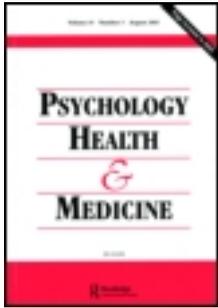


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The effect of spiritual therapy for improving the quality of life of women with breast cancer: A randomized controlled trial

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Diagnosis of breast cancer is a devastating psychological experience for a woman. Also, treatments such as radiation therapy may cause psychosocial distress in these patients and threaten their quality of life (QOL). Among several approaches, spirituality has been shown to be significantly associated with improving the QOL. The aim of this study was to assess the role of spiritual therapy intervention in improving the QOL of patients with breast cancer undergoing radiation therapy. This was a randomized controlled trial study undertaken in a radiotherapy clinic, Isfahan, Iran. Between October 2010 and February 2011, 68 patients under radiation therapy were randomized to either spiritual therapy intervention group or control group who received routine management and educational programs. Before and after six weeks of spiritual therapy sessions, the QOL was evaluated using Cancer quality-of-life questionnaire (QLQ)-C30 and breast cancer-specific questionnaire (BR-23). Multivariate, repeated-measures ANOVA, t-test, and Paired t-test were used for analysis using Predictive Analytic Soft Ware (PASW, version 18) for windows. In all, 65 patients actually completed the six-week intervention and were evaluated for the outcome. The mean Global health status score/QOL reached from 44.37 (SD = 13.03) to 68.63 (SD = 10.86), ($p = 0.00$). There was a statistically significant difference in all functional scales of QLQ-C30 after intervention ($p < 0.05$). The results of this trial showed that the spiritual therapy program can improve the overall QOL of women with breast cancer; therefore, it could be adopted in comprehensive care programs for women with breast cancer.

Keywords: spiritual therapy; breast malignancy; quality of life; radiation therapy

Introduction

Breast cancer (BC) is the most frequent malignant disease among women with an estimated 1.38 million new cancer cases diagnosed in 2008 around the world and ranks second overall (Ferlay et al., 2010). According to the latest report of the Institute of Cancer in Iran, breast cancer constitutes 25% of all cancers among Iranian women, with the highest rate in those aged between 35 and 44 years (Mousavi et al., 2007). This shows that Iranian women with breast cancer are at least one decade younger than their peers in developed countries (Harirchi, Karbakhsh, Kashefi, & Momtahn, 2004).

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Diagnosis of breast cancer is an especially devastating emotional experience for a woman. In addition to distress from physical changes due to the breast cancer, patients also report a variety of psychological problems including anxiety, worry, and depression that have a significant negative impact on functioning of these patients (Mehnert & Koch, 2008; Rahman, Nisar, Hussain, & Chaudhary, 2011). Also, treatments such as radiotherapy may cause psychosocial distress and morbidity in these patients. Hughson et al. (1987) showed that patients who had completed radiotherapy had significantly more somatic symptoms and social dysfunction than those not so treated.

Facing with probable death, individuals look at spiritual and existential questions surrounding: death, faith in the divine, purpose in life, loneliness, meaning of suffering, and uncertainty (Breitbart, 2005).

Due to various psychological and also physical changes, it has become much more important to study the quality of life (QOL) in these patients and assessing the QOL in breast cancer patients has been the focus of clinical practice and research in recent decades (Perry, Kowalski, & Chang, 2007). Several approaches have been used to improve the QOL of breast cancer patients. Interventions such as exercise (Knols, Aaronson, Uebelhart, Fransen, & Aufdemkampe, 2005; McNeely et al., 2006), peer support group (Hoey, Ieropoli, White, & Jefford, 2008; Malekpour Tehrani, Farajzadegan, Mokarian, & Zamani, 2011; Salzer et al., 2010), mindfulness-based stress reduction (MBSR) program (Carlson, Speca, Patel, & Goodey, 2003; Smith, Richardson, Hoffman, & Pilkington, 2005; Witek-Janusek et al., 2008), and cognitive behavioral therapy (CBT) (Duijts, Faber, Oldenburg, van Beurden, & Aaronson, 2011; May et al., 2009; Montgomery et al., 2009) showed that they can have a positive effect on QOL of these patients.

Among several approaches, spirituality has been shown to be significantly associated with improving the QOL and management of symptoms in cancer patients. Religious and spiritual coping have been associated with lower levels of distress as well as anger, anxiety, and social isolation in cancer patients and also improvement of the QOL (Boehmke & Dickerson, 2006; Morgan, Gaston-Johansson, & Mock, 2006; Zwillingmann, Wirtz, Müller, Körber, & Murken, 2006). Spiritual or religious dimensions are likely to be embedded in issues such as meaning (Doyle, 1992; Thomas-MacLean, 2004), control (Dreifuss-Kattan, 1990; Kissane et al., 2003), identity (Kaufman & Micha, 1987; Mathieson & Stam, 1995; Zebrack, 2000), and relationships (Holmberg, Scott, Alexy, & Fife, 2001; Stefanek, McDonald, & Hess, 2005). Specific characteristics of strong spiritual beliefs, including hope, optimism, freedom from regret, and life satisfaction, have also been associated with better adjustment in individuals diagnosed with cancer (Pargament, 2001).

In a cross-sectional survey of 85 patients with cancer, there was a negative correlation between anxiety and depression and overall spiritual well-being (McCoubrie & Davies, 2006). A recent study on 130 women with breast cancer found that spiritual well-being was significantly associated with QOL and also reducing the traumatic stress (Purnell, Andersen, & Wilmot, 2009).

Although the exact mechanisms are not understood, evidence suggests that spiritual healing as a complementary therapy could support women whose QOL is adversely affected by the side effects of their treatments (Barlow, Lewith, & Walker, 2008; Taylor, 2005); therefore, spiritual therapy becomes the most frequently used complementary therapy in these patients (Taylor, 2005), and interventions based on

spiritual resources seems to be effective in controlling the psychological and physical symptoms associated with breast cancer (Aukst-Margetic, Jakovljevic, Margetic, Biscan, & Samija, 2005; Coward, 2003; Garlick, Wall, Corwin, & Koopman, 2011).

