

RESEARCH ARTICLE

Effect of Group Therapy on Psychological Symptoms and Quality of Life in Turkish Patients with Breast Cancer

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Abstract

Purpose: The aim of this study was to evaluate the effects of the group therapy on psychological symptoms and quality of life of patients with early stage breast cancer. **Methods:** This study was performed on 16 breast cancer patients who completed treatments. The total group therapy program involved a weekly session of 2-3 hours, for 16 weeks. The group therapy sessions were given to women in the oncology department by a clinical psychologist and also given training sections by the different professional teams. All the required assessments for the study were performed after and before 16 week group therapy intervention. **Results:** Initially we had taken 21 women but 16 participated in all therapy programs and submitted questionnaires. The mean age was 47.8 years. There were significant differences between before and after group therapy program. Anxiety, depression, and distress showed significant improvements. Hopelessness scale was detected at the border of significance. There was no change in sleep problems and quality of life. According to the analysis of correlation, considering the age factor and year of diagnosis, there was found no statistically significant relationship between anxiety, distress, depression, hopelessness, sleeplessness, and quality of life. **Conclusions:** This pilot study demonstrated that brief, predominantly group therapy is feasible for patients with breast cancer and, also it may be helpful to cope with emotional and physical distress.

Keywords: Breast cancer - group therapy - quality of life - Turkey

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Introduction

Breast cancer is the most common malignancy excluding skin cancers, and the second leading the cause of cancer death among women (DeSantis et al., 2011). The treatment modalities have improved in recent years, and the number of women who live longer with breast cancer is increasing. Such prolonged and intensive medical treatments may take a heavy toll on the physical, functional, emotional, spiritual, and social well-being of cancer survivors. Although the outlook for surviving cancer is often very good, it requires medical intervention. Such treatments are responsible for many physiological and psychological problems, if not treated, would have a negative impact on the patient's quality of life (Courneya et al., 2003; Tan et al., 2005; Kalsatou et al., 2011; Pehlivan et al., 2011). Supportive care programs that help patients better understand and cope with their symptoms may result in reduced frequency, duration, and intensity of these physical disease and treatment-related symptoms. Psychological group intervention therapy for cancer patients have been used over the past 20 years (Goodwin et al., 2001; Edwards et al., 2004; Kissane et al., 2007; Classen et al., 2008). The aim of these trials is to improve

the emotional adjustment of breast cancer patients and prevent the negative psychosocial effects of a cancer diagnosis and treatment. In a systematic Cochrane review published in 2004 and updated for 2008 found that psychological therapies for women with metastatic breast cancer showed very limited evidence of benefit arising from these interventions (Edwards et al., 2008). Although there was evidence of short-term benefit for some psychological outcomes, in general these were not sustained at follow-up post treatment survivorship in patients with breast cancer. Various group interventions have been compared in literature (Helgeson et al., 2000; Manne et al., 2007; Faller et al., 2009; Goerling et al., 2009). The types of group interventions distinguished in psycho-oncological studies are self-help groups, social support groups, psycho-education, cognitive behavioral oriented 'stress management/coping skills training', psychodynamic therapy, experiential existential centered therapy, and mindfulness based stress reduction training. Stress management appeared to be more efficacious than social support alone, though one study found similar effects of a coping intervention and supportive counseling (Manne et al., 2007). Helgeson et al. (2000) compared to three support group interventions with the control group.

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Women were randomly assigned to a control condition or the education or peer-discussion intervention or combined (i.e., education plus peer-discussion). The education intervention either on its own or in combination with peer discussion generated greater benefits than supportive discussions alone. Randomized clinical trials have shown that psychosocial interventions for breast cancer patients enhance coping, social support and quality of life and reduce psychological distress (Kissane et al., 2003; Boesen et al., 2011). Besides individual psychooncological care, group psychotherapy has been described as helpful but, little research has been done (Gore-Felton et al., 2000; Neises 2008). We invited to women with breast cancer for education and peer-discussion intervention group therapy in this study. We thought that this type of group therapy would be more beneficial for Turkish women with breast cancer due to the large numbers of patients per physician. The aim of this study was to evaluate the effects of the group therapy on quality of life and psychological symptoms of the Turkish women with early stage of breast cancer patients who completed the treatments.

