

Original Article

Relieving Symptoms in Cancer: Innovative Use of Art Therapy

Nancy Nainis, MA, ATR, Judith A. Paice, PhD, RN, Julia Ratner, BA,
James H. Wirth, BA, Jerry Lai, BA, and Susan Shott, PhD

Northwestern Memorial Hospital (N.N.), Chicago, Illinois; Division of Hematology-Oncology (J.A.P., J.L.), Feinberg School of Medicine (J.R.), Northwestern University, Chicago, Illinois; Robert H. Lurie Comprehensive Cancer Center (J.A.P.), Chicago, Illinois; Purdue University (J.W.), West Lafayette, Indiana; and Department of Medicine (S.S.), Rush University Medical Center, Chicago, Illinois, USA

Abstract

Art therapy has been used in a variety of clinical settings and populations, although few studies have explored its use in cancer symptom control. The specific aim of this study was to determine the effect of a 1-hour art therapy session on pain and other symptoms common to adult cancer inpatients. A quasi-experimental design was used (n = 50). The Edmonton Symptom Assessment Scale (ESAS) and the Spielberger State-Trait Anxiety Index (STAI-S) were used prior to and after the art therapy to quantify symptoms, while open-ended questions evaluated the subjects' perceptions of the experience. There were statistically significant reductions in eight of nine symptoms measured by the ESAS, including the global distress score, as well as significant differences in most of the domains measured by the STAI-S. Subjects overwhelmingly expressed comfort with the process and desire to continue with therapy. This study provides beginning evidence for the efficacy of art therapy in reducing a broad spectrum of symptoms in cancer inpatients. J Pain Symptom Manage 2006;31:162–169. © 2006 U.S. Cancer Pain Relief Committee. Published by Elsevier Inc. All rights reserved.

Key Words

Pain, anxiety, symptoms, art therapy, cancer

Introduction

Pain, fatigue, anxiety, and other symptoms are common in those experiencing cancer.^{1–10}

This research was supported by a grant from the Service League of Northwestern Memorial Hospital.

Address reprint requests to: Judith A. Paice, PhD, RN, Division of Hematology-Oncology, Northwestern University, Feinberg School of Medicine, 676 N. St. Clair Street, Suite 850, Chicago, IL 60611, USA. E-mail: j-paice@northwestern.edu

Accepted for publication: July 12, 2005.

In seeking relief, patients increasingly are turning to alternative and complementary therapies, reflecting the growing need for more comprehensive management of these cancer-related symptoms. Several studies suggest that more than 80% of cancer patients may use some form of complementary therapy in conjunction with other standard medical treatments such as surgery, chemotherapy, and radiation.¹¹ A number of complementary therapies such as relaxation, massage, hypnosis, and music therapy have been found to be effective in reducing symptoms, improving quality

of life, and enhancing cancer patients' ability to cope with distress.¹²⁻¹⁸

Art therapy is one of the complementary therapies being used to relieve cancer symptoms. Art therapy is a clinical intervention based on the belief that the creative process involved in the making of art is healing and life enhancing. It is used to help patients or their families increase awareness of self, cope with symptoms, and adapt to stressful and traumatic experiences.¹⁹⁻²⁸ The objectives of art therapy are to use the creative process to allow awareness and expression of an individual's deepest emotions.²⁹ For people with cancer, these emotions may be about the illness, hospitalization, relationships, or other concerns. The meaning and the power of these emotions often are not easily articulated using verbal communication. It is the art itself that provides a vehicle for expression, aided by the actual physical movement of artistic materials. Art therapy may be preferential to some cancer patients who may be uncomfortable with conventional psychotherapy or those who find verbal expression difficult.