Three qualitative studies in Iran showed that spiritual believes have important role in coping with breast cancer is and facing the disease using a spiritual approach is the major coping strategy to respond to cancer (Karimollahi, Rostamnejad, & Abedi, 2009; Sajadian & Montazeri, 2010; Taleghani, Yekta, & Nasrabadi, 2006).

Despite the widespread use of spiritual exploration and practices by breast cancer patients, limited studies have specifically investigated its actual effect on QOL of these patients (Cella, 2003). The purpose of the current trial is to implant a spiritual therapy intervention for patients with breast cancer and study whether a support intervention based on spiritual therapy could improve the QOL of breast cancer patients in comparison to the control group.

Methods

This was a randomized controlled trial study that was undertaken in Breast Cancer Research Center, St. S. Al-shohada Hospital, Isfahan, Iran. The target population was breast cancer patients planned for radiation therapy and consented to participate in this study. Eligibility criteria included a diagnosis within the last 12 months and a treatment recommendation of radiation therapy of at least two weeks. Exclusion criteria included concomitant chronic disease and major depression disorder and being absent in two consecutive sessions. Between October 2010 and February 2011, participants, who met all eligibility criteria and consented to participate, were randomly assigned to spiritual therapy or control group in a ratio of 1:1, using Excel software random number generation.

The control group received standard medical care as recommended by their radiation oncologist. This included interactions with their oncologist, referrals to specialists when indicated, and brief education (based on nutrition, physical activity, and radiation therapy side effects) that is routinely offered to patients as a part of their care in this center.

The intervention group received routine management/education and also an additional education program based on spiritual therapy intervention.

Instrument

The QOL in the patients was assessed by questionnaire of The European Organization for Research and Treatment of Cancer Quality of Life Group (EORTC QLG) (Aaronson et al., 1993).

The Cancer quality-of-life questionnaire (QLQ)-C30 core questionnaire covers aspects that are important for cancer patients in general (basic dimensions of physical, psychological, and social health) (Koller et al., 2007).

It includes nine multi-item scales: five functional scales (physical, role, cognitive, emotional, and social); three symptom scales (fatigue, pain, and nausea and vomiting); and a global health and quality-of-life scale (Aaronson et al., 1993).

The specific form of this questionnaire is also developed for breast cancer. Breast cancer-specific questionnaire (BR-23) is a 23-item questionnaire and consists of two functional scales (body image and sexual functioning) and three symptom scales

(arm symptoms, breast symptoms, and systematic therapy side effects). The remaining items assess sexual enjoyment and shock due to hair loss (Kontodimopoulos, Ntinoulis, & Niakas, 2011).

These two questionnaires were translated and validated in Persian by Montazeri et al. in 2000.

After explaining the purpose and content of the study to the patients and following their agreement, the quality-of-life questionnaire and demographic data were administered by the researchers in face-to-face interviews. Study outcomes were assessed at baseline and promptly after the six-week intervention.

Sociodemographic data including demographic information (age, marital status, education, and occupation) were collected through a questionnaire. Clinical data including pathological disease stage and grade and also concurrent chronic disease were extracted from their records.

Intervention

The spiritual therapy course was held in six sessions.

Session 1: Defining the course and introduction.

Session 2 (Relaxation and Meditation): In this session, the patients were taught the relaxation and meditation technique by a qualified instructor. The participants were asked to practice this technique individually at home twice a day for 20 min while sitting comfortably with eyes closed. Also, an active meditation and relaxation practice by the expert was included at the end of each session.

Session 3 (Control): Our program focused on issues beyond personal control of patients. Participants were encouraged to do an activity to assist them in letting go of things beyond their control and put them under God's control.

Session 4 (Identity): In this session, the participants were asked to look inside themselves and detect their negative and positive feelings and some barriers in self-respect. All participants were encouraged to imagine God presence with them as a witness to their loss and pain and also as accepting and affirming of the individual's self-worth. At the end, the participants encouraged to gain positive energies inside themselves, connecting with them to fight with cancer.

Session 5 (Relationships): This intervention focused on three types of relationships that can be disturbed in coping with cancer: relationships with oneself, with others, and with God.

In the first half of the session, the group focused on the relationship with oneself and the extent to which they treat themselves lovingly. In the second half of this session, the participants concentrated on their relationship with God. They will discuss how close they feel to God as well as any emotion such as guilt, anger, or neglect that they may feel toward God. Then, the patients led through "Circle of Light" guided imagery and talking to God closely.

To resolve any negative feeling about relationship with others, a version of the "two chair" technique – employed by Gestalt psychologists – was used (Duigan, 2010). At the end, patients were encouraged to recreate a "new schematic representation" of the self-other relationship.

Session 6 (Prayer therapy): The participants encouraged praying and talking to God based on their religious and spiritual believes and ask him to help them in this process (Cohen et al., 2000).

The educators were three spiritual healers with great experience in this field. Some aspects of program were inspired from "Re-Creating Your Life: During and After Cancer" program which designed by Cole and Pargament (1999).

Each session lasted approximately two-three hours and was balanced with didactic material, a question and answer period, sharing, reflecting, and relaxation and meditation practice. These sessions were held in breast cancer research center in St. S. Al-Shohada Hospital, Isfahan.

Analysis

Data for personal characteristics are presented as mean \pm SD for the continuous variables and quantities (proportion) of the total study population for attributes measured on an ordinal or nominal scale. The scale scores of the QLQ-C30 and BR-23 were computed as recommended in the scoring manual (Fayers et al., 2001). EORTC QLQ scores are presented as means with their 95% confidence intervals. Student t-test and Chi-square test were conducted to compare the baseline characteristics of two groups before intervention.

An initial multiple analysis of variance (MANOVA) was performed looking for the changes in the dependent variables from baseline to postintervention. Multivariate, repeated-measures ANOVA was used to analyze the main pre- and postintervention effects and interactions both between and within groups.

