RESEARCH COMMUNICATION

Importance of Social Support for Functional Status in Breast Cancer Patients

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Abstract

    The role of social support in functional status to a diagnosis of cancer was examined in 84 patients with breast cancer. Multivariate techniques were used to assess the relationships among the dimensions of social support, as measured by the Multidimensional Scale of Perceived Social Support (MSPSS), and functional status, assessed with the Inventory of the Functional Status Cancer (IFSA-CA). The results indicated significant independent associations between support and functional status outcomes, underscoring the importance of examining social support to evaluate functional status of patients. Nurses cognizant of breast cancer survivors challenges and concerns in areas of social support and are in a unique position to enhance functional status.

Key Words: Social support - functional status - breast cancer - nursing

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Introduction

Breast cancer has become a serious health concern for women in Turkey as each year, 30,000 Turkish women are diagnosed with this life-threatening illness (MEVA, 2004). The diagnosis of breast cancer elicits greater distress than any other diagnosis (Saphiro et al, 2001). Predictors of distress include youth, lower socioeconomic status, being single, being pessimistic and absence of social support (Friedman et al., 2005). Breast cancer is also a disease that has the potential to impact on many aspects of a woman's daily life activities including physical abilities, family, career and social world.

Cancer patients have many needs. The need for fast and accurate diagnosis and timely treatment is vital, but social support is also an important aspect of modern cancer care (Clark et al., 2006). Women dealing with the stresses of diagnosis and treatment of breast cancer have been found to benefit from supportive relationships (Parker et al., 2003); and social support has been shown to mitigate the deleterious effects of stressful events, including cancer. So women need support in coping with the stresses associated with the diagnosis and treatment of breast cancer immediately following diagnosis and during and after treatment (Friedman et al., 2005).

Social support has a remarkable importance in preventing psychological problems like anxiety and depression that are commonly observed in cancer patients. In a study on patients with different types of cancer, the incidence of psychological disorder one year after diagnosis was found to be 31.8%, while it was observed that patients with low social support scores were diagnosed with depression (Simpson et al., 2002). The prevalence

of depression among breast cancer patients ranges from 1.5% to 57%. Depression has also been reported to be a significant predictor for Quality of Life for breast cancer patients (Yen et al, 2006). Social support and assistance with daily life are important elements of the endeavor to reduce and compensate for the disadvantages that result from cancer and therapies (Delbrück, 2008).

Over the years, most treatment options for breast cancer (palliative or adjuvant therapies) have been evaluated for their impact on QoL or functional status. During the last decade, research on functional status among breast cancer patients has been conducted among American and Western European populations (Tulman et al., 1996; Samarel et al., 1997). Functional status is a multidimensional construct that consists of household and family, social and community, personal care and occupational activities and that represents a patient's perception of the effects of a disease and its related treatments on her/his daily functioning. Because the assessment of functional status can uniquely reflect insights into patients' needs, it should be established as well as QoL as an important endpoint in cancer treatment.

The major hypothesis tested in the current work is that patients who perceive a lack of social support in their immediate environment will experience lower functional status. We first highlight social support and functional status associated with breast cancer, and then underscore which kind of support has more positive effects.

Materials and Methods

Participants:
    Eighty four (84) stage I, III and IV breast cancer

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patients, between the ages of 30 and 75, with no previous history of cancer, were randomly assigned for this study. All patients have started or continued chemotherapy and radiotherapy treatment. Ethics approval was obtained from all departments and patients. Breast cancer stage was classified using the American Joint Committee on Cancer (AJCC) TNM Staging System for Breast Cancer and SEER summary data (American Joint Committee, 2002). Three Stage II patients were added to stage III in order to prevent statistical diversion.

Instruments:

Information of patient socio-demographic and medical data was obtained through the use of face-to-face interviews and from medical chart abstraction using structured questionnaires. In addition, Multidimensional Scale of Perceived Social Support was used for evaluating patient social support level and functional status was assessed using the Inventory of Functional Status for Cancer (IFSA-Ca) in patient receiving chemotherapy treatment in breast cancer patients. The interviews were focused primarily on the women's understanding, need for, and use of social support, and how social support impacts on their functional status.

1) Multidimensional Scale of Perceived Social Support (MSPSS): This was developed by Zimet et al (1988) to measure the perceived social support of patients and assesses perceptions of support adequacy from family, friends and special persons. The 12 item scale has a seven-point Likert-type response format; from 1 (very strongly disagree) to 7 (very strongly agree). Each of the three subscales is assessed with four items. High scores indicate better social support. MSPSS was found to be a valid

instrument in Turkish society by Eker and Arkar (1995).

