RESEARCH COMMUNICATION

Depression and Anxiety Levels in Early Stage Turkish Breast Cancer Patients and Related Factors

Nihal Bostanci Daştan[1*], Sevim Buzlu[2]

Abstract

　Psychiatric disorders such as depression and anxiety are common among cancer patients. If left untreated, these disorders can lead to poor treatment compliance, prolonged hospital stay and reduced life quality. In this prospective study, we aimed determine anxiety and depression levels and related factors among female breast cancer patients presenting to a breast surgery clinic in Istanbul and who met the inclusion criteria. Data were collected using a questionnaire and the Hospital Anxiety and Depression Scale (HAD). The mean age was 48.2 years and the mean post-operative period was 17.9 months. It was found that 46.3 % of the patients had stage I, and 53.7 % stage II, 59.3 % of them undergoing breast conserving surgery and 40.7 % mastectomy. When evaluated according to the HAD Scale, it was found that anxiety scores of 35.1 % of the patients and depression scores of 17.1 % of the patients were higher than their cut-off points. With regard to the affecting factors, depression scores of those with no family history of breast cancer were significantly higher than those with no family history of breast cancer (t= 1.53; p= 0.03); that the depression scores of the patients who underwent mastectomy were significantly higher than those who underwent breast conserving surgery (t= 1.75; p= 0.04). Additionally, it was found that low income was an important risk factor for anxiety; whereas a history of breast cancer in the family and mastectomy was an important risk factor for depression.These results indicate the importance of determining psychiatric problems and appropriate approaches in addition to medical treatment in breast cancer patients.

Keywords: Breast cancer - anxiety - depression - Turkish patients

Introduction

　Breast cancer, which is becoming increasingly common around the world, is a major threat to women health (Okanlı and Ekinci, 2008). In addition to factors increasing the incidence of cancer, widespread implementation of early diagnosis and screening programs and raising the awareness of women increase the rate of early-stage breast cancer (Öksüzoglu, 2002). Even though the incidence of breast cancer varies among countries, breast cancer accounts for 32% of all cancers in women and 18% of cancer-deaths around the world (McKenna et al, 1999; Şengelen, 2002; Darendeliler and Ağaoğlu, 2003).

　Throughout history, various diseases have become myths. Cancer, which is the symbol of mortality and the limitedness of our control over life, reminds people of uncertainty and danger (Elbi, 1991; Holland, 1997; Özkan, 1999). Of all medical diagnoses, the diagnosis of cancer leads to the highest level of stress (Golden-Kreutz and Andersen, 2004). From the prediagnosis to the terminal stage, cancer causes considerable stress and impairs adjustment of the patient. The distress of having cancer continues until several years after the completion of the treatment. In Turkey, after five years or more, some patients complain about physical, emotional and social problems such as pain, anxiety, difficulty in relationships, feeling of loneliness, relapse of the disease (Özcan, 2003; Okanlı and Ekinci, 2008).

　Breast cancer with high incidence and mortality rates, generates severe anxiety even in healthy women (Kılıç et al., 2009). In breast cancer, the degree of psychological response is closely related to emotions about breast. In our country, as in other countries, breast of a woman symbolizes femininity, sexuality, esthetic appearance, feeding the baby, love and maternity. For this reason, after breast cancer, women usually experience severe psychological problems such as concern about impaired body image, reduced self-esteem, feeling of losing their femininity and decrease in sexual functions, anxiety, depression, desperation, guilt and shame, fear of a relapse, isolation and fear of death (Bottomley, 1997; Galjchen, 1999; Özkan, 1999; Spencer et al., 1999; Kunkel et al., 2002; Okanlı and Ekinci, 2008).

