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ORIGINAL ARTICLE / ÖZGÜN MAKALE

THE EFFECT OF PERSONAL COUNSELLING ON ANXIETY, DEPRESSION, QUALITY OF LIFE AND SATISFACTION IN PATIENTS WITH BREAST CANCER

MEME KANSERİ HASTALARINA VERİLEN BİREYSEL DANIŞMANLIĞIN DEPRESYON, ANKSİYETE, YAŞAM KALİTESİ VE HASTA MEMNUNİYETİ ÜZERİNE ETKİSİ

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ABSTRACT

Objective: The objective of this study was to examine the effect of personal consultancy service that is provided to patients with breast cancer on anxiety, depression, life quality and patient satisfaction.

Materials and Methods: This study was a quasi-experimental and longitudinal study. The sample consisted of a total of 64 female patients (32 control, 32 experimental), who were diagnosed with stage I and stage II breast cancer at a university hospital. The patients in the experimental group received consultancy from the same nurse during the preoperative, postoperative, radiotherapy, chemotherapy periods and after the completion of treatments for one full year. During the first interview, the patients were given a training book that was prepared by the research group. Patients in the control group received the routine nursing service being conducted in the hospital where the study was performed. Patient description form, hospital anxiety depression scale, multi-dimensional life quality scale and patient satisfaction form was used for the data collection process. T-test, chi-square and Man-Whitney U test was used for the analysis of the data.

Results: As a result of all follow-ups, the anxiety and depression score averages of the experimental group were determined to be lower compared to that of the control group. It was determined that the experimental group had a higher score average of life quality compared to the control group except for the postoperative period.

Conclusion: It was determined that the personal consultancy being conducted by the same nurse throughout the diagnosis and treatment process decreased the risk of anxiety and depression and increased the life quality of patients with breast cancer.

Key words: Breast cancer, nursing, counselling, anxiety, depression, quality of life

ÖZET

Amaç: Meme kanserli hastalara verilen bireysel danışmanlık hizmetinin anksiyete, depresyon, yaşam kalitesi ve hasta memnuniyeti üzerine olan etkisini incelemektir.

Yöntem ve Gereçler: Araştırma, yarı deneysel, prospektif longitudinal bir çalışmadır. Örneklemi bir üniversite hastanesinde evre I ve evre II meme kanseri tanısı olan; deney grubunda 32, kontrol grubunda 32 olmak üzere toplam 64 kadın oluşturmuştur. Deney grubundaki hastalara, ameliyat öncesi dönemde başlayan, ameliyat sonrası, radyoterapi, kemoterapi sürecinde ve tedaviler tamamlandıktan sonra bir yıl devam eden, hastaların gereksinimlerine göre bire bir danışmanlık hizmeti ve araştırma grubu tarafından hazırlanan eğitim kitabı verilmiştir. Kontrol grubundaki hastalar araştırmanın yapıldığı hastanede yürütülen rutin hemşirelik hizmetini almışlardır. Araştırma verilerinin toplanmasında hasta tanıtım formu, hastane anksiyete depresyon ölçeği, çok boyutlu yaşam kalitesi ölçeği ve hasta memnuniyet formu kullanılmıştır. Verilerin analizinde ise t-testi, ki-kare ve Mann-Whitney U testi kullanılmıştır.

Bulgular: Deney grubundaki hastaların ameliyat sonrası, radyoterapi öncesi ve sonrası, kemoterapi öncesi ve sonrası, tedavinin tamamlanmasından altı ay ve bir yıl sonra anksiyete ve depresyon puan ortalamaları kontrol grubuna göre düşük bulunmuştur. Deney ve kontrol grubu yaşam kalitesi puan ortalamaları ameliyat sonrası dönem hariç diğer tüm izlemlerde, danışmanlık hizmeti verilen deney grubunda kontrol grubuna göre yüksek olduğu saptanmıştır. Deney grubunda verilen danışmanlık hizmetinden memnuniyet yüksek bulunmuştur.

Sonuç: Hemşireler tarafından yürütülen danışmanlık hizmetinin meme kanseri olan hastaların anksiyete, depresyon riskini azalttığı, yaşam kalitesini artırdığı belirlenmiştir. Hemşireler, meme kanseri tanısı koyulan kadınlar için bilgi ve desteğin önemli olduğunun farkında olmalı, hastalara soru sormaları için fırsat vermeli, hasta ve aile bireylerine gereksinimi olan bilgi ve desteği sağlamalıdır.

