



Maria Anna Capozzo, DSc
Elisabetta Martinis, DSc
Giorgio Pellis, MD
Tullio Giraldi, DSc

An Early Structured Psychoeducational Intervention in Patients With Breast Cancer

Results From a Feasibility Study

KEY WORDS

Anxious preoccupation
Breast cancer
Mental adjustment to cancer
Psychoeducational intervention

Background: Although the incidence of breast cancer in Italy is high, like in most Western countries, the role of psychosocial support in disease management and outcome is incompletely understood. A structured psychoeducational group intervention has been shown by Fawzy (*J Psychosom Res.* 1999, 45:191–200) to increase psychological well-being and natural killer immunological reactivity in patients with melanoma, with decreased relapse rate and prolonged survival time. **Objective:** The aims of the present study were to assess the feasibility of Fawzy's intervention by preliminary evaluation of its usefulness on a sample of women with early-stage breast cancer. **Methods:** Psychological reaction to the disease and its possible modification by the psychoeducational treatment were determined with the Mini-Mental Adjustment to Cancer scale at the time of study recruitment and at the end of the intervention. **Results:** A total of 29 patients participated in the study. Rate of participation and adherence to the intervention were 83% and 100%, respectively. A significant reduction in anxious preoccupation was observed in treated patients, whereas the other coping strategies identified by the Mini-Mental Adjustment to Cancer scale were not significantly modified. **Conclusion:** The results support the feasibility of the intervention. In particular, the reduction in anxious preoccupation, characterizing the early phase of adaptation to breast cancer, may be the target for psychosocial intervention including specific nursing contributions. **Implications for Practice:** The results obtained

Author Affiliations: Department of Life Sciences, University of Trieste (Prof Giraldi and Drs Capozzo and Martinis); and Sanatorio Triestino (Dr Pellis), Trieste, Italy.

This work was supported by the "Programma di Ricerca Scientifica di Interesse Nazionale of Italian Ministero dell'Istruzione, dell'Università e della Ricerca" entitled "Phenotypic and genotypic characterization of mental adaptation to cancer and of the response to the treatment with antidepressant drugs in oncology" (Anno 2007—prot. 20074XMRSE).

Correspondence: Tullio Giraldi, DSc, Department of Life Sciences, University of Trieste, Via L. Giorgieri 7, 34127 Trieste, Italy (giraldi@units.it).
Accepted for publication September 15, 2009.

encourage investigating in more depth and with adequate methodology the role of psychoeducational group support for patients with early-stage breast cancer. In particular, they suggest that more attention should be given to the early phase, which follows the communication of cancer diagnosis and precedes the beginning of chemotherapy, which seems to be characterized by anxious preoccupation. A further indication resulting from the study and development of psychoeducational groups for patients with cancer is the opportunity to include cancer nursing among the topics that are addressed during psychoeducational group meetings because it seems to have been neglected in the available studies despite its evident relevance in cancer care.

The diagnosis of breast cancer and the following treatment can have a profound influence on a woman's physical, psychological, social, and spiritual well-being.¹ Substantial individual variability may be observed in the psychological adaptation to the disease, depending on a variety of factors such as tumor stage, personal resources, social support, coping, and defense mechanisms.² Watson and co-workers³ analyzed a cohort of women with early-stage breast cancer using the Mental Adjustment to Cancer (MAC) scale and showed that patients with hopelessness/helplessness as coping strategy had a significantly increased risk of relapse or death 5 years after diagnosis.⁴ Several subsequent studies have further analyzed psychological distress and maladaptive coping, such as low fighting spirit and high level of hopelessness/helplessness or anxious preoccupation, in patients with cancer.⁵⁻⁸

Numerous types of intervention have been consequently developed for patients to facilitate adaptation to cancer diagnosis and treatment.⁹⁻¹² Psychoeducational,¹³ cognitive-behavioral,^{14,15} supportive-expressive,¹⁶⁻¹⁸ and cognitive-existential¹⁹ psychotherapeutic groups of short or long duration have been reported to be effective in reducing psychological distress and pain and in improving coping in various oncology settings.⁶⁻⁹

