Pilot study: Retreat intervention predicts improved quality of life and reduced psychological distress among breast cancer patients

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Abstract

Purpose: Evaluate the effectiveness of a week-long residential retreat intervention incorporating photographic art therapy in concert with psychoanalytically oriented group therapy and mind-body practices in reducing psychological distress and improving quality of life (QoL) and spiritual well-being for breast cancer patients.

Methods: 28 female breast cancer patients completed self report assessments of psychological distress, QoL, and spiritual well-being on the first day of the retreat, the last day of the retreat, and a 6 week follow up assessment.

Results: Repeated measures MANOVA with Bonferroni post-hoc comparisons revealed the retreat experience to predict significant and sustained reductions in depression, anxiety, and somatic stress, coupled with sustained improvements in QoL and spiritual well-being.

Conclusions: The current findings suggest that breast cancer patients may benefit from participation in a week-long multi-modal retreat center experience involving photographic art therapy and structured group therapy as a means to explore personal strain.

Cancer has been identified as one of the leading causes of death worldwide. According to the Centers for Disease Control, breast cancer is the most common form of cancer among women, aside from non-melanoma skin cancer. Although advances in detection and treatment have considerably reduced breast cancer mortality rates relative to other forms of cancer among women (e.g., lung cancer), the breast cancer diagnosis remains a profound stressor. A variety of studies have investigated the psychological impact of breast cancer diagnosis and treatment, reporting significant increases in distress, marital strain, feelings of uncertainty, and difficulty in illness adjustment. Importantly, psychological factors such as optimism and psychosocial wellness have been found to predict overall quality of life (QoL) among breast cancer patients, rather than illness-related factors or socio-demographic variables, suggesting that psychosocial intervention may be an effective means of improving QoL in this population.

Indeed, psychosocial intervention has been linked to improvements in QoL variables among breast cancer patients. Cognitive-Behavioral Stress Management (CBSM) techniques have been linked to significant reductions in the prevalence of moderate depression coupled with increases in generalized optimism and benefit finding among breast cancer patients, but may not reduce emotional strain and perceptual stress. However, Supportive-Expressive Group Therapy (SEGT), an intervention targeted at facing and adjusting to diagnostic concerns in addition to expressing and managing disease related emotions while increasing social support, has been found to lower perceptual stress and depression while improving coping skills and QoL among breast cancer patients. These findings suggest that intervention strategies incorporating a component of enhanced social support may be particularly efficacious in this population.

In addition to these investigations focusing on CBSM and SEGT, the past decade has witnessed the emergence of various mind-body interventions as adjunctive treatments for improving QoL among cancer populations, including mindfulness-based stress reduction (MBSR) and creative art therapy interventions. MBSR interventions involve specialized training in meditation and yoga, in which participants learn to focus their attention on the present, becoming cognizant of bodily sensations and emotions as they arise and accepting negative emotions and cognitions without rumination. Among cancer populations, evidence suggests that MBSR interventions may effectively improve QoL, sleep quality, mood, and energy while reducing perceptual stress, depression, anxiety, and fear of cancer recurrence.
The focus of art therapy among cancer populations has been to use a creative modality as a foundation for self exploration, discovery of meaning, and deepening self awareness, manifesting in a re-conceptualization of one’s life. Implementation of art therapy in a group setting among cancer patients has been argued to enhance self efficacy via acquisition of new skill, reduce stress levels by providing a medium to focus attention and induce a relaxation response, serve as a foundation of social support, and give rise to a discovery of new meanings in life. Art therapy may serve as a medium for breast cancer patients to confront their mortality, giving voice to a personal strain that may not lend itself to words. Individuals who report having struggled through negative life circumstances via creative solutions have experienced positive life outcomes.

Research on the efficacy of art therapy interventions in improving psychosocial well-being among cancer patients have generally reported favorable results. Participation in a single hour art therapy session among 50 hospitalized cancer patients was linked to significant reductions in state anxiety, coupled with improvements on a variety of disease relevant symptoms, such as pain, depression, tiredness, and appetite. Randomized control group interventions lasting 5 weeks among breast cancer patients have found art therapy to improve social support coping resources, overall QoL, and general health measures.

Another randomized control group intervention involving newly diagnosed Stage I–II breast cancer patients reported mixed results, in which a 4 week art therapy program involving guided meditation predicted significant improvements in mood states, but was unrelated to salubrious changes in emotional approach coping style or spiritual well-being. However, an 8 week randomized control group art therapy intervention combined with MBSR was found to predict significant reductions in psychological distress in addition to increases in health related QoL amid a sample of 100 female cancer patients. Finally, a program evaluation of a 2 day, multi-modal expressive arts therapy retreat among 18 breast cancer patients was linked to significant improvements in QoL and spiritual well-being.