Anahtar sözcükler: Meme kanseri, hemşirelik, danışmanlık, anksiyete, depresyon, yaşam kalitesi

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Breast cancer is the most common type of cancer among women all over the world (28%) and second (15%) among causes of death from cancer. It is the most common type of cancer among women in Turkey, at 41.60 per 100.000 (1).

Today, for systemic treatment of breast cancer, chemotherapy (CT), targeted therapy and hormone therapy are applied, whereas surgery and radiotherapy (RT) are used for local treatment. While the methods used in the treatment of breast cancer extend the lifetime of the patient, they may also cause problems such as anxiety, depression, distortion of body image, infection, nausea, vomiting, and skin burns (2-5). Among all symptoms, anxiety and depression are most often reported by cancer patients (6, 7). In the studies conducted, it was stated that 30 to 50% of the women experienced anxiety and depression within the first year following mastectomy (4, 5, 8, 9). Concern about the future, fear of death, lack of confidence in the treatment, insufficient family support and feelings of uncertainty may lead to anxiety in cancer patients. In the case of a long-lasting treatment, the intense experience of uncertainty leads to despair causing depression (10). It was also demonstrated that anxiety and depression had an adverse impact on the quality of life (6, 10).

It is stated that cancer patients and their families are in need of information and that they demand information from doctors and nurses (11-13). Cancer patients' need for information is influenced by the stage and period of disease (pre-diagnosis, diagnosis process, treatment process and post-treatment), the psychological process of adaptation and individual preferences. The treatment needs of women with breast cancer are not static; they vary in each period. It was determined that patients with breast cancer wanted to receive information about diagnostic tests and whether they had cancer in the *pre-diagnosis process*; the possibility of treatment, treatment options, stage and spread of disease; the side effects of treatment, the disease process, screening tests and the possibility of recurrence in the *treatment process,* and the possibility of recovery, risk of cancer in family members and self-care behaviours in the *post-treatment process* (12-14). It was determined that cancer patients and their families experienced intense anxiety and stress because of inadequate information in the perioperative period (15). Women with breast cancer need help in dealing with this situation (2, 6, 16).

In studies conducted with women with breast cancer, it has been shown that cancer support groups, informative tapes, individual and group psychoeducational interventions, and providing brochures reduced anxiety and depression and improved the quality of life (17-21). In the a randomized controlled trial conducted by Williams and Schreier (18) in the USA, it was determined that informative tapes prepared for patients with breast cancer receiving their first CT treatment diminished their level of anxiety. In a study conducted by Meneses et al. (19) women with breast cancer in USA, it was determined that individual psychoeducational intervention improved quality of life at 3 and 6 months. In a study conducted by Haggmark et al. (20) with cancer patients in Sweden, it was determined that in addition to the standard information given to patients, repeated individual information reduced anxiety and depression and improved life quality. Helgeson et al. (21) conducted group interventions with 252 women with early stage breast cancer in a study, in which they compared the effects of peer support group with peer support group and education-based group intervention. They determined that peer support group did not have a long-term effect alone, but it improved quality of life in combination with education. In a study conducted by Hosaka et al. (22) in Japan, it was found that group interventions including psycho-education, problem solving, relaxation and guided imagery for women with early stage breast cancer had a positive effect on the mood states of patients. In a meta-analysis of 37 controlled trials that examined the effect of psychosocial interventions on quality of life, Rehse and Pukrop (23) revealed that psychosocial interventions improved patients' quality of life. Montazeri et al. (17) also showed that the cancer support group they conducted with women with breast cancer in Iran reduced their level of anxiety and depression, and improved their quality of life.

Counselling is a process of guiding others about what to do, and helping individuals/families in need to solve their problems on their own and cope with them effectively. The crucial point in this process is that the counsellor helps patients and their families develop a consciousness and make their own decisions instead of making decisions on their behalf. Counselling is also defined as providing options for the counselee, discovering, and creating opportunities by producing different solutions to maintain a satisfactory life (24).