Fawzy and Fawzy¹³ analyzed a cohort of postsurgical patients with malignant melanoma who participated in a structured, psychoeducational group intervention consisting of health education, enhancement of problem-solving skills, stress management, and psychological support. The use of the Profile of Mood States (POMS) scale revealed that most patients had high levels of psychological distress at baseline; at the end of the intervention, they exhibited higher vigor and active-behavioral coping, as well as significantly lower depression, fatigue, confusion, and total mood disturbance.²⁰ Immunological parameters were also ameliorated in the intervention group, namely, antitumor natural killer cytotoxic activity.²¹ The follow-up, which was repeated at 6 and 10 years, revealed a significant decrease in the recurrence rate and longer survival time for patients in the intervention arm of the study.^{22,23}

The first aim of this study was to assess the feasibility of a brief psychoeducational group intervention (as originally devised and applied by Fawzy for subjects with melanoma)¹³ applied to an Italian sample of women with early-stage breast cancer. The feasibility of the proposed intervention was evaluated in terms of participation and adherence; the threshold for

acceptable feasibility for participation (ie, the percentage of eligible participants informed about the purpose of the study and accepting to participate) and for adherence (ie, percentage of participants completing the intervention 6 weeks later [T1]), were 50% and 80%, respectively.

The second aim was to examine its preliminary usefulness for improving coping style among patients with early-stage breast cancer. The hypothesis to be tested was that patients receiving psychoeducational intervention might display significant reduction in their Mini-MAC anxious preoccupation and/or helplessness/hopelessness. The psychological reaction to cancer and its possible modification by the intervention were determined using the Mini-MAC scale immediately before and at the end of the psychoeducational treatment. The importance of this work resides in the possible contributions to available psycho-oncological approaches, such as the focus on the care of patients at greater risk to encounter difficulties in mental adaptation to cancer in the early phases of treatment, particularly after diagnosis and before chemotherapy. Additional relevance may derive from the suggestion that contributions by cancer nursing, which are currently disregarded, might be beneficially integrated into the available modalities of group intervention for patients with cancer.

Literature Review

In recent years, a number of studies have described various degrees of effectiveness of group interventions for patients with early-stage breast cancer. Spiegel et al²⁴ reported that women with primary breast cancer who participated in a 12-week supportive-expressive group psychotherapy show a significant decrease in mood disturbance at the end of the intervention and after 6 months. On the contrary, Classen et al¹⁷ found that supportive-expressive group therapy fails to reduce psychological distress among a larger cohort of patients with primary breast cancer. Kissane et al¹⁹ successfully applied cognitive-existential group therapy for women with early-stage breast cancer, showing that group participants have reduced anxious preoccupation (as determined by the MAC scale), as well as improved family function, greater satisfaction, and increased knowledge about cancer and its treatment.

In general, psychoeducational group intervention has been recently shown to be effective for reducing the psychological

distress and/or enhancing the coping style of patients with early-stage breast cancer.²⁵⁻²⁸ A randomized psychoeducational group intervention among African American patients with nonmetastatic breast cancer is reported by Taylor et al²⁵ to improve mood, as well as general and cancer-specific psychological functioning. Maeda et al²⁶ applied a psychoeducational intervention to Japanese patients with primary breast cancer, with a significant decrease in anxiety and depression, together with improved cancer coping strategies (identified using the MAC scale). Doubeaut et al²⁷ applied a psychoeducational intervention to women after early-stage breast cancer treatment and failed to identify significant effects using the MAC scale, although significant reductions in anxiety, anger, depression, and fatigue, accompanied by significant improvement in vigor and interpersonal relationship, were observed using a variety of psychometric scales. On the other hand, Fukui et al²⁸ used, for a sample of Japanese women, the psychoeducational group intervention of Fawzy¹³ and the MAC scale, reporting the intervention to be effective for reducing psychological distress and improving fighting spirit. The positive results obtained by Fukui et al using Fawzy's intervention¹³ and the MAC scale in Japan were the basis for the use of this combination on a sample of Italian women.