The comparison of overall QOL in the two groups was done via paired-sample t-test. Data of participants were analyzed by the Predictive Analytic Soft Ware (PASW, version 18) for windows.

Ethics

This trial has been assigned the Iranian Randomized Controlled Trial Registry Number IRCT138904024242N1. The design of the study was approved in Ethics committee of Vice Chancellor for Research, Isfahan University of Medical Sciences (project no. 389319). All participants received trial information and provided written informed consent. Also, the confidentiality of all information was managed carefully by researchers.

Results

Participants

Ninety-nine of the possible 123 participants acquired the inclusion criteria and were enrolled in the study. Sixteen patients were excluded due to concurrent chronic disease ($n=14$) and major depression ($n=2$). Fifteen patients refused to participate. The most common reasons for refusal, in order of frequency, include lack of interest in research participation ($n=7$), excessive travel distance to the treatment center ($n=5$), and not feeling well enough to participate ($n=3$). In all, 65 (34 patients in the spiritual therapy group and 31 patients in the control group) completed the six-week intervention and were evaluated for the outcome (Figure 1).

Table 1 shows the characteristics of the patient groups at the start of the trial. Baseline characteristics were balanced across treatment arms, indicating the success of randomization. The mean age of patients in the intervention group and the control group was 47.9 years (SD = 10.56) and 48.1 (SD = 10.2), respectively, ($p=0.93$). There were no differences in demographics between the women who attended and those who dropped out or never attended ($p > 0.05$).

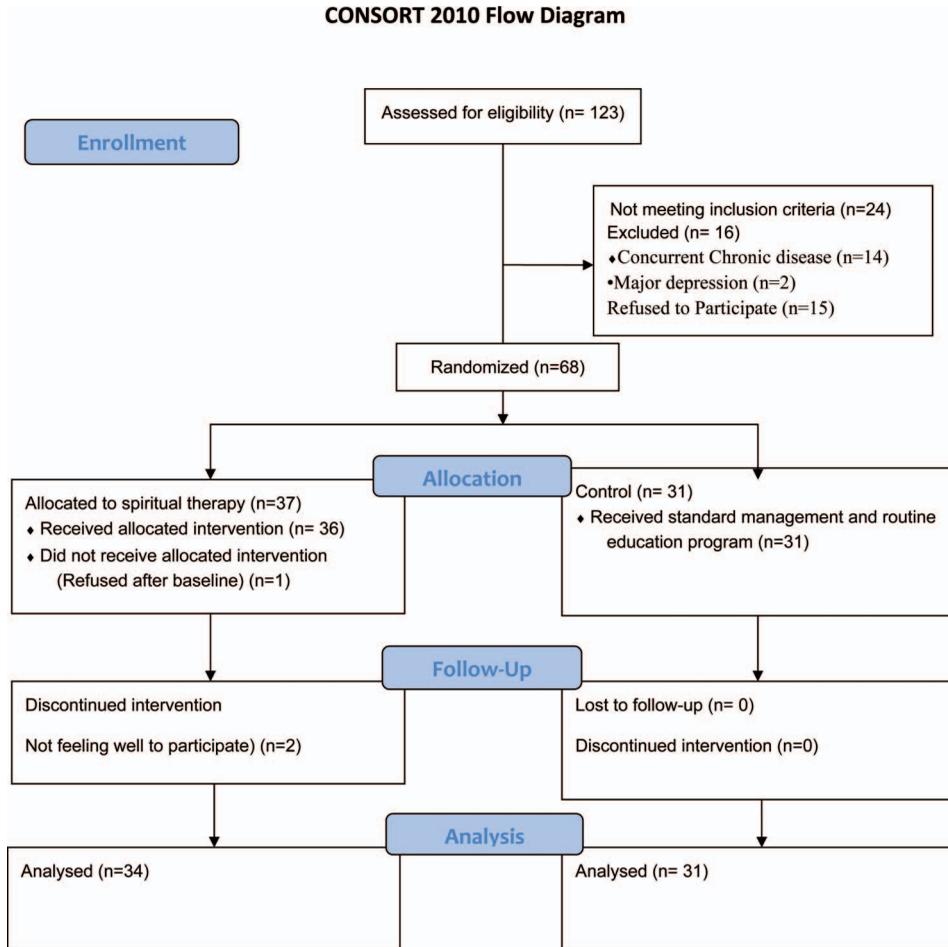


Figure 1. CONSORT trial flow diagram.

Quality-of-life results

The baseline mean Global health status score/QOL was 44.37 (SD = 13.03) in intervention group and 37.90 (SD = 22.44) in control group ($p = 0.16$), indicating poor QOL in both the groups. In symptom scale, the higher levels of symptoms were fatigue, insomnia, and pain in both groups. There was no statistically significant difference between baseline EORTC QLQ scores in intervention and nonintervention groups ($p > 0.05$).

The initial MANOVA used all of the variables listed in the research questions. This equation shows a significant difference between arms of study ($F = 5.91$, $p = 0.00$). After six spirituality sessions, the mean Global health status score/QOL reached from 44.37 (SD = 13.03) to 68.63 (SD = 10.86) in the intervention group (Cohen's d effect size: 2.16, 95% CI: 1.56-2.78).

Repeated-measures general linear model MANOVA was also performed on the pre- and postintervention. Global health status score/QOL score comparing group and time effects and interactions between group and time were estimated.

Table 1. Demographic and clinical characteristics of breast cancer patients in each group.

