

Evaluation of Resilience and Social Support in Women with Breast Cancer

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Abstract

Breast cancer affects women physically and psychosocially. Protective factors such as social support are required when facing adversities affecting resilience, such as breast cancer. This study aimed to determine the level of resilience and social support among patients with breast cancer who underwent mastectomy. The descriptive and cross-sectional study was conducted with 176 breast cancer patients who underwent mastectomy in the general surgery clinics of two educational research hospitals. The data were collected before discharge using Patient Information Form, Connor-Davidson Resilience Scale 25, and Cancer Patient Social Support Scale. Descriptive statistics, independent sample t-test, one-way ANOVA and Spearman correlation analyses were used for data analysis. The mean score of resilience and social support were 72.56 ± 13.96 , 149.59 ± 18.29 respectively, which were in the moderate range. Women with simple mastectomy had higher resilience scores than those with modified radical mastectomy ($p < 0.05$). There was a positive relationship between resilience and social support scores ($r = 0.369$, $p < 0.001$). In conclusion, the psychological resilience of women in the early postoperative period after mastectomy is positively related to social support. It is recommended that measure resilience and social support levels of patients who undergo mastectomy and plan nursing interventions to increase social support and improve resilience.

Keywords: Breast cancer, mastectomy, resilience, social support

1. Introduction

Breast cancer is critically important as it is the most common type of cancer in women. Women with breast cancer may psychologically experience anxiety, depression, anger, hopelessness, helplessness, fear of cancer recurrence, fear of death, as well as negative body image due to breast loss, fear of losing feminine characteristics, decreased self-esteem, and loss of sexuality/attractiveness (Ganz, 2008; Özkan and Alçalar, 2009). The presence of self-coping mechanisms and social support gain importance in overcoming psychosocial problems during breast cancer treatment.

Social support is stated to have positive effects on physical health, mental well-being, and social functioning (Wortman, 1984). As the level of social support level of cancer patients increases, well-being, positive adjustment, and quality of life increase, hopelessness, stress, and depression decrease (Casellas-Grau et al., 2016; Oztunc et al., 2013; Somasundaram and Devamani, 2016; Wondimagegnehu et al., 2019). Women are observed to show better mental health with better social support (Shrestha et al., 2017). Additionally, social isolation in breast cancer patients is associated with an increased risk of mortality. The mechanisms proposed for this association include a lack of adequate support and failure to access care (Kroenke et al., 2006). Breast cancer patients need social support to protect themselves against the negative effects of stress and to cope with it better. The availability of social support during breast cancer treatment may be closely linked to the level of resilience of women.

Resilience, which is affected by personal, genetic, and environmental factors, is the strength of the person to endure difficult experiences in life and the successful recovery in this process (Herrman et al., 2011; Rutter, 2006). Patients need protective factors such as social, cultural, and spiritual support during

the treatment period of cancer, which is a negative risk factor for resilience (Herrman et al., 2011). Physical activity, emotional support and spirituality improve the resilience level of cancer patients. (Matzka et al., 2016; Markovitz et al., 2015; Kavak et al., 2019). However, emotional stress, hopelessness and anxiety have negative effects on the psychological resilience of cancer patients (Somasundaram and Devamani, 2016; Fradelos et al., 2017). In some studies, resilience was observed to be affected by the level of social support, and the patient's quality of life with proper resilience and social support was also found to improve (Wang et al., 2019; Zhang et al., 2017). Surgery, which comes with uncertainty, is a stressful experience for women. Although it is necessary to determine the resilience level of women, there is a need for social support to adapt well during this period. This study aimed to determine the level of resilience and its association with social support in the early postoperative period among breast cancer patients who underwent a mastectomy.

2. Materials and Methods

2.1. Study design

The descriptive and cross-sectional study was conducted with women who underwent mastectomy for breast cancer between November 2016 and May 2017 in the general surgery clinics of two educational research hospitals. The inclusion criteria for the patients were having been diagnosed with breast cancer and underwent a mastectomy, being 18 years old or older, could speak and understand the native language, did not have a neurological or psychiatric disorder, and volunteered to participate in the study. During the study period, 201 women who underwent mastectomy were reached and the study was completed with 176 patients. Fifteen women who were diagnosed with depression and received medical treatment for this disorder, two women who could not communicate due to hearing problems, and three women who did not speak the native language were excluded from the study.

Also, five women did not want to participate in the study.