Conceptual Framework

The current study followed the model developed in the late 1980s by Watson and coworkers,³ who identified the different strategies used by patients with cancer to cope with their disease and to adapt to their illness. In this model, the MAC is represented as the sum of emotional, cognitive, and behavioral individual responses activated by the patients to reduce the threat of cancer. Five different significant strategies of adaptation have been described by these authors, namely, fighting spirit (ie, the tendency to confront and actively face the illness), anxious preoccupation (ie, the tendency to experience the illness as a source of marked anxiety and tension), fatalism (ie, the tendency to have a resigned and fatalistic attitude toward the illness), hopelessness/helplessness (ie, the tendency to adopt a pessimistic attitude about the illness), and avoidance (ie, the tendency to avoid direct confrontation with illness-related issues). Among the several conceptual approaches, and the relevant instruments for measuring coping, the model developed by Watson and coworkers⁴ has been widely studied, and a number of researchers have used the MAC scale to examine the relationship of coping styles with more structured psychotherapeutic intervention.^{19,26-28} The literature on psychotherapeutic treatment of patients with cancer provides substantial evidence for a positive improvement in coping style because of group intervention.⁹⁻¹² At the same time, a brief psychoeducational structured group intervention was shown by Fawzy to increase the psychological well-being of patients with melanoma identified using the POMS scale.¹³ Therefore, it seemed worthwhile to adapt a similar psychoeducational group intervention to women with early-stage breast cancer and to evaluate the effects of the intervention in terms of mental adaptation to the disease, using the categories of mental adaptation to cancer reported by

Greer and Watson.⁴ The conceptual framework of the present investigation, therefore, is that which originally inspired the psychoeducational approach of Fawzy and Fawzy⁹ (the Omega Project), together with the domains identified by the Mini-MAC developed by Watson and coworkers.³

Methods

Research Design and Participants

The study was carried out at Sanatorio Triestino, Trieste, Italy, between March 2006 and July 2007. Eligibility criteria were being younger than 75 years and having a diagnosis of early-stage breast cancer (stage I or II) treated with surgery within the previous 1 to 3 months. Women with disease recurrence or metastases and those with previous or current history of psychiatric disorder were not recruited in the study. Of 35 women meeting the inclusion criteria during the recruitment term, 29 (83%) consented to participate to the psychoeducational group intervention, and 6 (17%) refused. The effective sample size was therefore 29 patients who completed the psychometric assessments at baseline immediately before the psychoeducational intervention (T0) and at the end of the group intervention 6 weeks later (T1).

Participants had mean age of 60.3 years (range, 36-72 years), and the majority were unemployed (n = 19; 66%), married or living with a partner (n = 19; 66%), and postmenopausal (n = 25; 97%). Surgical treatment was partial mastectomy (n = 25; 86%) and mastectomy (n = 4; 14%), whereas the prevailing adjuvant therapy was radiotherapy (n = 22; 76%). Fifteen patients (52%) had negative axillary lymph nodes, and 16 patients (55%) had stage II breast cancer. The patients' sociodemographic data and clinical characteristics are illustrated in Table 1.

Procedure

Patients who met the eligibility criteria and provided informed consent to participate in the psychoeducational group intervention were assigned to a waiting list; 15 patients began the psychoeducational intervention after approximately 1 month on the waiting list, whereas 14 patients started after approximately 3 months (see "Results" section).

The psychological assessment was carried out by a trained psychologist using the Mini-MAC at recruitment immediately before the intervention (T0) and after the completion of the psychoeducational intervention (T1). For each patient, the demographic and the previous and current medical history were recorded for later analysis. Data collection and analysis were done by investigators who were not involved in the treatment of these patients.