Variable	Spiritual therapy group (<i>n</i> = 34)	Control group (<i>n</i> = 31)
Age		
24–34 y	2 (5.9)	4 (12.9)
35–44 y	13 (35.3)	8 (25.8)
45–54 y	10 (29.4)	9 (25)
55–64 y	9 (26.5)	9 (29)
>65y	1 (2.9)	1 (3.2)
Relationship status		
Single	1 (2.9)	2 (6.5)
Married	33 (97.1)	29 (93.5)
Education		
Illiterate	15 (44.1)	16 (51.6)
Primary	9 (26.5)	10 (32.3)
Diploma	9 (26.5)	5 (16.1)
College/University	1 (2.9)	0
Occupation		
Housewife	16 (47.1)	17 (54.8)
Employed	14 (41.1)	12 (38.7)
Retired	4 (11.8)	2 (6.5)
Disease stage		
I	5 (14.7)	5 (16.1)
IIA	8 (23.5)	9 (29)
IIB	4 (11.8)	4 (12.9)
IIIA	9 (26.5)	4 (12.9)
IIIB	3 (8.8)	2 (6.5)
IIIC	2 (5.9)	2 (6.5)
IV	3 (8.8)	5 (16.1)
Current treatment		
Radiotherapy	14 (41.1)	11 (35.5)
Radiotherapy + Chemotherapy	7 (20.6)	7 (22.6)
Radiotherapy + Hormone therapy	9 (26.5)	10 (32.2)
Radiotherapy + Chemotherapy + Hormone therapy	4 (11.8)	3 (9.7)
Breast cancer surgery		
Mastectomy	21 (61.8)	19 (61.3)
Breast conservation	10 (29.4)	8 (25.8)
None	4 (11.8)	4 (12.9)

Note: Values are expressed as *n* (%).

The between-group test indicates that the variable group is significant ($F = 25.87$, $p \leq 0.01$) and the interactions between group and time were also significant ($F = 36.2$, $p \leq 0.01$). This indicates that the improvements over time were significantly greater in the spiritual therapy group than the control group.

There was a statistically significant difference in all functional scales of EORTC QLQ-C30 after intervention ($p < 0.05$).

Spiritual therapy improved in all symptom scales of QLQ-C30, except dyspnea ($p = 0.83$), appetite loss ($p = 0.20$), constipation ($p = 1.00$), and diarrhea ($p = 0.42$).

Table 2. Comparison of quality of life between control and spiritual therapy groups before and after the intervention.

Variables	Spiritual therapy group			Control group			
	Before intervention, mean (SD)	After intervention, mean (SD)	Correlation	Before intervention, mean (SD)	After intervention, mean (SD)	Correlation	<i>p</i>
QLQ C-30 functional scales							
Global QOL/general health	44.37 (13.03)	68.63 (10.86)	0.29	37.90 (22.44)	39.25 (15.98)	0.67*	0.65
Physical functioning	63.60 (19.53)	71.76 (12.71)	0.78*	62.58 (22.15)	61.94 (19.79)	0.33	0.88
Role functioning	61.11 (25.82)	76.96 (20.10)	0.29	67.20 (25.63)	61.83 (26.94)	0.49*	0.27
Emotional functioning	44.14 (20.49)	65.44 (13.31)	0.40*	42.47 (23.70)	36.56 (21.80)	0.49*	0.16
Cognitive functioning	53.15 (25.10)	68.14 (17.09)	0.38*	55.91 (25.29)	53.23 (24.12)	0.42*	0.57
Social functioning	49.10 (27.20)	71.08 (19.80)	0.58*	45.70 (28.20)	42.47 (26.11)	0.24	0.59
QLQ C-30 symptom scales/items							
Fatigue	59.46 (19.28)	37.58 (17.51)	0.49*	53.05 (24.79)	60.57 (23.10)	0.60*	0.06
Nausea and vomiting	25.68 (27.10)	18.63 (18.24)	0.67*	26.88 (24.97)	23.12 (19.08)	0.65*	0.28
Pain	45.95 (22.36)	29.90 (16.80)	0.71*	45.16 (23.25)	48.92 (21.05)	0.54*	0.33
Dyspnea	19.82 (29.87)	18.63 (18.69)	0.47*	29.03 (31.90)	33.33 (24.34)	0.33	0.47
Sleep disturbance	45.95 (31.77)	36.27 (26.42)	0.58*	47.31 (35.25)	54.84 (39.01)	0.47*	0.28
Appetite loss	37.84 (27.40)	30.39 (25.11)	0.44*	33.33 (28.54)	38.71 (35.58)	0.51*	0.36
Constipation	32.43 (33.78)	32.35 (30.13)	0.78*	24.73 (35.45)	34.41 (34.94)	0.49*	0.14
Diarrhea	14.41 (25.50)	13.73 (26.10)	0.86*	17.20 (24.14)	15.05 (24.09)	0.24	0.69
Financial impact	66.67 (34.24)	43.14 (29.04)	0.43*	66.67 (28.54)	68.82 (30.95)	0.29	0.73
BR-23 functional scales							
Body image	44.14 (27.13)	26.72 (13.72)	0.67*	43.01 (26.09)	45.16 (25.52)	0.38*	0.68
Sexual functioning	17.12 (16.42)	21.08 (17.55)	0.67*	11.29 (14.52)	17.74 (15.47)	0.27	0.05
Sexual enjoyment	13.51 (32.82)	40.34 (15.60)	0.57*	16.13 (32.05)	48.85 (23.68)	0.42*	0.85
Future perspective	62.16 (32.54)	28.92 (19.27)	0.32	52.69 (38.27)	24.19 (21.01)	0.49*	0.53
BR-23 Symptom scales/items							
Systemic therapy side effects	45.30 (21.66)	41.18 (23.73)	0.66*	46.85 (24.37)	42.65 (24.86)	0.50*	0.64
Breast symptoms							
Arm symptoms	28.83 (19.99)	19.61 (33.95)	0.59*	26.08 (21.59)	17.20 (28.37)	0.37*	0.66
Upset by hair loss	39.04 (24.79)	35.29 (20.00)	0.65*	43.73 (27.80)	56.99 (37.70)	0.16	0.86
	56.76 (34.12)	31.37 (23.12)	0.51*	64.52 (33.26)	67.74 (32.75)	0.38*	0.63

Note: *Statistically significant ($p < 0.05$).