There is a growing body of literature demonstrating that art therapy can be effective in ameliorating symptoms associated with cancer both in children and adults.³⁰⁻³³ Art that Heals was one of the earliest and most comprehensive programs that demonstrated how art therapy could be useful in an oncology setting by helping patients reinforce positive coping behavior and increasing their self-esteem and their sense of control.³⁴ Since then similar benefits have been demonstrated by other programs.^{12,35}

Current art interventions with cancer patients take many forms—from one-on-one interactions to support groups to a community's participation in art exhibits where art works were created by cancer survivors.^{22,23,31,36} While this flexibility explains art therapy's appeal to a wider patient base, the nonuniform design of previous studies makes it difficult to draw specific conclusions about art therapy's effectiveness in a particular population, such as oncology inpatients. While initial reports suggest promising results, most art therapy studies are based on patient case analysis, have very small sample sizes, or are not designed to empirically test a hypothesis. In addition, most of the current studies evaluated the use of art therapy

in improving quality of life and emotional well being, with few addressing its effects on physical symptoms. To address these current limitations, we undertook an investigation of art therapy in an inpatient oncology population using quasi-experimental, pre-posttest methodology. The specific aim of this innovative research project was to empirically determine the effect of art therapy in relation to pain, anxiety, and a variety of other symptoms common to the cancer inpatient population.

Methods

Subjects

Participants were recruited from the inpatient oncology units at a large urban academic medical center over a 4 month period. Patients were included in the study if their diagnosis was cancer, were 18 or older, were cognitively intact, were able to communicate in English, and were capable of participating in a 1-hour session of art therapy. Fifty patients completed the study.

Instruments

The instruments used to measure physical and emotional symptoms associated with cancer were the Edmonton Symptom Assessment Scale (ESAS) and the state portion of the Spielberger State-Trait Anxiety Index (STAI-S). The modified ESAS is a 10-item patient-related symptom numeric scale developed for use in symptom assessment of palliative care.³⁷ It has been validated in other populations, including cancer inpatients.^{38,39} In the ESAS patients rate the severity of each of the following nine symptoms on a 0-10 scale: pain, tiredness, nausea, depression, anxiety, drowsiness, lack of appetite, their well being, and shortness of breath. The sum of the patients' responses to these nine symptoms is the global ESAS distress score.

The STAI is the definitive instrument for measuring anxiety in adults.^{40,41} The STAI differentiates between the temporary condition of state anxiety and the more general and long-standing quality of trait anxiety. In the present study only the state component of the STAI was used to measure how a patient described his or her psychological state at the time of the intervention. The essential

qualities evaluated by the STAI are feelings of apprehension, tension, nervousness, and worry. Scores of the STAI increase in response to physical danger and psychological stress and decrease as a result of relaxation. The STAI has shown stability, test, retest reliability, internal consistency, and has been validated by thousands of studies, including those that involved cancer patients.^{40,41}

The participants were also asked three additional open-ended questions at the completion of the art therapy session to capture their full impression of the session: (1) If given an opportunity, would they like to experience art therapy again? (2) How did the art therapy session change their overall well being? (3) Did they feel comfortable making the art?

Procedure

After a patient expressed interest in participating in a study of art therapy, the research assistant approached the patient to discuss participation in the study. Informed consent was obtained at that time and the baseline assessment was completed using the ESAS and the STAI-S. Standard demographic data, along with information about diagnosis, and questions about previous art and art therapy experiences were asked at that time. Upon the completion of the survey items, the research assistant exited the room.

A registered art therapist, who is licensed as a professional clinical counselor, then approached the subject's room with a cart that held a variety of arts and crafts materials (the cart was not brought into the patient's room due to infection control concerns). The subject was given a list of all the materials and projects that were available on the cart (see Table 1). To minimize potential interruptions, each subject's nurse was consulted prior to the session to make certain there were no conflicting procedures or activities scheduled. The subject was instructed that the session would last approximately 1 hour and was asked what goals he or she had for the exercise. The art therapist would then assist subjects with their choice of subject matter and media, and would choose an appropriate course for the session. For example, when subjects could not use their hands or were not comfortable using the art materials, the art therapist would do the art making under the direction of the