Materials and Methods

Patients

This study was performed on 16 breast cancer patients who completed the treatments. All participants had been diagnosed in breast cancer. Participants were informed by local coordinator of the oncology department of Dokuz Eylul University hospital via announcements. They had completed cancer treatments, including surgery, radiotherapy and systemic chemotherapy at least 3 months before the beginning of the study and some of patients continued the hormonal treatments. Participants had to fulfill the following eligibility criteria; (a) age over 18 years (b) capability to understand and speak the Turkish language, (c) accepted to participate in the group therapy. Criteria for exclusion were (a) severe psychiatric disorder (b) acute suicidal tendency or suicide attempts in the past year, and (c) severe cognitive impairment. All participants were informed about the purpose and the procedures of the study and signed an informed consent form according to guidelines approved by the university hospital ethical committee.

Intervention

Women were invited to participate in this study after evaluating by the local program co-coordinator (clinical psychologist working in the field of oncology with training in group therapy). The total group therapy program involved a weekly session of 2-3 hours, for 16 weeks. The program appears to have been excellent in comprehensiveness of so many themes and issues. The intervention had two parts. The first was 16 hours of education at the oncology outpatient clinic, conducted as a different professional team. A medical oncologist gave lectures about the systemic treatment modalities. The nurse specialized in breast cancer also provided information about possible side-effects of the treatments especially in late term, stressed that the side-effects were 'normal'. A nutritionist specialized in oncology gave a lecture on

cancer and medical nutrition therapy, went through each woman's daily nutrition from a diet diary collected before the intervention, and Mediterranean diet were given advice on how to consume if necessary and how to lose or gain weight and Medical diet therapy recommended all patients for the side effects of chemotherapy and radiotherapy. A physiotherapist taught the women how to avoid lymphedema and how to train the shoulder and arm if their mobility had been limited by the breast operation. She also gave advice on how to keep the body in shape. All 4 specialist excluding for co-coordinator spent a totally of 16 hours for education section. The second part of the intervention, group of breast cancer patients met eight times over 8 weeks for 2-3 hours sessions. An experienced clinical psychologist led the group and talked about stress management, problem-solving, sexual problems, coping and cognitive reframing to examine and deal with negative thoughts, from cognitive-behavioral theory. All the required assessments (Beck Depression Inventory, Beck Hopelessness Scale, and State-Trait Anxiety Inventory) for the study were performed after and before 16 week group therapy intervention. Additionally; distress, quality of life and quality of sleep of the participants were evaluated by using the 5-point-likert-type scales ranging from 1 (strongly disagree) to 5 (strongly agree).

Beck Depression Inventory

The Beck Depression Inventory (BDI) (Beck et al., 1996) is a self-report inventory measuring symptoms of depression. It contains 21 questions, and a cutoff of >9 (total score) was used to identify potential clinically significant symptoms of depression and to define depressed subjects in these analyses. Scores for depressive symptoms ranged from 10 to 18 (mild); 19 to 29 (moderate); and 30 to 63 (severe). In this study, the Turkish version of BDI was used as a screening measure for depression. The psychometric properties of the BDI have been reported as high-ranking with internal consistency ranging from 0.73 to 0.92 with a mean of 0.86. The split-half reliability coefficient reported was 0.93. Concurrent validity was determined by correlations with clinician ratings of depression using the revised BDI and ranged from 0.62 to 0.66 (Hisli, 1988; Alacacioglu et al., 2010).

Beck Hopelessness Scale

The Beck Hopelessness Scales (BHS) was assessed with the Turkish version of BHS, a 20-item questionnaire (Beck et al., 1974) that assesses hopelessness by measuring participants' negative expectancies about future events. The response format for the BHS is true/false. Beck Hopelessness Scale scores can range from 0 to 20. A high score indicates a high feeling of hopelessness. Evidence indicating a coefficient α of 0.93 and a correlation of 0.74 between BHS scores and clinicians' hopelessness rating supports the reliability and validity of the BHS. The scale developed by Beck et al. was adapted for Turkey by Durak in 1994 (Durak, 1994).

