are experiencing. Breast care nurses are particularly important in providing this support as they are members of the healthcare team who maintain close communication with the patient during their entire medical and emotional experience.[8]

This study was produced from Sema KOÇAN's doctoral thesis.

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One important role of the breast care nurse is to counsel patients to prevent or minimize the problems that may arise after breast cancer surgery.[9] The breast care nurse's attention and counsel can help patients learn to cope more easily and effectively with the challenges they may face in the hospital and at home. The breast care nurse can help improve patients' quality of life by encouraging them to resume their daily life activities as soon as possible. In addition, the nurse's psychosocial support can facilitate the adaptation of patients to the changes in their social lives.[10,11]

Studies show that patients who receive training and follow-up with a breast care nurse have higher treatment compliance and satisfaction.[12,13] Furthermore, studies have also found that breast cancer patients were able to obtain all kinds of information from the breast care nurse during treatment, and this information benefited the patients and decreased their anxiety.[13,14] One study determined that the patients who received supportive care from breast care nurses had more positive experiences and higher quality of life.[15] Another study emphasized that the communication of breast cancer patients with breast care nurses played a significant role in their adaptation to treatment and in their ability to determine their own needs.[16] A research conducted by Karayurt et al[17] determined that the counseling offered to patients by breast care nurses reduced the risk of anxiety and depression and improved their quality of life. One study reported that a participant reported that it was helpful to view the breast care nurse as a "support pole" while dealing with difficulties in this process.[14]

There are many studies in the current available literature that evaluate the effectiveness of breast care nursing. Since there are a high number of patients per nurse in our country, patients face difficulties in accessing information, in decision-making, and in a lack of social support and guidance. These issues underscore the great need for breast care nursing services for patients who have undergone breast cancer surgery.

However, breast care nursing practice is not yet widespread in Turkey, and studies showing the effectiveness of breast care nurses in Turkey are few. Studies in the literature reflect specific cultures and cannot be generalized to Turkish culture. In this way, the current study will make a significant contribution to the literature.

Aim

The study was carried out to evaluate breast care nurse training and follow-up effects on the body image, quality of life, and anxiety among patients who had undergone breast cancer surgery. The nurse's intervention included supporting the patient to perform self-care activities, maintain positive body image, and manage anxiety by training and follow-up.

Hypothesis

H0: The intervention of the breast care nurse does not cause any change in the anxiety, body image, and quality-of-life scores of the patients.

H1: The intervention of the breast care nurse decreases the anxiety scores of the patients.

H2: The intervention of the breast care nurse increases the body image scores of the patients.

H3: The intervention of the breast care increases nurse the quality-of-life scores of the patients.

Materials and Methods

Study Design and Participants

This semi-experimental research in the form of pre-test and post-tests was conducted in a university hospital with patients who had undergone breast cancer surgery. This hospital is not equipped with a breast unit and breast care nurses to give training and follow-up to patients. Thus, as part of their treatment, breast surgery patients are provided standard or non-specific information by their own physicians and nurses at the clinic where they are hospitalized.

The data were collected between May 2017 and May 2019. The number of patients who underwent breast cancer surgery during this period was 44. The inclusion criteria of the study were as follows: (1) patients with primary breast cancer, who had undergone modified radical mastectomy (MRM) or breast-conserving surgery, (2) patients who knew their diagnosis, (3) patients who were 18-65 years old, and (4) patients who could speak Turkish and were literate. The exclusion criteria included: (1) patients with other health problems (amputation, visible scar, and visible physical disability), (2) patients with visual/hearing/speech impairment, (3) patients with metastatic breast cancer, and (4) patients with a psychiatric diagnosis/treatment that could affect body image. The study began with 42 patients and was completed with 34 patients in the first year (Figure 1).

