

PSYCHOLOGICAL DISTRESS OF WOMEN WITH BREAST CANCER: REMISSION VERSUS TREATMENT

Evrım Özkorumak¹, Ahmet Tiryaki¹, Filiz Civil Arslan², Melek Nur Yavuz³

¹Karadeniz Technical University School of Medicine, Department of Psychiatry, Trabzon, Turkey

²Gümüşhane State Hospital, Psychiatric Clinic, Gümüşhane, Turkey

³Akdeniz University Faculty of Medicine, Department of Radiation, Antalya, Turkey

MEME KANSERLİ KADINLARDA PSİKOLOJİK STRES: REMİSYON VE TEDAVİDE

ÖZET

Amaç: Meme kanserli hastaların psikolojik stresten yakınlıklarına dair önemli kanıtlar mevcuttur. Bu çalışmanın amacı meme kanserinin farklı aşamalarında psikolojik stresi değerlendirmektir.

Hastalar ve Yöntem: Katılımcılar meme kanserinin tedavi ve remisyon aşamasında olan hastalardan oluşturulmuştur. Tedavi grubunda 40, remisyon grubunda 40 hasta ile görüşülmüştür. Tedavi grubundaki tüm hastalar unilateral mastektomi, kemoterapi ve radyoterapi almıştır. Sosyodemografik değişkenler kaydedilmiştir. Beck Anksiyete ve Depresyon envanteri, Kısa semptom envanteri uygulanmıştır. Tüm hastalar SCID-I ile değerlendirilmiştir.

Bulgular: Tedavi ve remisyon grubu arasında demografik özellikler açısından anlamlı fark yoktur. Remisyon grubunda hastalık süresi anlamlı uzundur. Anksiyete ve depresyon şiddeti remisyon grubunda yüksek iken tedavi grubunda herhangi bir eksen I tanısı daha yüksektir. Uzun hastalık süresini arındırmak için kovarians analizi yapılmış, anksiyetede anlamlı fark ortadan kalkmıştır.

Sonuç: Psikolojik stres hastalığın her iki fazında benzerdir. Kanser hastalığı ile geçen süre hastalığın safhasından bağımsız olarak önemli bulunmuştur. Bu bilgi hem tedavi hem de remisyon safhasında meme kanseri hastalarındaki psikolojik stres açısından çıkarımlar sağlayacaktır.

Anahtar sözcükler: meme kanseri, depresyon, anksiyete, hastalık süresi

ABSTRACT

Purpose: There is considerable evidence suggesting that patients suffer from psychological distress associated with breast cancer. The aim of this study is to evaluate psychological distress during different phases of breast cancer.

Patients and Methods: Participants were recruited from the patients who were in treatment and in remission phases of breast cancer. In treatment group 40 and in remission group 40 patients were interviewed. All the patients in treatment group had been underwent unilateral mastectomy, chemotherapy and radiotherapy. Sociodemographic variables were recorded. Beck Anxiety and Depression Inventories, Brief Symptom Inventory were administered. All patients were assessed with SCID-I.

Results: There were no statistically significant difference in regard to their demographic features between treatment and remission phase. Duration of the disease was significantly higher in remission phase. Anxiety and depression level were higher in remission group while diagnosis of one of axis I disorder was higher in treatment group. Analysis of covariance was conducted for purifying effect of longer duration of disease. Significance in anxiety scores disappeared.

Conclusion: Psychological distress were similar in two phase of the disease. Duration of time the patients suffer from cancer was found to be important irrelevant to phase of the disease. These data would have implications to psychological distress of breast cancer patients both in treatment and remission phase.

Key words: breast cancer, depression, anxiety, duration of the disease

Introduction

Breast cancer accounts for 18% of all female cancers throughout the world and is the most prevalent female cancer with a rate of 24.1% in Turkey (1,2).