Intervention

The intervention model was based on the work by Fawzy and Fawzy²⁹ as a structured psychoeducational group intervention

Table 1 • Sociodemographic and Clinical Characteristics of the Patients at Recruitment

	Patients (n = 29)
Sociodemographic characteristics	
Age, y	
Mean (SD)	60.3 (7.54)
Range	36–72
Employment status	
Employed	10 (34)
Unemployed	19 (66)
Marital status	
Married	19 (66)
Single	5 (17)
Divorced/separated/widowed	5 (17)
Clinical characteristic	
Menopausal status	
Premenopausal	1 (3)
Postmenopausal	28 (97)
Type of surgery	
Mastectomy	4 (14)
Partial mastectomy	25 (86)
Axillary lymph	
Positive	14 (48)
Negative	15 (52)
Adjuvant therapy	
Chemotherapy	12 (41)
Radiation therapy	22 (76)
Hormonal therapy	19 (66)
Disease stage	
I	13 (45)
II	16 (55)

Values are presented as no. (%), unless otherwise indicated.

for patients with cancer. The reason for using this intervention was the short duration of 6 weeks reported to have a long-term effect on coping methods.^{20,22} Second, the group model was applicable because of its cost-effectiveness and also because the interaction of patients within the group provided a significant source of emotional support.²⁴ Finally, the psychoeducational group approach was particularly suitable for first-diagnosed patients who faced the problems of cancer diagnosis, information, and treatment.¹⁰

The intervention was performed by a psychotherapist with experience in clinical practice and with knowledge of psychosocial issues in oncology. The group intervention consisted of 6 weekly structured group sessions, each lasting 2.5 hours, with 3 to 7 participants, and was led by the same psychotherapist. Four group sessions were made with the participation of the main figures of the healthcare team, namely, a cancer surgeon, an oncologist, a radiotherapist, or a physiotherapist, respectively; the first and last sessions were conducted by the group leader only. Program monitoring was a relevant aspect of process evaluation of group support and involved techniques of documenting the program's activities; the resulting information could be compared with the planned program procedures to validate its reliability. For this purpose, an

observer qualified in conducting psychoeducational interventions was present in all group sessions; treatment reliability was periodically assessed by the group conductor and the observer and was found to be adequate.

The intervention consisted of 4 components: (1) information about illness and treatment, (2) stress management (eg, general stress information, personal stress awareness, relaxation techniques), (3) enhancement of coping skills (eg, problem solving, general coping alternatives, theoretical and personal application of solutions), and (4) psychological support. The program was described in detail elsewhere.²⁹

The contents of each of the 6 sessions were as follows: (1) introduction and general information regarding the sessions; the women were encouraged to share their experiences and feelings; (2) psychological and medical information; stress of having cancer; (3) psychological and medical information; methods for coping with cancer; (4) psychological and medical information on breast cancer and treatment; (5) relaxation exercises including progressive muscle relaxation followed by guided imagery; and (6) summary.

The medical information was provided by the healthcare team in a question-and-answer format to maximize the available time during intervention and to ensure that participants received the information they required. Topics often discussed during the sessions were adjuvant treatment; adverse effects such as hair loss, nausea, and menopause; body image; reconstructive surgery; fear of recurrence; and living with uncertainty.

The most important goal of the intervention was learning strategies to reduce psychological distress and enhance coping.

