

Effect of Spiritual-Religious Intervention on Illness Perception in Women with Breast Cancer

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Abstract

Background and Objectives: Due to the high prevalence of breast cancer, as well as the improved survival of the patients affected with this disease, management and adaptation to this disease are very important. The aim of this study was to evaluate the effect of spiritual/religious intervention on the illness perception of women with breast cancer.

Methods: This clinical trial was conducted on 45 women with breast cancer using a pretest-posttest design. The participants were divided into three groups of intervention (n=15), placebo (n=15), and control (n=15). The intervention group received ten sessions of spiritual/religious intervention and the placebo group received ten sessions of neutral training. However, the control group received no intervention. The data were collected using a questionnaire of illness perception and a demographic characteristics form filled out before and after the intervention. The data were analyzed by repeated measures multivariate analysis of variance in the SPSS software, version 24.

Results: According to the results, the intervention group showed a significant difference with the control and placebo groups in terms of timeline acute/chronic, consequences, personal control, treatment control, timeline cyclical, coherence, and emotional representations of illness perception ($\eta^2=0.28$, $p<0.05$).

Conclusion: Based on the results of this study, individual spiritual religious intervention based on Islam was effective in improving the illness perception among women with breast cancer in Iran.

Keywords: Breast Neoplasms, Illness Perception, Spiritual Therapies, Clinical Trial.

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Introduction

Breast cancer is the most common type of cancer and the main cause of cancer deaths in women in Iran (1). Although advancements in medical sciences have increased patients' lifespan, the patients are subjected to long-term psychological and physical consequences due to perceiving the disease and its specific therapies as dangerous. Such perception negatively affects the quality of life and psychological well-being of the patients (2). In addition, given the improved survival of breast cancer patients, adaptation to life and management of the disease are among the most important needs of women suffering from the disease (3). Therefore, medical intervention alone is not enough, and it is

necessary to design psycho-social interventions for the promotion of health status in these patients (4).

Cancer patients are subjected to a profound internal transformation and change in life perspective; therefore, religiosity/spirituality is a matter of central importance for these patients (4-6). In this regard, these patients are strongly seeking to change their lifestyle and increase their spiritual well-being (7). They often request spiritual/religious interventions (8) and believe in the power of religiosity/spirituality to overcome cancer (9). Based on psychoneuroimmunology studies, the consideration of patients' religious/spiritual characteristics in the design of an intervention

is an important component of an effective intervention in cancer (10). Religious practices, as important outcomes of religiosity/spirituality, are the most important approaches for overcoming cancer (11) and have a positive relationship with the patient's health (12). In the women suffering from breast cancer, religious practices play a more important role in overcoming cancer, compared to other cancer patients (13). Therefore, given the life-threatening nature of cancer, spiritual/religious interventions can be the most proper interventions (4,14). Although in some research, religiosity and spirituality were considered as separate terms (6), in the present study, they were not separated and were addressed as a whole (15).

An important concept for coping with chronic diseases, including cancer, is illness perception, which is considered an important causative factor for the consequences of the disease, such as psychological distress and quality of life (2,8,16,17). According to the Common-Sense Model of Self-Regulation developed by Leventhal et al., patients perceive a health threat by promoting their own cognitive representations about the disease and its treatment based on previous information and experiences with the disease (16).

There are several factors affecting illness perception among patients. One of the important factors is religiosity/spirituality, which has a positive relationship with the effectiveness of the treatment and also affects patients' illness perception (18). Illness perception is one of the predictors of depression (19), general anxiety, treatment adherence problems, and quality of life in women with breast cancer (20). Besides, it considerably explains psychological well-being variance (3,21) and plays an important role in patients' perceived health (22).

Every woman shows a unique response to breast cancer; accordingly, the females' coping and self-management behaviors are determined by their perceptions of the disease. Therefore, illness perception is a very important variable in interventions for patients with breast cancer (23). The healthcare sector also recommends the direction of more attention to the spiritual,

social, and psychological dimensions of cancer patients (24).

Although religiosity/spirituality and illness perception play central roles in cancer patients, it seems that no special interventional studies have been conducted on the effect of religiosity/spirituality on illness perception neither in Iran nor in the world. Therefore, due to the domestic research gap in this area and the importance of improving the perception of illness in the psychological and physical health of women with breast cancer, this study aimed to investigate the impact of spiritual/religious intervention on the improvement of illness perception in women with breast cancer.

