



The effect of care plan based on Roy Adaptation Model on the spiritual well-being of women with breast cancer

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Background and purpose: Roy Adaptation Model is one of the nursing theories applied in the adaptation of patients suffering from chronic diseases. Breast cancer is the most prevalent kind of cancer among women in Iran. The present study aims at investigating the effect of care plan based on Roy Adaptation Model on the spiritual well-being of women with breast cancer. **Method:** The present study is a semi-experimental study conducted on 80 breast cancer female patients referring to Ahvaz Naft Hospital in 2017. The samples were randomly divided into two 40-patient groups; experimental group and control group. Data collection was conducted in two groups by using demographic information questionnaire, Roy Adaptation Model's recognition and assessment form, and Spiritual Well-being Scale (SWBS) developed by Paloutzian and Ellison. Data analysis was conducted in SPSS-20 by using t-test, Mann-Whitney U test, and Chi-squared test. **Findings:** Before conducting the intervention, there was no significant difference between two groups (experimental and control) in terms of the mean of spiritual well-being scores. However, the post-intervention spiritual well-being score of the experimental group (99.99 ± 4.93) increased significantly in comparison to that of the pre-intervention (73.37 ± 4.11) ($P=0.001$). Moreover, the post-intervention spiritual well-being score of the control group (72.02 ± 3.58) decreased in comparison to that of the pre-intervention (73.10 ± 4.25). However, this decrease was not statistically significant. **Conclusion:** The findings of the present study indicated the effectiveness of Roy Adaptation Model on the spiritual well-being of women with breast cancer. This model can be used as a comprehensive guideline for promoting the status of spiritual well-being of women with breast cancer. It is recommended to investigate the effect of Roy Adaptation Model on individuals suffering from other chronic diseases.

INTRODUCTION

Breast cancer is the most prevalent kind of cancer among women, and its incidence rate is increasing in both developing and developed countries (1). According to the latest report released by the Iran Cancer Registry in 2009, breast cancer is the most prevalent kind of cancer among women with the relative frequency of 24.8 percent. Numerous factors affect the incidence of this cancer that include gender, age, genetic factors, chest radiography history, screening, and taking contraceptive pills and hormones (2). Moreover, suffering from chronic diseases will make the patients suffer from a spiritual crisis in terms of spiritual beliefs and values, and they will deal with more problems including pain, reduced confidence, anxiety, depression, isolation, and anger (3). In medicine, the religious beliefs have long been one of the significant factors of maintaining the health of individuals. In Islam, this belief is even stronger and more complete; the Muslims believe that God's name is the very medication and remembering Him is treatment. The findings of other studies indicate that spirituality has a significant

role on the individuals' well-being, and it is used as a common strategy in dealing with problems (4, 5).

One of the important and effective nursing models that is widely used in adapting the patients with their chronic diseases and increasing their quality of life is Roy Adaptation Model (6). Different studies have investigated the application of Roy Adaptation Model on individuals with chronic diseases such as diabetes, lung disease and Multiple Sclerosis (MS). Sadeghnezhad Forotaghe et al, (7) have indicated that care plan based on Roy Adaptation Model will result in the psychological adaptation of patients with type 2 diabetes. Moreover, in another study conducted on type 2 diabetes, Borzou et al (8) reported that Roy Adaptation Model would result in the patients' increased energy and mobility. However, the patients' stress, anxiety, and sexual activity were not affected by the model. In a study to investigate the effect of social support on hemodialysis patients, it was indicated that Roy's Adaptation Model-Based patient education resulted in the improved scores of physiological state and self-concept (9). In evaluating the effect of Roy Adaptation Model on patients suffering from the chronic obstructive pulmonary disease (COPD), it was indicated that Roy's adaptation model-guided education would result in the patients' increased adaptation in three modes (physiological, self-concept and role-function mode) (10). In investigating Roy Adaptation Model on multiple sclerosis patients,

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Rosińczuk et al (11) reported that adopting this model affects the patients' increased preparation for dealing with MS-related problems. Although the breast cancer patients' adaptation has been investigated by different psychological methods and models, the effect of conducting Roy Adaptation Model has not yet been reported on breast cancer patients. Thus, given this lack as well as the positive effects reported for this model in other diseases, the present study aims at investigating the effect of care plan based on Roy Adaptation Model on the spiritual well-being of breast cancer women referring to Ahvaz Naft Hospital in 2017.