Table 1
Art Cart

Art Therapy Supplies	
• Cards/envelopes	• Jewelry/beads
• Clay	• Journals/sketch pads
• Collage	• Paper pulp masks
• Fancy papers	• Painting
• Feathers	• Finger paint
• Felt	• Stained glass
• Foam shapes	• Tempera
• Glitter glue	• Watercolor
• Glue sticks	• Rainsticks
• Magazines	• Stained glass sun catchers
• Pipe cleaners	• Stamps
• Sequins	• Wooden boxes
• Tissue paper	• Wooden frames
• Yarn	
• Drawing	
• Charcoal	
• Color pencils	
• Pastel chalk	
• Pencils	
• Marker pens	
• Oil crayons	

subject or they could look at and discuss photographic images that were assembled into a book. The content of the art therapy sessions was individualized according to subjects' goals ranging from light entertaining distraction to investigating deep psychological issues.

The art therapist encouraged the subject to use the art materials in a way that met the goals they had set. She attempted to put the subject at ease by saying things such as "I'm here to help you anyway I can. There is no right or wrong way to do this. The process is the healing aspect, not the end product. Tell the critic in your mind to be quiet and just let yourself enjoy doing this. You can't do this wrong." When the subject was finished, he or she was encouraged to discuss his or her feelings through questions such as "Were you thinking about anything in particular while you were making this? Do any of your choices have special meaning?" At the end of the session, the subject was allowed time to talk about any additional issues that arose during the session.

After this discussion was concluded, the art therapist offered to leave some materials with the subject if he or she wanted to continue working on his or her own. Upon the completion of the therapy session and after the therapist exited the room, the research assistant returned to administer the posttest measures and open-ended qualitative questions.

Analysis of Data

SPSS for Windows (Statistical Package for the Social Sciences Version 11, Chicago, IL) was used for data management and statistical analysis. Because the variables did not have normal distributions, nonparametric statistical methods were used to analyze these variables. The Chi-squared test of association was done to compare groups with respect to percentages. The Kruskal-Wallis and Mann-Whitney tests were used to compare groups with respect to noncategorical data. The Friedman test was done to evaluate changes after therapy compared to pretherapy values. Means are expressed as mean \pm standard deviation. A 0.05 significance level was used for all statistical tests. No one-sided statistical tests were done.

Results

Of 63 patients who were approached but declined to participate in this study, 35 (55%) stated that they were not interested and did not provide additional explanation, 9 (14%) were being discharged, 8 (13%) felt too sick, 2 (3%) were experiencing too much pain, one person (2%) stated that his or her hands were too "shaky," and one person had participated in art therapy before but did not like the experience.

Fifty subjects were enrolled in this study, most with leukemia (29.2%) or lymphoma (32.6%), with the majority diagnosed within the prior 2–3 years (mean 2.14 ± 3.0 SD). Additional demographic data regarding the sample are provided in Table 2. No patients dropped out of the study once art therapy was started.

Symptom Burden

There were statistically significant reductions in eight of nine symptoms measured by the ESAS, including the global distress score (Figs. 1 and 2). Nausea was the singular symptom that did not change as a result of the art therapy session. There were no associations between age or gender and change in the individual and global ESAS distress score, although this association was noted with ethnicity (Fig. 3). African American subjects were more likely to have lower post-test ESAS global distress scores when compared with Caucasians (Mann-Whitney or MW; $P = 0.037$).

Table 2
Demographic Data

Characteristics	<i>n</i>	%
Age (mean \pm SD, range years)	51.3 \pm 14.8 (19–82)	
Gender		
Female	29	58
Male	21	42
Ethnicity		
Caucasian	32	65.3
African American	13	26.5
Asian	1	2
Hispanic/Latino	2	4.1
Other	2	4.1
Marital status		
Single	17	34
Married	28	56
Divorced	5	10
Education (mean \pm SD, range years)	15.3 \pm 2.8 (10–25)	
Diagnosis		
Leukemia	14	29.2
Lymphoma	15	32.6
Breast cancer	4	8
GI/colorectal cancer	4	8
Gynecological cancer	2	4
Other malignancies	11	18.2
Time since diagnosis (mean \pm SD, range years)	2.1 \pm 3.0 (0–15)	

In regard to pre- and postintervention anxiety measures, there were statistically significant differences in most of the domains measured by the STAI-S (Fig. 4). However, responses such as regret, feeling at ease, being worried, and feeling rattled demonstrated no change when comparing scores prior to and after the therapy. There were no associations between age, gender, or ethnicity and change in STAI-S scores.