Instruments

MINI-MENTAL ADJUSTMENT TO CANCER SCALE

The Mini-MAC was used to measure psychological response to the disease and the effects of psychoeducational intervention. The Mini-MAC is a 29-item questionnaire developed by Watson et al³⁰ to assess 5 dimensions of patients' reactions to cancer, namely, hopelessness/helplessness, fighting spirit, anxious preoccupation, fatalism, and avoidance. Each item is rated on a scale of 1 to 4, ranging from "definitely does not apply to me" to "definitely applies to me," with higher scores indicating a greater tendency to adopt that coping style. The Mini-MAC was chosen as the primary outcome measure, and the validated Italian version of the Mini-MAC was used in this study.⁸ Cronbach α coefficients of Mini-MAC subscales were similar to those of the original study, and the Italian version showed good validity and reliability⁸: hopelessness/helplessness, English sample $\alpha = .87$, Italian sample $\alpha = .87$; anxious preoccupation, English sample $\alpha = .88$, Italian sample $\alpha = .86$; and avoidance, English sample $\alpha = .74$, Italian sample $\alpha = .82$, whereas Cronbach α coefficients were lower for fatalism (English sample $\alpha = .62$; Italian sample $\alpha = .52$) and fighting spirit (English sample $\alpha = .76$; Italian sample $\alpha = .46$).⁸ The POMS scale was not used because the Mini-MAC scales were believed to be suitable and adequate to identify the styles used by participants to cope and adapt with breast cancer.

Ethical Considerations

The study protocol was made in accordance with the Declaration of Helsinki and Good Clinical Practice Guidelines and was performed after having received a positive review by the local ethical committee. Patients received detailed information about the procedure of the study and expressed their written informed consent for their participation to the investigation.

Data Analysis

Descriptive statistics were used to characterize the sample analyzed with nonparametric techniques (Wilcoxon, Kruskal-Wallis, and Mann-Whitney *U* tests). Differences between early and late intervention were analyzed using the Mann-Whitney *U* test, and comparisons at baseline and postintervention were made using the Kruskal-Wallis test. Changes between baseline and postintervention were assessed for each of the 2 subsets and for the whole sample by the Wilcoxon matched-pairs signed-rank test. Parametric tests were not used because the data display a nonparametric distribution, and the data were analyzed using the SPSS version 13.00 (Chicago, Illinois).

Results

Feasibility

The first aim of this study was to assess the feasibility of a brief psychoeducational group intervention (as originally devised and applied by Fawzy for subjects with melanoma)¹³ when applied to an Italian sample of women with early-stage breast cancer. Of the participants, 83% accepted and participated in the psychoeducational intervention group, and 100% of the enrolled participants completed all the group sessions.

Effects of Psychoeducational Intervention

The second aim of the present investigation was to examine its preliminary usefulness for improving coping style among patients with early-stage breast cancer. No significant differences for each Mini-MAC subscales at T0 were found for

patients who began the psychoeducational intervention after being on a waiting list for either 24.5 or 80.5 days, on average; no difference was observed for most of the demographic and clinical variables considered (data not shown). The base level score for anxious preoccupation was significantly higher in the 17 participants who did not start chemotherapy before the beginning of the group intervention (average score, 17.1) as compared with the 12 participants who did (average score, 12.2; Mann-Whitney *U* test $P < .02$). The demographic and the other clinical characteristics did not display any significant influence (data not shown). Table 2 reports the scores obtained for the 5 areas analyzed by Mini-MAC at enrolment (T0) and after completion of the psychoeducational intervention (T1). No significant difference between T0 and T1 values was observed for helplessness/hopelessness, fighting spirit, fatalism, and avoidance; the score for anxious preoccupation was significantly reduced after intervention in the 29 treated patients.

The level of anxious preoccupation before intervention in the latter subset can be used as a control value for assessing the reduction by the intervention in anxious preoccupation in the subset with the shorter permanence on the waiting list. Patients with earlier or later psychoeducational intervention displayed (for each Mini-MAC subscales) scores that not differ significantly from each other. On the other hand, the significant reduction in anxious preoccupation between T1 and T0, which was observed in the whole sample, remained significant in both subsets of patients with early or late psychoeducational intervention.