The evidence to date regarding psychosocial intervention as a means of improving QoL profiles among breast cancer populations suggests that a multi-modal approach incorporating social support, meditational practices, and creative art therapy may be particularly effective. Health psychology as a discipline has been moving increasingly toward biopsychosocial models of illness. From such an integrated theoretical perspective, a targeted intervention that addresses all three domains of wellness should effectively give rise to improvements in QoL and reductions in psychological disturbance among breast cancer patients.

The current research is a pilot study program evaluation designed to investigate whether a multi-modal retreat center intervention based upon the principles of analytical psychology and utilizing photographic art therapy as a creative means of self exploration, may result in improved QoL and psychosocial well-being among breast cancer patients. To date, there is no known research evaluating the efficacy of psychosocial intervention from an Analytical Psychology perspective among breast cancer patients. The objective of the retreat intervention is to expand conscious awareness of personal strain related to the cancer experience. Salient elements of the intervention include the establishment of a safe environment for self discovery and group sharing, the use of meditational practice to induce a reflective state, somatic awareness and authentic movement, and art therapy to deepen reflections and facilitate personal expression.

The purpose of the current study is to evaluate the efficacy of this week-long residential retreat center intervention for women with breast cancer in reducing psychological distress and improving spiritual well-being and overall QoL. The primary hypothesis under investigation is that the retreat center experience will predict significant and sustained improvements in psychosocial well-being. An exploratory ancillary hypothesis concerns the strength and direction of association among particular dependent variables, whereby reductions in psychological distress will predict improvements in QoL.

1. Method

1.1. Participants

The participants from the current study represent 28 female breast cancer patients (M = 52.04, SD = 8.92 years; range: 25–67 years) who participated in one of the four week-long retreats for women with cancer at the F. Holland Day Center for Creativity and Healing in Georgetown, Maine, which took place in the late spring to mid-fall of 2007. The F. Holland Day Center for Healing and Creativity is a non-profit organization dedicated to improving QoL among female cancer patients at any stage of disease progression through week-long retreats. Inclusionary criteria for participation in the current study involved being a female breast cancer patient at least 18 yrs of age, diagnosed with Stage I or Stage II breast cancer, and enrolled in an F. Holland Day Center Retreat in 2007. Recruitment for the retreat center was through private referral and fliers distributed at oncology centers and cancer conferences. Most of the participants had been referred to the F. Holland Day Center by previous retreat attendees. None of the participants were in analysis at the time of the retreat experience, although approximately 25% of the participants had experienced some previous form of counseling or involvement in another breast cancer support group. All participants signed an informed consent document prior to participating in the current study, which received approval from the Institutional Review Board at the University of Southern Maine. Participants also completed a health and demographics questionnaire designed for the purposes of the current study, containing items pertaining to age, education, ethnicity, marital status, cancer diagnosis, surgical interventions, and treatments to date.

Sample characteristics in terms of demographic data and cancer treatments are featured in Table 1. The current sample was predominantly Caucasian (96%), with 43% of the sample reporting no more than a high school education and 52% of the sample reporting a bachelor’s degree or higher. All participants identified themselves as non-smokers. Participants had been diagnosed with cancer a median of 12 months prior to participation in the current study (range = 3 months–17 years). Six participants were greater than 5 years post diagnosis.

1.2. Measures and procedures

The current study represents a repeated measures longitudinal assessment of 4 separate week-long creative art therapy retreats at the F. Holland Day Retreat Center in Georgetown, Maine. Each participant served as her own control. The retreats took place May 17–24 (n = 8), June 10–17 (n = 7), July 23–30 (n = 6), and September 27–October 4 (n = 7) of 2007. Data collection for each retreat was comprised of self report scale administrations taking place at 3 specific time periods: Day 1 of retreat, Day 7 of retreat, and a 6 week follow up assessment. The first 2 scale administrations took place at the F. Holland Day Retreat Center. Participants received a package in the mail containing the scale assessments along with a postage paid return envelope addressed to the primary investigator for the 6 week follow up period.
1.2.1. Intervention

The retreat intervention at the F. Holland Day Center for Healing and Creativity was designed by Matthew Budd, M.D., based upon principles of Analytic Psychology.28–30 The F. Holland Day Retreat Center is a chalet residence located on the coastline in Georgetown, Maine. The formation of a trusting learning community in a natural setting is a key component that may facilitate deep personal healing.32 Each didactic session is rich in personal experiential and educational exercises that involve group sharing. Afternoon sessions incorporate meditational practice and journal writing. The group discussions were led individually by group members and given basic instructions on how to manipulate images in order to focus on a fundamental aspect of Analytic Psychology: mind-body unity and expanding consciousness of underlying strain to promote enhanced spiritual well-being. The retreat intervention is designed to measure the ability to find meaning and purpose in life, and the role of faith in illness.37 Like the FACT-G, participants were instructed to rate the degree to which each statement was true for them in the past week on a scale of 0—Not at all to 4—Extremely. Potential scores range from 0–108, with higher scores indicative of a more pronounced QoL.