Study Tools

Functional Assessment of Cancer Therapy–Breast (FACT-B) (4th Version): This quality-of-life scale was developed specifically for use in patients with breast cancer. The FACT-B scale consists of 5 basic subscales: the physical well-being (PWB) subscale (7 items), the social/family well-being (SWB) subscale (7 items), the emotional well-being (EWB) subscale (6 items), the functional well-being (FWB) subscale (7 items), and the breast cancer subscale (BCS) (9 items). The BCS addresses subjects specific to the concerns of women with breast cancer. According to Pekçetin, the Functional Assessment of Cancer Therapy–General (FACT-G) (4th Version) quality-of-life scale was translated into Turkish in 2013; its validity was proved by Çetiner et al through a pilot study and approved by the relevant center.[18] To calculate the FACT-B TOI score, the PWB and FWB subscales and BCS were summed. To calculate the FACT-G score, the PWB, SWB, EWB, and FWB subscales were summed. Finally, the FACT-G score and BCS were summed to achieve the FACT-B total score. The scale total score ranges from 0 to 144. There are no score intervals for the scale scores, and the score is directly proportional to the quality of life. The higher the score, the better the quality of life. Functional Assessment of Cancer Therapy–Breast was identified as a valid and reliable tool for assessing quality of life in BC patients, and the Cronbach's alpha values were between 0.79 and 0.90 for all subscales.[19] In this study, the Cronbach's alpha reliability coefficient for the PWB subscale was 0.88, that for SWB subscale was 0.97, that for the EWB subscale was 0.91, that for the FWB subscale was 0.94, and that for the BCS (additional concerns) was 0.86; FACT-B TOI was 0.74; FACT-G was 0.96; and the FACT-B total scale was 0.77.

State–Trait Anxiety Inventory (STAI): According to Büyüköztürk,[20] the STAI was developed in 1970 by Spielberger et al and adapted to Turkish society by Öner and Le Compte in 1985. This inventory is a 4

