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PROMOTİNG SPİRİTUAL HEALTH İN BREAST CANCER PATİENTS BASED ON İNTEGRATED BEHAVİORAL MODEL

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ABSTRACT

Cancer is a common and chronic disease that creates a deep semantic crisis in the person diagnosed with it.
Material and Methods: The purpose of randomized controlled intervention trial was to use the Integrated Behavioral Model for promoting spiritual health in breast cancer patients in order to increases their adaption with cancer in 2013. One hundred women with breast cancer were selected and randomly assigned to the experimental and control groups (each group comprising 50 women). These women filled the standard Paloutzian-Ellison spiritual health questionnaire, the researcher-developed questionnaire on adjusted behavior, and the knowledge, attitude, subjective norms, and self-efficacy assessment questionnaire in the form of the Integrated Behavioral Model before and after educational intervention in their disease. Health promoting intervention took place face-to-face and individually. The statistical tests of chi-square, Independent t-test, and paired t-test, Pearson correlation coefficient, and the ANOVA statistical test at the significance level of 95 percent were used to analyze the collected data.
Results: The average score on knowledge, attitude, and self-efficacy in patients of the experimental group was significantly higher than that of the control group ($p<0.001$). Pearson correlation coefficient showed that there was a meaningful relationship between the scores on spiritual health and adjusted behavior ($p<0.001$).
Discussion: Educational intervention with the purpose of promoting spiritual health is effective in improving knowledge, attitude, self-efficacy, and adjustment to the disease. It is necessary that members of healthcare teams pay special attention to this issue.

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Introduction

Cancer is a common and chronic disease [1]. The World Health Organization (WHO) estimates that 10 million people are diagnosed with different kinds of cancer every year. Nowadays, cancer has turned into a health problem all over the world [2]. Based on statistics provided by the WHO, 6.7 million of the 58 million cases of death throughout the world (13 percent) in 2005 were caused by cancer. This organization has also published statistics that, by the year 2030, cancer will be the cause of 13.4 percent of all cases of death in Iran [3]. More than 50000 new cases of cancer are diagnosed in Iran every year, and cancer

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is considered one of the most important healthcare problems of our country as well [4]. Given the threatening nature of cancer, its diagnosis substantially increases the spiritual needs of the person afflicted with it. Cancer diagnosis creates a great semantic crisis in the patient [5]. Self-confidence and religious beliefs are endangered, personal relationships are disrupted because of uncertainty about the future, previous adjustment mechanisms seem to be insufficient, and hospitalization may induce feelings of loneliness in patients [6]. Briefly, previous studies have shown that spiritual crisis is created in the person diagnosed with cancer [5]. When spiritual health is seriously endangered, mental disorders such as feelings of loneliness and of loss of meaning in life may develop in the patient [7].

This disease changes the course of life of the patient and creates numerous problems in all of the physical, mental, social, economic, and family dimensions of life[2]. Depression, despair, anger, and occasional tendencies to commit suicide have very often been observed in cancer patients [2]. Research shows mental problems of cancer patients are one of the difficulties faced by doctors and nurses and that more than two thirds of cancer patients experience affective disorders [3-5]. There are several concepts regarding the manner of confronting these problems and stresses, one of which is spiritual health that, as one of the dimensions of health, integrates the other dimensions and involves the existential and religious dimensions [7]. Spiritual health has been considered as the central philosophy of life and the result of fulfilling the need for having a purpose, meaning, love, and forgiveness in life. Existential health applies to the feelings of having a purpose in, and satisfaction with, life. Religious health applies to the satisfaction derived from having a relationship with a superior power or with God [8]. Spiritual health that, together with the physical, mental, and social dimensions, forms the quadruple dimensions of health in man, promotes general health, and coordinates the other dimensions of health, leading to improved powers of adjustment and of mental function. Spiritual health is characterized by features such as stability in life, peace, feelings of having close relationships with oneself, with God, with the society, and the environment, and by having proportionality, coordination, purpose, and meaning in life [9].