The assessment of spiritual well-being involved administration of the Functional Assessment of Cancer Therapy-General (FACT-G), a widely used 27 item inventory that measures four domains of well-being: physical, functional, social, and emotional.35 The FACT-G has undergone extensive psychometric testing, with test-retest reliabilities ranging from .82–.92 and internal consistencies of the total scale ranging from .83–.90.35,36 Participants were instructed to rate how true each item has been for them in the past week on a scale of 0—Not at All to 4—Extremely. Potential scores range from 0–125, with higher values indicating more enhanced spiritual well-being. The FACT-G has been found to demonstrate adequate internal consistency (α = .89) amid a sample of 1543 adult cancer patients.34

Quality of life was assessed via the Functional Assessment of Cancer Therapy-General (FACT-G), a widely used 27 item inventory that measures four domains of well-being: physical, functional, social, and emotional.35 The FACT-G has undergone extensive psychometric testing, with test-retest reliabilities ranging from .82–.92 and internal consistencies of the total scale ranging from .83–.90.35,36 Participants were instructed to rate how true each item has been for them in the past week on a scale of 0—Not at All to 4—Extremely. Potential scores range from 0–125, with higher values indicating more enhanced spiritual well-being. The FACT-G has been found to demonstrate adequate internal consistency (α = .89) amid a sample of 1543 adult cancer patients.34

1.2.2. Dependent variables: psychosocial assessments

Psychological distress was measured using the Brief Symptom Inventory-18 (BSI), an 18 item Likert-type scale designed to measure the severity of anxiety, depression, and somatic symptoms of stress in the past week.33 Possible scores for the total scale range from 0–72, with higher values indicative of more severe psychological distress. The BSI has been found to demonstrate adequate internal consistency (α = .89) amid a sample of 1543 adult cancer patients.34

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The assessment of spiritual well-being involved administration of the Functional Assessment of Chronic Illness Therapy-Spiritual Well-being (FACT-spirit), a 12 item Likert-type inventory designed to measure the ability to find meaning and purpose in life, and the role of faith in illness.37 Like the FACT-G, participants were instructed to rate the degree to which each statement was true for them in the past week on a scale of 0—Not at All to 4—Extremely. Potential scores range from 0–48, with higher scores indicating more enhanced spiritual well-being. The FACT-spirit has been found to demonstrate adequate internal consistency (α = .87) in a sample including both cancer and AIDS patients37

1.2.3. Analytic strategy

All data analyses were conducted using the Statistical Package for the Social Sciences, version 15.0.34 To test whether the retreat experience predicted significant improvements in psychosocial well-being and QoL, three separate repeated measures MANOVA’s were run on all three time periods for the respective self-report scale administrations, using Bonferroni post-hoc comparisons to determine significant differences while controlling for Type 1 Error rates. The first MANOVA evaluated significant differences over time on the total scale scores for the BSI, FACT-G, and FACT-spirit, to determine changes in overall psychological distress, QoL, and spiritual well-being, respectively. The second MANOVA evaluated significant differences in the subscale scores over time for the BSI (anxiety, depression and somatic stress), whereas the third MANOVA evaluated changes in the FACT-G (physical, social, emotional and functional well-being) subscales. These three sets of analyses were predicted to reveal that Day 1 retreat measurements would be significantly different from Day 7 and the 6 week follow-up period, illustrating significant reductions in anxiety, depression, and somatic symptoms of stress, accompanied by improvements in QoL, and spiritual well-being.

Pearson product moment correlations were evaluated to test if reductions in psychological distress predicted improvements in QoL using residualized change scores in accord with recommendations.39 Residualized change scores for the psychological distress and QoL variables were created by regressing post retreat scores on their respective Day 1 values. The resulting standardized residual values from these regression equations represent change over time after controlling for variation due to baseline values. Residualized

<table>
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<th>Variables</th>
<th>% (Freq)</th>
<th>M (SD)</th>
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<tr>
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</table>
change in psychological distress was correlated with residualized change in QoL in two separate correlations, one pertaining to change from Day 1 to Day 7 and the other pertaining to change from Day 1 to the 6 week follow up period.