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The prevalence of psychiatric disorders ranges between 5% and 50% among cancer patients. Of these, the prevalence of depression was found to range between 0% and 46% and that of anxiety between 1% and 49% (Hersbach et al., 2004). The prevalence of depressive symptoms is the third highest among breast cancer patients after patients with pancreatic and head and neck cancer (Golden-Kreutz and Andersen, 2004). In breast cancer, the prevalence of psychosocial morbidity within one month after diagnosis was reported to be 56%, dropping to 30-35% between 12-24 months (Cooper, 1989). In a study by Burgess et al., (2005), the annual prevalences of depression and anxiety among women for the first to fifth years after diagnosis were reported to be 48%, 25%, 23%, 22% and 15%, respectively (Burgess et al., 2005). It has been suggested that 20 to 50% of women diagnosed with breast cancer have anxiety (Bottomley, 1997), 3 to 19% of them have post-traumatic stress disorder and 33% have acute stress disorder (Classen et al., 2001). In a study evaluating psychological morbidity in breast cancer (1986), Followfield et al reported that 21% of patients undergoing mastectomy had depressive disorder and 26% had anxiety whereas 27% of patients who underwent conservative breast surgery had depression and 31% had anxiety (Followfield et al., 1986).

The association between cancer and psychiatric disorders is frequently emphasized whereas there are only a small number of studies addressing this issue in our country (Ateşçi et al., 2003; Tokgöz et al., 2008). In this study, we aimed to determine depression and anxiety levels in breast cancer patients and related factors. The results of this study can be utilized in developing psychosocial support programs with the purpose of increasing psychosocial adjustment of breast cancer patients. It would be of high benefit to incorporate the programs, developed and implemented in this regard, into routine applications and to ensure the participation of health professionals in these applications.

Materials and Methods

Sample

This descriptive, cross-sectional study was perfomed using a questionnaire and Hospital Anxiety and Depression (HAD) Scale in Istanbul Faculty of Medicine, Department of General Surgery, Breast Surgery Clinic. The sample of the study consisted of 123 patients diagnosed with Stage I and II breast cancer.

The researcher examined the files of the patients with breast cancer presenting for routine general examination on that particular day and those who met the inclusion criteria and accepted to participate in the study were interviewed in an empty clinic room. During the interview, the patient was alone in the room with no one else around. Patients aged between 18-65 years, who had histological and nuclear Stage I-II breast cancer, those who had knowledge about their diagnosis, those who did not have metastasis, those who were not on active chemotherapy to decrease related effects and those who had physical and mental capabilities to have an interview were included in the study.

Table 1. Sociodemographic Characteristics

Characteristics	n	%
Age		
20-25	1	0.8
26-30	1	0.8
31-35	3	2.4
36-40	15	12.2
41-45	26	21.1
46-50	35	28.5
51-55	23	18.7
56-60	11	8.9
61 and over	8	6.5
Education status		
Not literate	5	4.1
Literate	5	4.1
Primary school graduate	33	26.8
Secondary school graduate	8	6.5
High school graduate	29	23.6
University / college graduate	40	32.5
Graduate education degree	3	2.4
Marital status		
Married / Living with partner	104	84.6
Single	10	8.1
Divorced	2	1.6
Widow	7	5.7
Who lives?		
Solo	1	0.8
His wife or partner	23	18.7
Kids	8	6.5
His wife and kids	83	67.5
His parents and siblings	7	5.7
His relatives	1	0.8
Employment status		
Not working	95	77.2
Working	28	22.8
Income status		
Very good	2	1.6
Good	41	33.3
Middle	72	58.5
Bad	8	6.5

Mean age: 48.3 (Min: 24; Max: 63)

Aim

This study had two aims: 1) To determine anxiety and depression levels in early breast cancer patients; and 2) To investigate whether demographic and clinical characteristics (for ins; age, duration of diagnosis, duration of surgery, family history of breast cancer) have an effect on anxiety and depression levels of women with early stage breast cancer.

Hospital Anxiety and Depression Scale-HARDS

The HADS scale was first developed by Zigmond and Snaith in 1982 and translated into Turkish by Aydemir et al. (1997). The prevalence of psychiatric disorders is high in non-psychiatric clinics. The scale, applied to patients with somatic disorders and to those who resort to first-step health services, determines the risk for anxiety and depression and measures the level and severity of anxiety and depression in the hospital.