RESULTS

In terms of the demographic features, the experimental and control groups were not significantly different; they were homogenous. The mean age of the participants was 46.60 ± 11.94 ; the participants' minimum age was 24 and their maximum age was 77. The mean duration of marriage was 22.02 ± 13.94 . The mean duration of the disease diagnosis was 90.2 ± 2.77 month for those who had passed more than one year since they had been diagnosed with the disease, and it was 6.71 ± 4.30 months for those who had passed less than one year since they were diagnosed with the disease. The mean length of hospitalization was 20.96 ± 73.66 days. In terms of the employment status, the highest frequency was for the housewives (33 participants, 41.8%). In terms of the marital status, as many as 72.5 percent of the participants were married and 27.5 percent of them were single. Table 1

Table 2 indicates that mean scores of spiritual well-being of the experiment group (pre- and post-intervention) and control group (pre- and post-intervention) with a paired t-test. In the experimental group, the scores of spiritual well-being have increased from 73.37 ± 4.11 to 99.90 ± 4.93 . The pre-intervention spiritual well-being scores and the post-intervention spiritual well-being scores are significantly different ($p=0.001$). However, there is no significant difference between the pre-intervention spiritual well-being scores and the post-intervention spiritual well-being scores in the control group.

Table 3 indicates the comparison of mean scores of spiritual well-being in the experiment group (pre- and post-intervention) and control group (pre- and post-intervention) with an independent t-test. The pre-intervention mean scores of spiritual well-being was 73.37 ± 4.11 in the experimental group and 72.10 ± 4.25 in the control group; the pre-intervention mean scores of spiritual well-being were not significantly different. However, the post-intervention mean scores of spiritual well-being was 99.90 ± 4.93 in the experimental group and 72.05 ± 3.58 in the control group; the post-intervention mean scores of spiritual well-being were significantly different in the groups ($P=0.001$).

DISCUSSION

The findings of the present study indicated that conducting a care plan based on Roy Adaptation Mode affected the spiritual health of women with breast cancer. The intra-group spiritual well-being score of the experimental group increased significantly after conducting the intervention ($P=0.001$); it increased from 73.37 to 99.90. In classifying the spiritual well-being scores, the score of +99 was considered as a good score for spiritual well-being. The score obtained in the present study after the intervention indicated that conducting the care plan based on Roy Adaptation Model affected the spiritual health.

Since one of the maladaptive behaviors of cancer patients is the mental pressures such as inappropriate dealing with life problems, throughout the trainings sessions, the researcher attempted to conduct the training programs through identifying the behavioral stimulants. The training programs include breathing deeply, adopting relaxation

methods, trusting in God, applying spirituality, adopting self-image and self-concept improvement methods, reducing anxiety, controlling anger, and increasing confidence. The studies conducted indicate that cancer patients apply the spiritual strategies, social support, hope and cognitive recovery, and change more than other patients (13). Some of the adaptation methods of promoting well-being have been successful, and these methods have been also proved useful in creating the mental adaptation. Experiencing life with cancer indicate that spiritual well-being is a significant aspect of a healthy life (14).

No similar study was found on the effect of care plan based on Roy Adaptation Model on the spiritual well-being of individuals with cancer. However, the effect of conducting care plan based on Roy Adaptation Model on the physical, mental, and social aspects of health has been confirmed in various studies. Some of these studies include the following: Sadeghnezhad Forotaghe et al (2011) titled "The effect of nursing care plan based on "Roy Adaptation model" on psychological adaptation in patients with diabetes type II" (7); the study conducted by Naeim Hassani et al (2014) titled "the effect of an educational program based on Roy adaptation model on the psychological adaptation of patients with heart failure (15); the study conducted by Mohammadpour et al (2016) titled "the effect of intervention based on Roy adaptation model on personal self-concept in primigravida women (16); the study conducted by Hamzehpor et al (2018) titled "the effect of Roy adaptation model in physiological aspect on the level of consciousness in intensive care unit: a clinical trial (17); and the study conducted by Rosińczuk et al (2015) on the application of Roy Adaptation Model in caring for multiple sclerosis (MS) patients (18).