Discussion

The first aim that was experimentally addressed by this study was to assess the feasibility of a brief psychoeducational group intervention (originally devised and applied by Fawzy for subjects with melanoma)¹³ applied to an Italian sample of women with early-stage breast cancer. The results obtained indicate that 83% of the eligible participants accepted to participate in the psychoeducational intervention group, and 100% of the enrolled participants completed the group sessions, satisfying the feasibility criteria previously defined for this study. The participation and adherence rates in this study were higher than those

Table 2 • Effects of Psychoeducational Intervention on the Scores of Mini-MAC Subscales

Mini-MAC Subscale (Possible Range)	No.	T0 ^a	T1 ^b	P ^c
Helplessness/hopelessness (9–36) ^d	29	12.2 ± 0.9	11.2 ± 0.7	NS
Anxious preoccupation (7–28) ^d	29	15.1 ± 1.1	13.0 ± 0.9	.003
Fighting spirit (5–20)	29	16.3 ± 0.5	16.1 ± 0.6	NS
Fatalism (4–16) ^d	29	10.8 ± 0.5	10.3 ± 0.5	NS
Avoidance (4–16) ^d	29	9.2 ± 0.6	9.3 ± 0.6	NS

Abbreviations: Mini-MAC, Mini-Mental Adjustment to Cancer; NS, not significant.

Values are presented as mean ± SE.

^aBasal score determined before psychoeducational intervention.

^bScore determined after psychoeducational intervention.

^cWilcoxon test probability.

^dHigher score indicates psychological distress.

observed in previous studies regarding group interventions for patients with early-stage breast cancer, which ranged from 33% to 87% for participation rate and from 50% to 80% for adherence rate.^{7,17,19,24-28} This notable participation of the patients in the psychoeducational groups might be attributed to the relatively small size of the clinic associated to the National Health Service and to the ensuing strong patient-physician relationship with the same surgeon, who also proposed the participation to the group intervention.

An additional aim experimentally addressed was to assess the effectiveness of Fawzy's psychoeducational group intervention¹³ for improving mental adaptation to cancer (coping style) among patients with early-stage breast cancer, as measured using the Mini-MAC scale. Our data indicate that the 6-week structured psychoeducational intervention was effective in improving mental adaptation to cancer in women diagnosed with (and treated for) early-stage breast cancer, causing a specific and significant reduction in anxious preoccupation (Table 2). At the same time, no significant effect of the intervention was observed on the other parameters explored with Mini-MAC, such as helplessness/hopelessness, fighting spirit, fatalism, and avoidance.

The reduction in anxious preoccupation did not seem to depend on the spontaneous evolution of the cancer coping strategy occurring during the time elapsed since the initial diagnosis communication, because the basal score in the patients with early psychoeducational intervention did not significantly differ from the basal score of patients receiving a late intervention. Moreover, a similar and significant reduction in anxious preoccupation was observed in the subset of patients who received either the early or the late intervention. Anxious preoccupation may be considered a significant characteristic of the mental adaptation to early mammary cancer, because the patients are confronted with the acceptance of therapeutic choice and with the resulting outcome.¹ This view is supported by the higher basal score of anxious preoccupation observed in participants who were already undergoing chemotherapy as compared with those who had not begun chemotherapy or other treatments at T0. Several studies show that increased anxious preoccupation and helplessness/hopelessness, as measured with the Mini-MAC scale, were significantly associated with evidence of psychological stress symptoms and seemed to be the most significant indicators of patients' difficulties in mental adjustment to cancer.^{11,31}

Study Limitations

The limited size of the participant sample recruited for the present study restricts the power of our analysis and the general application of our conclusions. This limitation may be overcome by investigating a larger number of participants treated with the brief psychoeducational intervention, an approach that may also allow exploring more deeply any relationship among psychosocial variables. The adoption of a randomized protocol of methodologically adequate design will allow evaluation of the efficacy of the results obtained with the current feasibility study.

Conclusion

The results of the present investigation seem to indicate that the psychoeducational intervention used in this study is feasible and may be a useful tool to enhance coping strategies in patients with early-stage breast cancer. A recommendation that might be derived from the findings reported above is to carefully control the status of the patients in terms of having already begun the first cycle of cytotoxic chemotherapy or still awaiting its beginning, when the dimension of anxious preoccupation is considered.