State-Trait Anxiety Inventory

We measured the generic level of anxiety among patients using the state anxiety scale from the Turkish

Table 1. Demographic and Clinical Characteristics of Participants

	Group intervention therapy (N=16)
Age (years) Mean ± SD	47.81 ± 6.1
Weight (kg) Mean ± SD	69.3±7.3
BMI (kg/m ²) Mean ± SD	27.1 ± 11.2
Education level(%)	
Primary school	25
High school	43.75
University	31.25
Occupation (%)	
Housewife	25
Employed	18.75
Retired	56.25
Marital status (%)	
Unmarried	6.25
Married	75
Divorced	18.75
Had children	93.75
Cancer history in their family (%)	37.5

Table 2. Comparison of Anxiety, Depression, Distress, Hopelessness, Sleeplessness, and Quality of Life Before and After Group Therapy

	Before (mean±SD)	After (mean±SD)	P
Anxiety	44,93±9,78	38,8±7,34	0,001*
Depression	11,4±7,15	8,18±6,54	0,012*
Distress	3,18±0,91	3,87±0,71	0,017*
Hopelessness	6,06±9,08	2,75±4,02	0,05*
Sleeplessness	3,68±1,01	3,75±1,34	0,66
Quality of life	3,43±0,96	3,77±0,77	0,13

*Statistically significant p < 0.05; SD, Standard deviation

Table 3. Correlation of age and year of diagnosis with hopelessness, depression and anxiety

		Anxiety	Depression	Hopelessness
		Before /After	Before /After	Before /After
Age	r	0,214 / 0,196	0,135 / -0,129	-0,166 / -0,153
	p	0,427 / 0,467	0,619 / 0,633	0,539 / 0,570
Year of diagnosis	r	0,153 / 0,120	0,289 / 0,134	0,049 / 0,042
	p	0,573 / 0,657	0,278 / 0,620	0,858 / 0,877

* Correlation is significant at the 0.05 level (2-tailed)

Table 4. Correlation of Age and Year of Diagnosis with Distress, Sleeplessness, and Quality of Life

		Distress	Sleeplessness	QOL
		Before /After	Before /After	Before /After
Age	r	0,302 / -0,113	-0,242 / -0,317	0,000 / 0,050
	p	0,255 / 0,676	0,366 / 0,232	1,000 / 0,853
Year of diagnosis	r	0,305 / 0,114	-0,235 / -0,432	-0,351 / -0,094
	p	0,251 / 0,675	0,380 / 0,094	0,182 / 0,730

Correlation is significant at the 0.05 level (2-tailed)

version of the State-Trait Anxiety Inventory (STAI). The STAI (Alacacioglu et al., 2010; Oner et al., 1998) is composed of two separate self-report scales, the STAI-1 and -2. Each of them consists of 20 statements that address the individual's situational anxiety. Participants are to indicate the degree to which each statement reflects their current feelings on a four-point scale. The responses add up to a score between 20 and 80, with higher scores indicating higher levels of state and trait anxiety, respectively.

Statistical analysis

Data were analyzed using SPSS 15.0 soft ware. Demographic variables and clinical variables were analyzed using percent. We have used on-parametric tests for statistical evaluations. Wilcoxon signed ranks test was used to determine the differences in the before and after group therapy. The relationship between anxiety, depression, distress, hopelessness, sleeplessness, and quality of life were analyzed by the spearman product moment correlation coefficients. P<0.05 was considered as significant.

Results

Demographic data on participants are presented in Table 1. Initially we had taken 21 women but 16 women participated in the entire therapy program and sent our questionnaires. When asked reasons for not completing, being out of town, family problems, to forget to send questionnaires were identified reasons. This allowed data to be obtained only on 16 participants. The mean age of the all women was 47.81 years. 37.5% had cancer history in their family, Over 50% graduated from high school and university, 25% were housewife, the remaining women were different professions and the most of these was a retired. 93.8% had children. 68.8% said that diagnosis was explained fully realistic by doctor. All patients completed chemotherapy and radiation therapy and 11 patients continued to receive the hormonal treatment.

When results of questionnaires were evaluated, there were significant differences between before and after group therapy program (Table 2). Especially anxiety, depression, and distress showed significant improvements (0.001, 0.012, 0.017). Hopelessness scale was detected at the border of significance (0.05). There was no change in sleep problems and quality of life. According to the analysis of correlation, considering the age factor, and year of diagnosis, there was found no statistically significant relationship between anxiety, depression, distress, hopelessness, sleeplessness, and quality of life (Table 3, 4).