Studies conducted on many patients have revealed that one of the most important adjustment responses of cancer patients is their return to spirituality, and that this return plays a key role in improving their adjustment to their lives and to their disease [10]. Sodestrom and Martinson pointed out that spiritual beliefs or religious faith is a form of active adjustment in cancer patients [11]. Some researchers consider spirituality an important source of adjustment in stressful situations, especially concerning issues related to health [11]. Patients whose spiritual health is strengthened can effectively adapt to their disease and even pass through the last stages of their disease well [10].

This research was carry out about the role of promoting spiritual health in adoption of adjusted behavior by breast cancer patients, based on the Integrated Behavioral Model (IBM Model) » for the following reasons. First, the chronic and threatening nature of cancer creates a spiritual crisis in the patient. Second, adjusted behavior is an important factor in reducing stresses resulting from being afflicted with chronic diseases, especially cancer, and in helping the patient spend all the better the days of life with the disease. Third, no research has been conducted concerning these issues in our country. We selected the IBM model, which is a combinatory behavioral model, because it has constructs such as attitude, self-efficacy, and perceived norms, and can predict various factors affecting behavior and provide a comprehensive view.

Material and Methods

This study is a randomized controlled trial that was conducted on 200 women with breast cancer referring in the Imam Hussein Hospital one of the famous centers cancer in Tehran the capital of Iran were selected. All patients randomly assigned to an experimental and control group (each group 50 persons). Participants were selected on the basis of a simple sampling strategy. Next, random allocation [block randomization (block size: 6)] was conducted. The inclusion criteria were as follows: the participants had been informed of the final diagnosis of cancer, were in the non-metastatic stage two years after the diagnosis, were at least 18 years old, and had the ability to participate in the study. In addition, exclusion criteria in this study were as follows: patients who had previously attended classes on spiritual health and those who had a history of mental disorders were excluded from the study. Sample size adequacy (N=34) was estimated based on an alpha level of 0.05, medium effect size of 0.5, and power of 0.8022). Therefore, the sample size of this study was appropriate. The study was a project approved by the Cancer Research Center of Shahid Beheshti University of Medical Sciences with 1138 Ethics Code. After receiving the necessary authorizations, oral and written consent was obtained from the participants. They were assured that the data would remain confidential and used for the research purposes only. The participants were also given an unconditional and absolute right of withdrawal at any time.

After selecting the members of the two groups and recording their particulars, their consent to entering the study was obtained. We used a four-part questionnaire as the tool for collecting information. Dependent variables were adjusted behavior, knowledge, attitude, subjective norms, and self-efficacy. Independent variable was spiritual health. The first part of the questionnaire was related to demographic variables such as age, occupation, marital status, level of education, and economic status. Assessment of knowledge, attitude, subjective norms, and self-efficacy in the form of the IBM model constituted the second part. The third part involved a researcher-developed questionnaire on adjusted behavior that was based on available literature and on opinions of experts in this field, and the four components of safe recreations, hope, social support, and anger management were included in it. The method of content validation by a panel of experts was used to assess the validity of the second and third parts of the questionnaire, and the Cronbach's alpha coefficient was calculated to determine the reliabilities of these two parts (which were found to be 0.75 and 0.73, respectively). The fourth part of the questionnaire consisted of the Paloutzian-Ellison spiritual health questionnaire that includes 20 questions (10 of which measure religious health and 10 existential health). The sum of the scores of these two sub-groups determines the score on spiritual health, which was given a range from 20 to 120. Answers given to questions were classified in the six-option Likert scale (strongly disagree, disagree, disagree moderately, agree moderately, agree, strongly agree). The strongly agree option was given a score of six and the strongly disagree option a score of one, and the reverse order was followed in scoring negative questions.

The Paloutzian-Ellison spiritual health questionnaire is a standard questionnaire that has been evaluated in various research projects. In Iran, Seyyed Fatemi et al. (2006) employed it in their research and used content validity to find its validity and Cronbach's alpha coefficient to determine its reliability (which was found to be 0.82).

