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The effect of pain management on pain reduction in women with breast cancer

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Abstract

Introduction: breast cancer is one of the most common cancers in the communities and allocated one third of all cancers in women to it. Breast cancer is known as the second leading cause of death due to the cancer in women. In the US, almost one of every 8 women will develop breast cancer during their lives. According to the National Cancer Registry, breast cancer ranks first among Iranian women and is allocated 16% of all cancers.
Materials and methods: This study was conducted using the semi-experimental pre-test and post-test design using the control group. The study sample consisted of 30 patients. 15 patients among them were randomly assigned to each test and control groups. The research variables were assessed using Numerical Pain Rating Scale of Karoly Jensen (2001), subscale of physical complaints, check-list of mental disorder symptoms (SCL-90-R) and the physical symptoms of General Health Questionnaire (GHQ).
Research findings: in this study which women with breast cancer were involved in, the results were significant in pain reduction (Numerical Rating Scale) with 95% confidence interval ($P<0.05$) and in physical complaints and also physical symptoms with 99% confidence interval ($P<0.01$).
Discussion and Conclusion: Pain management training is effective in reducing of expressed pain, physical complaints and also physical symptoms in women with cancer.

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Introduction:

Research shows that cancer disease in women often occurs in the areas that are easily recognizable by physician examining. The most common cancer in women is breast cancer and then colorectal cancer, lung cancer and the uterus cancer. Most of these hidden cancers in different parts of the body will respond well to the treatment if are diagnosed in time (Isfahani, 2001). Risk factors of breast cancer are first delivery after thirty-five years old, not-having a baby, family history of breast cancer in first-class relatives, exposure to radiation before the age of thirty, exposure to pesticides, smoking, and lack of exercise, high estrogen and obesity. Risk symptoms are lumps in the breast, thickening or any change in the breast such as troughs or stretch upward, thickening or swelling of the nipple, itching, redness and or irritation of the nipple (and except breast feeding) unusual discharge from the breast (Saadati, 2009). Hainsworth et al (2011) the American researchers have found that chemotherapy in patients with breast cancer increases the risk of infertility in them and can damage to the reproductive ability of these patients. These studies were conducted by researchers at Dana-Farber Cancer Institute. In an experimental test which was led by these researchers, it was found that pre-menopausal women diagnosed with breast cancer and after diagnosis of the disease and surgery were treated by chemotherapy, the risk of loss of ovarian reserve such as capacities of the ovaries to produce oocystes which are able to be fertilized is increased compared to when never develop breast cancer. To do these studies, researchers analyzed the markers of ovarian reserve in 20 premenopausal patients with breast cancer. These patients were treated with chemotherapy that their disease was not diagnosed between one to four years and also any evidence of cancer recurrence was not seen in these patients. This group was compared to a control group of women almost in 20 years old who never have the history of breast cancer.

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These evaluations and tests are included five tests within two, three and four days after the menstrual period to assess the physical condition of the ovaries, hormone levels and a compound involved in menstrual period. In four tests of the performed five tests, it was found that survivors of breast cancer have worse and more serious ovarian reverse compared to the control group. In the final test, no big and important difference was seen in both groups (Hainsworth, 2011). If a scientific method can be found for this purpose, undoubtedly a great step can be taken in this field. Pain is the most common symptoms in patients that can affect on the performance and their quality of life. There are some evidences which show that believing in that pain is uncontrollable may cause the inputs which create next pain are understood more severe. So, it is possible that patients, who think activity is related to pain, expect the increasing pain at the beginning of an activity. Thus even they may experience more severe pain during that activity and avoid doing that (Leventhal H. & Everhar , 2006). Patients with chronic pain, generally have the sense of uncontrollable pain. Many patients with chronic pain tend to believe that they have a little ability to control their pain (Turk, 2000). The relationship between the sense of control and pain is seen in various symptoms of chronic pain. For example, Mizner, Thomas and Billings (2001), showed that the group of patients with migraine headaches who were treated successfully, showed the correlations between reduction of headaches and increased control over the physiological activity and overall health. Pain is an individual phenomenon. Experiencing the pain depends on who we are, what we do and where we live (Mauck, 2010).