The aim of the scale is not to diagnose depression but to determine the risk group by rapidly screening anxiety and depression in those with physical illness. Since the scale aims at scanning anxiety and depression in patients

with physical illness, somatic symptoms of anxiety and depression (anorexia, weight loss, headache, insomnia, malaise, fatigue, dizziness, etc) were excluded.

This scale primarily focuses on anhedonia. This HADS scale consists of a total of 14 questions, 7 of which (odd numbers) are related to anxiety while the other 7 (even numbers) measure depression and provides a 4-point Likert scale. 7 was found to be the cut-off score for depression subscale and 10 for anxiety subscale. For both subscales, scores of 0-7 indicate 'normal', 8-10 'borderline' and 11 or greater 'disorder'. In the sample of this study, Cronbach's alpha was found to be 0.88 (Zigmond and Snaith, 1983; Aydemir et al., 1997).

Data Collection and Ethical Considerations

Data were collected through face-to-face interview in a room where the interviewer and the patient were alone. Before the start of the study, approval of the Ethics Committee of Istanbul University Faculty of Medicine and Department of General Surgery was obtained; a signed consent was obtained from each participant.

According to the obtained results, all of the included patients who were found to require psychiatric treatment were referred to Consultation-Liaison Psychiatry for further assessment.

Statistical Analysis

Statistical analysis of the data was performed using SPSS 11.5 program. Percentage distribution was used to evaluate the sociodemographic and breast cancer characteristics of the patients. ANOVA and t test were

Table 2. Anxiety and Depression Score Distributions

HAD Scale	Anxiety Subscale		Depression Subscale	
Score distributions	n	%	n	%
0-7	80	65.04	102	82.92
8-10	24	19.51	17	13.82
≥11	19	15.45	4	3.26

Anxiety mean score: 6.38 ± 3.91; Depression mean score: 4.23 ± 3.51

used for other analyses. A p value less than < 0.05 was considered statistically significant.

Results

With regard to demographic characteristics of the patients (Table 1). Concerning patient characteristics, 99.2% had health insurance, 44.7% reported being healthy, 59.3% underwent breast-conserving surgery, 53.7% had stage II disease, 76.4% had no family history breast cancer, 59.3% had no family history of any cancer, 55.3% had no family history of cancer- deaths, 78% did not experience organ loss, 92.7% were not on active chemotherapy, 70.7% had a history of chemotherapy, 94.3% were not receiving radiotherapy during the study, 74.8% had a history of radiotherapy, 59.3% received hormone therapy and 80.5% did not receive psychotherapy.

With regard to the distribution of anxiety and depression scores of the patients (Table 2); Concerning anxiety and depression levels according to the characteristics of the patients (Table 3); mean anxiety scores of the patients with low income were statistically significantly lower than

Table 3. Demographic Characteristics of Patients According to Levels of Anxiety and Depression

