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The Effect of Individual Training Program Given to Women with Breast Cancer on Support Needs and Quality of Life

Meme Kanserli Kadınlarda Verilen Bireysel Eğitim Programının Destek Gereksinimleri ve Yaşam Kalitesine Etkisi

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ABSTRACT

Objective: This study was conducted to determine the effect of the individual training program given to women with breast cancer on their support needs and quality of life.

Material and Method: This semi-experimental study was completed with a total of 73 patients, 37 patients from the intervention group and 36 patients from the control group. Patients attending the study were observed for three months. Research data were obtained via personal information form, Self-Assessed Support Needs Scale and Quality of Life scale. Shapiro-Wilk Test, Chi-square, Pearson Chi-Square Test, Fisher Exact Test, Mann-Whitney U test, Friedman test, Wilcoxon ranks signed test were used for statistical analysis.

Results: A statistically significant difference was found between the groups in terms of body image, systemic treatment side effects, breast and arm symptoms, quality of life sub-dimensions scores. A statistically significant difference was found between intervention and the control group patients in terms of the total score averages of the support needs scale. 13.5% of the patients who formed the group of interventions were identified as complication in 52.8% of the control group patients.

Conclusion: As a result of this study, it was determined that the individual training program given to women with breast cancer had a positive effect on their support needs and quality of life. With the individual training program given to the intervention group, it was determined that there was a decrease in support needs and an improvement in their quality of life

Keywords: *Breast Cancer, Patient Education, Quality of Life, Support Needs*

ÖZET

Amaç: Bu çalışma meme kanserli kadınlarda verilen bireysel eğitim programının destek gereksinimleri ve yaşam kalitesine etkisini belirlemek amacıyla yapıldı**.**

Materyal ve Metod: Bu yarı deneysel çalışma, girişim grubundan 37 hasta, kontrol grubundan 36 hasta olmak üzere toplam 73 hasta ile tamamlandı. Çalışmaya katılan hastalar üç ay süresince gözlemlendi. Araştırma verileri kişisel bilgi formu, kendi kendine destek gereksinimlerini değerlendirme ölçeği ve yaşam kalitesi ölçekleri ile toplandı. Verilerin analizinde Shapiro-Wilk Testi, ki-kare testi, Pearson Ki-kare Testi, Fisher's Exact, Ki-kare testi, Mann-Whitney U testi, Friedman testi, Wilcoxon signed ranks testi kullanıldı.

Bulgular: Beden imajı, sistemik tedavi yan etkileri, meme ve kol semptomları ile yaşam kalitesi alt boyutları puanları açısından gruplar arasında istatistiksel olarak anlamlı fark saptandı. Destek gereksinimleri ölçeği toplam puan ortalamaları bakımından girişim ve kontrol grubu hastaları arasında istatistiksel olarak anlamlı bir fark bulundu. Yapılan üç aylık izlem sonucunda girişim grubunu oluşturan hastaların %13.5'inde, kontrol grubu hastaların ise %52.8'inde komplikasyon geliştiği belirlendi ($p<0.05$).

Sonuç: Bu çalışma sonucunda meme kanserli kadınlarda verilen bireysel eğitim programının destek gereksinimlerine ve yaşam kalitesine olumlu etkisi olduğu saptandı. Girişim grubuna verilen bireysel eğitim programı ile destek gereksinimlerinde azalma, yaşam kalitelerinde iyileşme olduğu belirlendi**.**

Anahtar kelimeler: *Meme Kanseri, Hasta Eğitimi, Yaşam Kalitesi, Destek Gereksinimleri*

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INTRODUCTION

Breast cancer, the second-highest cause of deaths of women related to cancer, is one of the most common cancers among women worldwide (American Cancer Society, 2020; Kim et al., 2020).

When a woman is with breast cancer, this fact affects individuals as well as their relatives in terms of cognitive, psychological, emotional, spiritual, and social aspects (Doria et al., 2020). Although survival rates increase, shock, depression, anxiety, fatigue, effects on the body image and loss of some social roles in family and work are some of the physical as well as major psychological problems women with breast cancer may experience. Survival time is associated with physical symptoms and psychological reactions. It affects all areas of quality of life (QoL) (Jassim and Whitford, 2014; Liao et al.,2014; Abebe et al., 2020; Kostić et al., 2020;). For this reason, cancer patients need supportive care and information related to physical, psychological, social, spiritual, and sexual needs (Liao et al., 2014; Hubbard et al., 2015). Breast cancer adversely has more negative effects on psychosocial functionality as well as QoL of the patient in the case of lack of knowledge and social support (Liao., 2012; Liao et al., 2014; Hubbard et al., 2015). High survival rates in breast cancer, prolonged and late effects of cancer treatment have led to an increase in supportive care and psychosocial needs due to psychosocial concerns (So et al., 2014; Cheng et al., 2015). Although supportive care is important, it is stated that 93% of cancer patients face problems in fulfilling the needs of supportive care (Ng., 2011; Li et al., 2013). In Turkey, the support needs of women with breast cancer are generally centered around family and friends (79%) and aftercare (78%). The others are the diagnosis, treatment, support, information, femininity, and body image (Erci and Karabulut, 2007).