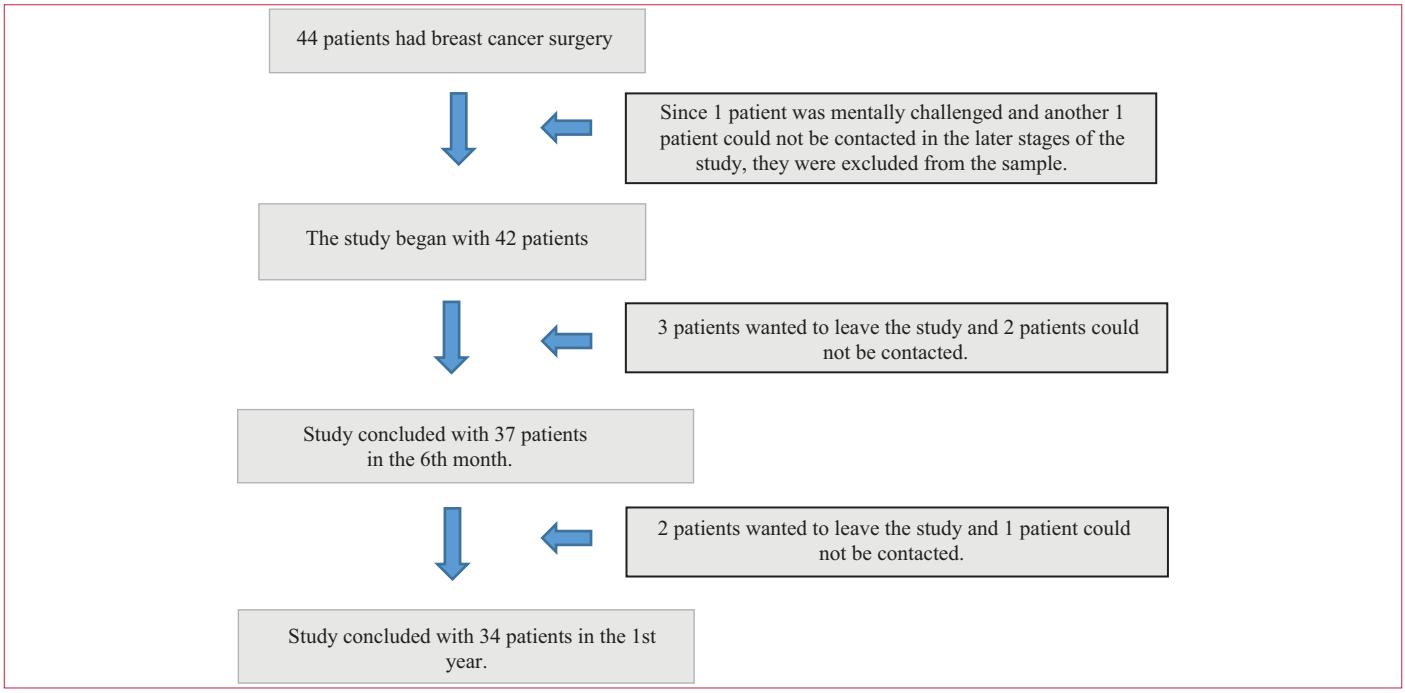

Figure 1. The sampling.

Likert-type scale with 40 questions. It measures state and trait anxiety levels separately with 20 questions each. The total score value obtained from both scales varies between 20 and 80. A high score indicates a high level of anxiety; a low score indicates a low level of anxiety. In the Turkish adaptation of the scale, the reliability coefficients determined with alpha correlations were between 0.83 and 0.92 for the state anxiety scale and 0.83 and 0.87 for the trait anxiety scale. In our study, the Cronbach's alpha values were 0.97 for the state anxiety scale and 0.96 for the trait anxiety scale.

Sexual Adjustment and Body Image Scale (SABIS): This scale, developed by Dalton et al in 2009, consists of 2 subscales and 14 items evaluating sexual adjustment and body image. The Turkish validity and reliability of the scale were conducted by Ursavaş and Karayurt.[21] In this study, only the body image subscale was used. The body image subscale consists of 2 subscales, namely "prior body image" and "post body image." A minimum of 3 and a maximum of 15 points can be obtained from the scale. The low mean scores indicate that the body images of the patients are negatively affected. In the validity–reliability study of the SABIS, the Cronbach's alpha values were 0.77 and 0.81 for the subscales of the body image. In this study, the Cronbach's alpha values were 0.56 and 0.83 for the subscales of the body image (prior body image subscale and post body image subscale, respectively).

Patient Identification Features Questionnaire: The questionnaire was created by the researcher and consisted of 9 questions: the patients' age, marital status, education level, current location, income level, occupation, existing chronic diseases, date of surgery, and type of surgery.

Patient Follow-Up Form: This form was prepared by the researcher and used to illustrate the assignments that the patient was expected to perform in accordance with the training given the day before the surgery and the day before discharge. It was also used to determine the patient's ability to look at the wound site and whether complications had developed.

Training Booklet

A book was prepared by the researchers for patients to use during pre- and postoperative training. While creating the contents of the training book, the clinical nursing experiences of the researcher and related resources were utilized.[6,22,23] The book aimed to emphasize the problems and needs of the patient regarding preoperative, postoperative, and discharge care related to the breast cancer surgery process. With this goal in mind, the images to be used were then determined and created by the visual arts teacher, and the drawings were produced by the graphic designer. Six expert opinions (2 general surgeons, 1 psychiatrist, and 3 medical-surgical nurses) and the opinions of a faculty member and a nurse in charge of a general surgery clinic were obtained for the training book, which was finalized in line with the criticism and suggestions. The training book had 2 parts which described the preoperative and postoperative periods of the disease process. The first part depicted various breast cancer surgical treatment methods, depending upon the type of surgery the patient would undergo. In addition, preoperative preparation and training took place. The second part included a description of problems that may arise in the postoperative period in the hospital and at home after discharge with suggestions on what to do. Other topics covered alternative treatments to breast cancer surgery, the frequency of checkups after treatment, breast self-examination, and breast cancer screening programs.

Intervention (Breast Care Nurse Training and Follow-Up)

In this study, nursing intervention included the training of the patients before surgery and discharge, patients' first encounter with

the postoperative wound site with the nurse, and the nurse's visit on the postoperative first day and in the patients' homes 1 month after discharge. The nursing intervention was conducted by the first researcher who had a breast care nursing certificate.