HAD Scale		Anxiety Subscale		F;p	Depression Subscale		F;p	HAD Total		F;p
Demographic Characterastics	n	X	SS		X	SS		X	SS	
Age										
20-25	1	3.00	0.26		1.00	0.12		4.00	1.38	
26-30	1	8.00	1.13		5.00	3.21		13.00	3.46	
31-35	3	9.00	1.73		6.00	1.73		15.00	0.00	
36-40	15	7.33	3.59	F= 1.65	4.00	2.82	F= 1.52	11.33	5.51	F= 1.57
41-45	26	5.61	3.23	p=0.117	4.76	3.38	p=0.155	10.38	6.15	p=0.141
46-50	35	5.54	3.64		3.37	3.00		8.91	6.24	
51-55	23	7.13	3.98		4.13	3.81		11.26	7.56	
56-60	11	8.81	5.56		6.90	5.00		15.72	10.13	
61 and over	8	4.50	4.10		3.00	3.33		7.50	7.36	
Education status										
Not literate	5	8.40	3.28		6.00	2.23		14.40	5.17	
Literate	5	1.40	3.13		1.60	0.57		3.00	1.70	
Primary school graduate	33	7.21	3.62		5.21	3.61		12.42	6.68	
Secondary school graduate	8	6.00	3.02	F= 2.05	3.00	1.51	F= 1.88	9.00	4.00	F= 2.05
High school graduate	29	6.62	4.43	p=0.064	4.82	1.82	p=0.089	11.44	6.50	p=0.064
University / college graduate	40	6.07	3.83		3.37	2.96		9.45	6.26	
Graduate education degree	3	5.00	0.00		4.00	0.00		9.00	0.00	
Marital status										
Married / Living with partner	104	6.33	3.81		4.08	3.43		10.42	6.78	
Single	10	4.30	3.40	F= 2.65	3.80	2.48	F= 2.46	8.10	6.14	F= 2.49
Divorced	2	8.50	0.70	p=0.051	2.50	0.70	p=0.066	11.00	0.00	p=0.063
Widow	7	9.42	4.99		7.57	3.90		17.00	8.81	
Income status										
Very good	2	5.00	0.00		5.00	0.00		10.00	0.00	
Good	41	6.87	3.76	F= 2.74	4.19	3.05	F= 2.24	11.07	6.14	F= 2.68
Middle	72	6.54	3.97	p=0.046	4.56	3.82	p=0.087	11.11	7.45	p=0.050
Bad	8	2.75	0.96		1.25	0.38		4.00	2.34	

Table 4. Disease Characteristics of Patients According to Levels of Anxiety and Depression

HAD Scale Disease Characteristics	n	Anxiety Subscale X	SS	t;p	Depression Subscale X	SS	t;p	HAD Total X	SS	t;p
Disease stage										
Stage I	57	5.87	3.85	t= 1.26	3.92	2.84	t= 0.94	9.80	7.28	t= 1.17
Stage II	66	6.77	3.96	p=0.432	4.53	2.22	p=0.47	11.30	6.75	p=0.709
Types of surgery										
Breast conserving surgery	73	6.23	4.09	t= 0.50	3.78	2.33	t=1.75	10.01	7.04	t= 1.16
Mastectomy	50	6.60	3.67	p=0.604	4.90	3.68	p=0.004	11.50	6.87	p=0.439
Family history of breast cancer										
Have	29	7.62	4.73	t= 1.97	5.10	4.70	t= 1.53	12.72	9.08	t= 1.87
No	94	6.00	3.56	p=0.143	3.96	3.03	p=0.032	9.96	6.11	p=0.085
Family history of other cancer types										
Have	50	6.66	3.67	t= 0.65	3.64	2.05	t= 1.56	10.30	6.39	t= 0.41
No	73	6.19	4.08	p=0.636	4.64	3.76	p=0.135	10.83	7.40	p=0.232
Death due to cancer in the family										
Have	55	6.92	3.83	t= 1.39	4.23	3.20	t= 0.02	11.16	6.62	t= 0.77
No	68	5.94	2.85	p=0.703	4.23	3.76	p=0.421	10.17	7.28	p=0.727
Comorbid disease status										
Have	47	5.93	3.81	t= 0.99	3.57	2.88	t= 1.65	9.51	6.33	t= 1.38
No	76	6.65	3.97	p=0.772	4.64	3.81	p=0.242	11.30	7.32	p=0.583
Loss of body										
Have	96	6.37	3.99	t= 0.18	4.33	3.29	t= 0.16	10.70	6.83	t= 0.07
No	27	6.38	3.91	p=0.445	4.20	3.58	p=0.635	10.59	7.06	p=0.402
Chemotherapy history										
Have	87	6.55	3.80	t= 0.74	4.32	3.52	t= 0.42	10.87	6.89	t= 0.62
No	36	5.97	4.19	p=0.414	4.02	3.51	p=0.837	10.00	7.27	p=0.606
Radiotherapy history										
Have	92	6.77	3.64	t= 1.92	4.47	3.41	t= 1.32	11.25	6.57	t= 1.74
No	31	5.22	4.48	p=0.053	3.51	2.76	p=0.544	8.74	6.91	p=0.137
Hormone therapy										
Yes	73	6.53	3.80	t= 0.51	4.49	3.89	t= 0.98	11.02	7.28	t= 0.78
No	50	6.16	4.09	p=0.449	3.86	2.87	p=0.067	10.02	6.55	p=0.847
Psychotherapy history										
Have	24	7.70	3.19	t= 1.86	4.66	3.03	t= 0.66	12.37	5.69	t= 1.37
No	99	6.06	4.01	p=0.306	4.13	3.62	p=0.720	10.19	7.22	p=0.458

those with middle or high income (p=0.046).