All functional scales of EORTC QLQ-BR-23 showed progression over six sessions except sexual enjoyment ($p=0.21$). Also, this intervention affected the systemic therapy side effects ($p=0.02$) and sense of upset by hair loss ($p=0.00$) among symptom scales of QLQ-BR-23.

Using Paired t-test, after six-week intervention, the QOL of patients in spiritual therapy group was improved from the pre- to postassessment point (Cohen's d : 2.02, 95% CI: 1.44–2.61) in comparison to week improvement in control group (Cohen's d : 0.07, 95% CI: –0.42–0.56). The results of the Paired t-test were shown in Table 2.

Discussion

The aim of this study was to investigate the role of spiritual therapy intervention in improving the QOL of patients with breast cancer undergoing radiation therapy. The baseline mean score of Global health status/QOL was 44.37 indicating that the study population had poor QOL in comparison to international studies such as Germany (65.5), United Kingdom (66.8), Korea (66.5), and Kuwait (48.3) (Ahn et al., 2007; Hopwood, Haviland, Mills, & Sumo, 2007; Shafika & Jude, 2010; Waldmann, Pritzkeleit, Raspe, & Katalinic, 2007). The baseline mean scores for QLQ-C30 and BR-23 indicated that the patients had poor-to-average functioning and moderate symptom experience. After six weeks, participants in the spiritual therapy group showed a significantly greater improvement in overall QOL compared to the control group (effect size: 2.15) indicating that this approach had a great impact on QOL of these patients.

There was a statistically significant difference in all functional scales of EORTC QLQ-C30 after intervention. This indicated that spiritual therapy has positive effects on not only mental aspects of QOL but also on function scales such as physical, role, emotional, cognitive, and social functioning.

Although spiritual therapy improved all symptom scales of QLQ-C30 but it was not statistically significant for dyspnea, appetite loss, constipation, and diarrhea. These findings may be due to the more biological (than spiritual) nature of the above-mentioned symptoms.

Furthermore, the observed changes in BR-23 Functional scales suggest that the spiritual therapy program has beneficial effects in QOL of breast cancer patients.

The results of this study are in line with previous research. Levine, Eckhardt, and Targ (2005) found that a complementary and alternative intervention based on psycho-spiritual issues and inner process was as effective as a more standard support group intervention in eliminating post traumatic stress disorder (PTSD) symptoms in breast cancer patients.

A recent study on 24 breast cancer patients showed that Psycho-Spiritual Integrative Therapy (PSIT) may improve well-being and physical functioning of patients with breast cancer (Garlick, Wall, Corwin, & Koopman, 2011). The findings of this study are limited because of the lack of a control group, convenience sampling strategy, and small sample size.

Furthermore, evidence has shown that religion and spirituality are significantly associated with the improved adjustment to cancer (Laubmeier, Zakowski, & Bair, 2004; Nairn & Merluzzi, 2003); management of symptoms (Otis Green, Sherman, Perez, & Baird, 2002); functional well-being (Levine & Targ, 2002); reduced hostility, anxiety, and social isolation (Cole, 2005); hope and positive mood states (Jafari et al., 2010; Oh, 2008); and overall well-being and QOL in these patients (Cotton,

2000; Rippentrop, Altmaier, & Burns, 2006; Wildes, Miller, de Majors, & Ramirez, 2009). There is a large number of qualitative studies that consider religious/spirituality as the important features of coping with cancer (Ferrell, Smith, Juarez, & Melancon, 2003; Grant et al., 2004; Hermann, 2001; Lynn Gall & Cornblat, 2002; Murray, Kendall, Boyd, Worth, & Benton, 2004; Taleghani, Yekta, & Nasrabadi, 2006). Brady et al. (1999) found spiritual well-being is associated with QOL as same as physical well-being and this relationship remained significant after controlling confounding variables.

Our findings support previous research that Iranian cancer patients are more likely to suffer from the psychological and emotional impact of cancer on their daily life (Moradian, Aledavood, & Tabatabaee, 2011). Facing with cancer diagnosis, Iranians react very emotionally; these reactions can disturb the mental health of patients and their relatives and endanger the medical situation and the treatment process (Ghavamzadeh & Bahar, 1997).

One of the most important aspects of coping with cancer in Iranian patients is their religious and spiritual approach (Taleghani, Yekta, & Nasrabadi, 2006; Taleghani, Yekta, Nasrabadi, & Käppeli, 2008). Ninety-nine percent of Iranian populations are Muslim and they believe that illness is a divine test and the curer is God. This belief reinforces their attitude toward spirituality during cancer management (Rezaei, Adib-Hajbaghery, Seyedfatemi, & Hoseini, 2008). Hence, spiritual therapy intervention with high approval and ease of use can lead participants toward spiritual experience and better QOL and should be implanted and administered as a routine management of Iranian cancer patients. To provide this kind of care, some psychological background and experience in spiritual disciplines is needed for spiritual healers to comply with the needs of sufferers. This point underscores the need for a formal well-organized training in this discipline.

Our study provides an evidence for the effectiveness of spiritual therapy on QOL of patients with breast cancer. The major strength of this study was the use of a randomized controlled design which enhanced its generalizability. Furthermore, the quality-of-life questionnaire used in this study is a multidimensional questionnaire with broad aspects of QOL such as breast cancer-specific functional and symptoms scales, which provides this opportunity to estimate the QOL more precisely.

Our study, while having much strength, involved some limitations that should be considered. Our study was limited by its culturally homogeneous sample of patients with breast cancer who were in radiation treatment in a single city of Iran, and the generalizability of the findings to a more racially and ethnically diverse Iranian population as well as other types of cancers is uncertain. The small sample size prevents more elaborate subgroups analyses for the effects of intervention for women with different stages of cancer and treatment approaches. Replication of this study in other diverse and larger samples would help us to confirm the effectiveness of this intervention. Additionally, there was no follow-up program after six weeks to assess the effects of program after trial. This issue should be addressed in future trials. Also, there is an obvious need for more support of patients to maintain compliance with program recommendations after short-term interventions such as this program, as well as measuring some process variables such as spiritual coping and adherence to intervention.