Methods

This clinical trial was conducted on 45 women with breast cancer referring to Omid Radiation and Chemotherapy Center and private clinics of Bandar Abbas, Iran, during a ten-month period (i.e., October 2016 to July 2017) using a pretest-posttest design. This study was registered (code IRCT2016090529715N1) at the Iranian Center for Clinical Trials. Initially, 54 women who had the inclusion criteria were selected through convenience sampling, and then randomly assigned into three groups of intervention, placebo, and control (n=18 per group) using a randomized procedure (i.e., random number generator).

However, three participants were excluded from the intervention group due to worsening of the illness (n=1) before the intervention and not attending all treatment sessions (n=3). In addition, in group, three and two participants were excluded from the placebo and control groups, respectively, due to not participating in the posttest. Regarding this, one participant was eliminated by the researcher for keeping the consistency in the three groups.

To this end, according to the investigation and elimination of Perth data (with a standard deviation of 2.5), one participant was excluded from each of the intervention and placebo groups, and two participants were removed from the control group. Finally, the data of 41 patients (i.e., 14, 14, and 13 participants in the experimental, placebo, and control groups,

respectively) were analyzed. The criteria for entering the study were: 1) breast surgery, 2) completion of chemotherapy and radiation therapy, 3) age range of 25-60 years, 4) a minimum level of literacy (i.e., reading and writing ability), 5) willingness to participate in research, and 6) informed consent. Exclusion criteria included the occurrence of chronic or serious medical illnesses and distant metastasis of the disease.

The data were collected using the demographic characteristic form and the Illness Perception Questionnaire. The demographic characteristic form covered personal information, such as age, education level, socioeconomic status, duration of illness, experience and type of treatment, degree of illness, and presence of serious or chronic medical conditions. Based on the patients' family monthly income, their socioeconomic status was divided into low (under 15,000,000 Rial), moderate (15,000,000 to 30,000,000 Rial), and high (more than 30,000,000 Rial).

The Illness Perception Questionnaire based on the Revised Illness Perception Questionnaire (IPQ-R) of Moss-Morris et al. is a reliable and valid instrument used to detect the cognitive and emotional representations of illness among various patients, including cancer patients (21). The English version of this questionnaire has eight subscales, seven cognitive subscales of which are the identity of the illness, acute/chronic progression, periodic progression, consequences of the illness, treatment control, personal control, and coherence (clear understanding of the disease), and the eighth subscale includes emotional representations of the illness to measure patients' emotional reactions to the disease.

In addition, it includes four subscales of causative representation, namely psychological documents, risk, safety, and chance or luck factors. To score the identity scale, one point is given to the "Yes" answers, and zero point is ascribed to the "No" answers. The rest of the scales are scored based on a five-point Likert scale (from totally disagree=1 to totally agree=5). High scores in the identity of the illness, acute/chronic progression, periodic progression, consequences of the illness, and

the emotional representations of the illness signify a person's unfavorable condition in these scales. On the other hand, high scores in treatment control, personal control, and coherence indicate favorable status and positive perceptions.

This questionnaire has been used in most of the studies related to the perception of disease, and its translated versions have indicated favorable validity and reliability (19). In this research, Cronbach's alpha values of 0.77, 0.77, 0.65, 0.54, 0.76, 0.65, and 0.90 were respectively obtained for the subscales of acute/chronic progression, consequences, personal control, treatment control, coherence, periodic progression, and emotional representations.

After conducting the fundamentals of the research and conducting the pre-test in each of the three groups, each participant in the experimental group received ten 90-minute sessions of individual religious/spiritual intervention, in addition to the routine medical care. On the other hand, the placebo group received ten sessions of individual neutral training, including a common conversation about life with an illness and telephone counseling, along with the routine care (only communication with the therapist and regular conversation). The control group just received the routine medical care, and then the post-test was carried out in all three groups.

The intervention package of this research was designed by researchers based on the religiosity and spiritual health of the Iranian community using the views of Islamic scholars on the structure of the Islamic religion that covers religiosity (15) and spiritual health (25) of the Iranian community. This intervention was theoretically designed based on the Islamic perspectives, the Richards-Bergin pattern adopted in studies performed by Jafari et al. (26) and Fallah et al. (27), and include other important issues such as multidimensional and influential life, effort, improvement of relationship with nature, finding meaning, and perception of illness, positive thinking, and optimism. This intervention was scientifically and practically approved by two clergyman psychologists, experts in Islamic psychology

and religious studies, and a health psychologist. The intervention was conducted by a PhD student in psychology who was a researcher in Islamic religiosity. The content of the sessions were as follows.