Discussion

This pilot study examined the effect of the group therapy on quality of life, and psychological symptoms in patients with breast cancer. The results showed a positive acceptance of the group intervention and high satisfaction levels by our participants. The data indicated that women who participated in this 16-week group therapy program benefited, showing reduced anxiety, depression, and distress. Previous studies demonstrated that a group-based stress management intervention can significantly decrease cancer-specific intrusive thoughts, general anxiety symptoms and overall negative mood in women who are moving through their medical treatment for cancer (Sheard et al., 1999; Montazeri et al., 2001; Montgomery 2002; Antoni et al., 2006; Reutera et al., 2010, Loprinzi et al., 2011). Loprinzi et al found similar results with that of our study. It was showed that stress management and resilience training program (SMART) in breast cancer

survivors had a potential to improve resiliency, stress, anxiety, quality of life, and fatigue (Loprinzi et al., 2011).

We found no change in the sleep problems and quality of life after group therapy. However, the level of hopelessness of the women was decreased. These findings were showed no major effect. Sleep problems are very common in cancer patients (Phillips et al., 2012). Previous studies showed that the quality of life in breast cancer survivors has improved after participating in a psycho educational support program (Mehnert et al., 2001; Vella et al., 2011; Park et al., 2012). Gumus et al. analyzed the relationship between psychosocial adjustment and hopelessness in a group of such women in Turkey (Gumus et al., 2011). A positive relationship was determined between psychosocial symptoms and hopelessness in women with breast cancer.

There were not relationship between age and year of diagnosis with psychosocial symptoms and quality of life of patients with breast cancer. Some of studies showed that high level of hopelessness would be positively related with older age or vice versa (Janet et al., 2009 ; Pehlivan et al., 2011; Linden et al., 2012). Pehlivan et al. investigated the relationship between hopelessness, loneliness, and perceived social support from family in Turkish patients with cancer. They found that hopelessness score was significantly higher in female, older, illiterate, and village-dwelling cancer patients (Pehlivan et al., 2011). Other study published by Janet et al. examined the rate and prediction of referral for specialized psychosocial oncology care in patients with metastatic gastrointestinal or lung cancer (Janet et al., 2009). They found that opposite results according to Pehlivan et al. Age, gender, cancer type, and its stage of disease are important factors for psychological symptoms especially in emotional distress in cancer patients (Pehlivan et al., 2011). Linden et al. reported study that anxiety and depression prevalence rates by cancer type, gender, and age published in this year (Linden et al., 2012). They found that women were higher rates of anxiety and depression to men. The prevalence was in some cancer types emotional distress was two to three times higher than that seen for men and inversely related to age. Patients younger than 50 and women across all cancer types revealed either subclinical or clinical levels of anxiety in over 50% of cases.

Spirituality and cultural meaning are very important issues in cancer (Demir et al., 2008; Ozkan et al., 2011; Garlic et al., 2011, Jafari et al., 2012; Thune-Boyle et al., 2012). The psychological and psychosocial burden of cancer should be analyzed within the specific socio-cultural setting of the patient in Turkey. Women with breast and gynecological cancers are perceived to be affected in fertility, sexuality, and femininity. Changes in the physical appearance greatly impacts women's self-esteem, sexuality, social roles, and relationships. The cultural setting of Turkey varies according to geographical regions. Specific types of group therapy might have different outcomes for women of different cultures, religions, and geographical regions. However this has not studied extensively. We did not observe cultural differences in our study in case of small group of cancer patients.

This study had limitations that should be addressed in further research evaluating the effects of the group therapy in improving quality of life among women with breast cancer. First the lack of a control group limited in our ability to make causal inferences. Other limitations in our study were the small sample size, and homogeneous characteristics of group women with nonmetastatic (mostly in stages I and II) breast cancer. Some of patients were invited shortly after chemotherapy treatment, absence of follow-up period overall analyzed, and half of patients continued to receive hormonal treatment which increased the possibility of bias. However, the results are consistent with a number of earlier studies suggesting that group therapy is efficacious in helping patients with breast cancer.

In conclusion, this study provides evidence that group therapy for women with breast cancer is feasible in the setting of busy oncology practices, is readily teachable, and may contribute to reduced distress among breast cancer patients, especially those with high initial distress. Also, anxiety depression, and hopelessness can be decreased by the use of group therapy programs. The other focus related to our study for future work, we need to evaluate qualitative aspects of the Turkish women with breast cancer such as cultural or spiritual differences.