The results of this study reveal both strengths and limitations of offering spiritual therapy for breast cancer patients to consider it as a part of management of these patients.

Conclusions

The results of this randomized controlled trial indicated that the spiritual therapy program can improve the overall QOL of women with breast cancer undergoing radiation therapy. With considering the pervasive problem in maintaining QOL for these patients, the spiritual therapy program, with its ease of implementation and home practice, could be adopted in comprehensive care programs for women with breast cancer.

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References

- Aaronson, N.K., Ahmedzai, S., Bergman, B., Bullinger, M., Cull, A., Duez, N.J., ... Haes, J.C.J.M. (1993). The European Organization for Research and Treatment of Cancer QLQ-C30: A quality-of-life instrument for use in international clinical trials in oncology. *JNCI Journal of the National Cancer Institute*, 85, 365.
- Ahn, S.H., Park, B.W., Noh, D.Y., Nam, S.J., Lee, E.S., Lee, M.K., ... Yun, Y.H. (2007). Health-related quality of life in disease-free survivors of breast cancer with the general population. *Annals of Oncology*, 18(1), 173.
- Aukst-Margetic, B., Jakovljevic, M., Margetic, B., Biscan, M., & Samija, M. (2005). Religiosity, depression and pain in patients with breast cancer. *General Hospital Psychiatry*, 27, 250–255.
- Barlow, F., Lewith, G.T., & Walker, J. (2008). Experience of proximate spiritual healing in women with breast cancer, who are receiving long-term hormonal therapy. *The Journal of Alternative and Complementary Medicine*, 14, 227–231.
- Boehmke, M., & Dickerson, S. (2006). The diagnosis of breast cancer: Transition from health to illness. *Oncology Nursing Forum*, 33, 1121–1127.
- Brady, M.J., Peterman, A.H., Fitchett, G., Mo, M., & Cella, D. (1999). A case for including spirituality in quality of life measurement in oncology. *Psycho Oncology*, 8, 417–428.
- Breitbart, W. (2005). Spirituality and meaning in cancer. *Revue Francophone de Psycho-Oncologie*, 4, 237–240.
- Carlson, L.E., Speca, M., Patel, K.D., & Goodey, E. (2003). Mindfulness-based stress reduction in relation to quality of life, mood, symptoms of stress, and immune parameters in breast and prostate cancer outpatients. *Psychosomatic Medicine*, 65, 571.
- Cella, D. (2003). What do global quality-of-life questions really measure? Insights from Hobday et al. and the “do something” rule. *Journal of Clinical Oncology*, 21, 3178.
- Cohen, C.B., Wheeler, S.E., Scott, D.A., Edwards, B.S., Lusk, P., & Bioethics, The Anglican Working Group (2000). Prayer as therapy: A challenge to both religious belief and professional ethics. *Hastings Center Report*, 30, 40–47.
- Cole, B., & Pargament, K. (1999). Re creating your life: A spiritual/psychotherapeutic intervention for people diagnosed with cancer. *Psycho Oncology*, 8, 395–407.
- Cole, B.S. (2005). Spiritually-focused psychotherapy for people diagnosed with cancer: A pilot outcome study. *Mental Health, Religion & Culture*, 8, 217–226.
- Cotton, S.P. (2000). An exploration of the relationship between spirituality and quality of life in women with breast cancer. *Dissertation Abstracts International*, 61, 2751.
- Coward, D. (2003). Facilitation of self-transcendence in a breast cancer support group: II. *Oncology Nursing Forum*, 30, 291–300.