An area of interest that seems to have been neglected in studies published so far on psychoeducational intervention for patients with cancer is cancer nursing. In this connection, the inclusion of experienced or properly trained nursing staff in the team of medical specialists periodically assisting the group leader during the progressive phases of intervention seems appropriate in principle and desirable in operative terms. This area concerning cancer nursing might thus be appropriately defined and included in future work on psychoeducational intervention, which may also derive from the present feasibility study.

Further investigation thus seems justified, should include these issues, and should be performed with appropriate methodology and randomization of the patients to validate the efficacy of group psychoeducational treatment considered in the perspective outlined above.

ACKNOWLEDGMENTS

This work was made possible by the support and hospitality of ADOS (Associazione Donne Operate al Seno) Trieste, Italy, and the encouragement of its president, Ms Luisa Nemez. The authors thank Dr Silvia Milani, medical oncologist, and Dr Cristiana Vidali, radiotherapist, for their active participation in the group sessions as medical oncologist and radiotherapist, respectively.

Ms Giulia Generoso and Milica Vasic provided a significant contribution to the planning of the groups, the psychometric evaluation of the patients, and the collection and analysis of the data during their undergraduate and postgraduate training at the Faculty of Psychology, University of Trieste.

References

1. Reddick BK, Nanda JP, Campbell L, Ryman DG, Gaston-Johansson F. Examining the influence of coping with pain on depression, anxiety, and fatigue among women with breast cancer. *J Psychosoc Oncol*. 2005;23:137-157.
2. Stanton AL, Danoff-Burg S, Huggins M. The first year after breast cancer diagnosis: hope and coping strategies as predictors of adjustment. *Psychooncology*. 2002;11:93-102.
3. Watson M, Greer S, Young J, Inayat Q, Burgess C, Robertson B. Development of a questionnaire measure of adjustment to cancer: the MAC scale. *Psychol Med*. 1988;18:203-209.
4. Watson M, Haviland JS, Greer S, Davidson J, Bliss JM. Influence of psychological response on survival in breast cancer: a population-based cohort study. *Lancet*. 1999;354:1331-1336.
5. Watson M, Greer S, Rodwen L, et al. Relationships between emotional control, adjustment to cancer and depression and anxiety in breast cancer patients. *Psychol Med*. 1991;21:51-57.