Perceptions of Art Therapy

Most (44% or 88%) of the subjects had never participated in art therapy prior to this study and the majority, 46 (92%), stated that they would like to do art therapy again. When asked how they perceived art therapy changed their overall well being, 45 (90%) stated that the session distracted them and focused their attention onto something positive. Eighteen subjects (36%) responded that the therapy was calming and relaxing, 6 (12%) felt productive and worthwhile, and 12 (24%) felt that it was a pleasant activity. Three

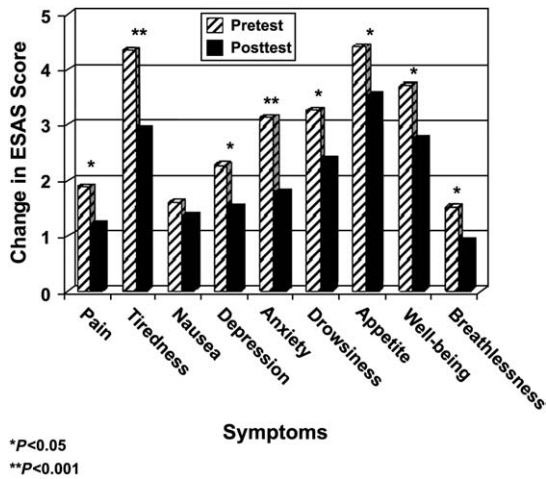


Fig. 1. Change in ESAS measures.

(6%) subjects commented that the art therapy had no effect.

When asked whether they felt comfortable making art, 48 (96%) subjects agreed. Reasons for this comfort included the approach of the art therapist, prior experience with making art, or conversely, that making art was a new and interesting experience. Several subjects commented that making art gave them a feeling of control and allowed them to express their feelings without words.

Only two (4%) subjects said that they were not comfortable with making art. Both of them believed that they had no talent or skill and thus did not like what they produced.

Discussion

Pain and other symptoms are common in an oncology inpatient population. Although pharmacologic therapies are essential to

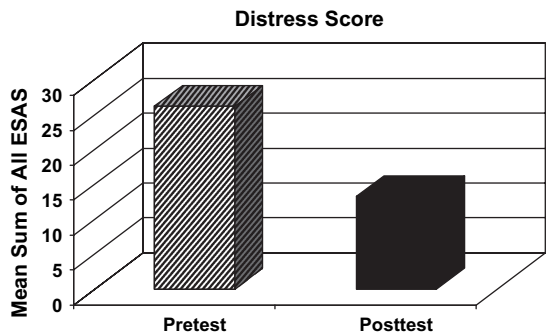


Fig. 2. Global Distress Scale from ESAS.

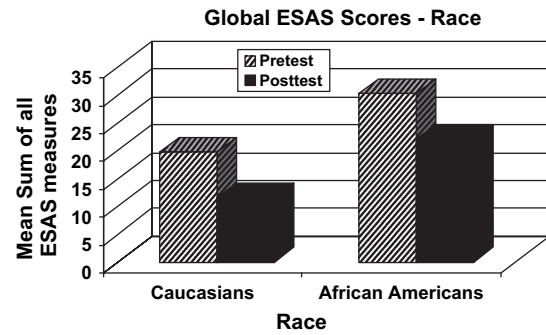


Fig. 3. Differences in global distress by ethnicity.

provide relief, consumers are interested in supplementing traditional medical approaches with complementary therapies to relieve pain and suffering. Art therapy is one complementary therapy that has good anecdotal support for its efficacy in relieving anxiety and other emotional symptoms.^{20,22,23,28,32} However, well-designed studies demonstrating the effectiveness of art therapy in an inpatient oncology setting are scarce. This study was the first to attempt to evaluate the benefits of this intervention on reducing a broad spectrum of symptoms in an empirical manner. The results provided further evidence of the benefits of art therapy, as there were significant reductions in symptoms and overall state anxiety after a 1-hour art therapy intervention.