The two groups of patients in our study filled the questionnaires before any health promoting intervention took place. In the next stage, the educational plan was prepared and executed face-to-face and individually, by giving speeches, in the form of questions and answers, focus group and through demonstrations, in six sessions for the experimental group. Familiarization with the physiology of the human body, mutual effects of body and soul, prayers and worship and their effects on the human body, the purpose and meaning of suffering and life, and the promoting of hope and ways of controlling anger and coming to terms with the disease comprised the educational intervention. An educational session for the family of the patient as the main supporter of the cancer patient was included in the educational intervention as well. Finally, suitable booklets and pamphlets were given to the participants. No educational intervention was planned or executed for the control group. One month after the educational intervention, the questionnaires were filled once more by both groups.

The collected data concerning the two groups was then analyzed using version 18 of the software SPSS, the chi-square, Independent t-test and paired t-test, Pearson correlation coefficient, and the statistical test ANOVA at the 95 percent level of significance. It must be added that the Kolmogorov-Smirnoff test was conducted to determine whether the sample data was normally distributed.

Results

In the experimental group, the average age of the members was 47.92 years, 46 percent of them had not finished high school, 70 percent were married, 84 percent were housewives, and 56 percent were of average economic status.

In the control group, the average age of the members was 44.5 years, 40 percent of them had not finished high school, 68 percent were married, 84 percent were housewives, and 56 percent were of average economic status.

Health promoting interventions caused statistically significant differences in the scores the members of the experimental group received on knowledge, attitude, self-efficacy, spiritual health, and adjusted behavior ($p< 0.001$). However, with respect to subjective norms, there were no differences in the members of the experimental group before and after the interventions ($p = 0.084$). The Pearson correlation coefficient, 0.78, indicated that there was a direct and meaningful relationship between the average score of spiritual health and adjusted behavior ($p < 0.001$).

Table 1. The comparison of the scores on knowledge, attitude, subjective norms, self-efficacy, spiritual health, and adjusted behavior before and after health promoting intervention

Before the intervention					**After the intervention**			
Variable	Experimental group M±SD	Control group M±SD	t	p	Experimental group M±SD	Control group M±SD	t	P
Knowledge	5.32± 1.74	5.76±1.36	-1.41	P=0.136	7.62± 1.16	5.74±1.29	-12.39	P < 0.001
Attitude	39.02±5.53	37.54±47	1.34	P=0.180	45.52±5.12	37.66±5.39	-15.10	P < 0.001
Subjective norms	24.28±3.65	23.60±4.11	0.87	P=0.358	24.74±3.87	23.74±4.27	-1.77	0.084
Self-efficacy	15.08±3.32	13.96±3.35	1.68	P=0.097	18.78±2.86	13.82±3.13	-14.28	P < 0.001
Spiritual health	84.78±14.84	84±14.23	0.27	P=0.789	99.16±12.25	84.22±14.23	-15.01	P <0.001
Adjustment	57.10±11.60	56.24±11.32	0.76	P=0.450	72.82±10.20	56.08+10.94	-17.80	P < 0.001

Discussion

Results of this research showed that education based on promoting spiritual health influenced the knowledge of patients. Some studies proved the effect of educational intervention on increasing knowledge in cancer patients [11]. Although raising the level of knowledge of patients is the first step in changing their behavior, change and improvement in their attitude greatly doubled the probability of their adoption of new behavior. Results of this research indicated that education based on promoting spiritual health caused an improvement in the attitude of patients. The current study results are consistent with those of the similar studies which reported that education can cause significant changes in attitude [12,13]. Improvement in knowledge and in attitude is an important part of the palliative care of cancer patients and can help patients better come to terms with their situation.

Moreover, in this research, there were significant differences in the scores given to patients with respect to self-efficacy prior to and following intervention: education based on promoting spiritual health was effective in improving self-efficacy. According to the findings of Bandura, self-efficacy is the strongest construct in predicting changes in the way people behave

[14]. Masoudi et al., in their study entitled «The Effect of the Family-Centered Empowerment Model on the Quality of Life and Self-Efficacy of Caregivers of Patients with Multiple Sclerosis, » showed the effects of educational intervention on the quality of life and self-efficacy of caregivers who were family- member of these patients [14, 16].