6. Akechi T, Okuyama T, Imoto S, et al. Biomedical and psychosocial determinants of psychiatric morbidity among postoperative ambulatory breast cancer patients. *Breast Cancer Res Treat.* 2001;65:195–202.
7. Akechi T, Taniguchi K, Suzuki S, et al. Multifaceted psychosocial intervention program for breast cancer patients after first recurrence: feasibility study. *Psychooncology.* 2007;16:517–524.
8. Grassi L, Buda P, Cavana L, Annunziata MA, Torta R, Varetto A. Styles of coping with cancer: the Italian version of the Mini-Mental Adjustment to Cancer (Mini-Mac) scale. *Psychooncology.* 2004;14:115–124.
9. Fawzy FI, Fawzy NW. Group therapy in the cancer setting. *J Psychosom Res.* 1999;45:191–200.
10. Weis J. Support groups for cancer patients. *Support Care Cancer.* 2003; 11:763–768.
11. Kash KM, Mago R, Kunkel E. Psychosocial oncology: supportive care for the cancer patients. *Semin Oncol.* 2004;32:211–218.
12. Gottlieb BH, Wachala ED. Cancer support groups: a critical review of empirical studies. *Psychooncology.* 2007;16:379–400.
13. Fawzy FI, Fawzy NW. A structured psychoeducational intervention for cancer patients. *Gen Hosp Psychiatry.* 1994;16:149–152.
14. Edmonds CVI, Lockwood GA, Cunningham AJ. Psychological response to long term group therapy: a randomized trial with metastatic breast cancer patients. *Psychooncology.* 1999;8:74–91.
15. Simpson J, Carlson L, Beck C, Patten S. Effects of a brief intervention on social support and psychiatric morbidity in breast cancer patients. *Psychooncology.* 2002;11:282–294.
16. Spiegel D, Bloom JR, Yalom I. Group support for patients with metastatic cancer. A randomized outcome study. *Arch Gen Psychiatry.* 1981; 38:527–533.
17. Classen CC, Kraemer HC, Blasey C, et al. Supportive-expressive group therapy for primary breast cancer patients: a randomized prospective multicenter trial. *Psychooncology.* 2008;17:438–447.
18. Kissane DW, Grabsch B, Clarke DM, et al. Supportive-expressive group therapy for women with metastatic breast cancer: survival and psychosocial outcome from a randomized controlled trial. *Psychooncology.* 2007; 16:277–286.
19. Kissane DW, Bloch S, Smith GC, et al. Cognitive-existential group psychotherapy for women with primary breast cancer: a randomised controlled trial. *Psychooncology.* 2003;12:532–546.
20. Fawzy FI, Cousin N, Fawzy NW, Kemeny ME, Elashoff R, Morton D. A structured psychiatric intervention for cancer patients. I. Changes over time in methods of coping and affective disturbance. *Arch Gen Psychiatry.* 1990;47:720–725.
21. Fawzy FI, Kemeny ME, Fawzy N, et al. A structured psychiatric intervention for cancer patients. II. Changes over time in immunological measures. *Arch Gen Psychiatry.* 1990;47:729–735.
22. Fawzy FI, Fawzy NW, Hyun CS, et al. Malignant melanoma: effects of an early structured psychiatric intervention, coping, and affective state on recurrence and survival six years later. *Arch Gen Psychiatry.* 1993;50:681–689.
23. Fawzy FI, Canada AL, Fawzy NW. Malignant melanoma: effects of a brief, structured psychiatric intervention on survival and recurrence at 10-year follow-up. *Arch Gen Psychiatry.* 2003;60:100–103.
24. Spiegel D, Morrow GR, Classen C, et al. Group psychotherapy for recently diagnosed breast cancer patients: a multicenter feasibility study. *Psychooncology.* 1999;8:482–493.
25. Taylor KL, Lamdan RM, Siegel JE, Shelby R, Moran-Klimik T, Hrywna M. Psychological adjustment among African American breast cancer patients: one-year follow-up results of a randomized psychoeducational group intervention. *Health Psychol.* 2003;22:316–323.
26. Maeda T, Kurihara H, Morishima I, Munakata T. The effect of psychological intervention on personality change, coping, and psychological distress of Japanese primary breast cancer patients. *Cancer Nurs.* 2008;31:27–35.
27. Doubeaut S, Cayrou S, Bredart A, et al. The effectiveness of a psychoeducational group after early stage breast cancer treatment: results of a randomized French study. *Psychooncology.* 2009;18:647–656.
28. Fukui S, Kugaya A, Okamura H, et al. A psychosocial group intervention for Japanese women with primary breast cancer: a randomized controlled trial. *Cancer.* 2000;89:1026–1036.
29. Fawzy FI, Fawzy NW. *A Structured Psychoeducational Intervention for Cancer Patients.* New York, NY: Elsevier Science Publishing Company, Inc; 1994.
30. Watson M, Law M, dos Santos M, Greer S, Baruch J, Bliss J. The Mini-Mac: further development of the Mental Adjustment to Cancer scale. *J Psychosoc Oncol.* 1994;12:33–46.
31. Ho SM, Fung WK, Chan CL, Watson M, Tsui YK. Psychometric properties of the Chinese version of the Mini-Mental Adjustment to Cancer (MINIMAC) scale. *Psychooncology.* 2003;12:547–556.