Body image, anxiety, and quality-of-life data for pre-tests were collected before the training. Then, the first researcher trained patients one by one with verbal training at the clinic the day before surgery and the day before discharge. In addition, the book with the same content was given to the patients. During the trainings, question–answer methods were used. In addition, patients were given a researcher's telephone number to communicate, if needed. The training took an hour on average. The training content is seen in Figure 2 according to the timeline of the research.

Patients were visited 1 day after surgery and 1 month after discharge. The day after surgery; patients were evaluated in accordance with the training provided. They were checked for deep-breathing–cough exercises, mobilization, the position of the operated arm, evaluation of the incision site, and the development of complications. They were also assessed on whether they were able to look at the incision site or not, and the evaluation was recorded on the visiting form. One of the goals of the first visit was to have the patients' first encounter with the incision sites, with the researcher present to support patients' adaptation to the changes in their bodies. At this time, the patients were asked whether they wanted to look at the incision site together or not.

One month after discharge, the patients were visited at home by the first author. The patient was evaluated for possible problems (wound infection, seroma, lymphedema, and frozen shoulder). The visits took an average of 45 minutes. The patient follow-up form was completed in the patients' rooms in the hospital 1 day after the surgery and in the patients' homes 1 month after discharge. The data for body image, anxiety, and quality of life as post-tests were collected during the home visit.

The data regarding body image, anxiety, and FACT-B quality of life were collected by telephone after 6 and 12 months, and no intervention was made.

Statistical Analysis of Data

The data were analyzed with the Statistical Package for the Social Science 22.0 program. The Shapiro–Wilk test was used for the suitability of variances to normal distribution. Percentage, mean, paired samples *t*-test, repeated measures analysis of variance, and the post-hoc analysis were used to analyze data, and the significance level was $P < .05$. The paired sample *t*-test is a technique used to test the significance of the difference between the arithmetic means of 2 related groups, provided that the distribution is normal. Repeated

Research Steps	Training topics and follow-up		Data collection tools
Baseline/ The day before surgery (in hospital)	First training	• Information on the type of surgery to be performed (either modified radical mastectomy or breast-conserving surgery techniques) and preparations for the preoperative period • Deep breathing-cough exercises • Importance of mobilization • Position of the operated arm • Postoperative problems that may arise due to surgery (surgical wound, bleeding, pain, phantom breast pain, seroma, infection, body image change) and what needs to be done for these problems	• Patient Identification Features Questionnaire • BIS • STAI • FACT-G
The day after the surgery (in hospital)	First visiting	• In line with the training given to the patient, evaluation of deep breathing-cough exercises, mobilization, the position of the operated arm, incision site and development of the complication, patient's ability to look at the incision site or not • Performing and recording patients' first encounter with the incision site together	Patient Follow-up Form
The day before discharge (in hospital)	Second training	• Surgical wound, bleeding, pain, infection, loss of function in the arm due to limitation of motion, position of the operated arm, lymphedema, issues to be considered for the prevention of development of lymphedema, psychological and social problems and recommendations for coping with them, recommendations for body image change, sexual life , work life, sports, travel, choice of clothes, and bra use recommendations, prosthesis selection and breast reconstruction, breast cancer treatment methods other than surgical treatment, post-treatment control frequencies, breast self-examination and breast cancer screening program	
Follow-up 1/ One month after discharge (at home)	Second visiting	• Evaluation of whether complications develop or not at the incision site and whether being appeared to a physical therapy and rehabilitation specialist for loss of arm function (shoulder stiffness-frozen shoulder) due to postoperative limitation of movement • Answering the patient's questions	• BIS • STAI • FACT-G • Patient Follow-up Form
Follow- up 2 (by phone)		• BIS • STAI • FACT-B	
Follow- up 3 (by phone)		• BIS • STAI • FACT-B	

Figure 2. Study design.

measures analysis of variance is used to compare the means of 3 or more groups. The post-hoc analysis reveals the group in which the difference originates and from when there is a between-group difference.