2.2. Study procedure

The questions about demographic characteristics were asked the patient directly. Information about the disease was obtained by the researcher from the patient's file. Women who were illiterate or who could not use their arm due to mastectomy were interviewed face-to-face, while other women were given the questionnaire and asked to complete it. It took each patient an average of 20 min to fill out the form. The data were collected during the postoperative period between the 3rd and 10th days just before discharge.

2.3. Data collection tools

Patient information form

This questionnaire intended to collect demographic data about the patients such as age, marital status, body mass index, educational status, income level, place of residence, chronic disease status, and the presence of cancer and breast cancer in the family history. It also consisted of items describing the patient's current disease status, such as the time of cancer diagnosis, type of cancer, the stage of cancer, the location of the tumor, whether to receive chemotherapy or radiotherapy before surgery and duration of treatment, and the type of surgery (modified radical mastectomy or mastectomy).

The connor-davidson resilience scale 25 (CD-RISC-25)

This scale consists of 25 items and measures the resilience level of patients. CD-RISC-25 has a 5-point Likert type structure. Each item is scored between 0 and 4 points, and the maximum score that can be obtained from the scale is 100. As the score obtained from the scale increases, resilience increases, as well. The original scale consists of a five-factor construct. The psychometric properties of the Turkish version of the scale were investigated by Karairmak (2010). The exploratory factor analysis laid out a three-factor construct such as tenacity and personal competence

(15 items), tolerance of negative affect (6 items), and the tendency toward spirituality (3 items). Since the factor load of item 2 was low, it was not included in the subscales. While Cronbach's alpha coefficient was 0.89 in the original study of the scale (Connor and Davidson, 2003), it was calculated as 0.91 in the Turkish validity and reliability study (Karairmak, 2010). In our study, Cronbach's alpha of the scale was found to be 0.92.

The cancer patient social support scale (CPSSS)

Developed by Eylen (2002), this scale measures the level of social support that cancer patients perceived from their families (Eylen, 2002). The scale consists of a total of 35 items, 22 of which are positive and 13 negative. The scale has a five-point Likert-type structure, and the options of the items range between "very suitable for my situation" and "not suitable for my situation at all". The perceived social support score is equal to the sum of the total scores obtained from positive items and the total scores obtained by inverting the scores of the negative items. The minimum and maximum score that can be obtained from the scale is 35-175. The total score of the scale does not have cut-off points. High scores obtained from the scale indicate high social support that the patient receives from their family. The scale is divided into three subscales measuring the reliance support (13 items), emotional support (12 items), and information support (10 items). Cronbach's alpha coefficient of the scale in the reliability and validity study was found to be 0.92, and it was found to be 0.93 in our study.

2.4. Ethical considerations

Ethical approval and institutional permission were obtained. The written and verbal consent of the patients was taken after they were informed about the study. In addition, permission was obtained from the authors for the questionnaires used in the study via e-mail.

2.5. Statistical analysis

The data were analyzed on SPSS 21 statistical software package. The statistical significance level was accepted as $p < 0.05$. Mean (\pm) and standard deviation (SD) values, numbers (n), and percentages (%) were used for descriptive statistics. Independent sample t-test and one-way ANOVA analysis were used to compare scale scores and demographic and clinical characteristics of the patient. Bonferroni correction was performed for multiple groups. The relationship between the scales was examined by Spearman correlation analysis.

3. Results

The mean age of the participants was 53.76 ± 11.20 years (range, 29-82). Of the patients participating in the study, 17 % were illiterate, 19.3 % were single, 38.6 % had chronic disease, 5.1 % had received psychological treatment before cancer, 14.2 % had received neoadjuvant therapy, and 46% had undergone simple mastectomy (Table 1). The mean resilience and social support scores were 72.56 ± 13.96 (min:33, max:99) and 149.59 ± 18.29 (min:82, max:175), respectively and were moderate level (Table 2).

Table 1. Sociodemographic and clinical characteristics of the patients (n=176)

Characteristics	n	%
Age (53.76\pm11.20; min-max 29-82)		
29-44	37	21
45-60	86	48.9
≥ 60	53	30.1
Education status		
Illiterate	30	17
Primary and secondary school	108	61.4
>High school	38	21.6
Marital status		
Married	142	80.7
Single	34	19.3
Income status		
Income less than an expense	25	14.2
Income expenses equal	118	67
Over income	33	18.8
Chronic disease		
Yes	68	38.6
No	108	61.4
Previous psychiatric disease		
Yes	9	5.1
No	167	94.9
Family history of cancer		
Yes	91	51.7
No	85	48.3
Family history of breast cancer		
Yes	45	25.6
No	131	74.4
Tumour location		
Right breast	85	48.3
Left breast	87	49.4
Bilateral	4	2.3
Type of the surgery		
Mastectomy	81	46
Modified radical mastectomy	95	54
Neoadjuvant chemotherapy		
Yes	25	14.2
No	151	85.8