Training and support make the breast cancer patients have a better recognition of themselves, identify their strengths and weaknesses, and reach some levels of self-knowledge; they will thus move towards correcting their weaknesses and reinforcing their positive points. Moreover, providing counseling and supportive training based on an effective model is likely to help the individuals direct their negative feelings in the right path, so that they manage to have constructive interactions (19). Since one of the most important aspects of spiritual well-being is the existential aspect, it seems that self-knowledge through conducting Roy Adaptation Model is likely to promote the individuals' spiritual well-being. Spiritual well-being is likely to have a great effect on improving quality of life as well as promoting the physical and mental health (20, 21). In a study titled "Spirituality, religiosity, aging and health in global perspective: A review", Zimmer et al (2016) concluded that the investigated evidence indicate that religiosity is closely related to longer life and physical-mental health (22). Thus, it seems that any method that can improve the individuals' spiritual well-being is likely to be helpful in the improvement of the disease as well. Chronic diseases, including cancers, are one of the challenging situations of human life, and the management of these diseases is the main health problem of today's global community. In these diseases, the medical attitude merely focuses on the treatment method and controlling the symptoms, and such diseases have significant effects on both individuals and society. Thus, they are required to be taken into special account, and one should not merely focus on the medical model in caring for this disease.

In the present study, it was indicated that the interventional factor of care plan based on Roy Adaptation Model helps the experimental group's participants promote their spiritual well-being. This is consistent with the findings of the studies conducted by Hobbs et al, Shuldham et al, and Bergmann et al., that did not report a significant difference in

Table 1 demographic variables

Variable		Experimental group		Control group		Significance
		Frequency	Percentage	Frequency	Percentage	
Job	Housewife	17	5.42	16	40	0.67
	Office worker	5	5.12	13	5.32	
	Student	2	5	5	5.12	
	Self-employed	2	5	3	5.7	
	Retired	4	10	2	5	
Educational level	Below high school diploma	8	15	7	17.5	0.76
	high school diploma	9	5.22	13	30	
	academic	23	55	20	50	
Marital status	Single	12	30	10	25	0.61
	Married	28	70	30	75	
Place of residence	City	6	15	6	15	0.96
	Village	34	85	33	5.82	
Degree of disease	First	14	35	18	45	0.78
	Second	18	45	15	37.5	
	Third	8	20	7	17.5	
	fourth	0		0	0	

Table 2 The comparison of the mean scores of spiritual well-being (within group)

Stage Spiritual well-being (range-score)	Pre-test	Post-test	Paired t-test results
	Standard deviation± mean	Standard deviation± mean	
Experimental group (120-20)	73.37±4.11	99.90±4.93	t=28.43 df=39 P=0.001
Control group (120-20)	73.10±4.25	72.02±3.58	t=1.41 df=39 P=0.16

Table 3 The comparison of the mean scores of spiritual well-being (between groups)

Spiritual well-being	Measurement stage	Experimental group	Control group	Independent t-test results
		Standard deviation± mean	Standard deviation± mean	
	Pre-intervention	73.37±4.11	73.10±4.25	t=0.29 df=78 P=0.77
	Post-intervention	99.90±4.93	72.02±3.58	t=28.88 df=71.15 P=0.001

terms of feeling good, anxiety, and depression of cardiac patients (23, 24, 25).

Nowadays, promoting health is considered as a new dimension in the healthcare system; the focus has gradually changed from the disease and treatment to well-being and care. Promoting health means maximizing the individuals' potential. Thus, despite having physical limitations, chronic patients are required to comprehend health in other aspects including spiritual, mental, and social aspects (26). Nowadays, most of the therapists regard faith and spirituality as the main sources of individuals' physical health and quality of life; most of the therapists believe that it is of great significance to give due attention to the spiritual issues in the treatment process. Spiritual beliefs have to do with all aspects of the individuals' health and direct their daily habits.

Moreover, spiritual beliefs are considered as a main source of support, power, and recovery (27).