When specific requirements are not fulfilled in breast cancer during diagnosis, treatment, and post-treatment, other requirements are added eventually. Therefore, the physical, emotional, and social needs of the patient should be considered important and fulfilled in each specific period (Budin et al., 2008). Monitoring the problems related to the disease and the healing process, monitoring of side effects, and providing information to these patients is an important step that should be taken to improve these patients' QoL (Obaidi and Al-Atiyyat, 2013; Salonen et al., 2014). Individual information given to patients has an important role in reducing anxiety, maintaining care, shortening hospital stay, reducing treatment-related complications, improving patient satisfaction, and QoL. Inadequate, limited information about treatment options and outcomes of treatment may lead to psychological distress in women (Ho et al., 2013; Kim et al., 2020). A professional and holistic approach is required to manage patients effectively. Nurses may play a vital role in supporting the process (Rawther et al., 2020). It is stated in the literature that psychosocial interviews and effective individual training and counseling programs affect the life quality of cancer patients positively (Björneklett et al., 2012; Salonen et al., 2014; Shahsavari et al., 2015; Wu et al., 2018). Nurses are in a vital position for both physical and psychosocial support needed by women with breast cancer (Rawther et al., 2020). One of the important roles of nurses is the training of patients. It is important to provide individual care, information, and guidance according to the needs and preferences of the patients to reduce their physical and psychological problems.

This quasi-experimental study was carried out to evaluate the effects of an individual training on the support needs and quality of life in women with breast cancer.

MATERIAL and METHOD

Study Design

This quasi-experimental study was conducted in a General Surgery Clinic at a University Hospital in the Aegean Region of Turkey between January 3, 2017, and November 15, 2017. The study included participants who were with breast cancer, will have breast surgery, fulfilled inclusion criteria and are willing to participate in the study.

Sample

Power analysis was applied to determine the sample size. In the study, a 5% error for the power analysis was sufficient to take 36 patients to each group to ensure minimal sample size with 80% power. However, 40 people were taken for each group, considering that it would be appropriate to receive more than 10-15% of the calculated number of people, as sample losses could occur during the run time. A total of seven patients, three patients from the intervention group and four patients from the control group were not able to complete the study for different reasons during the run time. The study was completed with a total of 73 patients, 37 patients from the intervention group and 36 patients from the control group.

Purposeful sampling method, one of the nonprobability sampling methods was used in the selection of the sample. Patients who were admitted to the clinic during the first week of work being started to avoid interaction between the working groups in the same clinic or even the same room were taken to the control group, while patients who had been admitted the next week were admitted to the group. Patients were continued to be taken in the same way, week by week, until the study was completed.

Participants

All the patients admitted to the General Surgery Clinic for breast surgery were evaluated by the researcher to determine whether they fulfilled inclusion criteria of the study. Patients agreeing to participate in the study and fulfilling the following inclusion criteria were included in the study: with breast cancer, knew the diagnosis, above 18 years of age, literate, able to speak and understand Turkish, who had no communication barriers, had mental competence, had no psychiatric disease, conscious, stable condition, who will undergone breast surgery undergone breast surgery were included in the study.

Patients who met the exclusion criteria, had cognitive impairment, communication difficulties, mental disability, psychiatric disease, were unstable, had undergone transplantation and had to receive chemotherapy suddenly before surgery were excluded from the study. During the data collection process, patients who were developed serious post-operative psychological problems and who unwilling to continue research were also excluded from the sample.

Procedure

The diagnosis of breast cancer and all patients who were admitted to the clinic were pre-interviewed first. This meeting met patients and was informed about the study. Written consent has been received from patients who wish to participate in the study. After the introduction of patients in the interventional group, the personal characteristics, condition of illness, care and treatment information and needs were evaluated.

Patients in the intervention group patients were included in a five-session training program. Trainings were given to these patients before the operation, before discharge, on the 10th day after operation, at the 1st month after operation and at the 3rd month operation.

All patients in the intervention group were able to reach the researcher by phone whenever they needed it. These patients were tried to be motivated to maintain their self-management with the education given. The training was given in a hospital environment using face-to-face, one-to-one teaching technique. Each training session lasted between 40-50 minute. Training booklet, powerpoint presentation and breast model were used in individual training.

The training booklet named "Breast Cancer and Life" includes information about breast cancer, diagnosis/treatment protocols, side effects of treatments, pre/post-operative personal care, symptom management, nutrition, diet, arm exercises, emotional and social adjustment. A training booklet was given to all patients in the intervention group before discharge. Patients in the control group were not intervened except for routine maintenance in the clinic. A training booklet was given to the control group when all measurements were completed.

Data Collection

All patients participating in the study were monitored for a period of three months. The data was collected in a face-to-face method and by using personal information form, Self-Assessed Support Needs Scale, European Organization for Research and Treatment of Cancer Quality of life (EORTC QLQ-30), European Organization for Research and Treatment of Cancer Quality-of-life (EORTC BR-23). The data were collected on the day the patients were admitted to the hospital (pre-test = T0), the day they came for the postoperative control= on the 10th day postoperatively (post-test1 = T1), the 1st month after the surgery (post-test2 = T2) and the 3rd month after the operation (post-test3 = T3). Each measure of each data collection time period is presented in Figure 1.