Psychiatric disturbances related to breast cancer have been reported previously (3,4,5) The prevalence of depressive disorders in breast cancer patients ranges from 0 to 46% and that of anxiety from 1 to 49 %. Rates may differ depending on the time of evaluation (6). Women diagnosed with breast cancer may experience

great emotional distress and develop a variety of psychological problems including insomnia, loss of appetite, excessive alcohol consumption, suicidal thoughts, fear of cancer recurrence and fear of death (7). Between 20% and 39% of women with breast cancer experience ongoing mood disturbance months or years after treatment (2,8-11). Up to one third of breast cancer patients may suffer from psychological morbidity over one year after initial operation. Post traumatic stress-like symptoms have been found in up to 12% of patients one year after surgery (12). Mehnert et al reported moderate to severe anxiety up to 38% and moderate to

severe depression up to 22% in a group of long term breast cancer survivors at an average of 47 months following diagnosis (13). We made a hypothesis about indifferent levels of clinically important depression and anxiety in patients under treatment and in remission phase of breast cancer. The aim of the presented study was to compare continuing psychological state in terms of depression and anxiety level in patients with breast cancer with regard to treatment and remission phases.

Method

Subject recruitment

The study was carried out on a sample (n=80) of the breast cancer patients who were still under treatment (Group T) and were in remission phase (Group R) from February 2006 until February 2007. Group T consists of 40 and Group R consists of 40 breast cancer patients. The subjects in Group R were drawn from a larger group of women recorded on follow-up lists of Radiation Oncology department by lottery. Subjects drawn by lottery were invited successively to participate in the study. A total of 40 eligible women who accepted to attend participated in to the study. All the patients in Group R were underwent unilateral mastectomy, chemotherapy and radiotherapy and assumed as disease-free. The patients in Group R were disease-free and still in remission at the beginning of the study. Group T was composed of breast cancer patients who were still on treatment. Group T had completed chemotherapy, mastectomy but evaluated during the radiotherapy period of the treatment. The assesment of Group T was before the radiotherapy session. Demographic details including age, education, marital status, occupation, economic status were collected for each subject. Clinical details about cancer were also collected from the patients medical files. Research diagnosis were made using SCID-I modules for psychiatric disorders. Global psychological distress was examined by Brief Symptom Inventory (BSI). Additionally, Beck Depression and Anxiety Inventory (BDI, BAI) were used to assess depression and anxiety scores/severity which might have an effect on each other. One of the researchers supervised patients who had difficulty in reading and understanding the inventories, helped subjects in filling the inventories if needed. Approval was obtained from Ethics Committee of Karadeniz Technical University Faculty of Medicine. Detailed information concerning the aim and procedure of the present study was provided to all participants as part of the informed consent procedure.

Instruments

The Turkish version of the Structured Clinical Interview for DSM-IV Mental Disorders (SCID-I): The authors administered SCID-I to 80 outpatients with breast cancer. The SCID-I is a structured method for assessing psychiatric symptomatology that corresponds to DSM (Diagnostic and Statistical Manual of Mental Disorders) diagnostic categories (14). The reliability and validity of the Turkish version of SCID-I were performed by orapıođlu et al (15).

Brief Symptom Inventory (BSI): Brief Symptom Inventory is a 53-item assessment tool used extensively to assess global

psychological distress, which is determined by the individual's score on a global severity index. The global severity index for each subject is obtained by averaging the 53 symptom ratings. The measure has nine specific subscales (somatization, obsessive-compulsive, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, hostility, paranoid ideation, psychoticism). The Brief Symptom Inventory was adapted to Turkish by Hisli-Şahin and Durak (16).

Beck Depression Inventory (BDI): The Beck Depression Inventory is an instrument that assesses the presence and severity of depression (17). The 21 items of the inventory were selected to represent symptoms commonly associated with a depressive disorder. Item categories include mood, pessimism, crying spells, guilt, self-hate and accusations, irritability, social withdrawal, work inhibition, sleep and appetite disturbance, and loss of libido. Validity and reliability studies have been performed for the Turkish form, and the total score ranges from 0 to 63 with the cutoff score as 17 (18).