In Turkey, studies were conducted examining the effectiveness of education on early diagnosis and a single treatment process of breast cancer (25-28). However, there is a lack of prospective longitudinal studies that investigate the effect of individual counselling on anxiety, depression, quality of life and satisfaction of patients with breast cancer starting from the pre-operative period. Drawing on this fact, this study was planned as a longitudinal analysis of the effects of individual counselling on anxiety, depression, quality of life and satisfaction of patients with breast cancer starting from the pre-operative period. The results of this study will contribute to meeting the information and guidance needs of patients with breast cancer in Turkey and will provide guidance.

The study will test the following hypotheses.

Hypotheses

1. The mean anxiety scores of the patients in the experimental group who receive individual counselling are lower than the control group in the post-operative, pre/post-RT and pre/post-CT periods and six months and one year after completion of treatment.
2. The mean depression scores of the patients in the experimental group who receive individual counselling are lower than the control group in the post-operative, pre/post-RT and pre/post-CT periods and six months and one year after completion of treatment.
3. The mean quality of life scores of the patients in the experimental group who receive individual counselling are higher than the control group in the post-operative, pre/post-RT and pre/post-CT periods and six months and one year after completion of treatment.

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4. The satisfaction of the patients in the experimental group who receive individual counselling is high.

Methods

Design and Sample

A quasi-experimental prospective longitudinal design was used in this study. This research was carried out at the general surgery clinic and polyclinic of Dokuz Eylül University Hospital located in the province of Izmir in Turkey. The patients were interviewed in the general surgery clinic in the perioperative and postoperative period. The counselling service was performed in the post-discharge period in a suitable and light room at the general surgery out patient clinic (policlinic) during the process of CT and RT.

The sample for the research consisted of a total of 64 patients; 32 from the experimental and 32 from the control group.

Sample inclusion criteria;

(1) Voluntary participation,
(2) Aged between 18 and 70,
(3) Diagnosed with primary breast cancer (stage I and II),
(4) Literate at a minimum,
(5) Life expectancy of more than a year
(6) Turkish speaking,
(7) No hearing or sight problems.

The experimental group consisted of 32 patients who were given individual counselling while the control group consisted of 32 patients who did not receive individual counselling. The patients in the control group received routine nursing services offered at the hospital where the research was conducted. The routine nursing services at this hospital included discharge training given by clinical nurses at the general surgery clinic in the post-operative period and trainings offered in the limited time in CT and RT units by different nurses.

Procedures

Counselling was conducted by a total of five faculty members of Dokuz Eylül University School of Nursing; an assistant professor holding a doctoral degree in surgical diseases nursing, a faculty member holding a doctoral degree in internal diseases nursing, a research assistant holding a master's degree in surgical diseases nursing, and two research assistants holding masters degrees in psychiatric nursing. In order to reduce individual differences and standardize the counselling service, the counsellors attended a training program and "written guidelines" (skin care, mouth care) were prepared regarding the content of personal counselling. Furthermore, the counsellors held a meeting once a week to evaluate the process. The training program the counsellors attended was given by lecturers who are expert on the following subjects.

The content of the Training Program the Counsellors Attended:

1. Principles of counselling and role of nurse as counsellor in oncology
2. Perioperative process in patients with breast cancer (pre-operative, post-operative, reconstructive surgery)
3. Treatment methods for breast cancer
4. Symptom management; *side effects associated with CT;* pain, fatigue, nausea and vomiting, mucositis, alopecia etc., *side effects associated with RT;* skin reactions, lymphedema, fatigue etc.
5. Coping
6. Sexuality and body image
7. Communication (Self confidence, non-verbal communication, oral communication skills, asking questions, summarizing, empathy, listening, conflict resolution)
8. Cancer and nutrition

The counselling service started in the pre-operative period, continued during the post-operative, RT and CT treatment process, and for one year after the completion of the treatments. Counselling was performed at every stage of the treatment and through one-on-one interviews conducted with the patients in accordance with their needs. Moreover, the patients in both the experimental and control group were provided with a book titled; "Guidelines for patients with breast cancer and their families: There is always a way out" which was prepared by the research group and a nutritionist. The content of the book, which had 102 pages, included the definition of breast cancer, diagnostic methods for breast cancer; sentinel lymph node biopsy; surgical treatment in breast cancer and considerations for post-surgical treatment, RT in breast cancer treatment, its side effects and control; CT in breast cancer treatment, its side effects and control; hormone therapy in breast cancer, its side effects and control; breast reconstruction and breast prostheses; breast self-examination; alternative and complementary therapies; coping with breast cancer; breast cancer and sexuality; breast cancer and nutrition. The content of the book was reviewed by a breast surgeon, a radiation oncologist, a medical oncologist, and a psychiatrist who were also advisors of the project, and necessary changes were made in accordance with their recommendations. After the completion of the project, 1000 copies of the book were published by Dokuz Eylül Publishing with an ISBN number and distributed to patients with breast cancer in surgical, CT and RT clinics free of charge. This has been an additional output of the project and a positive contribution by reaching a large number of patients.