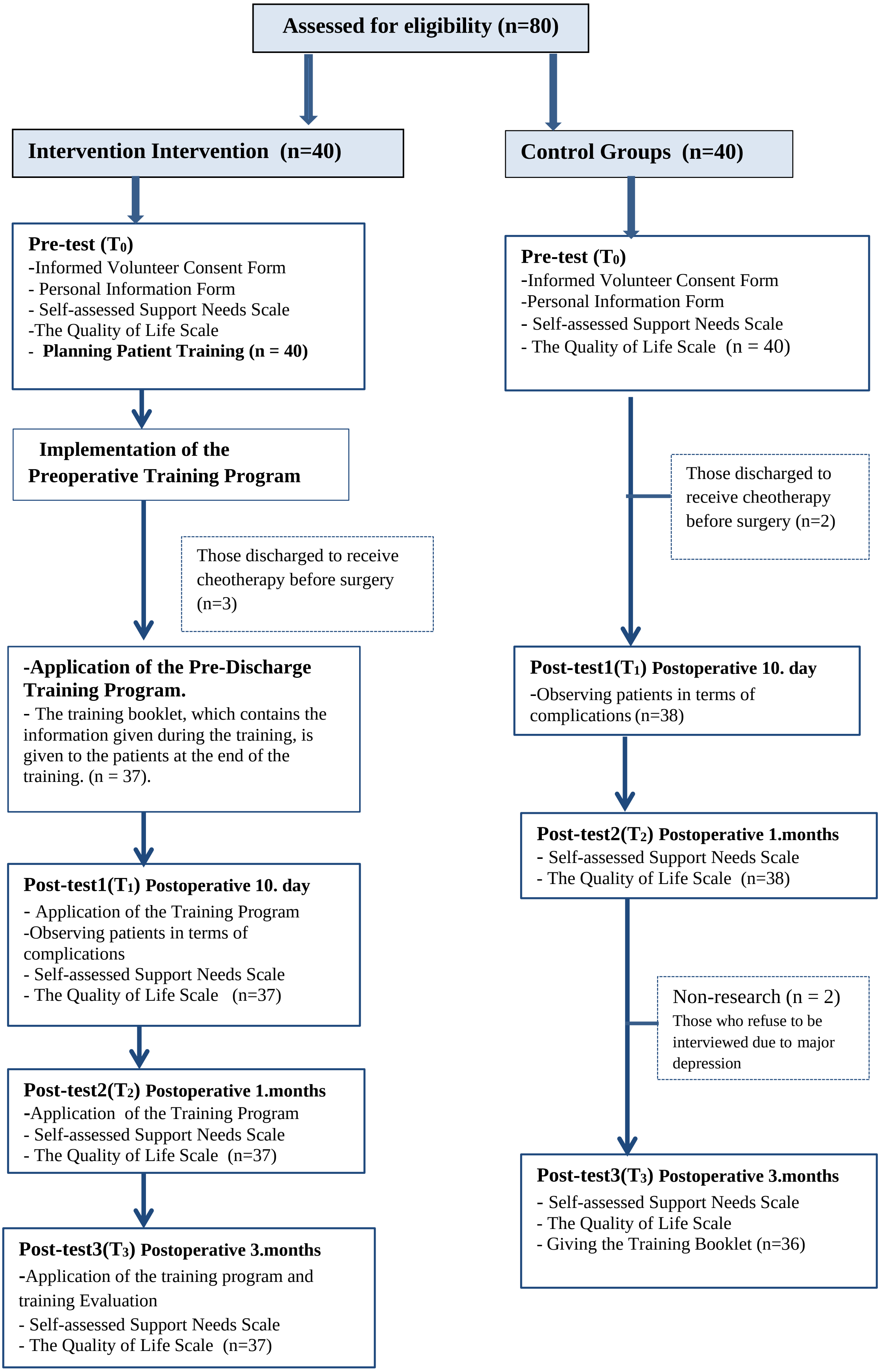

Figure 1. Research process flow chart

Instruments

Patient Information Form: This form consists of question related with patients' age, education, marital status, chronic disease, menopause status, social security status, place of residence, child status, breast cancer in the family, people living together, breast surgery, axillary surgery and similar questions.

Self-Assessed Support Needs Scale: The self-assessed support needs scale for women with breast cancer which is developed by Lindop and Cannon (2001) consists of 54 questions in eight sub-dimensions: diagnosis, treatment, support, sexuality and body image, family and friends, information, post-treatment. The lowest score of the scale is 54, whereas the highest 270. The Cronbach's alpha value of the scale whose Turkish validity and reliability was performed by Erci and Karabulut (2007) was found to be 0.93. Lindop and Cannon (2001) did not report internal consistency realibility and validity. In this study, Cronbach's alpha value of the overall scale was found to be 0.94.

European Organization for Research and Treatment of Cancer Quality of life (EORTC QLQ-30): The Quality of Life Scale developed by Aaronson et al. (1993) includes three subheadings: general well-being, functional status (physical, role, cognitive, emotional and social) and symptom control. The scale consists of a total of 30 questions. Other questions are questions related to the functional area and symptoms section. Each item in the scale is scored from 0 to 100 points. The higher the general well-being and the higher the mean score on the functional scale, the better the situation. On the symptom scale, on the other hand, it shows that the higher the score, the greater the problems. Turkish validity and reliability study was carried out by Demirci et al. (2011). In the Turkish validity and reliability study, Cronbach's alpha value of scale was found to be 0.66-0.91. The original EORTC QLQ-30 scale Cronbach's alpha value was 0.70 (Aaronson et al., 1993). In this study, Cronbach's alpha value of the overall scale was found to be 0.88.

European Organization for Research and Treatment of Cancer Quality-of-life (EORTC BR-23): It is a special scale for breast cancer; evaluate the symptoms seen during breast cancer and their treatment. The EORTC BR-23 scale developed by Sprangers et al. (1996) consists of twenty-three items. The scale has two sub-dimensions: functional and symptom. A 4-point Likert scale in which 1 represents ''Not at All'' and 4 represents ''Very Much'' was used for the scoring. The high score obtained from the scale indicates that the functional level and the degree of symptoms are high. The validity and reliability of the QLQ-BR23 scales in breast cancer patients were performed by Demirci et al. in 2011 and the Cronbach's alpha coefficient of the Cronbach's alpha coefficient of the QLQ-BR23 scale was 0.61-0.88. The original EORTC BR-23 scale Cronbach's alpha value was 0.70 to 0.91. (Sprangers et al., 1996). In this study, Cronbach's alpha value of the overall scale was found to be 0.84.