Beck Anxiety Inventory (BAI): The Beck Anxiety Scale is a 21-item self-report questionnaire with a focus on somatic anxiety symptoms, such as heart pounding, nervousness, inability to relax, and dizziness or light-headedness (19). Items are rated on a 4-point scale ranging from 0 (not at all) to 3 (severely: I could barely stand it). Validity and reliability studies have been performed for the Turkish form by Ulusoy and colleagues (20).

2.3 Statistics

Normal distribution of quantitative data was evaluated by Kolmogorov Smirnov test. The comparison of quantitative data between Group T and Group R was made with Student-t test for data with normal distribution and with Mann Whitney U test for data without normal distribution.

Comparison of qualitative data was performed with Chi-square test. Quantitative data was presented as mean \pm standard deviation and ordinal data was presented as percentage. The level of significance was set at a level of $p < 0.05$.

The duration of the disease was regarded as covariate, and after means had been corrected the difference between Group T and Group R was evaluated using analysis of covariance (ANCOVA).

Results

Characteristics of the sample

Eighty female breast cancer patients were included in this study. Group T was composed of 40 subjects while Group R was composed of 40 subjects. Mean age of Group T was 47.95 ± 9.9 years, of Group R was 48.4 ± 10.5 years and difference was not significant ($p = 0.844$). The length of education was not different significantly ($p = 0.167$). The number of children the patients had in Grup T and Group R were 2.58 ± 1.57 and 2.23 ± 1.93 respectively. The sociodemographic data of the subjects are presented in Table 1. Sixtyseven (83.8%) had invasive ductal cancer, 51 (63%) were in stage 2 according to

Table 1. Sociodemographic Variables.

	<i>Group T (n=40)</i>		<i>Group R (n=40)</i>		<i>p</i>
	<i>mean ± standard deviation</i>		<i>mean ± standard deviation</i>		
Age(years)	48.0±9.9		48.4±10.5		0.844
Education(years)	4.95±3.10		5.65±3.51		0.167
Number of children	2.58±1.57		2.23±1.93		0.376
Marital Status	n (%)		n (%)		0.439
	Married	32 (80)	28 (70)		
	Non-Married	8 (20)	12 (30)		
Occupational Status	n (%)		n (%)		1.000
	Employed	3 (7.5)	3 (7.5)		
	Unemployed	35 (92.5)	37 (92.5)		

Table 2. Clinical Variables.

	<i>Group T (n=40)</i>		<i>Group R (n=40)</i>		<i>p</i>	
	<i>n</i>	<i>%</i>	<i>n</i>	<i>%</i>		
Cancer Type					0.225	
	Invasive ductal cancer	31	77.5	36		90
	Intraductal cancer	9	22.5	4		10
Cancer Stage					0.225	
	Stage 1+2	27	67.5	26		65.0
	Stage 3+4	13	32.5	14		35.0
Chemotherapy					0.494	
	Yes	40.0	100	38		95.0
	No	0	0.0	2		5.0
Radiotherapy					0.000	
	Yes	40	100	0		0.0
	No	0	0.0	40		100
Psychiatric History					1.000	
	Yes	5	12.5	4		10
	No	35	87.5	36		90
Psychiatric diagnosis					0.323	
	Yes	14	35.0	9		22.5
	No	26	65.0	31		77.5

TNM classification of 6th edition of American Joint Committee on cancer (21). Fourteen (35.0%) of Group R, 13 (32.5%) of Group T was in stage 3 or 4, while 26 (65%) of Group R, 27 (67.5%) of Group T was in stage 1 or 2. There is no significant difference across the stage of the disease ($p=1$). All the patients in Group T, 38 (95%) of Group R

had chemotherapy. All the patients in both group had radiotherapy and mastectomy. Thirtyone (90%) of Group T and 36 (77.5%) of Group R were invasive ductal carcinoma, whereas 9 (22.5%) of Group T and 4(10%) of Group R were intraductal carcinoma. The cancer type was not different ($p=0.225$)(Table 2).