2) Inventory of Functional Status for Cancer (IFSA-CA): This was designed to measure functional status in women with cancer. It contains 39 items with four subscales which measure functional ability in the following categories: household and family, social and community, personal care and occupational activities. The 15-item Household and Family activities subscale and the 6-item social and community activities subscale all ask the women to indicate the extent to which activities carried out prior to the cancer diagnosis have been resumed in the past few weeks. The 10 item Personal Care Activities subscale and the 8-item Occupational Activities subscale ask the women to indicate the extent to which each activity has been performed during the past week or two. Certain items are recorded to maintain consistency in the interpretation of scores. Items are rated on a four-point Likert-type scale, and mean scores are calculated with 1 being the lowest and 4 being the highest score possible. The higher the score, the greater the functional status. The inventory was developed by Tulman et al. (1991) and the validity and reliability study for the Turkish version of the inventory was conducted by Ogce and Ozkan (2008).

Data analysis:

The Statistical Package for Social Sciences (SPSS) 11.0 software was used for statistical analysis. The significance level for all analyses was set at 5%. We report the range for each item within the indices, as well as the mean, and standard deviation for each measure. Table 1 explores effects of socio-demographic and other variables on social support, and testing differences between these means with independent t-tests, Mann Whitney- U and

Table 1. Effects of Socio-demographic and other Variables on Social Support

		N	Total social support	Family support	Special person support	Friends support
Age	<49	41	67.8 (17.5)	24.2 (5.9)	24.0 (5.8)	19.5 (9.0)
	>50	43	71.9 (15.4)	25.2 (4.2)	25.2 (5.6)	22.2 (7.5)
	P value		NS	NS	NS	NS
Therapy	Radiotherapy	37	67.5 (19.0)	24.1 (6.2)	23.8 (6.6)	19.5 (8.9)
	Chemotherapy	47	71.8 (14.2)	25.2 (4.1)	24.6 (4.9)	21.9 (7.8)
	P value		NS	NS	NS	NS
Educational level	<8 years	63	68.4 (17.1)	24.4 (5.5)	24.1 (5.6)	19.9 (8.6)
	>12 years	21	74.3 (14.1)	25.7 (3.7)	24.7 (5.9)	23.8 (6.6)
	P value		NS	NS	NS	0.038
Employment Status	Unemployed	61	67.8 (17.8)	24.0 (5.6)	23.5 (5.8)	20.1 (8.6)
	Employed	23	74.5 (12.1)	26.3 (3.5)	26.6 (3.4)	21.4 (8.7)
	P value		NS	0.046	0.012	NS
Marital status	Married	67	71.9 (16.1)	24.9 (5.1)	24.8 (5.2)	22.1 (7.8)
	Divorced/widow	17	62.1 (16.1)	23.9 (5.0)	22.2 (7.1)	16.0 (8.6)
	P value		0.006	NS	NS	0.014
Income	Lover income	36	63.5 (17.3)	23.7 (5.8)	23.0 (6.6)	16.7 (9.1)
	Middle income	48	74.8 (14.2)	25.5 (4.4)	25.2 (4.6)	24.0 (6.2)
	P value		0.002	NS	NS	0.001
Stage of Cancer	I	44	72.3 (16.0)	24.8 (5.3)	24.7 (5.2)	22.7 (7.0)
	III	30	67.1 (15.4)	24.6 (4.6)	24.0 (5.2)	18.4 (9.1)
	IV	10	67.7 (21.5)	24.5 (6.3)	23.1 (8.7)	20.1 (10.0)
	P value		NS	NS	NS	NS
Time since diagnosis	1 year & under	44	72.0 (13.3)	25.2 (4.0)	24.8 (4.5)	21.8 (7.3)
	1 year & above	40	67.7 (19.4)	24.2 (6.1)	23.6 (6.7)	19.8 (9.3)
	P value		NS	NS	NS	NS

Table 2. Pearson Correlations between Predictor Variables

	Family support	Special person	Friends support	Total social support
Household/family	-0.03	-0.02	0.12	0.04
Social/community	0.02	0.01	0.27*	0.15
Personal care	-0.12	-0.16	-0.06	-0.12
Occupation	0.76*	0.56	0.77*	0.80*
Total IFS-CA	0.00	-0.00	0.23*	0.12

* P value < 0.05

Table 3. Model Formed from Subscales of Social Support, Subscales of Functional Status and other Demographic Variables

Criteria	Household/ family	Social/ community	Personal care	Occupation	IFS-CA
Total social support	NS	NS	NS	0.024	NS
Family support	NS	NS	NS	NS	NS
Special person support	NS	NS	NS	NS	NS
Friends support	NS	0.020	NS	NS	0.030
Educational level	NS	NS	NS	NS	NS
Employment status	NS	NS	NS	NS	NS
Marital status	NS	NS	NS	NS	NS
Income	NS	NS	NS	NS	NS
Time since diagnosis	NS	NS	NS	NS	NS
Kind of therapy	NS	NS	NS	NS	NS

Statistical analysis was performed using multiple linear methods one-way analysis of variance (Anova). Table 2 reports Pearson correlation coefficients association between social support and functional status indices. In Table 3, we describe the effect of social support on functional status that could have affected the other independent variables by using multiple linear analyses.