Statistical Analysis

The SPSS (Statistical Packing for social sciences for Windows 22.0) program was used for the analysis of the study data. The Shapiro-Wilk Test was used to determine whether the data conformed to the normal distribution. For the data that did not fit the normal distribution, Chi-square (x2), Pearson Chi-Square Test, Fisher's Exact Test, Mann-Whitney U test, Friedman test, Wilcoxon ranks signed ranks test was used to compare the differences between the groups. A value $p<0.05$ was considered statistically significant.

RESULTS

It was determined that the intervention and control patients within our study were mostly below the age of 50 years. The mean age in the intervention group was =46.56+10.40, while it was =49.16+9.68 in the control group. 37.8% of the patients in the intervention group were university graduates, and 30.6% of the patients in the control group were university graduates. It was determined that 29.7% of the patients in the intervention group and 33.3% of the patients in the control group had a family history of breast cancer. It was determined that 62.2% of the patients in the intervention group had total mastectomy, 59.5% of them had axillary dissection, 63.9% of the patients in the control group had total mastectomy, 66.7% of them had axillary dissection. There was no significant difference detected between the groups regarding the socio-demographic characteristics ($p>0.05$). (Table 1).

Table 1. Descriptive characteristics of the patients (n=73)

Descriptive Characteristics	**Intervention Group (n=37)**		**Control Group (n=36)**		**Total (n=73)**		***Statistic*** **p values**
	n	**(%)**	**n**	**(%)**	**n**	**(%)**	
Participant							
Age							
≤50	24	64.9	21	58.3	45	61.6	
≥51	13	35.1	15	41.7	24	38.4	0.634[b]
Marital status							
Married	32	86.5	30	83.3	62	84.9	
Single	2	5.4	1	2.8	3	4.1	0. 643[a]
Divorced/widowed	3	8.1	5	13.9	8	11.0	
Level of Education							
Primary school degree	10	27.0	13	36.1	23	31.5	
Middle school degree	6	16.2	7	19.4	13	17.8	0.765[a]
High school degree	7	18.9	5	13.9	12	16.4	
University	14	37.8	11	30.6	25	34.2	
Working Status							
Yes	20	54.1	27	75.0	47	64.4	
No	17	45.9	9	25.0	26	35.6	0.087[b]
Social Security Status							
Yes	35	94.6	34	94.4	69	94.5	
No	2	5.4	2	5.6	21	5.5	1.000[b]
Place of residence							
City Center	15	40.5	15	41.7	30	41.1	
Distict	20	54.1	18	50.0	38	52.1	0.864[a]
Village	2	5.4	3	8.3	5	6.8	
Child Status							
None	7	18.9	3	8.3	10	13.7	
One	11	29.7	10	27.8	21	28.8	0.304[a]
Two	17	45.9	17	47.2	34	46.6	
Three	2	5.4	6	16.7	8	11.0	
Breast cancer in the family							
Yes	11	29.7	12	33.3	23	31.5	
No	26	70.3	24	66.7	50	68.5	0 .804[b]
People living together							
Alone	2	5.4	3	8.3	5	6.8	
Spouse	8	21.6	7	19.4	15	20.5	
Spouse and children	17	45.9	18	50.0	35	47.9	0.988[a]
Children	3	8.1	2	5.6	5	6.8	
Spouse-Children- a Relatives	5	13.5	4	11.1	9	12.3	
Mother and daughter	2	5.4	2	5.6	4	5.5	
Breast surgery							
Partial Mastectomy	14	37.8	13	36.1	27	37.0	1 .000[b]
Total Mastectomy	23	62.2	23	63.9	46	63.0	
Axillary surgery							
Sentinel node biopsy	15	40.5	12	33.3	27	37.0	0 .630[b]
Axillary clearance	22	59.5	24	66.7	46	63.0	
Stage							
Stage 1	3	8.1	3	8.3	6	8.2	
Stage 2	21	56.8	22	61.1	43	58.9	0.916[a]
Stage 3	13	35.1	11	30.6	24	32.9	
Total	37	100.0	36	100.0	73	100.0	

[a] Pearson Chi-Square Test

[b] *Fisher 's Exact Test*

In regards to mean global health status, physical functioning, role functioning, fatigue, pain, financial difficulties scores, a statistically significant difference was detected between the groups (p<0.05). In our study, it was found that there was an increase in the mean scores of postoperative functional sub-dimension with the training program provided to the intervention group and a decrease in the mean score of symptom scale (p<0.05) (Table 2).

Statistically significant difference was found between the interventions and control groups in terms of body image, side effects of systemic treatment, breast symptoms and arm symptoms life quality sub-dimensions scores (p<0.05) (Table 3).

Table 2. Distribution of EORCT QLQ-30 scale score means of patients with breast cancer before and after training