Session 1: Implementing a brief interview, establishing communication, reviewing the participant's views, providing information about cancer, its treatment, and Islamic religiosity/spirituality, expressing the benefits of religiosity/spirituality for health and its impact on illness perception, introducing a religious/spiritual intervention in a concise manner, and finally performing the first part of the first line of intervention (i.e., communication with God and the prophets) including knowledge of God and its components.

Session 2: Implementation of the second part of the first line of intervention (i.e., communication with God and the prophets), including worshipping God, praying, reading and listening to Quran, and prayer. Allah states in the Holy Quran (Al-Baqara, 155), "We shall test you with something of fear and hunger, and a loss of wealth and lives and fruits, but give glad tidings to the patient" (28).

Session 3: Implementation of the second line of intervention (a multidimensional intervention on effective life,) including affirming religion's belief in the purposefulness and value of life as stated in religious references, and asserting the religious belief that all humans can have effective lives regardless of illness and health.

Session 4: Implementation of the third intervention line, namely effort, including reviews of patients' views on the effectiveness of preventive medicine and health advice and the extent of their commitment, correcting the misconceptions of the experts about effort and trying to treat the illness, and emphasizing health maintenance as a religious duty.

Session 5: Implementing the fourth line of intervention, namely kindness and forgiveness, with respect to oneself, others, and nature, as well as overlooking and humanitarian services

Session 6: Implementing the first part of the fifth line of intervention, namely hope and trust, including expressing the concept of hope,

the benefits of hope, and hope therapy according to research, in addition to expressing the importance and benefits of hope according to Islam (how long to be hopeful), examination of despair and causes of hopelessness according to Islam, and the ways of hope emergence (especially due to trust).

Session 7: Implementation of the second part of the fifth line of intervention, namely positive thinking, optimism, happiness, and vitality, including the expression of the principles of lasting happiness in Islam, such as self-knowledge, proper insight into world affairs, faith and love of God, satisfaction, living in the present, diligence in work, exercise and color, positive thinking, honesty, and comparison of oneself with the less fortunate ones.

Session 8: Implementation of the first part of the sixth intervention, namely meaning finding and perception of illness based on Islam, including the expressing the common questions in this field, studying the perception and meaning of illness from the patient's point of view, describing disaster as a means of enlightenment and a blessing, expressing the motives and consequences of disasters such as trial, flourishing and evolution, preservation, and strengthening of faith, prevention and treatment, rewards, remembrance, and proximity of God, and worldly blessings. Imam Ali says in Nahj al-Balaghah, "Coping with your own pain that is compatible with you" (29).

Session 9: Implementation of the second part of the sixth line of the intervention, namely disaster and patience against disaster, including ways of avoiding disaster (e.g., prayer, alms, salvation, devotion to relatives, effort, patience, and preparation), expressing the concept of patience, patience against evil, the value of patience, the rank and reward of patience, patience together with effort and awareness, voluntary patience against patience due to hopelessness, and ways to increase patience.

Session 10: Summarizing all sessions, examining the barriers to achieving goals and finding more practical ways to achieve the goals of intervention, acknowledgment of the collaboration of the authorities, provision of

post-test questionnaires, and determination of the timing of the follow-up test. Each session entailed a review of the assignments of the previous meeting and summarizing the content, expressing the proper concepts and comparing these concepts with what the experts have in mind, practical training of each of these concepts based on their impact on illnesses using Islamic resources, and presentation of the next session's task. The duration of each session was an hour and a half, performed one evening per week for 5 months.

Data analysis was performed in SPSS software (version 24) using descriptive statistics and repeated measures univariate and multivariate analyses. Ethical considerations, including confidentiality and protection of human participants, were observed in this study. Written informed consent was obtained from all participants. In addition, the participants in the placebo and control groups were offered participation in five sessions of spiritual intervention if they wished to do so after the end of the study. The ethics code of the study's institutional review board is IR.HUMS.REC.1396.23.