Results

Women's mean age was 50.5±11.4 years. The majority (75.0%) had low educational level, were housewives (60.7%), married (97%), had been diagnosed in the early phase (52.4%), were being treated with chemotherapy (56%) and radiotherapy (44%).

When the effect of sociodemographic variables on social support was examined, it was determined that age, form of treatment, year of diagnosis and tumor classification had no effect on social support (p<0.05). Friend support was found to be high in the group with high education level (p<0.038), while family support (p<0.046) and private personal support (p<0.012) were high in the working group. On the other hand, in married women and women with middle income level, the total social support scores (p<0.006, p<0.002, respectively) and friend support scores (p<0.014, p<0.001, respectively) were quite high (Table 1).

Pearson correlations analysis was performed between the total and four sub-scales of functional state, and the total and three sub-scales of social support. A positive correlation was found between social and community activities and friend support (r=0.27); occupational activities and family (r=0.76), friend (r=0.77) and total social support (r=0.80). Similarly, a positive correlation was established between the total functional state and friend support (r=0.23).

Multiple linear analyses used to assess the effect of social support on functional status could have affected the other independent variables. The model created by subscales of social support, total social support, subscales of functional status and total IFS-CA (household and family activities, social and community activities, personal care activities, occupational activities), educational level, employment status, marital status and income were analyzed and are shown in Table 3. It was determined that educational level, employment status, marital status and income have no influence on functional status, whereas lack of friend support is an important factor for decreasing total functional status. In addition, it was observed that social and community activities improved with the increase in friend support, and the increase in total social support was directly proportional with the increase in occupational activities.

Discussion

The main conclusion that can be drawn from these data is that friend support significantly affects both general functional state and social and community activities as it is revealed by the examination of the effect of social support on functional state. Also, general social support scores significantly improve occupational activities.

When the one-sided analysis results of our study were examined, it was found that educational level, employment, marital status and income level had an influence on social support. The results of the correlation analysis demonstrated that friend support increased as the patients' social and community activities enhanced, and occupational activities were positively affected by family, friend and total social support. The results of multi-dimensional analysis indicated that functional state was not affected by demographic variables, and that social support was the main affecting factor. This conclusion reveals the significance of social support, especially friend support, in working women with breast cancer.

In this study time since diagnosis was not related to functional status in line with earlier results of Friedmann and colleagues (2005). Marital status, another indicator of available social support, was not related to any outcomes of functional status. This parallels with findings of Friedman and colleagues (2005). However, differs from results of Parker and colleagues (2003), who found that marital status and perceived social support were related to emotional functioning, and Friedman and colleagues (1988) who mentioned women reported the best adjustment to breast cancer also reported the least difficulty with their marriages and the greatest family cohesion.

In a study with Bowel and colleagues (2007), socioeconomic status was found important determinants of QoL Lu et al. (2007) also found that household incomes were positively associated with all QOL domains. Whereas, the present results showed that there was no significant difference between income and functional status.In contrast to chemotherapy, Lu et al. (2007) found

that patients who received radiotherapy perceived poorer QoL, in contrast with the present results showed that there was no significant difference between therapy type and functional status.

In a study performed by Goodwin, Hunt and Samet (1991) with 65 years or older aged newly diagnosed 799 cancer patients; it was found that, subjects with functional limitations were more likely to have poor social support networks than subjects without such limitations. In a study with 161 breast and gynecological cancer survivors, Lim and Zebract reported (2008) that functional social support directly influences QoL. In a study carried out by Filazoglu and Griva (2008), correlations showed that social support was found positively associated with health-related quality of life in Turkish breast cancer patients. Similarly, Sammarco and Konecny (2008) noted a significant positive correlation between perceived social support and total QoL in Latina breast cancer survivors.

Findings from the study of Kroenke et al. (2006) on the absence of friends, living children, and close relatives were significantly related to poorer survival, similar to findings by Friedmann et al (2005) who found women who reported more satisfaction with their social support networks had greater functional well-being; and social/ family well-being.

The hypothesis of this study was only partially supported by the data; satisfaction with available support from friends accounted for variance in functional status significantly in the analysis. However, family and special person, the other subgroups of social support, was not related to any outcome of functional status.

Limitations include a relatively small sample size, and these data reflect a single geographic area and time point, and should be considered together with findings from other populations.

In conclusion, the present study provides information about the association social support and functional status for breast cancer patients under active treatment. The planning and organization of social support care is an important element in rehabilitation and palliation to improve functional status of breast cancer survivors. It is important that health care professionals better understand to need social support and statement of functional status for women with breast cancer in attempt to augment clinical interventions and care. Therefore, nurses should assess women's levels of social support as a factor when evaluating functional status of breast cancer. Questions of a patient's needs for nursing care must be resolved such as, who can provide inpatient and outpatient support, and where this can be provided.

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