Although there was a decrease in most symptoms, a particularly surprising finding of the study was the reduction in “tiredness” expressed by these subjects. Despite reporting significant tiredness immediately prior to the therapy (mean score of 4.4 ± 2.7) and using energy during the therapy session, subjects described significant reduction in this tiredness at the end of the intervention (mean 2.9 ± 2.5). Subjects made numerous anecdotal comments that the art therapy had energized them. This is the first study to document reduction in tiredness as a result of art therapy.

Our inability to find a statistically significant improvement in nausea (ESAS) and several items on the STAI-S (feeling regretful, rattled, or worried) was partially due to a “floor effect.” On average, subjects started with an already low score on these items during the pretest, allowing little or no room for improvement. For instance nausea had the lowest ranked pretest value of all of the nine symptoms of the ESAS. To further complicate interpretation of

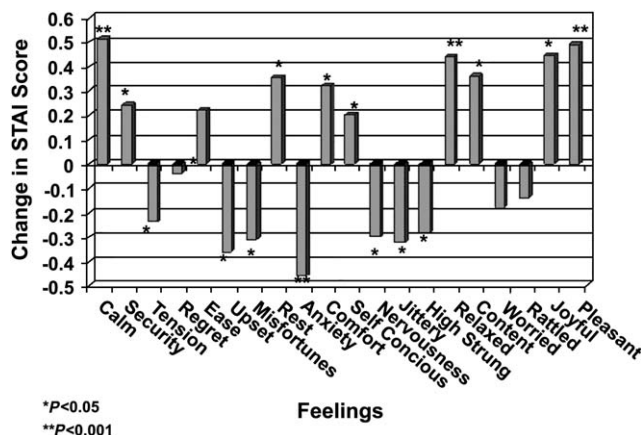


Fig. 4. STAI scores.

changes in this symptom, one patient was given a medication immediately prior to the art therapy intervention that caused her to become very nauseated and vomit during the session. Her data were included in the analysis as she completed the session.

Regarding the subjects' perceptions of art therapy, this very diverse patient population, with a wide range of ages, educational and ethnic backgrounds, diagnoses, and length of disease, was very receptive to the therapy. There was no difference in comfort level or interest in continuing art therapy by any of these demographic variables. This suggests that art therapy could be appropriate for a wide variety of patients and not to a single homogeneous group. A puzzling paradox to this acceptance was the large refusal rate while entering patients into the trial, a phenomenon that is common in clinical practice in our institution. A significant percentage of individuals on the inpatient oncology units are reluctant to try art therapy. Additional research is needed to understand the barriers to this acceptance, particularly in light of the beginning evidence for its efficacy and the large number of subjects enrolled in the study who reported a positive experience.

This study had a number of limitations. First, without control or randomization we were not able to account for a number of variables that might have influenced the outcome of our study. This study was designed to evaluate immediate symptom change after one therapy session, rather than determining

the duration of effect or intensity when multiple sessions were offered. While a large percentage of the patients who took part in our study requested and received additional art therapy sessions during the course of their hospital stay, we did not evaluate long-term effects of art therapy on their symptoms. It would be useful to see whether the positive benefits of art therapy can extend for longer periods of time and also how frequently art therapy should be given to extend these benefits. We are currently planning controlled clinical trials with longer follow-up.

This study provides beginning evidence for the efficacy of art therapy in reducing a broad spectrum of symptoms in a diverse sample of cancer inpatients. Art therapy is easy to implement in the hospital setting and was widely accepted by the participants in this study who found the process distracting and calming. Very few individuals found the process uncomfortable and no adverse effects were noted. Art therapy is a relatively inexpensive intervention, entailing the therapist's time and cost of art supplies, that may have long lasting effects by teaching individuals long-term techniques and self-efficacy. As consumers express greater interest in complementary therapies, techniques such as art therapy will likely be used with greater frequency. Future research is needed to identify patients who might experience the greatest benefit, the duration of effect of this approach, as well as the optimal number of sessions needed to produce long-term effects.