References

- Alacacioglu A, Binicier O, Gungor O, et al (2010). Quality of life, anxiety, and depression in Turkish colorectal cancer patients. *Support Care Cancer*, **18**, 417-21.
- Antoni MH, Wimberly SR, Lechner SC, et al (2006). Reduction of cancer-specific thought intrusions and anxiety symptoms with a stress management intervention among women undergoing treatment for breast cancer. *Am J Psychiatry*, **163**, 1791-97.
- Beck AT, Weissman A, Lester D, et al (1974). The measurement of pessimism: the hopelessness scale. *J Consult Clin Psychol*, **42**, 861-65.
- Beck AT, Steer RA, Brown GK (1996). BDI-II, Beck Depression Inventory: Manual (2nd ed.). Boston: Harcourt Brace.
- Boesen EH, Karlsen R, Christensen J, et al (2011). Psychosocial group intervention for patients with primary breast cancer: A randomized trial. *Eur J Cancer*, **47**, 1363-72.
- Classen CC, Kraemer HC, Blasey C, et al (2008). Supportive-expressive group therapy for primary breast cancer patients: a randomized prospective multicenter trial. *Psychooncology*, **17**, 438-47.
- Courneya KS, Mackey JR, Bell GJ, et al (2003). Randomized controlled trial of exercise training in postmenopausal breast cancer survivors: cardiopulmonary and quality of life outcomes. *J Clin Oncol*, **21**, 1660-68.
- Demir F, Donmez YC, Özşaker E, et al (2008). Diramali A. Patients' lived experiences of excisional breast biopsy: a phenomenological study. *J Clin Nurs*, **17**, 744-51.
- DeSantis C, Siegel R, Bandi P, Jemal A (2011). Breast Cancer Statistics. CA: *Cancer J Clin*, **61**, 409-18.
- Durak A (1994). Validity and reliability of Beck Hopelessness Scale (BHS). *J Turk Psychol*, **9**, 1-11.
- Edwards AG, Hailey S, Maxwell M (2004). Psychological interventions for women with breast cancer. *Cochrane Database Syst Rev*, **2**, CD004253.
- Edwards AG, Hulbert-Williams N, Neal RD (2008). Psychological interventions for women with metastatic