	EORCT QLQ-30 outcome	Groups	Pre-test (T_0)	Post-test1 (T_1) (10. day)	Post-test2 (T_2) (1.months)	Post-test3 (T_3) (3. months)	Test and p values	
			Mean ± SD	**Mean ± SD**	**Mean ± SD**	**Mean± SD**	**Test*, p**	**Wilcoxon signed ranks test**
Functional scales	Global health status	Intervention	63.73±19.76	54.72±20.08	61.71±18.15	69.59±14.59	14.069 0.003	$T_0>T_0;T_3>T_1, T_2$
		Control	56.01±21.69	44.90±17.51	53.24±17.05	47.22±20.60	12.616 0.006	$T_0, T_2> T_1$
		z /p	-1.762/0.078	-2.446/0.014	-2.073/0.038	-4.567/0.000		
	Physical functioning	Intervention	79.27± 16.76	66.48± 20.99	73.69± 18.52	77.11±15.19	20.381 0.000	$T_0, T_2, T_3> T_1$
		Control	83.70±14.55	69.07±17.24	66.66±15.11	64.25±20.41	40.071 0.000	$T_1 >T_0> T_2, T_3$
		z /p	-1.184/0.237	-0.156/0.876	-2.081/0.037	-2.710/0.007		
	Role functioning	Intervention	82.43± 28.58	59.45± 31.06	68.01± 22.00	77.92±16.69	22.946 0.000	$T_0, T_3> T_1, T_2$
		Control	90.74±16.15	56.01±28.49	67.59±22.86	56.94±28.55	36.091 0.000	$T_0> T_1, T_2, T_3$ $T_2> T_1, T_3$
		z /p	-.0886/0.376	-0.591/0.554	-0.085/0.932	-3.144/0.002		
	Emotional functioning	Intervention	62.61 ± 22.36	72.29 ± 20.32	68.46 ± 22.91	70.27±25.87	7.807 0.050	-
		Control	59.72±26.53	64.12±23.47	63.65±24.08	60.64±25.24	1.756 0.625	-
		z /p	-0.366/0.714	-1.656/0.098	-0.819/0.413	-1.812/0.070		
	Cognitive functioning	Intervention	75.67± 22.08	84.23± 20.76	80.63± 20.22	76.12±19.85	9.756 0.021	$T_1> T_0, T_3$
		Control	75.46±26.87	72.68±24.60	75.00±23.05	65.74±23.21	7.623 0.054	-
		z /p	-0.377/0.706	-2.269/0.023	-1.046/0.295	-1.937/0.053		
	Social functioning	Intervention	76.57± 24.67	66.66± 26.93	70.72± 25.88	76.12±20.98	5.544 0.136	-
		Control	80.55±25.66	63.88±30.21	65.74±26.10	68.51±27.24	7.025 0.071	$T_0> T_1, T_2, T_3$
		z /p	-0.935/0.350	-0.220/0.826	-1.018/0.309	-1.124/0.261		
Symptom scales	Fatigue	Intervention	36.33± 27.17	45.64± 26.80	39.93± 20.36	37.53±20.17	9.819 0.020	$T_1>T_0$
		Control	34.56±21.21	43.82±19.50	41.66±22.12	54.62±27.77	12.050 0.007	$T_1>T_0; T_3>T_0,T_1,T_2$
		z /p	-.0173/0.862	-0.073/0.942	-0.247/0.805	-2.657/0.008		
	Nausea and vomiting	Intervention	20.27± 32.89	7.65±15.00	7.65±17.38	10.81±18.51	3.303 0.347	-
		Control	6.94±10.81	7.40±15.14	8.79±15.16	10.64±16.50	1.048 0.790	-
		z /p	-0.735/0.462	-0.172/0.863	-0.612/0.540	-0.199/0.843		
	Pain	Intervention	23.87±27.64	42.34±28.21	34.68±21.29	28.37±16.60	20.570 0.000	$T_1>T_0,T_3; T_2> T_0, T_3$
		Control	22.22±22.88	47.68±25.86	41.20±25.96	41.66±21.63	20.570 0.000	$T_1,T_2,T_3> T_0$
		z /p	-0.092/0.927	-0.909/0.363	-1.050/0.294	-2.767/0.006		
	Dyspnea	Intervention	15.31 ± 18.58	8.10 ± 18.26	9.90 ± 20.58	10.81±20.86	4.117 0.249	-
		Control	12.03±16.23	15.74±18.66	13.88±16.66	19.44±21.63	2.360 2.360	-
		z /p	-0.700/0.484	-2.142/0.032	-1.460/0.144	-2.040/0.041		
	Insomnia	Intervention	36.03 ± 30.81	29.72 ± 34.05	29.72 ± 33.13	25.22±27.67	3.606 0.307	-
		Control	35.18±35.58	39.81±32.67	38.88±34.27	45.37±34.87	2.311 0.510	-
		z /p	-0.324/0.746	-1.431/0.152	-1.239/0.215	-2.567/0.010		
	Appetite lost	Intervention	17.11±27.91	8.10±14.49	12.61±22.70	15.31±20.17	3.711 0.294	-

	Control	18.51±30.28	20.37±26.75	18.51±29.21	25.92±27.73	4.134 0.247	-
	z /p	-0.217/0.829	-2.186/0.029	-1.762/0.078	-1.634/0.102		
Constipation	Intervention	22.52±29.45	17.11±25.60	11.71±17.94	18.01±26.75	5.156 0.161	-
	Control	20.37±22.92	22.22±26.42	25.00±28.03	25.00±29.14	0.465 0.927	-
	z /p	-0.037/0.971	-0.964/0.330	-2.190/0.029	-1.167/0.243		
Diarrhea	Intervention	17.11±28.99	9.00±16.93	8.10±25.34	9.90±24.67	10.077 0.018	$T_0 > T_2$
	Control	11.11±19.51	14.81±21.7	5.55±14.90	10.18±19.22	7.400 0.060	$T_1 > T_2$
	z /p	-0.731/0.465	-1.176/0.240	-0.271/0.787	-0.559/0.576		
Financial difficulties	Intervention	17.11±30.04	25.22±26.53	24.32±29.02	30.63±32.75	9.384 0.025	$T_1, T_3 > T_0$
	Control	29.62±24.91	39.81±33.63	36.11±33.21	46.29±35.88	10.422 0.015	$T_1, T_3 > T_0$
	z /p	-2.612/0.009	-1.874/0.061	-1.592/0.111	-1.932/0.053		