Table 3. Comparison of Group T and Group R patients after controlling for duration of disease.

	Student t			ANCOVA		
	Group 1	Group 2	p	Group 1	Group 2	p
BAI	9.9±8.7	15.2±8.8	0.008	6.8±5.1	13.9±1.6	0.866
BDI	7.9±8.6	9.3±9.8	0.492	6.8±5.1	13.9±1.6	0.702
BSI-S	3.6±3.5	6.5±4.9	0.003	6.5±0.7	3.7±0.7	0.199
BSI-SII	0.4±0.4	0.6±0.5	0.033	0.6±0.1	0.1±0.3	0.842
BSI-GSI	1.3±0.39	1.6±0.6	0.010	1.6±0.1	1.0±0.3	0.317

BAI: Beck Anxiety Inventory
 BDI: Beck Depression Inventory
 BSI-S: Brief Symptom Inventory- somatization
 BSI-SII: Brief Symptom Inventory- Severity of Illness Index
 BSI-GSI: Brief Symptom Inventory- General Severity Index

Time period beginning from diagnosis of the disease till the evaluation time was assumed as duration of the disease defined as month. Duration of the disease was significantly higher in remission group (39.05 month (min:6, max:120 Standard Deviation: 28.28) versus 7.6 (min:2, max:24 Standard Deviation: 4.41) month (p=0.00). Duration beginning from diagnosis till the remission in Group R, is also compared with the duration of disease in Group T. It is shorter in Group R but it was insignificant (7.13 versus 7.60, p=0.758).

Psychiatric symptoms and disorders

Two group had different depression and anxiety scores. Level of depression and anxiety were higher in Group R. Anxiety level was significantly higher (p=0.008). As the duration of disease is significantly higher in Group R, for the aim of purifying the effect of the duration of the disease, analysis of covariance is conducted. After covariance analysis, significance of anxiety level disappears (Table 3). As the higher scores for depression and anxiety might not be indicative of clinical problems, structured clinical interview was conducted. But; the rate of psychiatric diagnosis for one axis I disorder according to SCID-I was higher (35.0%,n=14) for Group T than Group R (22.5%, n=9). But the difference was not significant (p=0.323). Major depression was detected in 5 of (12.5%) Group T, while 2 (5%) of Group R had diagnosis of Major depression. Anxiety disorder was detected in 9 patient (22.5%) in Group T, 7 patient (17.5%) in Group R.

Brief symptom inventory subscales and global indexes were higher in Group R. Significantly higher scores for BSI-somatization, BSI-Severity of Illness Index and BSI-General Severity Index were present in Group R.

Past psychiatric diagnosis was also inquired in all patients. Five of (12.1%) Group T, 4 of (10%) Group R had a psychiatric disorder history. The difference was insignificant.

Discussion

The first aim of the present study is to compare psychiatric symptoms or disorder during treatment and remission of breast cancer. Also variables related to psychiatric symptoms or diseases were inquired.

Prevalance of Major depression was 8-25%, Anxiety disorder was 6-50% in several studies investigating psychiatric consequences of cancers focusing on the first months of the disease (22). In the study, Major Depression was detected in rate of 12.5%, Anxiety Disorder was in rate of 22.5% in Group T which has 7.6±4.4 month of length of diagnosis. The ratio is between the reported rates mentioned above.