- Doyle, D. (1992). Have we looked beyond the physical and psychosocial? *Journal of Pain and Symptom Management*, 7, 302–311.
- Dreifuss-Kattan, E. (1990). *Cancer stories: Creativity and self-repair*. Hillsdale, NJ: Analytic Press.
- Duigan, M.M. (2010). The use of the two chair counselling technique by ex-graduates of the Massey University Counselling and Guidance Programme (Master of Counselling Degree thesis). Palmerston North: Massey University.
- Duijts, S.F.A., Faber, M.M., Oldenburg, H.S.A., van Beurden, M., & Aaronson, N.K. (2011). Effectiveness of behavioral techniques and physical exercise on psychosocial functioning and health related quality of life in breast cancer patients and survivors – a meta analysis. *Psycho Oncology*, 20, 115–126.
- Fayers, P.M., Aaronson, N.K., Bjordal, K., Grønvd, M., Curran, D., & Bottomley, A. (2001). *EORTC QLQ-C30 scoring manual: European organisation for research and treatment of cancer* (pp. 1–49). Brussels, Belgium: EORTC.
- Ferlay, J., Shin, H.R., Bray, F., Forman, D., Mathers, C., & Parkin, D.M. (2010). Estimates of worldwide burden of cancer in 2008: GLOBOCAN 2008. *International Journal of Cancer*, 127, 2893–2917.
- Ferrell, B., Smith, S., Juarez, G., & Melancon, C. (2003). Meaning of illness and spirituality in ovarian cancer survivors. *Oncology Nursing Forum*, 30, 249–257.
- Garlick, M., Wall, K., Corwin, D., & Koopman, C. (2011). Psycho-spiritual integrative therapy for women with primary breast cancer. *Journal of Clinical Psychology in Medical Settings*, 18(1), 78–90.
- Ghavamzadeh, A., & Bahar, B. (1997). Communication with the cancer patient in Iran. *Annals of the New York Academy of Sciences*, 809(1), 261–265.
- Grant, E., Murray, S.A., Kendall, M., Boyd, K., Tilley, S., & Ryan, D. (2004). Spiritual issues and needs: Perspectives from patients with advanced cancer and nonmalignant disease. A qualitative study. *Palliative & Supportive Care*, 2, 371–378.
- Harirchi, I., Karbakhsh, M., Kashefi, A., & Momtahan, A.J. (2004). Breast cancer in Iran: Results of a multi-center study. *Asian Pacific Journal of Cancer Prevention*, 5(1), 24–27.
- Hermann, C.P. (2001). Spiritual needs of dying patients: A qualitative study. *Oncology Nursing Forum*, 28(1), 67–72.
- Hoey, L.M., Ieropoli, S.C., White, V.M., & Jefford, M. (2008). Systematic review of peer-support programs for people with cancer. *Patient Education and Counseling*, 70, 315–337.
- Holmberg, S.K., Scott, L.L., Alexy, W., & Fife, B.L. (2001). Relationship issues of women with breast cancer. *Cancer Nursing*, 24(1), 53.
- Hopwood, P., Haviland, J., Mills, J., & Sumo, G. (2007). The impact of age and clinical factors on quality of life in early breast cancer: An analysis of 2208 women recruited to the UK START Trial (Standardisation of Breast Radiotherapy Trial). *The Breast*, 16, 241–251.
- Hughson, A.V., Cooper, A.F., McArdle, C.S., & Smith, D.C. (1987). Psychosocial effects of radiotherapy after mastectomy. *British Medical Journal (Clinical research ed.)*, 294, 1515.
- Jafari, E., Najafi, M., Sohrabi, F., Dehshiri, G.R., Soleymani, E., & Heshmati, R. (2010). Life satisfaction, spirituality well-being and hope in cancer patients. *Procedia-Social and Behavioral Sciences*, 5, 1362–1366.
- Karimollahi, M., Rostamnejad, M., & Abedi, H. (2009). P02–241 Spiritual needs of Iranian cancer patients. *European Psychiatry*, 24, S931.
- Kaufman, E., & Micha, V.G. (1987). A model for psychotherapy with the good-prognosis cancer patient. *Psychosomatics: Journal of Consultation Liaison Psychiatry*, 28, 540–548.
- Kissane, D.W., Bloch, S., Smith, G.C., Miach, P., Clarke, D.M., Ikin, J., . . . McKenzie, D. (2003). Cognitive existential group psychotherapy for women with primary breast cancer: A randomised controlled trial. *Psycho Oncology*, 12, 532–546.
- Knols, R., Aaronson, N.K., Uebelhart, D., Fransen, J., & Aufdemkampe, G. (2005). Physical exercise in cancer patients during and after medical treatment: A systematic review of randomized and controlled clinical trials. *Journal of Clinical Oncology*, 23, 3830.
- Koller, M., Aaronson, N.K., Blazey, J., Bottomley, A., Dewolf, L., Fayers, P., . . . West, K. (2007). Translation procedures for standardised quality of life questionnaires: The European Organisation for Research and Treatment of Cancer (EORTC) approach. *European Journal of Cancer*, 43, 1810–1820.

- Kontodimopoulos, N., Ntinoulis, K., & Niakas, D. (2011). Validity of the Greek EORTC QLQ-C30 and QLQ-BR23 for measuring health-related quality of life in breast cancer patients. *European Journal of Cancer Care*, *20*, 354–361.
- Laubmeier, K.K., Zakowski, S.G., & Bair, J.P. (2004). The role of spirituality in the psychological adjustment to cancer: A test of the transactional model of stress and coping. *International Journal of Behavioral Medicine*, *11*(1), 48–55.
- Levine, E.G., Eckhardt, J., & Targ, E. (2005). Change in post traumatic stress symptoms following psychosocial treatment for breast cancer. *Psycho Oncology*, *14*, 618–635.
- Levine, E.G., & Targ, E. (2002). Spiritual correlates of functional well-being in women with breast cancer. *Integrative Cancer Therapies*, *1*, 166.
- Lynn Gall, T., & Cornblat, M.W. (2002). Breast cancer survivors give voice: A qualitative analysis of spiritual factors in long term adjustment. *Psycho Oncology*, *11*, 524–535.
- Malekpour Tehrani, A., Farajzadegan, Z., Mokarian, F., & Zamani, A.R. (2011). Belonging to a peer support group enhance the quality of life and adherence rate in patients affected by breast cancer: A non-randomized controlled clinical trial. *Journal of Research in Medical Sciences*, *16*, 658–665.
- Mathieson, C.M., & Stam, H.J. (1995). Reneotiating identity: Cancer narratives. *Sociology of Health & Illness*, *17*, 283–306.
- May, A.M., Korstjens, I., van Weert, E., van den Borne, B., Hoekstra-Weebers, J.E.H.M., van der Schans, C.P., ... Ros, W.J.G. (2009). Long-term effects on cancer survivors' quality of life of physical training versus physical training combined with cognitive-behavioral therapy: Results from a randomized trial. *Supportive Care in Cancer*, *17*, 653–663.
- McCoubrie, R., & Davies, A. (2006). Is there a correlation between spirituality and anxiety and depression in patients with advanced cancer? *Supportive Care in Cancer*, *14*, 379–385.
- McNeely, M.L., Campbell, K.L., Rowe, B.H., Klassen, T.P., Mackey, J.R., & Courneya, K.S. (2006). Effects of exercise on breast cancer patients and survivors: A systematic review and meta-analysis. *Canadian Medical Association Journal*, *175*(1), 34.
- Mehnert, A., & Koch, U. (2008). Psychological comorbidity and health-related quality of life and its association with awareness, utilization, and need for psychosocial support in a cancer register-based sample of long-term breast cancer survivors. *Journal of Psychosomatic Research*, *64*, 383–391.
- Montazeri, A., Harirchi, I., Vahdani, M., Khaleghi, F., Jarvandi, S., Ebrahimi, M., & Haji-Mahmoodi, M. (2000). The EORTC breast cancer-specific quality of life questionnaire (EORTC QLQ-BR23): Translation and validation study of the Iranian version. *Quality of Life Research*, *9*, 177–184.
- Montgomery, G.H., Kangas, M., David, D., Hallquist, M.N., Green, S., Bovbjerg, D.H., & Schnur, J.B. (2009). Fatigue during breast cancer radiotherapy: An initial randomized study of cognitive-behavioral therapy plus hypnosis. *Health Psychology*, *28*, 317.
- Moradian, S., Aledavood, S., & Tabatabaee, A. (2011). Iranians cancer patients and their perspectives: A qualitative study. *European Journal of Cancer Care*. doi: 10.1111/j.1365-2354.2011.01293.x
- Morgan, P., Gaston-Johansson, F., & Mock, V. (2006). Spiritual well-being, religious coping, and the quality of life of African American breast cancer treatment: A pilot study. *The ABNF Journal: Official Journal of the Association of Black Nursing Faculty in Higher Education*, *17*, 73.
- Mousavi, S.M., Montazeri, A., Mohagheghi, M.A., Jarrahi, A.M., Harirchi, I., Najafi, M., & Ebrahimi, M. (2007). Breast cancer in Iran: An epidemiological review. *The Breast Journal*, *13*, 383–391.
- Murray, S.A., Kendall, M., Boyd, K., Worth, A., & Benton, T.F. (2004). Exploring the spiritual needs of people dying of lung cancer or heart failure: A prospective qualitative interview study of patients and their carers. *Palliative Medicine*, *18*(1), 39.
- Nairn, R.C., & Merluzzi, T.V. (2003). The role of religious coping in adjustment to cancer. *Psycho Oncology*, *12*, 428–441.
- Oh, P.J. (2008). The effects of spirituality/hope promoting programs on fighting spirit, helplessness, anxiety, and self-care in people with cancer. *Journal of Korean Academy of Adult Nursing*, *20*(1), 65–76.