The role of mental health professionals in pain control is emphasized. In this regard, Psychological Association of America has determined the psychological treatment of patients with chronic pain recently as one of twenty-five areas where using of psychology is validated experimentally. Management of the chronic pain is a serious problem in today's world. In June 2011, Institute of Medicine of IOM announced that today, pain management in the US has saved over 635 billion dollars alone per year in direct medical expenses and has had productivity (Grinstead, 2012). The correct management of pain is one of the methods in drug prevention and treatment that some people have taken and this issue may increase desire of drug use and leads to addiction. The latest research introduce cognition therapy as one of the important subcategories in pain management as researchers believe that control of neurological and chronic pain is possible by cognition therapy (Fleming, 2007). Pain management program can also improve knowledge and attitudes (methods) of nursing staff and enable them to provide adequate and appropriate care for older people with pain. Pain management program for nurses and all professionals in health caring and to increase care for older people is more important (Mimi Mun, 2012).

Materials and Methods:

This study was conducted using the semi-experimental pre-test and post-test design using the control group. The research environment was Omid-e Farda clinic in Kashmar. Medical personnel are a physician, a clinical psychologist and a physical therapist.

Then the researcher got the essential information by interviewing with the patients and referring to their files to select the research units based on the related form. The sample consisted of 30 people which 15 people for the test group and 15 people for the control group were selected randomly. After subjects' presence, the researcher asked them to answer the questions of Numerical Pain Rating Scale of Jensen Karoly (2001), subscale of physical complaints, check-list of mental disorder symptoms (SCL-90-R) and the subscale of physical symptoms of General Health Questionnaire (GHQ).

After the pre-test, the test group received 12 sessions of pain management training as a group and the members of control group received no intervention during this time. The using techniques during the therapy sessions include cognitive/behavioral strategies, physical intervention and education of coping strategies. The cognitive/behavioral strategies include education, skill acquisition, cognitive/behavioral practice and expansion and keeping the learned strategies. Physical intervention includes, massage skills, physiotherapy and simple physical conditional/stretching exercises for 10 to 20 minutes and teaching the coping strategies such as relaxation therapy, lack of attention to pain, assuring to them about the pain end. Regarding the medical interventions some issues such as control of the commitment to use the prescribed drugs by physician, issues related to drug tolerance, withdrawal and side effects of drugs are taught. The intervention program is extracted based on pain management from the book "guide of pain management program for adults" by the Pain Society of Great Britain (Jensen, M.P.; Karoly, 2001).

After the intervention, the post-test was taken from both test and control groups. The obtained results were analyzed by covariance analysis test and SPSS software (version 20).

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Research findings:
Scores of participants are come in the table-1 for each group for both pre-test and post-test, separately.

Table-1: the mean and standard deviation of test and control groups in pre-test and post-test of pain scales

Tests / Group		Pre-test		Post-test	
		Mean	SD	Mean	SD
Pain rate (Numerical Rating Scale)	Control	3.16	1.83	3.00	1.78
	Test	3.30	1.72	2.10	1.34
Physical complaints	Control	1.08	0.56	0.98	0.38
	Test	0.86	0.48	059	0.28
Physical symptoms	Control	14.20	3.53	13.63	3.25
	Test	13.26	3.15	10.33	3.51

Table-2: the results of covariance analysis to compare the effect of pain management therapy in post-test

	Source of changes	Freedom degree	F coefficient	significance	Effect rate
Pain rate (Numerical Rating Scale)	Pre-test	1	13.31	0.001	0.18
	Comparison of both groups	1	6.58	0.013	0.10
Physical complaints	Pre-test	1	125.05	0.000	0.67
	Comparison of both groups	1	026.53	0.000	0.34
Physical symptoms	Pre-test	1	9.66	0.003	0.14
	Comparison of both groups	1	12.72	0.001	0.18

Discussion and conclusion:

Findings showed that the mean of pain intensity has reduced significantly after pain management training intervention. Some interventions in pain management program including pain thermal-biological feedback education, massage skill training and physiotherapy and simple physical conditional-stretching exercises and relaxation therapy and lack of attention to pain and assuring you about the pain end are directly related to pain reduction through the processes and physiological mechanisms. Heat biofeedback, massage, conditional and stretching exercises and relaxations can decrease or slow the pain impulses in the body by affecting the neurological system. This process causes the patients who have received this training within their cancer treatment, report less pain. This finding is aligned with the comments of Laf Baver (2005), Smith, Aburger, Folic and Aaron (1999) that said some cognitive errors affect on pain perception, confusion and inability. In

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line with the results of the present study, Flora and Turk (2000), Jensen, Turner and Romano (1999), Tota – Fasit, Jil, Williams and Koli (2001) have shown that the attitudes, beliefs and expectations of the patients about themselves, their problems, resources to overcome the disease and also health care system, affect on the level of pain expression, disability and also patient's respond to treatment. These findings show that the use of cognitive behavioral methods leads to changes in behavioral habits and attitudes and people thoughts. This will help them to create abilities and the capabilities to control the physical pains and lack of physical complaints expression, significantly in them. As we know, the subscale of physical complaints which is a subset of the check-list of mental disorders symptoms (SCL-90-R), evaluates a patient's complaints about recurring headaches, muscle aches, pain in the heart or chest and pain in the back. A key part of this subscale is emphasis on patients' verbal complaints. The cognitive behavioral strategies in pain management program were included training (discussion about the medical, psychological and social consequences of pain, education about the disease and providing the social support and searching information regarding pain and problem solving), skill acquisition, cognitive-behavioral exercise (setting the behavioral goals of introducing of cognitive pattern of pain, introducing the theory of gate control of pain, mental imagery and identifying and dealing with the automatic thoughts) and expansion and keeping the learned strategies. In this study, all these items could help the members of test group to control the feelings or express the physical pain. Cognitive discussions, cognitive and behavioral exercises besides the social support can significantly decrease the pain. Chopin (2007) in this regard says that one of the factors to the pain control is related to the patient which is included attitudes about pain. Fitzpatrick, Hopkins and Harvard Watts (2005) by studding a group of patients with headaches who were treated with the drug, found that although many of them have used drug therapy, it seems that much of improvement is not related to drug nature but is related to the psychological factors. Psychological factors which their creation in this study cause the significant changes in degree, symptoms and pain expression; also, pain management program was effective in reduction of physical symptoms of pain in patients with cancer. It means that the cognitive-behavioral program of pain management actually resulted in reduced physical symptoms significantly, in addition to reducing the level of expressed anger and also reducing the physical complaints of pain. The subscale of physical symptoms evaluates some items such as headache, weakness, lethargy and fatigue in the General Health Questionnaire (GHQ). In this study, both parts of physical and pharmacological interventions were designed to reduce physical pain. In physical intervention including massage skill training, physiotherapy and simple physical conditional/stretching exercises and in pharmacological interventions control of commitment to use the prescribed drugs, related issues to tolerance of disease pain, side effects of drugs cause that the patients with cancer of the test group feel more physical health significantly after the study. Regarding the effect of similar interventions with pain management about the chronic diseases, results of this study is aligned with the results of Dolan et al (2007), O'Leary et al (2003), Rahimiyan (2011) and Dashtgerd et al (2009). Compared to each other, the significance effect of pain management program has been 0.10 for pain degree, 0.34 for physical complaints and 0.18 for physical symptoms of pain that indicates the experimental work of the study which is a cognitive-behavioral element, has had more effects about the reduced physical complaints.
At the end, it is recommended that this method of treatment is performed on the pains caused by other diseases such as AIDS and the addicts who are trying to improve and also it is recommended to the relevant authorities in hospitals specially therapists, patients with chronic pain and centers to improve addiction, prisons and families to provide opportunities to participate in this educational programs.

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