Acknowledgments

The authors wish to thank the patients, nurses, physicians, and other staff on the inpatient oncology units at Northwestern Memorial Hospital, along with Jackie Medland, Director of Oncology Services at the time this study was conducted. The authors are grateful to the Service League of Northwestern Memorial Hospital for their funding of this trial.

References

1. Cascinu S, Giordani P, Agostinelli R, et al. Pain and its treatment in hospitalized patients with metastatic cancer. *Support Care Cancer* 2003;11(9):587-592.
2. Carlson LE, Angen M, Cullum J, et al. High levels of untreated distress and fatigue in cancer patients. *Br J Cancer* 2004;90(12):2297-2304.
3. Cleeland CS, Mendoza TR, Wang XS, et al. Assessing symptom distress in cancer patients: the M.D. Anderson Symptom Inventory. *Cancer* 2000;89(7):1634-1646.
4. Desbiens NA, Wu AW. Pain and suffering in seriously ill hospitalized patients. *J Am Geriatr Soc* 2000;48(Suppl 5):S183-S186.
5. Fantoni M, Ricci F, Del Borgo C, et al. Multi-centre study on the prevalence of symptoms and symptomatic treatment in HIV infection. Central Italy PRESINT Group. *J Palliat Care* 1997;13(2):9-13.
6. Hwang SS, Chang VT, Fairclough DL, Cogswell J, Kasimis B. Longitudinal quality of life in advanced cancer patients: pilot study results from a VA medical cancer center. *J Pain Symptom Manage* 2003;25(3):225-235.
7. Meuser T, Pietruck C, Radbruch L, et al. Symptoms during cancer pain treatment following WHO-guidelines: a longitudinal follow-up study of symptom prevalence, severity and etiology. *Pain* 2001;93(3):247-257.
8. Potter J, Hami F, Bryan T, Quigley C. Symptoms in 400 patients referred to palliative care services: prevalence and patterns. *Palliat Med* 2003;17(4):310-314.
9. Chang VT, Hwang SS, Feuerman M, Kasimis BS. Symptom and quality of life survey of medical oncology patients at a veterans affairs medical center: a role for symptom assessment. *Cancer* 2000;88(5):1175-1183.
10. Miaskowski C, Lee KA. Pain, fatigue, and sleep disturbances in oncology outpatients receiving radiation therapy for bone metastasis: a pilot study. *J Pain Symptom Manage* 1999;17(5):320-332.
11. Richardson MA, Sanders T, Palmer JL, Greisinger A, Singletary SE. Complementary/alternative medicine use in a comprehensive cancer center and the implications for oncology. *J Clin Oncol* 2000;18(13):2505-2514.
12. Peace G, Manasse A. The Cavendish Centre for integrated cancer care: assessment of patients' needs and responses. *Complement Ther Med* 2002;10(1):33-41.
13. Walker LG, Walker MB, Ogston K, et al. Psychological, clinical and pathological effects of relaxation training and guided imagery during primary chemotherapy. *Br J Cancer* 1999;80(1-2):262-268.
14. Wilkinson S, Aldridge J, Salmon I, Cain E, Wilson B. An evaluation of aromatherapy massage in palliative care. *Palliat Med* 1999;13(5):409-417.
15. Cassileth BR, Vickers AJ. Massage therapy for symptom control: outcome study at a major cancer center. *J Pain Symptom Manage* 2004;28(3):244-249.
16. Cassileth BR, Deng G. Complementary and alternative therapies for cancer. *Oncologist* 2004;9(1):80-89.
17. Cassileth BR, Vickers AJ, Magill LA. Music therapy for mood disturbance during hospitalization for autologous stem cell transplantation: a randomized controlled trial. *Cancer* 2003;98(12):2723-2729.
18. Specia M, Carlson LE, Goodey E, Angen M. A randomized, wait-list controlled clinical trial: the effect of a mindfulness meditation-based stress reduction program on mood and symptoms of stress in cancer outpatients. *Psychosom Med* 2000;62(5):613-622.
19. Walsh SM, Martin SC, Schmidt LA. Testing the efficacy of a creative-arts intervention with family caregivers of patients with cancer. *J Nurs Scholarsh* 2004;36(3):214-219.
20. Favara-Scacco C, Smirne G, Schiliro G, Di Cataldo A. Art therapy as support for children with leukemia during painful procedures. *Med Pediatr Oncol* 2001;36(4):474-480.
21. Walsh SM, Weiss S. Online exclusive: art intervention with family caregivers and patients with cancer. *Oncol Nurs Forum Online* 2003;30(6):E115-E120.
22. Gabriel B, Bromberg E, Vandenvoerkamp J, et al. Art therapy with adult bone marrow transplant patients in isolation: a pilot study. *Psychooncology* 2001;10(2):114-123.
23. Deane K, Carman M, Fitch M. The cancer journey: bridging art therapy and museum education. *Can Oncol Nurs J* 2000;10(4):140-142.
24. Predeger E. Womanspirit: a journey into healing through art in breast cancer. *Adv Nurs Sci* 1996;18(3):48-58.
25. Mulcahey AL, Young MA. A bereavement support group for children: fostering communication about grief and healing. *Cancer Pract* 1995;3(3):150-156.