In terms of anxiety and depression levels, data for patients according to disease characteristics are given in Table 4.

Discussion

The association between cancer and psychiatric disorders has been frequently reported in the literature (Bottomley, 1997; Holland, 1997; Özkan, 1999; Akın [Özcan], 2003; Ateşçi, 2003; Tokgöz et al., 2008). Absence of a proper psychiatric diagnosis and follow-up in cancer patients lead to reduced life quality, prolonged hospitalization and reduced adjustment to the treatment plan (Bottomley, 1997; Holland, 1997; Tokgöz et al., 2008).

In this study, 35.06% of the patients received a score indicating borderline and significant anxiety in the anxiety subscale; whereas 17.08% of them received a score representing borderline and significant depression in the depression subscale (Table 3). These data are indicative of a quite widespread mental problem. Previous studies have reported that the prevalence of psychiatric disorder ranges between 9% and 60% in cancer patients, however, this figure ranges from 10% to 30% when standardized psychiatric interviews and descriptive criteria are used

(Payne et al., 1999). The prevalence of anxiety varies from 20% to 50% (Bottomley, 1997) whereas that of depression ranges from 1.5% to 57% (Cooper, 1989) in women diagnosed with breast cancer. It should be borne in mind that these figures can vary according to the stage of the cancer.

In a study by Payne et al., evaluating anxiety and depression in women with breast cancer (1999), mean anxiety scores of patients were found to be 6.2±4.1 whereas mean depression scores were 3.4±3.2. Similar mean values were found in this study, (mean anxiety score: 6.38± 3,91; mean depression score: 4.23±3,51) (Table 3).

In a study by Burgess et al, examining anxiety and depression in early breast cancer patients (2005); it was found that the mean age of women was 48.4±7.8, 75% of participants were married or living with a partner, 73% had no history of psychological treatment, 48% received endocrine therapy and 44% were on chemotherapy. In the same study, risk factors for depression and anxiety were found to be young age, previous psychological treatment, lack of an inmate relationship and severly stressful non-cancer life experiences; whereas it was observed that treatment and prognostic factors, the number of axillary lymph nodes, tumor size and histology and type of adjuvant therapy were not associated with depression and anxiety. In the study by Burgess et al, risk factors for

depression and anxiety were related to the patient rather than diagnosis and treatment. In a study by Montazeri et al, evaluating anxiety and depression in Iranian breast cancer patients before and after diagnosis (2000), there was no association between educational and marital status and anxiety and depression. In a study by Golden Kreutz and Andersen (2004), investigating depressive symptoms after breast cancer surgery, financial difficulty was found to be associated with depressive symptoms. In a study by Scheir et al., (2006), no association was found between depressive symptoms and type of surgery and estrogen receptor status. In this study, the number of lymph nodes, tumor size and histology were excluded due to lack of an efficient record system in Turkey; whereas factors such as age, history of psychological treatment, lack of an inmate relationship were found not to be statistically significant. Among demographic characteristics, anxiety level was higher in patients with low income; whereas, among disease characteristics, depression level was found to be higher in those with mastectomy and a family history of breast cancer.

In conclusion, in this study, it was observed that income status had an effect on anxiety symptoms, whereas a history of mastectomy and a family history of breast cancer had an effect on depressive symptoms. Human is a biopsychosocial entity and a multidisciplinary team approach that evaluates psychological problems and disorders of the patient after a physical illness and that provides care and treatment for these disorders. In oncology clinics, psychosocial support and psychiatric treatment approaches should be the focus of further attention.

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