The content and frequency of the counselling service are detailed below (Table 1).

The patients in the experimental group received counselling by telephone almost 100 times throughout the whole counselling process.

During the research, data were collected through face-to-face interviews conducted by patients in the experimental and groups.

Measures

Patient Identification Form

This is a form designed to define the socio-demographic characteristic of the patients included within the scope of the research. It includes patients' age, body mass index, educational status, employment status, marital status, menopausal status, stage of disease, presence of breast cancer in the family and friends, type of surgery, axillary dissection, state of having CT, RT, and hormone therapy.

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Table 1. Content and frequency of personal counselling.

Period of Illness	*Content of Counselling*	*Frequency of Counselling*
Preoperative Period	*Coping with anxiety and stress due to the cancer diagnosis	*Once in preoperative period
	*Possibility of treatment, options of treatments (surgical operation, chemotherapy, radiotherapy)	
	*Inform towards to perioperative period (preoperative, intraoperative and postoperative period, reconstructive surgery)	
	*Answering the questions of the patients	
Postoperative Period	*Coping with postoperative anxiety and stress, body image and sexuality problems	*Once in postoperative period
	* Answering the questions of the patients	*Once in the discharge period
	*Informing about infection, lymph oedema, arm-shoulder exercises, medicine that will be used at home, coping with pain, nutrition, activities and dressing,	
	*Answering the questions of the patients	
Chemotherapy	*Informing about chemotherapy, self care activities towards controlling side effects (pain, fatigue, nausea and vomiting, mucositis, alopecia, diarrhoea, constipation, infection, bleeding, anaemia	*Once in the beginning of chemotherapy treatment *Telephone counselling at 3–5 and 10 days after every chemotherapy treatment of likely side effects
	*Coping with anxiety, stress, emotional and social problems, sexuality and body image.	*Once after chemotherapy treatment
	*Answering the questions of the patients	
Radiotherapy	*Informing about self care activities towards controlling side effects of radiotherapy (dermatologic reactions, lymph oedema, anaemia, bleeding, infection, fatigue)	*Once at the beginning of Radiotherapy treatment *Once in approximately 15–16 days of radiotherapy
	*Coping with anxiety, stress, emotional and social problems, sexuality and body image.	*Once after radiotherapy
	*Answering the questions of the patients	*Counselling by telephone
Hormone Therapy	*Informing about the hormone therapy and side effects	*Counselling by telephone
	*Answering the questions of the patients	
Recovery Period	*Nutrition, social activities, body image, sexuality, coping with anxiety, stress and social problems	*Counselling by telephone after completion of the treatment.
	*Answering the questions of the patients	

Hospital Anxiety and Depression Scale

The Hospital Anxiety and Depression Scale (HADS) was developed by Zigmond and Snaith (29) in order to detect states of anxiety and depression in patients with physical disorders, and its validity and reliability were tested. The scale consists of anxiety and depression subscales. The aim of the scale is not to diagnose patients but to identify risk groups by screening out the anxiety and depression levels among those who have a bodily disorder. It is stated that HADS may also be used for detecting the risk of anxiety and depression in cancer patients (30).

The Turkish version of HADS was tested by Aydemir (31). The language, content, construct and concurrent validity of the scale were tested. Factor analysis was used to test construct validity and two factors, similar to the original scale, were found. In the validity analysis, the correlation coefficient between the anxiety subscale and Trait Anxiety Scale was found to be 0.75 while the correlation coefficient between the depression subscale and Beck Depression Scale was found to be 0.72. In the reliability study, the internal consistency Cronbach's Alfa coefficient was found to be 0.85 for the anxiety subscale and 0.77 for the depression subscale, and it was determined that item total score correlation coefficients ranged between 0.81 and 0.85 for the anxiety subscale while they ranged between 0.73 and 0.77 for the depression subscale. Split-half reliability was found to be r= 0.85 for the anxiety subscale and r=0.80 for depression subscale (31).