In previous studies, demographic and clinical variables were not associated with psychiatric disorders at follow up (23). Our study revealed similar results with previous studies, in means of socio-demographic variables (age, marital status, education, number of child owned psychiatric history) and clinical variables (cancer type, stage of the disease, treatment modality). Patients in Group T and Group R did not differ in stages of the disease (stage 1-2 or 3-4), cancer type and treatment modalities. The only difference was in duration of the disease. But irrespective of stage of disease, breast cancer patients might have measurable psychiatric morbidity (24,25,26). In this study Group T and Group R were similar in terms of clinical variables but anxiety and depression levels were higher in Group R. But these higher scores might be due to longer

duration of the disease, so the effect of it was purified. Then the significant difference disappeared. Nonetheless the duration of the disease seems to be an important factor in psychological well-being. Burgess et al stated that the risk factors for depression and anxiety in the five years after diagnosis are related to the patient rather than to the disease or its treatment (27). Since for many patients cancer has been transformed from a rapidly fatal condition to a chronic disease affecting patients's physical and psychological well-being (28). Based on the literature, illness perceptions (especially perceived consequences and perceived control) are important factors influencing psychological health, according to cognitive theory prolonged and pronounced negative biasing manifest depression (29). The cancer experience is not a single crisis for most patients, but more often is characterized by series of up and downs that are precipitated by specific events such as recurrence of disease, cessation of therapy (28). At the time of evaluation. In Group R, treatment has already been completed 1-114 months before the evaluation. So there were patients who had a long remission period. Therefore the patients who have completed the treatment and in remission phase still have a risk for psychological morbidity.

Since clinical interview is the clinical standard for psychological assesment in breast cancer (30,31) we conducted a clinical interview for assessing psychiatric symptomatology that corresponds to DSM diagnostic categories, but there is no significant difference in clinical diagnosis between two groups. Patients in Group T had higher ratio for one of Axis I disorder with lower depression and anxiety levels in contrast to patients in Group R. This may be due to low detection rates of questionnaires in clinical practice (32). The patients self assessments were different than the clinicians' assesments.

There have been no study comparing psychiatric prevalence rates in breast cancer patients during treatment with breast cancer in remisson phase. Most studies compare with general population

(33,34) Burgess et al did not observe difference in the prevalence of depressive and/or anxious disorders beyond the first year after diagnosis of early breast cancer patients compared to the general population (27). Our results partially disagree the results of Burgess', because the comparison was with breast cancer patients under treatment in this study.

Breast cancer was diagnosed in the previous year in Group T, whereas in Group R the diagnosis was made the year before the previous year. The psychological distress which may be reflected in higher anxiety and depression levels was higher in Group R which had a significant longer duration of the disease. This result can support the view of Bleiker et al (23). Also Gandubert confirmed higher prevalence of Major Depression in breast cancer both at remission and last 3 years after diagnosis (35).

This study has some limitations. The sample composed of only women with breast cancer, therefore the results cannot be generalized to all breast cancer patients and cancer types. Furthermore, the sample constituted a selected group, because the women who agreed to participate the study were included. Some breast cancer patients with worse psychological or medical condition might not be participated. Patients in the treatment group already completed most of the primary treatment including surgery and chemotherapy therefore study may failed to capture the impact of active treatment on patient's psychological states. Administration of clinical interview to all patients and similarity of two comparing group are powerfull aspect of this study.

Conclusion

This study may support the view of psychological well-being of breast cancer patients in both clinical status as treatment versus remission phase. Importance about span of time living with cancer whether in remission or not must be underlined additionally. Further studies may focus on different clinical variables in two clinical status.