- Otis Green, S., Sherman, R., Perez, M., & Baird, R.P. (2002). An integrated psychosocial spiritual model for cancer pain management. *Cancer Practice*, 10, s58–s65.
- Pargament, K.I. (2001). *The psychology of religion and coping: Theory, research, practice*. New York: The Guilford Press.
- Perry, S., Kowalski, T., & Chang, C. (2007). Quality of life assessment in women with breast cancer: Benefits, acceptability and utilization. *Health and Quality of Life Outcomes*, 5(1), 24.
- Purnell, J., Andersen, B., & Wilmot, J. (2009). Religious practice and spirituality in the psychological adjustment of survivors of breast cancer. *Counseling and values*, 53, 165.
- Rahman, R.U., Nisar, A., Hussain, N., & Chaudhary, I. (2011). Depressive disorder among the breast cancer patients in outpatient department of a tertiary care hospital in Pakistan. *European Psychiatry*, 26, 677.
- Rezaei, M., Adib-Hajbaghery, M., Seyedfatemi, N., & Hoseini, F. (2008). Prayer in Iranian cancer patients undergoing chemotherapy. *Complementary Therapies in Clinical Practice*, 14, 90–97.
- Rippentrop, A.E., Altmaier, E.M., & Burns, C.P. (2006). The relationship of religiosity and spirituality to quality of life among cancer patients. *Journal of Clinical Psychology in Medical Settings*, 13(1), 29–35.
- Sajadian, A., & Montazeri, A. (2010). 93 survivor's point of view after breast cancer. *European Journal of Cancer Supplements*, 8, 85.
- Salzer, M.S., Palmer, S.C., Kaplan, K., Brusilovskiy, E., Ten Have, T., Hampshire, M., ... Coyne, J.C. (2010). A randomized, controlled study of Internet peer to peer interactions among women newly diagnosed with breast cancer. *Psycho Oncology*, 19, 441–446.
- Shafika, A., & Jude, O. (2010). Health-related quality of life of Kuwaiti women with breast cancer: A comparative study using the EORTC Quality of Life Questionnaire. *BMC Cancer*, 8, 222.
- Smith, J.E., Richardson, J., Hoffman, C., & Pilkington, K. (2005). Mindfulness Based Stress Reduction as supportive therapy in cancer care: Systematic review. *Journal of Advanced Nursing*, 52, 315–327.
- Stefanek, M., McDonald, P.G., & Hess, S.A. (2005). Religion, spirituality and cancer: Current status and methodological challenges. *Psycho Oncology*, 14, 450–463.
- Taleghani, F., Yekta, Z.P., & Nasrabadi, A.N. (2006). Coping with breast cancer in newly diagnosed Iranian women. *Journal of Advanced Nursing*, 54, 265–272.
- Taleghani, F., Yekta, Z.P., Nasrabadi, A.N., & Käppeli, S. (2008). Adjustment process in Iranian women with breast cancer. *Cancer Nursing*, 31, E32.
- Taylor, E.J. (2005). Spiritual complementary therapies in cancer care. *Seminars in Oncology Nursing*, 21, 159–163.
- Thomas-MacLean, R. (2004). Understanding breast cancer stories via Frank's narrative types. *Soc Sci Med*, 58, 1647–1657.
- Waldmann, A., Pritzkeleit, R., Raspe, H., & Katalinic, A. (2007). The OVIS study: Health related quality of life measured by the EORTC QLQ-C30 and-BR23 in German female patients with breast cancer from Schleswig-Holstein. *Quality of Life Research*, 16, 767–776.
- Wildes, K.A., Miller, A.R., de Majors, S.S.M., & Ramirez, A.G. (2009). The religiosity/spirituality of Latina breast cancer survivors and influence on health related quality of life. *Psycho Oncology*, 18, 831–840.
- Witek-Janusek, L., Albuquerque, K., Chroniak, K.R., Chroniak, C., Durazo-Arvizu, R., & Mathews, H.L. (2008). Effect of mindfulness based stress reduction on immune function, quality of life and coping in women newly diagnosed with early stage breast cancer. *Brain, Behavior, and Immunity*, 22, 969–981.
- Zebrack, B.J. (2000). Cancer survivor identity and quality of life. *Cancer Practice*, 8, 238–242.
- Zwingmann, C., Wirtz, M., Müller, C., Körber, J., & Murken, S. (2006). Positive and negative religious coping in German breast cancer patients. *Journal of Behavioral Medicine*, 29, 533–547.