The scale consists of 14 items; 7 of which measure anxiety symptoms and the other 7 measuring those of depression. The responses are assessed on a 4-point Likert-type scale; and each of the items is scored from 0 to 3. Items numbered 1, 3, 5, 7, 9, 11, and 13 are summed for the anxiety subscale, while items numbered 2, 4, 6, 8, 10, 12, and 14 are summed for the depression subscale (31). Cronbach's Alpha coefficients for this study were calculated to be 0.78 for the anxiety subscale and 0.77 for the depression subscale.

Multidimensional Quality of Life Scale II

Multidimensional Quality of Life Scale II was developed by Padilla (32), and its validity and reliability were tested. It consists of 33 items and five subscales; psychological well-being, general physical well-being, nutrition, symptom management and interpersonal well-being.

The validity and reliability of the Turkish version of the scale was examined by Pınar (33). The validity of the scale was tested with language, content, construct and concurrent validity methods.

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Table 2. Comparison of the experimental and control groups according to sociodemographic factors, clinical properties of the illness and pre-counselling anxiety, depression and quality of life mean scores.

Properties Group (N=32)	*Experimental Group (N=32) X±SS*	*Control X±SS*	*t*	*P*[a]
Age	49.21±8.64	52.90±9.13	1.65	.102
Before counselling				
Mean anxiety score	9.97±2.25	9.99±2.29	1.88	.746
Before counselling				
Mean depression score	8.73±1.60	8.56±1.53	1.278	.985
Before counselling				
Mean quality of life score	6.82±1.57	6.78±1.16	1.063	.871
	N (%)	**N (%)**	**X^2**	**P**[a]
BMI				
Thin+normal	13 (40.6)	16 (50.0)	.252[b]	.616
Overweight+obese	19 (59.4)	16 (50.0)		
Education				
Literate+primary school	15 (46.9)	14 (43.8)	.749	.688
(5 y)				
Secondary school+high school (primary school+3 y)	8 (25.0)	6 (18.8)		
College/university	9 (28.1)	12 (37.5)		
Marital status				
Married	14 (43.8)	13 (40.6)	.000[b]	1.00
Single	18 (56.3)	19 (59.4)		
Working Status				
Yes	7 (21.9)	6 (18.8)	.000[b]	1.00
No	25 (78.1)	26 (81.3)		
Menopause period				
Yes	19 (59.4)	22 (68.8)	.271[b]	.602
No	13 (40.6)	10 (31.3)		
Stage of illness				
Stage I	4 (12.5)	6 (18.8)	.119	.731
Stage II	28 (87.5)	26 (81.3)		
Breast cancer history in the family				
Yes	9 (28.1)	6 (18.8)	.348[b]	.555
No	23 (71.9)	26 (81.3)		
Breast cancer history in friends				
Yes	10 (31.3)	8 (25.0)	.077[b]	.781
No	22 (68.8)	24 (75.0)		
Type of surgery				
Modified radical mastectomy	19 (59.4)	14 (43.8)	1.001[b]	.317
Breast conserving surgery	13 (40.6)	18 (56.3)		
Axillaries dissection				
Yes	23 (71.9)	17 (53.1)	1.667[b]	.197
No	9 (28.1)	15 (46.9)		
Radiotherapy				
Yes	30 (93.8)	30 (93.8)		1.00[c]
No	2 (6.3)	2 (6.3)		
Chemotherapy				
Yes	24 (75.0)	26 (81.3)	.091[b]	.762
No	8 (25.0)	6 (18.8)		
Hormone therapy				
Yes	32 (100)	32 (00)		
No	-	-		

BMI: Body mass index (WHO, Global Database on Body Mass Index, BMI classification) (34)
[a]P> .05, [b]Continuity Correction, [c]Fisher's Exact Test

For construct validity, factor analysis was made and five factors demonstrating coherence with the original scale were found. In the concurrent validity method, the correlation coefficient between SF 36 and the quality of life scale was found to be 0.78. The reliability study showed that the internal consistency coefficient Cronbach's Alpha for the five subscales ranged between 0.76 and 0.96, while the stability coefficient test-retest correlation ranged between 0.56 and 0.91 (30).