In the power analysis using Open Epi, the power of the sample at the 5% significance level was found to be 99%.

Ethics Committee Approval

Ethical permission was obtained from the Ethics and Legal Permission Committee, and written consent was obtained from the patients for the research. Permission was also obtained to use the scales from their authors.

Results

The mean age of the patients was 49.3 ± 10.4 years; 40.5% had secondary and higher education (secondary, high school, and university); and 88.1% were married. In addition, it was determined that 52.4% of the patients lived in the city center, 64.3% had a low income level, 78.6% did not work, and 73.8% did not have any chronic disease. The patients who had breast-conserving surgery comprised 52.4% of the patients, and the others had MRM. It was determined that all of the patients received social support only from their family members and friends in this process.

The mean scores of patients' body image, state and trait anxiety, quality of life in baseline, first, second, and last follow-up and the mean scores of subscales of patients' quality-of-life scale are shown in Figure 3 and Table 1.

The patients' body image score averages were highest at the third follow-up, and the lowest body image score averages were evident in the second follow-up. In terms of anxiety, the mean second follow-up state and trait anxiety scores were higher than the previous measurements. Patients' FACT-G quality-of-life total score mean and subscales mean scores were the highest during the first follow-up, while the lowest FACT-G quality-of-life total score mean and subscale mean scores were recorded at the second follow-up. The third follow-up FACT-B and FACT-B TOI total quality-of-life mean score was higher than the second follow-up FACT-B and FACT-B TOI total score average.

According to the patients' measurement times (baseline, first, second, and third follow-up), a statistically significant difference was found between the mean scores of state anxiety ($P=.009$), trait anxiety, and FACT-G quality of life ($P < .001$). Additionally, there was a statistically significant difference between the mean scores of the second and third follow-up of patients' FACT-B and FACT-B TOI quality of life ($P < .001$). However, there was no statistically significant difference (baseline, first, second, and third follow-up) between the mean scores of the patients' body image ($P > .05$).

Which measurements of the patients had a significant difference was evaluated with the post-hoc analysis. In this evaluation, a significant difference was found between the first and second follow-up ($P=.023$) and between the second and third follow-up ($P=.016$) mean scores of the patients' state anxiety. Also, a significant difference was found between the baseline and first ($P=.004$), first and second ($P < .001$), and second and third follow-up ($P=.002$) mean scores of the patients' trait anxiety.

In the FACT-G quality of life, with regard to the EWB and FWB subscale mean scores of the patients, the difference between baseline and first ($P < .001$), second and third ($P < .001$) and first-third follow-up ($P < .001$) was found to be significant. For PWB and SWB subscales, the difference between baseline and first ($P < .001$ and $P=.001$, respectively), first and second ($P < .001$ and $P=.001$, respectively), and second and third follow-up ($P < .001$) mean scores were found to be significant.