Result

The age of participants ranged from 37 to 58 years with a mean of 43.68 (SD=6.49). Socioeconomic status of 31.7% of participants was low, 46.3% and 22% were moderate and high, respectively. The education level of 24.4% of the participants was elementary school completion, 19.5% were junior high school graduates, 34.1% had high school diplomas, 19.5% had bachelor's degrees, and 2.4% had Master's degrees. 95.1% were married and 4.9% were divorced; 14.6% were in grade 1 and 85.4% were in grade 2 of the illness. In terms of internal factors, the pretest and posttest scores were 14, in terms of intergroup factors 14 participants, that is 34.1% were in the intervention group, 14 participants, that is 34.1% were in the placebo group, and 13 participants, that is 31.3% were in the control group. The descriptive statistics of the studied variables by group and type of test are presented in Table 1. The Kolmogorov-Smirnov test was not significant for examining

the normal distribution of pre-test data in four subscales of acute/chronic progression, consequences, treatment control, and emotional representations ($P>0.05$). However, in 3 subscales of personal control, consistency, and periodic progression it was significant ($P<0.05$), which due to the low sample size, does not affect the results of parametric tests. The Loon test for the homogeneity of the pre-test variances also indicates that this hypothesis was observed for all variables. The chromite hypothesis was based on Mauchly's and Bartlett's tests; Mauchly's test of sphericity and Greenhouse-Geisser were used to investigate the research hypothesis.

Table 1: Descriptive statistics of variables studied by group and time

Measure	groups	Pre-test	Post-test
		Mean±SD	Mean±SD
Acute/chronic progression	Intervention	14.71±5.01	9.64±2.46
	Placebo	15.00±4.70	16.14±5.14
	Control	13.23±3.53	13.69±3.40
Consequences	Intervention	21.92±4.25	16.50±4.66
	Placebo	20.21±5.89	20.42±5.89
	Control	20.84±5.22	21.15±5.12
Personal control	Intervention	24.35±3.54	28.71±1.72
	Placebo	24.92±3.12	24.92±2.58
	Control	24.84±3.55	24.84±3.55
Treatment control	Intervention	22.07±2.43	23.92±1.97
	Placebo	21.28±1.81	21.14±2.24
	Control	20.76±2.94	20.84±2.91
Coherence	Intervention	16.64±4.43	22.35±2.64
	Placebo	15.42±4.97	15.78±4.35
	Control	16.00±4.81	15.92±4.66
Periodic progression	Intervention	9.21±2.51	6.07±2.94
	Placebo	10.78±3.51	11.21±3.94
	Control	9.61±3.09	9.46±3.17
Emotional representations	Intervention	22.35±6.35	12.00±5.69
	Placebo	22.00±5.37	23.14±4.70
	Control	18.61±6.15	18.46±6.19

The Table 1 indicate that the average of all components of illness perception after the implementation of religious/spiritual intervention was significant, and there are significant differences between the pre-test and post-test scores of this group compared to the control and placebo groups. The results of the single-variable test in the participants in studying the time effects and interaction of time and group (Mauchly's test of sphericity and Greenhouse-Geisser) by the studied variables also had a significant positive effect

($P<0.05$) on religious/spiritual intervention and all components of illness perception.

Table 2: Multivariate test findings for meaningful study of the effects of group and time, and interactive effect of time and group

Effect		Value	Error df	Sig.	Partial Eta Squared
Between subjects	Intercept	0.00	32	0.001	0.10
	Group	0.51	64	0.056	0.28
Within subjects	Time	0.43	32	0.001	0.57
	Time*Group	0.22	64	0.001	0.53

According to Table 2, the findings of multivariate tests indicate that the effect of time and interactive effects of time and group on the component scores of illness perception are significant.

Table 3: Results of analysis between the subjects in studying the effect of the group on the studied variables

Measure	Source	Type III Sum of Squares	Mean Square	Sig.	Partial Eta Squared
Acute/chronic progression	Intercept	15455.4	15455.4	0.001	0.93
	Group	164.20	82.01	0.079	0.13
	Error	1149.93	30.26		
Consequences	Intercept	33347.6	33347.6	0.001	0.95
	Group	44.12	22.06	0.639	0.02
	Error	1849.32	48.67		
Personal control	Intercept	52991.9	52991.9	0.001	0.99
	Group	50.01	25.05	0.310	0.07
	Error	629.71	16.57		
Treatment control	Intercept	38473.5	38473	0.001	0.99
	Group	74.63	37.31	0.033	0.17
	Error	378.24	9.95		
Coherence	Intercept	23732.9	23732.9	0.001	0.95
	Group	257.17	128.58	0.033	0.16
	Error	1307.64	34.41		
Periodic progression	Intercept	7227.10	7227.1	0.001	0.92
	Group	158.62	79.31	0.015	0.20
	Error	636.89	16.76		
Emotional representations	Intercept	30917.7	30917.7	0.001	0.93
	Group	438.88	219.44	0.039	0.16
	Error	2354.93	6.97		

Due to the significance of the interaction between time and group, paired comparison of variables was performed based on group and time, which indicated no significant differences between groups at the pre-test ($P>0.05$). However, the intervention group showed a significant difference with the control and placebo groups in terms of six subscales, namely acute/chronic progression, personal control, treatment control, coherence, periodic

progression, and emotional representations ($P<0.01$).