- breast cancer. *Cochrane Database Syst Rev*, **16**, CD004253.
- Faller H, Koch GF, Reusch A, et al (2009). Effectiveness of education for gastric cancer patients: a controlled prospective trial comparing interactive vs. lecture-based programs. *Patient Educ Couns*, **76**, 91–8.
- Garlic M, Wall K, Corwin D, et al (2011). Psycho-Spiritual Integrative Therapy for Women with Primary Breast Cancer. *Clin Psychol Med Settings*, **18**, 78–90.
- Goerling U, Foerg A, Sander S, et al (2011). The impact of short-term psycho-oncological interventions on the psychological outcome of cancer patients of a surgical-oncology department - a randomized controlled study. *Eur J Cancer*, **47**, 2009-14.
- Gore-Felton C, Spiegel D (2000). Group psychotherapy for medically ill patients. In 'Psychiatric Care of the Medical Patient', Eds Stoudemire A, Fogel B and Greenberg D. *Oxford University Press*, New York pp. 41-49.
- Goodwin PJ, Leszcz M, Ennis M, et al (2001). The effect of group psychosocial support on survival in metastatic breast cancer. *N Engl J Med*, **345**, 1719-26.
- Gumus AB, Cam O, Malak AT (2011). Relationships between psychosocial adjustment and hopelessness in women with breast cancer. *Asian Pac J Cancer Prev*, **12**, 433-38.
- Helgeson VS, Cohen S, Schulz R, et al (2000). Group support interventions for women with breast cancer: who benefits from what? *Health Psychol*, **19**, 107–14.
- Hisli N (1988). A study on the validity of the Beck Depression Inventory (BDI). *J Psychology*, **22**, 118-26.
- Jafari N, Zamani A, Farajzadegan Z, et al (2012). The effect of spiritual therapy for improving the quality of life of women with breast cancer: A randomized controlled trial. *Psychology, Health & Med*, 1-14.
- Janet E, Lin J, Walsh A, et al (2009). Predictors of referral for specialized psychosocial oncology care in patients with metastatic cancer: The contributions of age, distress, and marital status. *J Clin Oncol*, **27**, 699-705.
- Kaltsatou A, Mameletzi D, Douka S (2011). Physical and psychological benefits of a 24-week traditional dance program in breast cancer survivors. *J Bodywork & Movement Therapies*, **15**, 162-7.
- Kissane DW, Bloch S, Smith GC, et al (2003). Cognitive-existential group psychotherapy for women with primary breast cancer: a randomized controlled trial. *Psychooncology*, **12**, 532–46.
- Kissane DW, Grabsch B, Clarke DM, et al (2007). Supportive-expressive group therapy for women with metastatic breast cancer: survival and psychosocial outcome from a randomized controlled trial. *Psychooncology*, **16**, 277-86.
- Linden W, Vodermaier A, Mackenzie R, et al (2012). Anxiety and depression after cancer diagnosis: Prevalence rates by cancer, type, gender, and age. *J Affect Disord*, Jun 20.
- Loprinzi CE, Prasad K, Schroeder DR, et al (2011). Stress Management and Resilience Training (SMART) Program to Decrease Stress and Enhance Resilience Among Breast Cancer Survivors: A Pilot Randomized Clinical Trial. *Clin Breast Cancer*, Aug 9
- Manne SL, Edelson M, Bergman C, et al (2007). Coping and communication-enhancing intervention versus supportive counseling for women diagnosed with gynecological cancers. *J Consult Clin Psychol*, **75**, 615-28.
- Mehnert A, Veers S, Howaldt D, et al (2001). Effects of a physical exercise rehabilitation group program on anxiety, depression, body image, and health-related quality of life among breast cancer patients. *Onkologie*, **34**, 48-53. Epub 2011 Apr 26.
- Montazeri A, Jarvandi S, Haghghat S, et al (2001). Anxiety and depression in breast cancer patients before and after participation in a cancer support group. *Patient Educ Couns*, **45**, 195-8.
- Montgomery C (2002). Role of dynamic group therapy in psychiatry. *Advances in Psychiatric Treatment*, **8**, 34–41.
- Neises M (2008). Psychological aspects of breast cancer. *Breast Care*, **3**, 351–6.
- Oner N, LeCompte A (1998). State-Trait Anxiety Inventory, 2nd edn. Bogazici University Publisher, Istanbul.
- Ozkan S, Ozkan M, Armay Z (2011). Cultural Meaning of Cancer Suffering. *J Pediatric Hematology/Oncol*, **33**, 102-104.
- Park JH, Bae SH, Jung YS, et al (2012). Quality of life and symptom experience in breast cancer survivors after participating in a psychoeducational support program. A Pilot Study. *Cancer Nursing*, **35**, 34-41.
- Pehlivan S, Owayolu O, Owayolu N, et al (2011). Relationship between hopelessness, loneliness, and perceived social support from family in Turkish patients with cancer. *Support Care Cancer*, Apr. 1.
- Phillips KM, Jim HS, Donovan KA, et al (2012). Characteristics and correlates of sleep disturbances in cancer patients. *Support Care Cancer*, **20**, 357-65.
- Reutera K, Schollb I, Sillemc M, et al (2010). Implementation and Benefits of Psychooncological Group Interventions in German Breast Centers: A Pilot Study on Supportive-Expressive Group Therapy for Women with Primary Breast Cancer. *Breast Care*, **5**, 91-96.
- Sheard T, Maguire P (1999). The effect of psychological interventions on anxiety and depression in cancer patients: results of two meta-analyses. *British J Cancer*, **80**, 1770-80.
- Tan M, Karabulutlu E (2005). Social support and hopelessness in Turkish patients with cancer. *Cancer Nurs*, **28**, 2.
- Thuné-Boyle IC, Stygall J, Keshtgar MR, et al (2012). Religious/spiritual coping resources and their relationship with adjustment in patients newly diagnosed with breast cancer in the UK. *Psychooncology*, Feb 14.
- Vella EJ, Budd M (2011). Pilot study: retreat intervention predicts improved quality of life and reduced psychological distress among breast cancer patients. *Complement Ther Clin Prac*, **17**, 209-14.