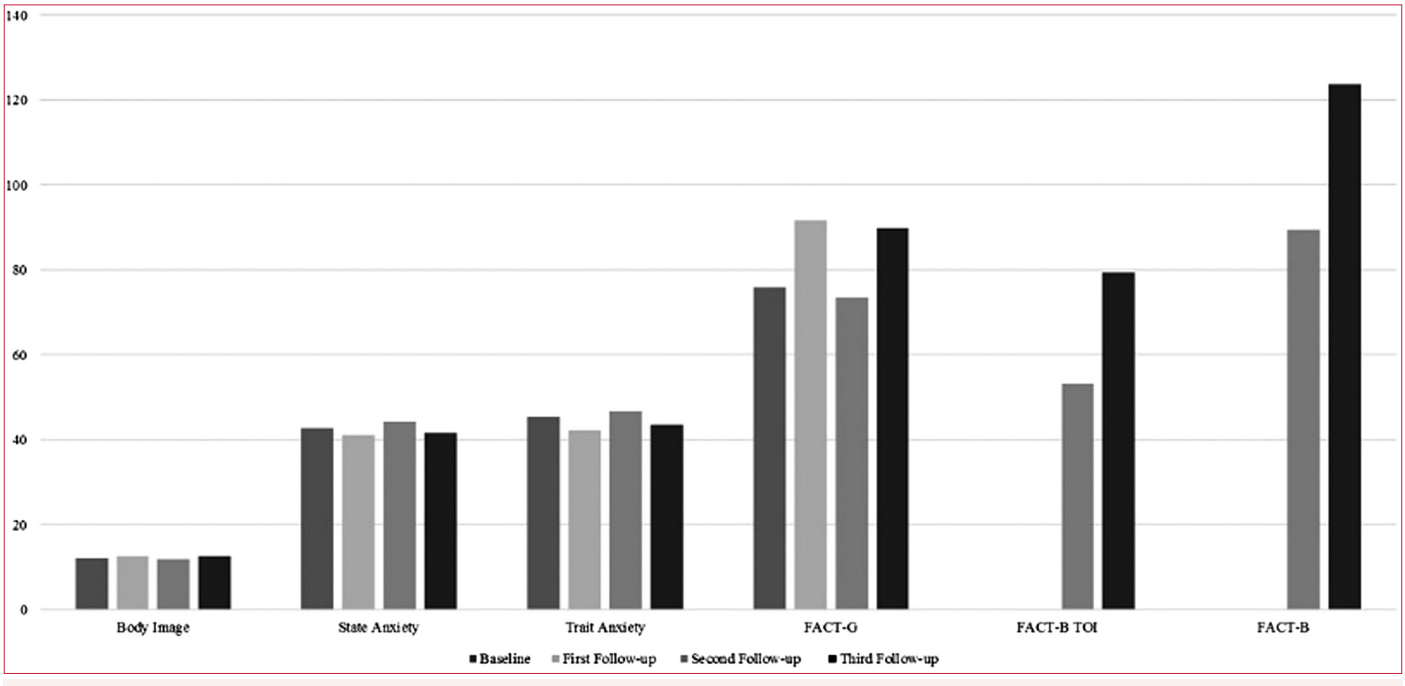

Figure 3. Total mean scores of patients' body image, state and trait anxiety, and quality of life before and after nursing intervention.

Table 1. Patients' Body Image, Anxiety, and Quality-of-Life Mean Scores Before and After Nursing Intervention

	Baseline ($\bar{X}$ ± SD)	First Follow-Up ($\bar{X}$ ± SD)	Second Follow-Up ($\bar{X}$ ± SD)	Third Follow-Up ($\bar{X}$ ± SD)	*P*
Body image	12.14 ± 1.79	12.67 ± 2.31	11.85 ± 2.28	12.70 ± 2.48	.051
Anxiety					
State anxiety	42.76 ± 3.49	41.14 ± 2.96	44.32 ± 4.79	41.79 ± 4.28	.009
Trait anxiety	45.44 ± 5.12	42.35 ± 3.18	46.64 ± 4.91	43.55 ± 4.16	<.001
FACT-G	75.97 ± 15.77	91.73 ± 9.68	73.44 ± 16.38	89.85 ± 11.85	<.001
FACT-B	–	–	89.52 ± 15.29	123.79 ± 13.24	<.001
FACT-B TOI	–	–	53.23 ± 8.51	79.50 ± 8.05	<.001
PWB	23.58 ± 4.30	26.17 ± 2.49	21.88 ± 5.55	25.23 ± 3.75	<.001
SWB	22.38 ± 4.30	24.44 ± 3.32	21.79 ± 4.36	24.08 ± 3.42	<.001
EWB	15.00 ± 4.53	20.91 ± 2.37	14.58 ± 4.78	20.23 ± 3.73	<.001
FWB	15.00 ± 4.28	20.20 ± 3.50	15.17 ± 4.01	20.29 ± 3.90	<.001
BCS	–	–	16.17 ± 5.47	33.97 ± 2.18	<.001

First Follow-up: 1 month after the intervention, second Follow-up: 6 months after the intervention, third Follow up: 12 months after the intervention.
BCS, breast cancer subscale; EWB, emotional well-being; FACT-B, Functional Assessment of Cancer Therapy–Breast; FACT-G, Functional Assessment of Cancer Therapy–General; FWB, functional well-being; PWB, physical well-being; SWB, social/family well-being.