26. Johnston C. Art, play-therapy programs help children whose parents are dying of cancer. *CMAJ* 1993;149(10):1528–1530.
27. Trauger-Querry B, Haghghi KR. Balancing the focus: art and music therapy for pain control and symptom management in hospice care. *Hosp J—Phys Psychosoc Pastor Care Dying* 1999;14(1):25–38.
28. Appleton VE. An art therapy protocol for the medical trauma setting. *Art Ther: J Am Art Ther Assoc* 1993;10(2):71–77.
29. Malchiodi C. *Medical art therapy with adults*. London: Jessica Kingsley, 1999.
30. Walker C. Use of art and play therapy in pediatric oncology. *J Pediatr Oncol Nurs* 1989;6(4):121–126.
31. Ponto JA, Frost MH, Thompson R, et al. Stories of breast cancer through art. *Oncol Nurs Forum Online* 2003;30(6):1007–1013.
32. Luzzatto P, Gabriel B. The creative journey: a model for short-term group art therapy with post-treatment cancer patients. *Art Ther: J Am Art Ther Assoc* 2000;17(4):265–269.
33. Lane MTR, Graham-Pole J. Development of an art program on a bone marrow transplant unit. *Cancer Nurs* 1994;17(3):185–192.
34. Breslow DM. Creative arts for hospitals: the UCLA experiment. *Patient Educ Couns* 1993;21(1–2):101–110.
35. Heiney SP, Darr-Hope H. Healing Icons: art support program for patients with cancer. *Cancer Pract* 1999;7(4):183–189.
36. Deane K, Fitch M, Carman M. An innovative art therapy program for cancer patients. *Can Oncol Nurs J* 2000;10(4):147–151.
37. Rees E, Hardy J, Ling J, Broadley K, A'Hern R. The use of the Edmonton Symptom Assessment Scale (ESAS) within a palliative care unit in the UK. *Palliat Med* 1998;12(2):75–82.
38. Chang VT, Hwang SS, Feuerman M. Validation of the Edmonton Symptom Assessment Scale. *Cancer* 2000;88(9):2164–2171.
39. Philip J, Smith WB, Craft P, Lickiss N. Concurrent validity of the modified Edmonton Symptom Assessment System with the Rotterdam Symptom Checklist and the Brief Pain Inventory. *Support Care Cancer* 1998;6(6):539–541.
40. Spielberger CD, Gorsuch RL, Lushene RE. *The state trait anxiety inventory manual*. Palo Alto: Consulting Psychologist Press, 1969.
41. Spielberger CD, Vagg PR. Psychometric properties of the STAI: a reply to Ramanaiah, Franzen, and Schill. *J Pers Assess* 1984;48(1):95–97.