References

1. T.C. Health Ministry, web site Cancer Istatistics 1999, (<http://www.saglik.gov.tr/extras/istatistikler/apk2001/092.htm>).
2. Von Ah D, Kang DH. Correlates of mood disturbance in women with breast cancer: patterns over time. *J Adv Nurs* 2008; 61(6):676-89. (PMID: 18490890)
3. Maunsell E, Brisson J & Deschenes L. Psychological distress after initial treatment of breast cancer. *Cancer* 1992; 70: 120-125. (PMID: 1606533)
4. Sellick SM, & Crooks DL. Depression and cancer: An appraisal of the literature for prevalence, detection, and practice guideline development for psychological interventions. *Psychooncology* 1999; 8:315-333. (PMID: 10474850)
5. Shapiro SL, Lopez A.M, Schwartz GE, Bootzin R, Figueredo AJ, Braden CJ, Kurger SF et al. Quality of life and breast cancer: Relationship topsychosocial variables. *J Clin Psychol* 2001; 57:501-519. (PMID: 11255204)
6. Morasso G, Costantini M, Viterbori P, Bonci F, Del Mastro L, Musso M, Garrone O, Venturini M. Predicting mood disorders in breast cancer patients. *Eur J Cancer* 2001;37(2):216-223. (PMID: 11166149)
7. Nosarti C, Roberts JV, Crayford T, McKenzie K, David AS Early psychological adjustment in breast cancer patients: a prospective study. *J Psychosom Res* 2002;53(6):1123-1130.(PMID: 12479995)
8. Fulton C. Patients with metastatic breast cancer: their physical and psychological rehabilitation needs. *Int J Rehabil Res* 1999;22(4):291-301.(PMID: 10669979)
9. Weitzner MA, Meyers CA, Stuebing KK, Saleeba AK. Relationship between quality of life and mood in long-term survivors of breast cancer treated with mastectomy. *Support Care Cancer* 1997;5(3):241-248.(PMID: 9176972)
10. Badger TA, Braden CJ, Mishel MH, Longman A. Depression burden, psychological adjustment, and quality of life in women with breast cancer: patterns over time. *Res Nurs Health* 2004; 27(1):19-28.(PMID: 14745853)