In all subscales, the difference between the patients' baseline and first follow-up was significant.

During the first visit, all patients were able to perform deep-breathing exercises, move out of bed after surgery, and all patients with MRM and breast-conserving surgery + axillary dissection were able to hold the arm on the operated side in the recommended position after surgery. Patients did not experience any complications at the incision site on the first postoperative day. Thirty-nine patients looked at the wound site with a breast care nurse. All of the patients who were able to look at the wound site were pleased to do so with the breast care nurse. The patients with MRM stated that the breast care nurse offered them encouragement at the first encounter with the wound site.

During the second visit, 4 patients had developed complications, including seroma in 3 patients (4.8%) and infection in 1 patient (2.4%) after discharge.

Eleven patients telephoned the breast care nurse to ask questions about different issues (swelling in the breast area, traveling status, nutrition, and future anxiety). One patient also contacted the breast care nurse by telephone because she felt ready to look at the incision site about 1.5 months after the date of surgery, and she wanted to look at the incision site with the breast care nurse.

All patients (100%) stated that the training book was helpful, and the breast care nurse intervention was effective.

Discussion

The literature pertaining to breast cancer indicates that breast surgery adversely affects the body image of women.[24-26] Therefore, preoperative education and care support are very important in preserving women's positive body image after surgery.[27] The literature on this topic has reported that no studies had previously been conducted concerning the effect of preoperative training on postoperative body image in patients who had undergone breast cancer surgery. However, the study of Yaman and Ayaz found that pre-surgery health education given to patients prior to hysterectomy helped preserve their body image.[28] In this study, there was no difference in the mean score of the patients' body image. However, although it is not statistically significant, the average body image score of the patients (except for the second follow-up) had increased. This result shows that intervention of the breast care nurse provides tangible and positive results in patients' ability to cope with changes in their body image. Additionally, this result can be associated with the negative effects of the surgery (negative body image, perceived loss of femininity and body integrity, and feeling less sexually attractive). In addition, breast cancer treatment is not limited to surgical methods; chemotherapy and radiotherapy are also used following surgical treatment.[29] The side effects of chemotherapy, especially alopecia and weight loss, can cause women to experience negative body image.[30,31] In this study, the highest mean body image score was observed during the third follow-up. As the treatment for breast cancer progresses, patients develop various ways to cope and to adapt to the changes in their health status. In line with our study, Traore et al[32] reported that the mean scores of the highest ERTC QLQ–BR23 body image subscale of the patients were found in the twelfth month.

When compared to the baseline measurement, patients' state anxiety scores and trait anxiety scores had decreased in the first follow-up. Apart from women's fear of breast surgery, the potential loss of part or all of the breast often causes different concerns. These include fear of death, coping with pain, being dependent on someone, and changes in body image.[33,34] In studies like ours, preoperative training in different groups was found to reduce postoperative anxiety.[35,36] The state and trait anxiety levels of the patients were the highest in the second follow-up appointment. In particular, patients' anxiety had increased due to the negative body image triggered by alopecia and weight loss caused by chemotherapy. In addition, physiological problems during this period such as nausea, vomiting, pain, loss of

appetite, insomnia, and fatigue may also cause the patients to experience anxiety.[37] Furthermore, both state and trait anxieties of patients in the first follow-up were lower than in the third follow-up. The study results further reveal the importance of the breast care nurse in reducing patients' anxiety with both social support and training during the breast cancer treatment process.