**Friedman test* SD:Standard Deviation T=time

Table 3. Distribution of EORCT QLQ-23 scale score means of patients with breast cancer before and after training

	EORCT QLQ-23 outcome	**Groups**	**Pre-test T_0**	**Post-test1 T_1 (10. day)**	**Post-test2 T_2 (1. month)**	**Post-test3 T_3 (3. months)**	**Test and p values**		
			Mean ± SD	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Test*, p**		**Wilcoxon signed ranks test**
Functional scales	Body image	Intervention	78.82±24.57	72.07±28.06	75.00±30.55	74.77±20.64	3.996	0.262	-
		Control	79.39±21.77	65.97±28.89	67.59±24.86	61.34±26.95	10.598	0.014	$T_0>T_1,T_2,T_3$
		z /p	-1.131/0.896	-1.018/0.309	-1.786/0.074	-2.255/0.024			
	Sexual functional	Intervention	81.08±21.57	86.93±18.48	89.18±15.32	83.78±18.20	3.248	0.355	-
		Control	90.74±18.87	86.57±21.01	90.27±17.53	89.35±18.32	2.585	0.460	-
		z /p	-2.330/0.020	-0.129/0.897	-0.554/0.579	-1.526/0.127			
	Sexual enjoyment	Intervention	54.16±24.80	58.33±15.43	58.33±15.43	62.50±21.36	0.730	0.866	-
		Control	41.66±31.91	50.00±33.33	66.66±0.00	50.00±19.24	3.706	0.295	-
		z /p	-0.248/0.804	-0.685/0.493	-1.148/0.251	-0.225/0.822			
	Future perspective	Intervention	46.84±34.65	53.15±30.89	55.85±30.48	56.75±33.20	3.658	0.301	-
		Control	37.03±37.18	43.51±40.48	38.88±32.36	40.74±30.97	0.622	0.891	-
		z /p	-1.210/0.226	-1.048/0.295	-2.264/0.024	-2.016/0.044			
Symptom scales	Systemic therapy side effects	Intervention	28.18±25.35	20.33±16.21	20.61±14.87	28.74±19.27	4.947	0.036	$T_0>T_1;$ $T_3>T_2$
		Control	28.43±21.64	31.34±22.37	31.87±19.87	44.84±20.18	13.805	0.003	$T_3> T_0, T_1,T_2$
		z /p	-0.498/0.618	-2.261/0.024	-2.384/0.017	-3.172/0.002			
	Breast symptoms	Intervention	19.81±18.87	29.95±21.10	25.22±17.17	26.35±21.20	5.283	0.015	$T_0>T_1$
		Control	19.90±16.09	40.04±18.66	37.50±18.95	35.41±17.29	20.359	0.000	$T_1,, T_2, T_3>T_0$
		z /p	-0.308/0.758	-2.216/0.027	-2.861/0.004	-2.397/0.017			
	Arm symptoms	Intervention	15.01±17.01	37.53±19.83	30.33±19.18	24.62±19.09	32.375	0.000	$T_1>T_2>T_3>T_0$
		Control	13.88±13.1	49.38±22.6	35.18±19.7	33.95±23.7	51.258		$T_1>T_2,T_3>$

		1	0	8	4	0.000	T_0
	z /p	-0.121/0.904	-2.228/0.026	-1.108/0.268	-1.892/0.059		
Upset by hair loss	Intervention	66.66±	66.66±	66.66±	66.66±	(single patient)	-
	Control	60.00±34.42	60.00±26.29	73.33±14.05	66.66±15.71	2.500 0.475	-
	z /p	-2.094/0.036	-0.475/0.635	-0.503/0.615	-3.438/0.001		

There was no statistically significant difference between the intervention and control groups in the need for support scale general total pretest (T0) and posttest1 (T1) (10th day) mean scores. There was a statistically significant difference between the posttest2 (T2) (1st month) and posttest3 (T3) (3rd month) groups ($p<0.05$). There was a decrease in the pre-training support needs scale total score average of the post-training intervention group. However, in the control group, on the contrary, it was found that the need for support increased more over time (Table 4).

Table 4. Distribution of self-assessed support needs assessment scale score means of patients with breast cancer before and after training