2. Results

2.1. Preliminary analyses

To determine whether more recently diagnosed cancer patients differed from those with a longer diagnostic history, a split was conducted on the sample between those diagnosed within a year of retreat participation (n = 15) and those with more than a year since participation (n = 13) to permit independent samples t tests to be evaluated on Day 1 scores of the BSI, FACT-G, and FACIT-sp scales. Results indicated non-significant differences on all 3 comparisons (p’s > .2), demonstrating that length of time for cancer diagnosis was unrelated to baseline measures of psychological distress, QoL, and spiritual well-being.

2.2. Main analyses

2.2.1. Psychosocial effects: total scale analyses

A repeated measures MANOVA on BSI, FACT-G and FACIT-sp scores across all three time periods was significant, F(6, 22) = 14.17, p < .001, partial ω² = .79. Underlying univariate tests were significant for all three measures: BSI, F(2, 54) = 9.33, p < .001, partial ω² = .26; FACT-G, F(2, 54) = 21.39, p < .001, partial ω² = .44; and FACT-sp, F(2, 54) = 39.79, p < .001, partial ω² = .60. Bonferroni post-hoc analyses were in support of expectation with findings indicating significant and sustained reductions in BSI comparing Day 1 to Day 7 and the 6 week follow up assessment (p’s < .01). Likewise, post-hoc comparisons also evidenced significant and sustained increases in FACT-G and FACIT-sp total scores, with significant increases on both measures from Day 1 to Day 7 and from Day 1 to the 6 week follow up assessment (p’s < .001). Table 2 displays means and standard deviations corresponding to these scales across the 3 time periods of assessment.

2.2.2. Psychosocial effects: subscale analyses

A second repeated measures MANOVA of the subscale scores corresponding to the BSI inventory across the 3 time periods of assessment yielded another significant effect, F(6, 22) = 8.07, p < .001, ω² = .69. The univariate tests corresponding to the BSI subscales were significant: Anxiety, F(2, 54) = 9.77, p < .001, ω² = .27; Depression, F(2, 54) = 10.05, p < .001, ω² = .27; and Somatic Stress, F(2, 54) = 4.55, p = .015, ω² = .144. Bonferroni post-hoc analyses revealed significant and sustained reductions in depression and anxiety for comparisons between Day 1 and the assessments taking place at Day 7 and the 6 week follow up (p’s < .05), whereas the only significant comparison for the Somatic Stress subscale was a reduction in this measure from Day 1 to the follow up period (p < .01).

The third MANOVA on the FACT-G subscales across the 3 time periods of assessment was also significant, F(8, 20) = 4.35, p = .004, ω² = .64. All univariate analyses for the FACT-G subscales were significant: Physical, F(2, 54) = 16.6, p < .001, ω² = .38; Social, F(2, 54) = 6.15, p = .004, ω² = .19; Emotional, F(2, 54) = 20.36, p < .001, ω² = .43; and Functional, F(2, 54) = 16.26, p < .001, ω² = .38. Finally, Bonferroni post-hoc analyses on the FACT-G subscales revealed consistently significant increases in all measures that were sustained to the 6 week follow up assessment, in which comparisons between Day 1 and the final two time periods at Day 7 and the 6 week post retreat were significant for physical, social, emotional, and functional QoL measures (p’s < .05). Means and standard deviations corresponding to BSI and FACT-G subscale values across all 3 time periods of assessment are featured in Table 2.

2.3. Ancillary analyses

Correlational analyses were performed on residualized change scores for the BSI and FACT-G total scores, to determine whether reductions in psychological distress predicted improvements in overall QoL in the current study. In support of this exploratory hypothesis, a significant inverse correlation on residualized change from Day 1 to Day 7 of the retreat was observed between BSI and FACT-G total scores, r = -.596, p = .001. Further, this inverse correlation maintained in magnitude when testing the significance of residualized change from Day 1 to the 6 week follow up period between these variables, r = -.617, p < .001.

3. Discussion

The key findings of the current study suggest that the retreat center experience is linked to significant and sustained reductions in psychological distress, coupled with improvements in QoL and spiritual well-being amid a sample of 28 breast cancer patients. Specifically, retreat center attendees exhibited significant reductions in depression, anxiety, and somatic symptoms of stress, effects that were found to maintain significance at a 6 week follow up assessment; in addition to spiritual well-being, the significant and sustained improvements in QoL included all four domains of physical, social, emotional, and functional well-being. Additional ancillary analyses of residualized change score correlations revealed that the reductions in psychological distress displayed by these participants served as a driving force that predicted improvements in overall QoL, a relationship that maintained in magnitude to the follow up assessment.