Since conducting the care plan based on Roy Adaptation Model was helpful in improving the spiritual well-being of women with breast cancer, it can be concluded that human being is composed of various physical and non-physical organs and powers that form a unique compound. These aspects are closely related with one another, and the defect of one will result in the defect of the other; physical and non-physical aspects are coordinated with one another, and they affect each other as well. Accepting the assumption indicates this fact that nursing and caring are required to be conducted in an integrative manner. Nursing means not only caring for all aspects, but it also means the simultaneous caring for other aspects while providing physical cares.

Thus, the nurses use the effects of different aspects on one another throughout the treatment and caring process (28).

CONCLUSION

The findings of the present study confirm the effect of care plan based on Roy Adaptation Model on the spiritual well-being of women with breast cancer. Various studies have indicated that adopting this caring model will result in the improvement of physical, mental, and social aspects of individuals. In the present study, this model helped the improvement of spiritual well-being of women with breast cancer. Conducting the care plan based on Roy Adaptation Model is recommended for improving the spiritual well-being of individuals with breast cancer. Applying this method will result in transferring useful experiences, and it is considered as a holistic and supportive method as well.

METHOD

The present study is a semi-experimental study conducted on 80 breast cancer female patients referring to Ahvaz Naft Hospital in 2017. This study was approved by the Ethics Committee Ilam University of Medical Sciences, (Ethic code= ir.medilam.rec.1396.39). The breast cancer patients were selected by using convenience sampling, and they were randomly divided into two groups; experimental group (40 patients) and control group (40 patients). The inclusion criteria of the present study include attending all intervention sessions, undergoing a medical treatment, understanding Persian language, having an informed letter of consent for participating in the study, and non-simultaneous participation in other studies. The exclusion criteria of the present study include the patient's death, unwillingness to continue participation, failing to attend one of the educational or interventional sessions, incomplete or incorrect completion of the questionnaire, suffering from diagnosed cognitive disorders or mental diseases (according to the statements of the patient or his family), suffering from other chronic diseases, and conducting other complementary interventions or treatments (such as meditation and yoga). The estimation of the sample size required for the present study was conducted by using the following formula:

$$n = \frac{2(z_1 + z_2)^2 \sigma^2}{d^2}$$

In this equation, based on the confidence interval of 0.95 and the statistical power of 0.8, Z_1 and Z_2 were 1.96 and 0.84 respectively. According to the definition provided by Cohen, $d=0.5 \sigma$ indicates medium size differences. Thus, by calculating these values, the minimum sample size required for each of the groups was 40 patients, and a total of 80 patients entered the present study.

The intervention included 10 two-hour sessions (one session a week). Two group training sessions was conducted on the aspects of Roy Adaptation Model. Moreover, 8 individual training sessions were held based on Roy Adaptation Model for each of the individuals in the experimental group. In the end, Paloutzian and Ellison's Spiritual Well-being Scale (SWBS) was completed for measuring the spiritual well-being of all participants in both experimental and control groups. This questionnaire was investigated by Abbasi et al (2016); evaluating the reliability of this tool indicated that its Cronbach's alpha was 0.87 (12). In the present study, the reliability evaluation of this tool for 10 female breast cancer patients indicated that the Cronbach's alpha was 0.86.

The analysis of the collected data was conducted in SPSS-20. Data normality is investigated by using Kolmogorov-Smirnov test. If the data are normal, t-test is used to compare the descriptive variables (frequency and percentage, standard deviation, and mean) as well as analytical variables of both groups. However, if the data are not normal, Mann-Whitney U test and

Chi-squared test are applied. All tests were conducted at the significance level of 0.05.

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Article Key words

Breast cancer, spiritual well-being, care plan, Roy Adaptation Mode

Acknowledgment

At the end, the researcher would like to appreciate the advisor, the reader, and the examiners that who were of great help in conducting the present study. Furthermore, the researcher is highly grateful to the cooperation and assistance provided by Ahvaz Naft Hospital's staff and all those who cooperated in conducting this study.

Conflicts of Interests

There are no conflicts of interests in this study.

Financial Disclosure

None declared.

Article History

Received: 03 April 2018

Accepted: 26 May 2018

Published: July-August 2018

Citation

Masoumeh Otaghi, Bahareh Nazarpour, Hamid Taghinegad, Ali Khorshidi. The effect of care plan based on Roy Adaptation Model on the spiritual well-being of women with breast cancer. *Medical Science*, 2018, 22(92), 418-422

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