When compared to the baseline, our study results found that patients' quality of life in the first follow-up had increased. In addition, patients' quality-of-life score in the first follow-up was higher than the third follow-up FACT-G score. During the diagnosis and treatment of breast cancer, women may face many physical and psychosocial problems. They may have difficulty coping with these problems, and their quality of life may decrease. Therefore, the availability of a mentor for breast cancer patients can be a very positive step toward offering these women the opportunity for consultation and social support to manage the challenging changes in their health. Our study results demonstrate that the follow-up and training given to breast cancer patients by the breast care nurse improve the patients' quality of life. Some studies have focused on evaluating patients' quality of life by providing training on a single subject.[38,39] Preoperative training in different patient groups was found to improve patients' quality of life.[40,41] The patients in the second follow-up had the lowest FACT-G score. This finding can be reconciled with the side effects of chemotherapy, as many studies show that chemotherapy negatively affects the patients' quality of life.[42-44] Functional Assessment of Cancer Therapy–General, FACT-B, and FACT-B TOI scores of patients increased in the third follow-up compared to the second follow-up. These results can be associated with reduced chemotherapy side effects and patients' adaptation to treatment and ways of learning to cope with their health changes.

This study's results revealed that all quality-of-life subscale scores of patients' in the first follow-up had significantly increased compared to the baseline. The intervention of the breast care nurse also had a positive effect on patients' quality-of-life subscales. In a randomized controlled trial, Stagl et al[45] evaluated the long-term psychological benefits of cognitive behavioral stress management by following breast cancer patients for 11 years. They found that mean scores of the experimental group's PWB and EWB subscales were higher than the control group. Furthermore, all quality-of-life subscales in the first follow-up (except BCS) were higher than in the third follow-up. When looking at this result, the breast care nurse should be considered as an important and necessary member of the multidisciplinary team during the breast cancer treatment process for patients. The second follow-up showed all patients' quality-of-life subscales at their lowest level. This result can be associated with the side effects of chemotherapy, which adversely affects the patients' quality of life. All the quality-of-life subscales in the third follow-up increased compared to the second follow-up. In the third follow-up, patients' side effects decreased and patients' compliance with this process increased.

Patients were able to perform deep-breathing exercises, move out of bed, and keep the operated arm in the recommended position. Preoperative training can help minimize postoperative complications by instructing patients on how to perform postoperative deep-breathing–cough exercises. Such training can also assist in the patients' early mobilization which helps prevent infection. Another positive benefit to preoperative training is that wound healing can be accelerated, and early discharge may even occur.

We found that all patients who were able to look at the wound site wanted the presence of the breast care nurse at this time. This result is important in terms of reducing the trauma faced by many women with breast cancer and strengthening their coping skills. The presence of the breast care nurse as patients encounter the wound site has also been found to increase patients' compliance with their treatment and recovery.

Limitations

This study had some limitations. There is no control group in the study. So it was not possible to compare the results with a group in which the intervention was not implemented. The women included in the study were mostly rural women with low levels of education. The absence of a breast care nurse at the hospital where the study was conducted and the fact that patients encountered a breast care nurse for the first time may have positively affected the results of the patients.

Conclusion

This study provides information about the impact of breast care nursing on body image, anxiety, and quality of life for women in Turkish society. Its findings confirm that the breast care nurse has an important role in training, monitoring, and supporting patients in order to minimize the complications that may arise after breast cancer surgery. These results show us that the breast care nurse care and support patients during hospitalization, and after discharge, they help patients cope more effectively with the many challenges they may encounter in the hospital and at home. Patients should be approached holistically and with empathy, and trainings should be well planned using effective visual and written materials.

Ethics Committee Approval: Ethics committee approval was received for this study from the Ethics Committee of Karadeniz Technical University Faculty of Medicine (date and number: 04/05/2016, 24237859-246).

Informed Consent: Written informed consent was obtained from all patients who participated in the study.

Peer-review: Externally peer-reviewed.

Author Contributions: Concept – S.K., A.G.; Design – S.K., A.G.; Supervision – S.K., A.G.; Resources – S.K.; Materials – S.K.; Data Collection and/or Processing – S.K.; Analysis and/or Interpretation – S.K.; Literature Search – S.K.; Writing Manuscript – S.K.; Critical Review – S.K., A.G.

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