Self-Assessed Support Needs scale	**Groups**	**Pre-test(T_0)**	**Post test1(T_1) (10.day)**	**Post-test2(T_2) (1.months)**	**Post-test3(T_3) (3.months)**		
		Mean ± SD	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**	**Test* /p**	**Wilcoxon test**
Diagnosis	Intervention	53.40± 9.46	50.54± 8.19	49.48± 6.56	45.89± 6.33	28.728 0.000	$T_0>T_1, T_2>T_3$
	Control	52.38± 7.38	52.16± 8.57	53.08± 8.07	54.16± 8.94	3.090 0.378	-
	z /p	-0.917/ 0.359	-0.879/0.379	-2.083/0.037	-4.252/0.000		
Treatment	Intervention	69.62± 5.96	67.94± 6.30	62.78± 7.43	58.24± 7.55	42.661 0.000	$T_0>T_2>T_3$, $T_1>T_2, T_3$
	Control	67.94± 7.70	70.30± 5.30	68.86± 8.07	70.08± 4.99	0.836 0.841	-
	z /p	-0.889/0.374	-1.744/0.081	-3.917/0.000	-6.311/0.000		
Support	Intervention	31.48± 3.70	29.86± 3.17	29.00± 2.90	27.32± 3.81	25.374 0.000	$T_0>T_1, T_2>T_3$
	Control	30.41± 4.33	30.91± 3.06	30.63± 4.24	30.72± 3.45	0.411 0.938	-
	z /p	-1.301/0.193	-1.104/0.270	-2.691/0.007	-3.486/0.000		
Femininity and Body Image	Intervention	24.13 ± 5.47	21.75 ± 5.02	20.67 ± 6.34	19.86 ± 6.01	24.221 0.000	$T_0>T_1, T_2, T_3$
	Control	22.16 ± 5.80	21.83 ± 5.72	23.55 ± 5.92	23.08 ± 4.44	8.314 0.040	$T_2>T_1$
	z /p	-1.475/0.140	-0.144/0.886	-2.086/0.037	-2.113/0.035		
Family and Friends	Intervention	22.86± 2.82	20.89± 3.57	21.08± 3.67	19.45± 3.70	26.278 0.000	$T_0>T_1, T_2>T_3$
	Control	22.13± 3.15	22.47± 3.02	23.11± 2.38	23.00± 2.36	1.552 0.670	-
	z /p	-0.877/0.380	-2.622/0.009	-3.081/0.002	-4.198/0.000		
Information	Intervention	22.21± 2.77	20.78± 2.59	20.70± 2.68	19.29± 2.89	18.964 0.000	$T_0>T_1, T_2>T_3$
	Control	22.58± 3.08	22.22± 3.38	22.69± 2.60	23.00± 2.50	0.497 0.920	-
	z /p	-0.827/0.409	-2.795/0.005	-3.358/0.001	-5.266/0.000		
After Care	Intervention	14.54±0 .96	14.13± 1.22	13.64± 1.45	13.86± 1.35	13.013 0.005	$T_0> T_2, T_3$, $T_1> T_2$
	Control	14.25± 1.29	13.77± 1.77	14.30± 1.14	13.86± 1.57	4.454 0.216	$T_1> T_2$
	z /p	-0.787/0.431	-0.507/0.612	-2.141/0.032	-0.344/0.731		
Total	Intervention	238.27 ± 26.25	225.91 ± 22.25	217.37 ± 22.72	203.94 ± 23.95	38.030 0.000	$T_0> T_1>T_3>T_2$
	Control	231.88± 23.29	233.69± 21.38	236.25± 21.51	237.91± 21.87	5.811 0.121	-
	z /p	-1.424/0.155	-1.722/0.085	-3.521/0.000	-5.402/0.000		

As a result of the three-month follow-up performed within the scope of the study, postoperative complications developed in 13.5% of the intervention group patients, while 52.8% of them in the control group. A statistically significant difference was detected between the groups in regard to postoperative complications, regular walking and exercising (p<0.05) (Table 5).

Table 5. Post-training complications, arm and gait exercise status of the women in the control and intervention groups.

Status of women	Intervention (n-37)		Control (n=36)		Toral		P value
	S	%	S	%	S	%	
Complication							
Yes	5	13.5	19	52.8	24	32.9	0.000
No	32	86.5	17	47.2	49	67.1	
Walk regularly							
Yes	27	73	12	33.3	39	53.4	0.001
No	10	27	24	66.7	34	46.6	
Arm Exercises							
Yes	26	70.3	5	13.9	31	42.5	0.000
No	11	29.7	31	86.1	42	57.5	
Total	37	50.7	36	49.3	73	100	

DISCUSSION

Early diagnosis and advance treatments of breast cancer caused women to live longer after diagnosis and treatment. Therefore, it is important to understand the impact of cancer-related late and long-term symptoms on quality of life. In this study, in which the effect of the individual training program given in women with breast cancer on the support needs and quality of life was examined, it was seen that the support needs of the patients in the intervention group were lower and their quality of life was better.

It was determined that the intervention and control patients within our study were mostly below the age of 50 years. Between 2007-2009 a retrospective study conducted among breast cancer patients who were diagnosed in the early stages of ¾ is below 50 years of age and about 50% of breast cancers are found to be under the age of 50 in Turkey (Eryılmaz et al., 2010). In our study, it was found that the patients in the the both groups were similar in terms of education level and majority of patients were graduated from university. Sammarco and Konecny (2010) found that factors such as cultural values, comorbidity and education level affect perceived social support, uncertainty and quality of life. A qualitative study investigating the QoL of women with breast cancer in Bahrain found that cultural, religious, and social dimensions affected the QoL of women's breast cancer experience, the beliefs and attitudes related to cancer, the perception of breast cancer causes were effective in defense mechanisms (Jassim and Whitford, 2014).

Current study found that total mastectomy was performed in 62.2% of the patients in the intervention group and 63.9% of the patients in the control group. Studies showed, women who had mastectomy had low mood and low quality of life (Engel et al., 2004; Tirgari et al., 2012). In our study, 59.5% of the patients in the intervention group and 66.7% of the patients in the control groups' surgeries were found to be axillary dissection surgery. In a meta-analysis study by Disipio et al. (2013), axillary surgery was found to be worse than breast surgery and caused significant morbidity with lymphedema, pain, loss of sensation and movement, and post-axillary surgery determined that the risk of lymphedema was 17%.

In regards to mean global health status, financial difficulties scores a statistically significant difference was detected between the groups (p<0.05). It is found that the general well-being point average of the training program in the intervention group is effective after the operation day. In the literature, it is stated that demographic and socio-economic factors young age, lack of social support or low financial income are some of the demographic and socio-economic factors that have a correlation with high anxiety, depression and low QoL, however, psychological status and QoL of the patient was reported to change over time (Howard-Anderson et al., 2012; Ho et al., 2013).

In our study, the QoL physical functioning sub-dimension T2 and T3 mean scores on EORTC QLQ-30 was statistically significant (p<0.05). Studies have found that physical activity following cancer diagnosis has a significant effect not only on physical and functional well-being but also on psychological and emotional well-being and QoL (Zeng et al., 2014; Bröanström et al., 2015).