The results of multivariate analysis indicated no significant difference between the two groups at the pre-test ($P>0.05$). However, there was a significant difference between the groups at the post-test ($P<0.01$). Also, there were no significant differences between the results of univariate analysis of paired comparison in the pre-test of the studied variables, but in the post-test, there were significant differences between the 6 subscales; only in the scale of coherence ($P=0.05$) there was no significant difference.

Discussion

The results of this study indicated that religious/spiritual intervention has a positive effect on the improvement of illness perception among women with breast cancer. These findings are consistent with those obtained by Büssing and Surzykiewicz (30), Büssing et al. (13), Hoseini et al. (24), Ahmadifaraz et al. (31), and Richardson et al. (18).

In a study by Büssing and Surzykiewicz (30) conducted on chronic and cancer patients, it was indicated that the specific dimensions of spirituality, especially religious trust (reliance), were very promising predictors of illness interpretation as a potential value or potential opportunity for spiritual transformation. In addition, Büssing et al. (13) indicated that the assessment of the illness as a great opportunity has a strong correlation with the belief in a helping God in cancer patients, especially women with breast cancer.

Hoseini et al (24) also stated that spiritual health has a direct impact on the understanding of the disease in women with breast cancer. In another research by Richardson et al (18), it was observed that illness perception in the severely ill participants was affected by their religiosity, and religiosity was reliably correlated with the efficacy of treatment.

Our results are also consistent with those reported by Delgado-Guay et al. (9) and Patel et al. (8). In the study conducted by Delgado-Guay et al. (9), it was observed that spiritual pain, as a sign of low religiosity/spirituality, had a negative effect on the physical/emotional

symptoms of cancer patients and was positive correlated with the psychological distress of these patients.

As the findings of this study indicated, religious/spiritual intervention could positively affect acute/chronic progression and periodic progression of the illness perception in women with breast cancer. Regarding this finding, as Jim et al. (12) noted, it can be said that spiritual religious intervention can make the patients more positive about the rapid recovery from disease and its symptoms by improving their cognition, believing in Allah's power, communication with Allah and the prophets, and hope for healing. Allah states in the Holy Quran (Al-Yusuf, 87), "Go and seek news of Joseph and his brother. Do not despair of the comfort of Allah, none but unbelievers despair of the comfort of Allah" (28).

The spiritual intervention can also increase the patients' hope and trust and direct them toward the view that social support is their right, and that the kindness toward them (due to rewards they receive and the opportunity that is provided for them) is well deserved. This justifies our finding, regarding the positive impact of spiritual/religious intervention on improving the subscale of the consequences of illness perception.

As in previous studies (4,9,11), in this study, the improvement of the subscales of personal control and treatment control of the illness perception affected by religious/spiritual intervention can be explained by the enhancement of patients' understanding of multidimensional, purposeful, and influential lives, endeavor, optimism, cheerfulness and vitality, and commitment to action.

The improvement of the subscales of coherence and emotional representations of illness perception in patients through participating in the intervention can be also achieved by increased meaning finding, illness perception, and patience against disaster based on Islam (understanding the motives and positive consequences of disasters, as well as the value and importance of patience).

Considering the results of this research and the importance of spiritual practices as coping strategies in cancer patients, the use of this

type of intervention as complementary treatment in these patients and survivors is recommended. Such interventions can be even used as a preventive measure for reducing psychological distress and improving the quality of life in cancer patients at the very beginning of diagnosis.

Conclusion

This research was the first attempt investigating the impact of Islam-based religious/spiritual intervention on the perceptions of the disease in women with breast cancer. The results indicated that the intervention has a positive impact on the improvement of all components of illness perception. Individual intervention also led to the elimination of almost all moderating and disturbing variables against participation in group work, and consequently facilitated the achievement of more reliable results regarding the actual impact of religious/spiritual intervention.

Conflict of interest

The author declares no conflict of interest.

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