The current findings largely complement recent investigations on the effectiveness of complementary and alternative medicine practices that incorporate creative art therapies in reducing psychological distress and improving QoL among breast cancer populations (e.g., 26, 27). These findings suggest that multi-modal interventions targeted at facilitating the development of social support resources in group therapy, training participants in mind-body practices, such as meditation and yoga, and incorporating a component of self exploration via creative art therapy, may be efficacious in producing salubrious results in psychosocial well-being among breast cancer patients. Previous research focusing more exclusively on art therapy intervention in a group setting, without incorporating mind-body practices or group therapy, has evidenced improvements restricted...
to social well-being among breast cancer patients, whereas cognitive, emotional, physical, and spiritual domains of coping resources were unaffected.\textsuperscript{23} Again, this pattern of results highlights the importance of art therapy interventions being offered in conjunction with other integrative therapies to maximize benefit among participants.

On the whole, the current findings seem to be on par with other investigations focusing on MBSR interventions among breast cancer patients\textsuperscript{11–19} by suggesting that this multi-modal art therapy retreat program is linked to significant reductions in psychological distress and improvements in QoL. However, the current results represent data from a pilot study program evaluation and several limitations are worthy of mention. The participants from the current study comprise a small, self-selected sample that is somewhat diverse with respect to time of breast cancer diagnosis. Although preliminary analyses revealed that time of breast cancer diagnosis was unrelated to baseline measures of psychosocial well-being, the current findings merit replication in a larger sample of patients participating in a randomized control group intervention design to more rigorously evaluate the efficacy of the retreat experience.

In addition to improvements in psychosocial well-being, previous research on mind-body practices administered as alternative therapies for breast cancer patients has found MBSR to be linked to long term reductions in physiological measures of stress, including cortisol, pro-inflammatory cytokines, systolic blood pressure, and heart rate,\textsuperscript{40} whereas massage therapy has been linked to salubrious shifts in immune function through assessments of lymphocyte and natural killer cellular proliferations.\textsuperscript{41} Moreover, MBSR investigations have included a more extensive evaluation of psychosocial measures, evidencing significant improvements in sleep quality and perceptual stress,\textsuperscript{12,19} but it is largely unknown the degree to which creative art therapy interventions may impact upon these assessments. Future studies on the retreat intervention will seek to extend the current findings across a broader array of psychosocial assessments (e.g., sleep quality, mood, and perceptual stress), and measuring the physiological concomitants of stress via salivary cortisol and urinary catecholamines, as well as assessments of immune function via plasma lymphocyte and intracellular cytokine production.

A unique component of the current research concerns the use of photographic art therapy as a medium to gain access to underlying personal strain related to the cancer experience, thereby potentially expediting the process of insight, benefit finding, and self discovery in group therapy. In an effort to study the process of this transformation as it unfolds, future studies may incorporate a hybrid model of qualitative-quantitative assessment to ascertain not only the significance of changes in markers of psychosocial well-being over time, but also facilitate the examination of thematic shifts that emerge across the progression of the retreat via analysis of journal entries following creative art therapy sessions. Such mixed methods approaches have been found to be effective strategies of assessment for program evaluation research among cancer patients, providing the dual advantages of standardized quantitative outcome assessments with the richness of the unconstrained qualitative dataset.\textsuperscript{42,43}

This pilot study suggests that breast cancer patients may benefit from participation in a structured group therapy process aimed at expanding conscious awareness of personal strain surrounding the cancer experience in a retreat setting. Women with breast cancer seem to demonstrate a readiness and passion for this form of creative therapy intervention and the current results suggest that the process under study may bear fruit. Future studies will aim to replicate and extend the current findings among a larger sample to be breast cancer patients by incorporating assessments of physiological concomitants of stress and immune function, a broader range of psychosocial assessments that include mood and sleep quality, and qualitative assessments following art therapy sessions to identify thematic shifts that may predict the observed changes in psychosocial measures. Finally, a randomized control group design will be implemented in subsequent studies to more rigorously evaluate program effectiveness.

\textbf{Conflict of interest}

The authors report no conflict of interest.

\textbf{Acknowledgments}

These data were collected at the F. Holland Day Center for Healing and Creativity in Georgetown, Maine. The authors would like to thank the entire staff and crew at the retreat center for their unwavering dedication in working with breast cancer patients. Portions of these data were presented at the 20th annual meeting of the Association for Psychological Science in Chicago, Il. on May 23, 2008.

\textbf{References}