Table 2. Resilience and Social Support Scale Total and Subscale Scores

	Mean	SD	Min- Max
Resilience (CD-RISK 25)	72.56	13.96	33-99
Tenacity and personal competence	44.03	8.83	21-59
Tolerance of negative affect	16.21	4.18	4-24
Tendency toward spirituality	8.94	1.85	3-12
Social support (CPSSS)	149.59	18.29	82-175
Reliance support	57.39	7.77	29-65
Emotional support	51.22	6.5	24-60
Informational support	40.96	6.82	21-50

There was no statistical difference between resilience mean score and age, education level, marital status, income level, chronic disease, and neoadjuvant chemotherapy, but the resilience mean scores of single women were higher than those of married women (76.6±14.93, 71.6±13.6, respectively). The resilience mean score was statistically higher in women who underwent simple mastectomy than in women who underwent modified

radical mastectomy (t=2.705, p=0.007). In this study, a significant difference was found between the social support mean score and education level (F=4.65, p = 0.01), income level (F=3.14, p=0.04), and chronic disease (t=-2.04, p=0.04). It was determined that the social support level of women who were illiterate, whose income did not meet their expenses, and who had chronic diseases was lower (Table 3).

Table 3. Comparison of Resilience and Social Support Levels of the Patients According to Demographic and Clinical Variables

Characteristics	n	Resilience		Social Support	
		Mean±SD	Statistics	Mean±SD	Statistics
Age					
29-44	37	73.51±14.89	F=0.27	151.35±19.15	F=1.33
45-59	86	71.76±14.16	p=0.75	150.94±18.34	p=0.26
≥60	53	73.18±13.15		146.16±17.48	
Education level					
Illiterate	34	68.76±14.72	F=1.62	141.35±17.29	F=4.65
Primary and secondary school	104	73.70±13.87	p=0.20	150.98±16.87	p=0.01*
≥High school	38	72.84±13.29		153.5±18.29	
Marital status					
Married	142	71.60±13.60	t=-1.87	150.08±17.79	t=0.73
Single	34	76.55±14.93	p=0.6	147.52±20.43	p=0.46
Income level					
Income less than expense	25	69.32±14.92	F=0.80	142.04±17.69	F=3.14
Income expenses equal	118	72.96±13.97	p=0.44	151.69±17.96	p=0.04*
Over income	33	73.57±13.28		147.78±18.77	
Chronic disease					
Yes	68	71.33±13.32	t=-0.92	146.07±20.85	t=-2.04
No	108	73.33±14.36	p=0.35	151.80±16.19	p=0.043*
Neoadjuvant chemotherapy					
Yes	25	74.76±14.74	t=0.84	151.44±18.78	t=0.54
No	151	72.19±13.85	p=0.39	149.28±18.26	p=0.58
Type of the surgery					
Simple mastectomy	81	75.59±13.77	t=2.705	149.60±16.66	t=0.009
Modified radical mastectomy	95	69.97±13.67	p=0.008*	149.57±19.67	p=0.99

*p< 0.05 ;t= Independent sample t test; F= one way ANOVA.

The relationship between the resilience and social support scores of the patients is given in Table 4. There was a positive and

significant correlation between resilience and social support scores ($r=0.369$, $p=0.001$).

Table 4. The Relationship Between Patients' Resilience and Social Support Scale Total Scores

		Resilience	Social Support
Resilience	r	1	.369
	p		.000*
Social Support	r	.369	1
	p	.000*	

* $p < 0.05$; r =Spearman correlation analysis.

4. Discussions and Conclusions

In this study, the patients' social support and psychological resilience level were moderate. In a study conducted with women with breast cancer, the postoperative resilience level (93.8 ± 14.6) was found to be higher than our results (Markovitz et al., 2015). Similar to our results, the resilience level (65.3 ± 17.9) of women with breast cancer who were followed up after various treatments were evaluated as moderate (Fradelos et al., 2017). Evaluating the factors affecting women's resilience and taking measures for these factors may improve their endurance and facilitate their adaptation.