The scale uses a 10-cm linear analogue scale. Both total and subscale scores are obtained from the scale. The mean quality of life scale total score is obtained by summing the responses and dividing by the number of items. There is no cut-off point in the scale. Higher scores on the scale and subscales indicate higher quality of life (30). The Cronbach's Alpha internal consistency coefficient for this study was calculated to be 0.80.

Patient Satisfaction Form

This is a form designed to evaluate the counselling process. In order to assess satisfaction with the process, the form consists of facial expressions, each representing a score; (1) not pleased, (2) somewhat pleased, (3) pleased, (4) very pleased, three questions and an open-ended question. The questions are as follows; In your opinion, which facial expression best defines the counselling process? In your opinion, which facial expression best defines the clarity of the information provided? In your opinion, which facial expression best defines the convenience of the counselling environment? If you have any other recommendations concerning the counselling service, please share. Total score is obtained by summing the scores given to each item and dividing by the number of items (3). The lowest score that can be obtained from this form is 1 while the highest is 4.

Data Collection: Data for the research were collected from experimental and control group patients via a face-to-face interview method. In order not to affect research results negatively, data from the experimental group of patients were collected after completing the data for the control group patients. Data at the preoperative and postoperative period in both experimental and control

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group were collected at the general surgery clinic of the hospital where the research was conducted from the patients meeting the sampling inclusion criteria; subsequent data were collected in a special room in the general surgery clinic where the consulting service was given. Data were collected between April 2006 and September 2008.

Ethical Considerations

Written permission to conduct the research was obtained from the Ethic Committee of Dokuz Eylül University School of Nursing and the Health Directorate of Dokuz Eylül University Hospital. During the collection of data, patients were informed about the aim and methods of the research and their verbal consent was received.

Data Analysis

The data obtained were evaluated by the "SPSS software for Windows 15.00". The descriptive characteristics of the patients in the experimental and control groups were given in number and percentage distribution. T-test and chi-square test were conducted to analyse the differences between the groups in terms of age, body mass index, educational status, employment status, marital status, menopausal status, stage of disease, presence of breast cancer in the family and friends, type of surgery, axillary dissection, state of having CT, RT, and hormone therapy. The difference between experimental and control groups in terms of anxiety, depression, quality of life and patient satisfaction was analysed by t test and Mann-Whitney-U test. In the data analysis, significance testing of the difference between two means (t- test) for testing difference between independent groups was used if data had a normal range, data measurement and sampling number was n:30 and over; when these assumptions were not met, the Mann-Whitney-U-test (U), which was a non-parametric t-test, was used.

Results

The Socio-Demographic Characteristics of Patients

The patients in the experimental group were aged between 39 and 70 with a mean age of 49.21± 8.64, while those in the control group were aged between 39 and 70 with a mean age of 52.90±9.13. When the patients in the experimental and control group were compared in terms of factors (age, body mass index, educational status, employment status, marital status, menopausal status, stage of disease, presence of breast cancer in the family and friends, type of surgery, axillary dissection, state of having CT, RT) that may affect the dependent variables of the study, which are anxiety, depression and quality of life, no statistically significant differences were found between the two groups (34). The patients in the experimental and control group were found to be similar in terms of factors that may affect anxiety, depression, and quality of life. Since all the patients in the experimental and control groups received hormone therapy, a statistical analysis was not made (Table 2).

The Effect of Individual Counselling on Anxiety and Depression

A statistically significant difference was found between the *mean anxiety scores* of the experimental and control groups in the post-operative, pre/post-RT and pre/post-CT periods and six months and one year after completion of treatment. In all stages of treatment, the mean anxiety scores of the experimental group that received individual counselling were found to be lower than those of the control group (Table 3).

A statistically significant difference was found between the *mean depression scores* of the experimental and control groups in the post-operative, pre/post-RT and pre/post-CT periods and six months and one year after the completion of treatment. In all stages of treatment, the depression mean scores of the experimental group that received individual counselling were found to be lower than those of the control group (Table 4).

The Effect of Individual Counselling on Quality of Life

A statistically significant difference was found between the *mean quality of life scores* of the experimental and control groups in the pre/post-RT and pre/post-CT periods and six months and one year after the completion of treatment, except for the post-operative period. In these stages, the mean quality of life scores of the experimental group that received individual counselling were found to be higher than those of the control group. A statistically significant difference was not found between the *mean quality of life scores* of the experimental and control groups in the post-operative period (Table 5).