11. Bardwell WA, Natarajan L, Dimsdale JE, Rock CL, Mortimer JE, Hollenbach K, Pierce JP. Objective cancer-related variables are not associated with depressive symptoms in women treated for early-stage breast cancer. *J Clin Oncol* 2006;24:2420-2427. (PMID: 16651649)
12. Tjemsland L, Søreide JA, Malt UF. Posttraumatic distress symptoms in operable breast cancer III: status one year after surgery. *Breast Cancer Res Treat* 1998; 47:141-151. (PMID: 9497102)
13. Mehnert A, Koch U. Psychological comorbidity and health-related quality of life and its association with awareness, utilization, and need for psychosocial support in a cancer register-based sample of long-term breast cancer survivors. *J Psychosom Res* 2008; 64:383-391. (PMID: 18374737)
14. Spitzer RL, Williams JBW, Gibbon M, First MB: Structured Clinical Interview for DSM-III-R (SCID). Washington, DC, American Psychiatric Press, 1990.
15. Çorapçiođlu A, Aydemir Ö, Yıldız M, Esen A, Körođlu E. DSM-IV eksen I bozuklukları için yapılandırılmış klinik görüşme SCID-I, klinik versiyon. Ankara: Hekimler yayın birliđi; 1999.
16. Hisli-Şahin N and Durak A (1994). Kısa Semptom Envanteri: Türk Gençleri için uyarlanması. *Türk Psikoloji Dergisi* 1994;9: 44-56.
17. Beck AT, Ward CH, Mendelson M, Mock J, Erbaugh J. An inventory for measuring depression. *Arch Gen Psychiatry* 1961; 4:561-571.(PMID: 13688369)
18. Hisli N. Beck Depresyon Envanterinin üniversite öğrencileri için geçerliliđi ve güvenilirliđi. *Psikoloji Dergisi* 1989; 7:3-13.
19. Beck AT, Epstein N, Brown G, Steer RA. An inventory for measuring clinical anxiety: psychometric properties. *J Consult Clin Psychol* 1988; 56:893-7.(PMID: 3204199)
20. Ulusoy M, Şahin NH, Erkmen H. Turkish version of the Beck Anxiety Inventory: Psychometric properties. *J Cogn Psychother* 1998; 12:163-172.
21. Greene FL, Page DL, Fleming ID, eds, for the American Joint Committee on Cancer. *AJCC Cancer Staging Manual*. 6th ed. New York, NY: Springer-Verlag; 2002.
22. Gandubert C, Carrière I, Escot C, Soulier M, Hermès A, Boulet P, Ritchie K, Chaudieu I. Onset and relapse of psychiatric disorders following early breast cancer: a case-control study *Psychooncology* 2009;18:1029-1037.(PMID: 19156668)
23. Bleiker EM, Pouwer F, van der Ploeg HM, Leer JW, Adèr HJ. Psychological distress two years after diagnosis of breast cancer: frequency and prediction. *Patient Educ Couns* 2000;40:209-217. (PMID: 108380009)
24. Hall A, A'Hern R, Fallowfield L. Are we using appropriate self-report questionnaires for detecting anxiety and depression in women with early breast cancer? *Eur J Cancer* 1999;35:79-85. (PMID: 10211092)
25. Maunsell E, Brisson J, Deschenes L. Psychological distress after initial treatment for breast cancer: a comparison of partial and total mastectomy. *J Clin Epidemiol* 1989; 42: 765-771. (PMID: 1606533).
26. Fallowfield L, Hall A, Maguire P, Baum M. Psychological outcomes of different treatment policies in women with early breast cancer outside a clinical trial. *Br Med J* 1990; 301:575-580. (PMID: 1606533)
27. Burgess C, Cornelius V, Love S, Graham J, Richards M, Ramirez A. Depression and anxiety in women with early breast cancer: five year observational cohort study. *BMJ* 2005; 26:330(7493):702. (PMID: 15695497)
28. Ganz PA, Hirji K, Sim MS, Schag CA, Fred C, Polinsky ML. Predicting psychosocial risk in patients with breast cancer. *Med Care* 1993;31:419-31. (PMID: 8501990)
29. Scharloo M, Kaptein AA, Weinman J, Hazes JM, Willems LNA, Bergman W, Rooijmans HGM. Illness perceptions, coping and functioning in patients with rheumatoid arthritis, chronic obstructive pulmonary disease and psoriasis. *J Psychosom Res* 1998;44:573-585. (PMID: 19718524)
30. Ganz PA, Rofessart J, Polinsky ML, Schag CC, Heinrich RL. A comprehensive approach to the assessment of cancer patients' rehabilitation needs: The Cancer Inventory of Problem Situations and a companion interview. *J Psychosocial Oncology* 1986; 4:27. (DOI:10.1300/J077v04n03_03)
31. Gordon WA, Freidenbergs I, Diller L, Hibbar M, Wolf C, Levine L, Lipkins R, Ezrachi O, Lucido D. Efficacy of psychosocial intervention with cancer patients. *J Consult Clin Psychol* 1980; 48:743-759.(PMID: 7440831)
32. Fallowfield L, Hall A, Maguire P, Baum M. Psychological outcomes of different treatment policies in women with early breast cancer outside a clinical trial. *BM J* 1990; 301:575-580. (PMID: 2242455).
33. Derogatis LR, Morrow GR, Fetting J, Penman D, Piasetsky S, Schmale AM, Henrichs M, Carnicke CL Jr. The prevalence of psychiatric disorders among cancer patients. *JAMA* 1983;249:751-757. (PMID: 6823028)
34. Harter M, Reuter K, Aschenbrenner A, Schretzmann B, Marschner N, Hasenburg A, Weis J. Psychiatric disorders and associated factors in cancer: results of an interview study with patients in inpatient, rehabilitation and outpatient treatment. *Eur J Cancer* 2001;37:1385-1393. (PMID: 11435069)
35. Gandubert C, Carrière I, Escot C, Soulier M, Hermès A, Boulet P, Ritchie K, Chaudieu I. Onset and relapse of psychiatric disorders following early breast cancer: a case-control study *Psychooncology* 2009;18:1029-1037.(PMID: 19156668)

Correspondence

Evrım Özkorumak

E-mail : evrimozkorumak@yahoo.com