The comparison of the resilience levels of married and single women in our study indicated that the resilience scores of single women were slightly higher, although no clinically significant results were found. Married women have many responsibilities such as home, work, spouse, and child. The disease process may have changed the domestic roles of married women. Inability to fulfill their responsibilities in the family, expected anxiety, body image change, and uncertainty about how their husband will respond to this situation might have reduced the resilience and tenacity and personal competence of women. In another study conducted with breast cancer patients, it was found that, unlike our research findings, marital status did not affect the level of resilience (Padilla-Ruiz et al., 2019).

In this study, the resilience levels of women who underwent modified radical mastectomy (MRM) were lower compared to those of women who underwent simple mastectomy. In MRM due to the enlarging surgery area and lymph node dissection, it may be necessary to stabilize the arm, to limit the arm movements, and to apply a bandage. These conditions are thought to affect the resilience level of women. In studies comparing mastectomy or modified radical mastectomy with breast-conserving surgery, the type of surgery was observed to be a condition that affects women's quality of life, anxiety, depression, and body image (Acil and Cavdar, 2014; Fang et al., 2013; Kaminska et al., 2015). The quality of life of women who underwent MRM was determined to be affected more compared with women who had breast-conserving surgery, and they were found to experience problems such as body image, future perspective, sexual function, side effects of treatment, breast problems, arm problems, and more hair loss (Acil and Cavdar, 2014). These problems may have affected the resilience of patients who had modified radial mastectomy in our study group.

The level of social support (149.59 ± 18.29) was evaluated as moderate, which was similar to the results of other studies (Dedeli et al., 2008; Ozkaraman et al., 2015). Similar to our study, the mean social support score in studies conducted by Dedeli with cancer patients and Özkaraman with breast cancer patients was found to be 142.47 ± 14.2 and 143.8 ± 20.8 ,

respectively (Dedeli et al., 2008; Ozkaraman et al., 2015). Social support plays an essential role in the positive psychological process. Social support has positively affected the quality of life in women with breast cancer (Filazoglu and Griva, 2008). Therefore, increasing social support can also affect the level of resilience, help women to cope with the disease, and facilitate their adaptation. The perceived social support level of women with low education and income was determined as low. In a study in Turkey investigating the social support and social image anxieties of women with breast cancer, the perceived social support decreased as the level of education decreased. In the same study, women with equal income and expenditure were observed to have lower social support (Ozkaraman et al., 2015). In their study investigating the perceived family support by women with breast cancer, Ardahan and Yeşilbalkan (2010) reported that higher school graduates had better social support (Ardahan and Yeşilbalkan, 2010). The results of these studies were found to be similar to the results of our study.

A positive and significant correlation was determined between the resilience and social support. Women with sufficient social support can be more resistant to the difficulties they encountered during the surgery period compared to other women. In some studies, social support was found to have a positive effect on the level of resilience in cancer patients (Somasundaram and Devamani, 2016; Zhang et al., 2017). However, patients with cancer who received inadequate supportive care were determined to have a lower level of resilience (Dubey et al., 2015). In another study, a negative relationship was found between resilience and social support (Çelik et al., 2021). Although social support does not directly affect the level of resilience, it has a mediating effect through hope (Hsu et al., 2021). While social support affects the resilience level, it also has a positive effect on the quality of life due to the positive

psychological process (Zhang et al., 2017). The results supporting this state have been shown in various studies. In studies conducted on samples with breast cancer, bladder cancer, or colorectal cancer, social support and resilience have improved the quality of life (Costa et al., 2017; Li et al., 2016; Zhang et al., 2017).

Some limitations were determined in this study. Our study was performed out during the postoperative period, and only women who underwent mastectomy were included in the study. This study investigated the effect of only social support on the patients' resilience. There may also be other factors affecting the resilience level of women in the early postoperative period.

In conclusion, social support was found to have a positive effect on the breast cancer patient resilience. For this reason, it will be useful to raise the awareness of nurses working with patients undergoing mastectomy about the relationship between social support and resilience and to identify problems using scales. In line with these measurements, resilience levels can be increased by applying appropriate nursing interventions to patients who are in need for social support. Our research is the first study in Turkey that investigates the effect of the level of social support in women in the early period following mastectomy on their resilience.

Author Contribution

All authors were involved in the study's concept and design. All authors collected and analyzed the data. All authors have drafted the manuscript and approved the final version.

Ethics Committee Approval

The approval to conduct the study was obtained from the Clinical Research Ethics Committee (Issue: 15-772-16, date: 10.10.2016).

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