Satisfaction with Individual Counselling

In the experimental group (n=32), mean score indicating satisfaction with counselling was found to be 3.96±0.11 (min: 3.67, max: 4.00).

The responses to the open-ended question on the form indicating satisfaction with the counselling service were as follows.

- On the day of the surgery, I felt as if I got smaller in my bed. Your talk made me relax.
- There was someone I could call day and night when I was in trouble. Being able to reach you on the phone also made me happy.
- In the beginning, I found it very difficult to accept the disease. I learnt a lot from you. I am recommending patients around me in the same situation receive such a service.
- You were present in all stages of my treatment. I felt secure.
- God sent you like an angel, I always prayed for you.
- The information you provided me was clear and comprehensi-

Table 3. Comparison of the experimental and control groups according to mean anxiety scores.

Mean Scores of Hospital Anxiety	*Experimental Group X±SS*	*Control Group X±SS*	*t*	*p*
After surgery[a]	8.81±1.87	9.96±2.30	2.201	.031[d]
Before radiotherapy[b]	8.70±2.08	11.16±4.31	2.818	.007[e]
After radiotherapy[b]	8.03±2.61	10.96±3.47	3.689	.000[f]
			U	**P**
Before chemotherapy[c]	9.08±2.01	11.03±2.48	173.50	.006[e]
Before chemotherapy[c]	9.87±3.08	13.11±4.03	154.00	.002[e]
			t	**P**
6 months later[a]	7.34±2.32	9.68±3.85	2.945	.005[e]
1 year later[a]	5.40±2.99	8.12±3.85	3.154	.002[e]

[a]Experimental Group (n=32), Control Group (n=32), [b]Experimental Group (n=30), Control Group (n=30), [c]Experimental Group (n=24), Control Group (n=26), [d]P<.05, eP<.01, [f]P<.001

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Table 4. Comparison of the experimental and control groups according to mean depression scores.

Mean Scores of Depression	*Experimental Group X±SS*	*Control Group X±SS*	*t*	*p*
After surgery[a]	7.46±1.90	8.53±1.70	2.288	.026[d]
Before radiotherapy[b]	6.93±3.50	8.86±2.96	2.306	.025[d]
After radiotherapy[b]	6.66±2.50	9.73±3.46	3.927	.000[f]
			U	**P**
Before chemotherapy[c]	8.54±1.76	9.69±1.92	150.000	.002[e]
Before chemotherapy[c]	8.33±2.09	10.11±2.25	179.000	.009[e]
			t	**P**
6 months later[a]	5.46±1.50	6.96±1.75	3.679	.000[f]
1 year later[a]	.4.28±1.19	5.68±1.17	4.739	.000[f]

[a]Experimental Group (n=32), Control Group (n=32); [b]Experimental Group (n=30), Control Group (n=30), [c]Experimental Group (n=24), Control Group (n=26); [d]P<.05, [e]P<.01, [f]P<.001

Table 5. Comparison of the experimental and control groups according to mean quality of life scores.

Mean Scores for Quality of Life	*Experimental Group X±SS*	*Control Group X±SS*	*t*	*p*
After surgery[a]	7.33±1.01	6.84±1.09	1.875	.066
Before radiotherapy[b]	7.48±0.89	6.83±0.84	2.853	.006[d]
After radiotherapy[b]	7.79±0.76	7.12± 0.72	3.478	.001[d]
			U	**P**
Before chemotherapy[c]	7.35±0.89	6.67±0.84	176.500	.008[d]
Before chemotherapy[c]	6.99±0.88	6.16±0.67	150.000	.002[d]
			t	**P**
6 months later[a]	7.99±0.97	7.18±0.46	4.276	.000[e]
1 year later[a]	8.03±0.85	7.39±0.52	3.592	.001[d]

[a]Experimental Group (n=32), Control Group (n=32); [b]Experimental Group (n=30), Control Group (n=30), [c]Experimental Group (n=24), Control Group (n=26); [d]P<.01, [e]P<.001

ble. I tried to practice your suggestions. Thank you very much.

- There were a thousand questions on my mind, I was like a huge balloon which was about to burst. I relaxed with your support. You gave me trust.
- I always thought that these kinds of patients were close to death. However, it was not so, you showed me the way, I reconnected to life.
- What made me feel easy was that you gave an answer to my uncertainties. Now, I know what will happen during CT, now I know what will happen during RT. Receiving information before you go for an unknown thing makes you feel ready.
- I really liked the wig you offered me for my hair. Not everyone realized that it was false.
- In this disease, one doesn't know what to eat or drink. I learnt these from the book you gave me. In this way, I can easily choose what to eat.