A statistically significant difference was found between the groups in terms of EORTC QLQ-30 QoL role function sub-dimension score averages at T3 (p<0.05). In the literature, the quality of life of breast cancer patients experienced problems in the sub-dimension of physical function and breast cancer patients were under a lot of pressure in the sub-dimension of psychological well-being, whereas in the social status sub-dimension, patients were generally weak in sexual functions and problems were found in their roles and in other activities (Bloom et al., 2007; Stefanic et al., 2015; Abebe et al., 2020).

In our study, the mean pain and fatigue score decreased in the intervention group, whereas the control group showed an increase in time. In some studies, the presence of symptoms related to cancer such as depression, fatigue, or pain in breast cancer has been reported to have a negative correlation with QoL (Castillo et al., 2014; Wu, 2018).

It was found that the sleep disorder dimension averages of the intervention group decreased over time, while the sleep disorder dimension averages of the control group increased over time starting from the pre-test (T0). Insomnia associated with breast cancer has been shown to have a significant effect on QoL and daily functions (Matthews et al., 2014). In a study conducted on breast cancer patients, it was found that breast cancer patients who had lower anxiety, depression, fatigue and insomnia problems before operation compared to those who did not experience have a lower quality life and the symptoms have significant long-term effect on quality of life (Chen, 2016). In our study, it is found that individual training program provides better treatment to the patients and help them cope up with the symptoms of the disease.

Control group body image scores were lower than the intervention group. One study found that after surgery, patients with breast cancer had poor QoL and body image as well as significant needs that were not met (Zhou et al., 2020). In another study, a positive correlation was detected between body image and QoL, higher scores in body image cause higher QoL in cancer patients (Heidar et al., 2015).

A statistically significant difference was found between the interventions and control groups in terms of side effects of systemic treatment, breast symptoms and arm symptoms life quality sub-dimensions scores ($p<0.05$). In our study, the mean scores of the systemic side effects sub-dimension of the control group were higher compared to the intervention group. In a study with women with breast cancer who had been treated for six months to five years, the most common symptoms in women were fatigue and hand/standing numbness/tingling and it was determined that the needs of the health system/giving proper information and psychological needs were not fulfilled (Cheng et al., 2014). The QoL scores were found to be higher for the intervention group patients after the operation and they were able to cope with symptoms better. It was found that the breast symptoms in both groups increased significantly on the 10th day after the operation. In our study, the breast symptoms scores of the control group were higher than the intervention group. Regarding the breast symptoms, the results showed that the more the size of the tumor increases, the more the breast complications are (Karimi et al., 2020). According to the results of our study, the intervention group patients experienced fever arm symptoms than the control group patients. In a meta-analysis study, it was stated that exercises positively affected the overall QoL and breast and arm symptoms of breast cancer (Zeng et al., 2014).

The QoL scores were found to be higher for the intervention group patients except for the 10th day after the operation and they were able to cope with symptoms better. The satisfaction of the individual training program given to the intervention group was found to be high. Postoperative complications of the intervention group were less compared to the control group. Postoperative complications were found to be higher in the control group ($p<0.05$). In a study of women with breast cancer who underwent axillary lymph node dissection, preoperative training was found to be effective in upper arm dysfunction and decreased symptoms (Sato et al., 2016). A quasi-experimental study, aimed at evaluating the effect of face-to-face individual training and support on the QoL of women, determined that the women who were given individual training and support reported having fewer arm symptoms and better sexual functioning than the control group (Salonen et al., 2011). In a study carried out in Turkey, it was found that consulting services given by nurses reduce anxiety and the risk of depression and it was determined to improve the quality of life (Karayurt et al., 2014). In this study, there was a decrease in the overall total score average of the support needs scale before the training of the intervention group after the training. However, in the control group, on the contrary, it was found that the need for support increased more over time. It was found that the total score difference was significant in the requirements scale ($p<0.05$). The individual training program given to the intervention group were determined to be effective in the postoperative period, on the basis of total support needs score average. A study conducted in China found that the higher unfulfilled needs women with breast cancer had physically and psychologically, the lower QoL they had in general and five basic needs were not fulfilled in the health system and information (So et al., 2014). In a study carried out in Singapore 75% of 535 patients with breast cancer, gynecologically and colorectally, it was reported that they needed information about the disease (62%), need financial support (40%), need social support (40%), psychological (27%) and physical needs (26%) (Ng et al., 2011). In another study, women with breast cancer that were given individual training, psychological support and followed up for three months were found to have lower symptom distress levels and unfulfilled needs, also anxiety levels were lower but women's physical, psychological needs, and their satisfaction and care continues during the long-term treatment (Liao et al., 2014). In the studies conducted, it was determined that women with breast cancer need great support especially in terms of their psychological needs before, during and after the treatment, and the fact that their physical and psychological needs are not met negatively affects the quality of life (Liao et al., 2014; So et al., 2014;

Hubbard et al., 2015; Wu et al., 2018). Literature information supports our study results.

Conclusion

This study found that the individual training program has a positive impact on the quality of life and support requirements of women with breast cancer. It was determined that the support needs of the woman with breast cancer in the intervention group decreased and their quality of life increased. In addition, it was observed that women with breast cancer who received training had better symptom management during the treatment process. Providing individualized training to women with breast cancer, routinely applying these trainings, and training nurses working in the field on the subject will make an important contribution to the field.

Conflicts of Interest

All authors have no conflicts of interest, financial or otherwise.

Ethical Approval

The ethical (number: 2016/138) and institution (number: 69631334-605.01) approval was obtained to carry out the study. Written, informed consent was obtained from all the patients before enrolment. This study was conducted according to the World Medical Association Declaration of Helsinki.

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