There were no significant differences in the scores given to subjective norms before and after educational interventions. In other words, no significant differences were observed, although educational interventions were effective. This result was confirmed by those of the study carried out by Shahnazi et al. in 2007 in which they studied the effects of the Basnef model in promoting the spiritual health of cancer patients. They found that educational intervention was effective in increasing knowledge, in improving attitude, and in augmenting hope in patients and their families, but did not cause any significant differences in the scores given to subjective norm [15]. Of course, these results seem to be logical since subjective norms are related to personal understanding of people regarding social pressures, and reflect normative beliefs of the related society.

Results of this research also suggest that promoting spiritual health has an effective role in the adoption of adjusted behavior by cancer patients. It must be mentioned that adjusted behavior in this study refers to life expectancy, engaging in safe recreations, controlling anger, and social support. Janse et al., concluded from their study that the spiritual adjustment strategy is the adjustment method most commonly used by cancer patients [17]. Based on results of research conducted by Stagl et al., spirituality is an important factor in adjustment to stressful conditions resulting from being afflicted with chronic diseases [18]. Spiritual beliefs, or religious beliefs, were found to be one form of active adjustment in cancer patients. Based on the results of others studies considering spiritual support and religious and spiritual resources as important sources of adjustment cancer patients use during their sickness [10, 19]. Spiritual health increases life expectancy and improves social performance through creating motivation and energy in patients. In the study carried out by Rohani et al., cognition of religion-centered treatment caused an improvement in the level of hope and quality of life of women suffering from breast cancer [20].

Hopko et al. studied proved the effectiveness of cognitive-behavioral therapy on depression intensity, quality of life, lack of physical and recreational activities, interpersonal problems, and sleep disorder in cancer patients. Their results revealed that depression intensity, interpersonal problems, and insufficient sleep and physical activities had significantly decreased, while quality of life had significantly increased, at the completion of the cognitive-behavioral therapy [21]. In the study carried out by McCoubrie, et al., it was shown that there is a significant inverse relationship between spiritual health and depression in cancer patients: the higher the level of spiritual health, the lower the density of depression [22]. Rohani et al. also found that the intensities of stress, anxiety, and depression were lower in breast cancer patients who received high scores of spiritual health [20].

The need to establish relationships with others is rooted in human nature, and interactions with other people and receiving social support are among strategies patients use to adjust themselves to their diseases. In the study conducted by Miedema et al. in 2007, it was shown that social support networks are an important factor in the course of development of cancer, and that the wider these networks are the more positive their effect will be on the patients' coming to terms with, and adjusting, to their disease [23]. Conducting research on the same issue concluded that supportive interventions in mental, affective, social, and spiritual areas are useful for patients [24, 25]

Conclusion

Based on our study, educational intervention with the purpose of promoting spiritual health is effective in improving knowledge, attitude, self-efficacy, and adjustment to disease. Although more research needs to be conducted for the results of this study to be generalized, given the key role of spirituality in the return of these patients to their normal lives, it is necessary that healthcare teams pay special attention to this issue. Moreover, due to the efficiency and effectiveness of the IBM model in promoting knowledge and in improving attitudes and self-efficacy of breast cancer patients, we suggest that this model be used in other places and for other diseases. Some of the restrictions faced in this study were the disinclination of patients to participate in the study, the difficulty of selecting patients because of reasons such as the disease itself and the problems associated with it, and lack of access to references related to the subject of study because little research has been conducted concerning this issue.

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Conflict of Interest

The author(s) declare(s) that there is no conflict of interest regarding the publication of this manuscript

Limitation

This study was limited by several factors. In this study, being single-centered as well as the number of variables may be one of the most important limitations of this study.It is suggested that widespread epidemiological studies take place in a multicenter and taking into account different variables that are affected.It is better if the effect of the socio-demographic variables were be tested in this study to be considered as an evidence based practice latter on .

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