Discussion and Conclusions

In all stages of the treatment, the risk of anxiety and depression was found to be lower in the experimental group than the control group. The quality of life in the experimental group that received individual counselling was found to be higher than the control group in all stages of the treatment, except for the post-operative period. The results of this study are consistent with studies in the literature that investigate the effect of information and support provided to women with breast cancer through different methods.

In the randomized controlled trial conducted by Williams and Schreier (18) in the USA, it was stated that informative tapes prepared for patients with breast cancer receiving their first treatment of CT diminished their level of anxiety. In the study conducted by Meneses et al. (19) with women with breast cancer in the USA, it was determined that individual psychoeducational intervention improved quality of life at 3 and 6 months. In the study conducted by Haggmark et al. (20) with cancer patients in Sweden, it was determined that in addition to the standard information given to patients, repeated individual information reduced anxiety and depression, and improved life quality. In our study, although the experimental and control groups were given the same educational book, the fact that individual training was given according to patient requirements by the same health staff improved patient care results. In the literature, in addition to individual training, there are also studies that demonstrate the positive effects of group training on patients. Montazeri et al. (17) showed that the cancer support group they conducted with women with breast cancer in Iran reduced their level of anxiety and depression, and improved their quality of life. In a study conducted with early stage breast cancer, Helgeson et al. (21) compared the effects of peer discussion, education and peer discussion plus educational intervention on adjustment, and determined that peer group intervention did not have a long-term effect alone, but it improved quality of life in combination with education. In a study conducted by Hosaka et al. (22) in Japan, it was stated that group interventions including psycho-education, problem solving, relaxation and guided imagery for women with early stage breast cancer had a positive effect on the mood states of patients. In a meta-analysis of 37 controlled trials that examined the effect of psychosocial interventions on quality of life, Rehse and Pukrop (23) revealed that psychosocial interventions improved patients' quality of life.

In Turkey, there are no breast care nurses that provide information-support and counselling services to patients throughout the whole treatment process starting from the diagnosis stage and no certificate programs on breast care nursing. For this reason, patients receive training and counselling from different nurses in general surgery clinics, RT and CT units. Furthermore, due to the excessive number of patients and the fact that nurses employed in these clinics are providing service to all cancer patients, trainings are conducted in a limited time and it is not always possible to spare enough time for patients. As for the experimental group that received individual counselling, the fact that patients were provided information, training and support in accordance with their requirements by the same nurse throughout all the stages of the treatment reduced uncertainty in patients and increased the feeling of trust in the nurse, leading to a diminished risk of anxiety and depression as well as improving the quality of life.

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The patients in the experimental group reported a high level of satisfaction with the counselling service they received. The fact that women with breast cancer were provided with necessary information and support by the same nurse increased patient satisfaction. The studies conducted revealed that providing information and counselling services to patients with breast cancer reduced the symptoms; supervision of physiological and psychological needs by nurses and providing supportive training increased satisfaction (2, 11).

Conclusions and Implications for Practice

It was determined that the counselling service given to breast cancer patients by nurses reduced the patients' level of anxiety and depression, and improved their quality of life.

Nurses should be aware of the fact that information and support are of critical importance for women diagnosed with breast cancer, should provide them with the opportunity to ask questions, pay attention to individual information needs and plan educational programs accordingly, and provide patients and their families with necessary information, skills and support (5, 8, 13, 30).

Health professionals should determine the needs, concerns and life quality of patients, and develop appropriate strategies for the psychological and physiological well-being of patients together with them. Nurses should determine risk groups by making early diagnosis of psychological symptoms, take measures and intervene in a timely manner, and these persons should be given psychological support.

Counselling and support given by the same nurse in all stages of breast cancer treatment may increase the patient's trust in the nurse and improve the emotional condition and life quality of the patient. Within this context, there is a need for the development of educational criteria and certification programs and the determination of the duties, role and responsibilities of breast care nurses in Turkey. Furthermore, there is also a need for studies to be conducted with a well-planned methodology that investigate the efficiency of breast care nursing.

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Conflict of Interest

No conflict of interest was declared by the authors.

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Author Contributions

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