RESEARCH ARTICLE

Effectiveness of Teach-Back Self-Management Training Program on Happiness of Breast Cancer Patients

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Abstract

Self-management training is one of the ways to empower patients to cope with disease. The aim of this before-and-after quasi-experimental study was to determine effects of a teach-back self-management training method on breast cancer patient happiness. Fifty breast cancer patients who visited the Park-e Neshat Limited Surgery Clinic in Kerman, Iran were randomly divided into intervention and control groups after convenience sampling and checking for inclusion eligibility. Data were collected using a demographic questionnaire and the Oxford Happiness Inventory before and after teach-back training and analyzed using SPSS 23. Findings showed no significant difference between mean happiness scores in the two groups before the intervention. However, after the intervention, the mean happiness score in the intervention group increased from 37.2 to 62.9, while it decreased from 41.4 to 29.8 in the control group. These changes were statistically significant ($p<0.001$). Even after controlling for the effect of confounding factors such as residence location and history of cancer education, the observed differences between the groups were statistically significant ($p<0.001$). A teach-back self-management training program can increase happiness levels in breast cancer patients. Therefore, the use of this method is recommended to improve self-management and increase happiness.

Keywords: Self-management- teach-back- happiness- breast cancer

Asian Pac J Cancer Prev, **17 (10)**, 4555-4561

Introduction

Breast cancer is the most important alarming health factor and the most common type of cancer in women. (Stephens et al., 2012). It is also the most common cause of cancer-related mortality in women worldwide and in Iran. According to the latest report of Iranian Cancer Registration System, breast cancer in women with the age-standardized incidence of 28.2 is the most common cancer and accounts for 23% of cancer cases (Kazemi and Kalantari Khandni, 2015).

Breast cancer diagnosis, as a crisis in life, causes the life of the patient get out of balance. This illness endangers not only the woman's health but also her sexual identity and mental image (Grogan and Mechan, 2016). According to Noguchi (2006), suffering from cancer is one of the most traumatic life-threatening experiences, and with disease progression, patients undergo various types of stress and experience psychological symptoms such as depression caused by fear of death and loneliness (Noguchi et al., 2006).

Depression in women with breast cancer causes failure in the patent's adherence to the doctor's orders. It is also accompanied with reduced mental energy, increased stress caused by the disease and its treatment, decreased immune function, reduced quality of physician-patient communications, and reduced libido (Fann et al., 2008).

Despite its high prevalence, depression in patients with breast cancer is under-diagnosed, which can be due to patient's reluctance to reveal the symptoms, oncologists' unfamiliarity with the diagnosis of depression or overlap of physical symptoms of depression with the symptoms of the underlying disease (Motamedi et al., 2015). Not having depression is the necessary condition to achieve happiness although happiness is not the opposite of depression (Ford et al., 2015). In support of this, Abedi (2007) stated that happiness training reduces anxiety and depression (Pahlevan and Bakhtiar, 2009). Available evidence suggests that happiness generates energy and can protect humans against psychological stresses as a shield and guarantee their health (Hashemi et al., 2016). Even the research conducted in this regard on cancer patients showed that, compared with the severity of cancer treatment, happiness is a more important predictor than quality of life and depression and can be involved in the treatment of breast cancer (R, 2010). Importance of happiness and its beneficial effects is so high that some scholars including Miller believes that communities where

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people are lacking high spirits are devoid of real vitality and energy and believe that health of human societies depends on the happiness of the people. Even lack of happiness can make people vulnerable against physical ailments and lead to death in long-term (Abdollahi et al., 2012). In this respect, oncology nurses can be very helpful by utilizing strategies such as providing appropriate educational conditions for these patients. There are several methods for patient education; however, nurses must use the best method that is the most suitable considering time, characteristics of learners, educational content and purpose of education (Sheikh Abumasoudi et al., 2015).

Research has shown that one of the most effective methods to improve learning is the teach-back method. The method is a comprehensive multilateral evidence-based strategy used to understand and retain information. It has also been approved by health care organizations as an effective way to ensure understanding health care information (N et al., 2015a). In this method, the trainer teaches the content to the learner in a simple and understandable language without using medical terms. After the training, the trainer asks the learner to recount his/her understanding in his/her own language. If the patient has not understood the content well, the trainer repeats the content to ensure the comprehension by the patient (T et al., 2012). This process allows the patients to show their understanding by restatement of what is learned (in their words) (Oshvandi et al., 2014). It also allows the nurses to assess the correctness or incorrectness of patient information and strengthen home care skills (Negarandeh et al., 2013).

Self-management educational program is a patient empowerment method used to improve coping with the disease. It is based on problem-solving method that increases patients' confidence in controlling conditions and their capabilities and empowers them to cope with the situation (Ladani, 2009). In fact, self-management interventions provide the patients with necessary knowledge and encourage them to learn or improve coping skills to reduce symptoms and achieve a higher quality of life (Ahmadi and poormansouri, 2016). Therefore, this study aimed to determine the effect of teach-back self-management educational program on happiness of breast cancer patients referred to the Park-e Neshat limited surgery clinic in Kerman.

Materials and Methods

This quasi-experimental study was conducted in two groups of intervention and control. After obtaining approval from the ethics committee of Zabol University of Medical Sciences and coordination with the authorities of Park-e Neshat limited surgery clinic, the study was performed within 3 months. The study population included all patients with breast cancer referred to the Park-e Neshat limited surgery clinic in Kerman who were eligible based on the inclusion criterial. Inclusion criteria included: being female, diagnosed with breast cancer, willingness to participate voluntarily in the study, ability to read and write, aged 30-65 years, lack of difficulty in communication (visual and auditory), ability to make phone calls, no underlying diseases (diabetes, kidney failure, liver failure, and cardiopulmonary failure), no known mental illnesses, no previous history of cancer, lack of severe and very severe depression, anxiety, and stress, ability to understand Persian, not being pregnant, being a resident of Kerman or having the opportunity to attend the training sessions. Exclusion criteria included requiring special care, concurrent participation in other studies, immigration or death of the patient, and inability to continue participation. Two data collection tools were used in this study. Demographic questionnaire was approved after review of literature and consultation with 10 professors of Zabol university of medical sciences. The test-retest method was used to assess the reproducibility and reliability of the questionnaire. The questionnaire consisted of two parts. The first part includes 10 items on personal details such as age, residence location, marital status, number of children, education, insurance status, employment status, monthly income, and housemates. The second section includes 6 items on disease details including history of other diseases, breast cancer disease duration, duration of treatment, having someone else in the family diagnosed with breast cancer, training on issues related to breast cancer and self-management after treatment. Oxford Happiness Inventory includes 5 domains: domain 1: life satisfaction (8 items); domain 2: self-esteem (7 items); domain 3: subjective well-being (5 items); domain 4: satisfaction (4 items); and domain 5: positive mood (3 items). The questionnaire included 29 item, each of which including 4 choices. The first choice was scored as 0, the second choice was scored as 1, the third choice was scored as 2, and the fourth choice was scored as 3. In total, the participants obtain a score between 0 and 87. Scores less than 22, 22 to 44, 44 to 68 and 68 to 87 were indicative of low, average, high, and very high happiness levels. Reliability and validity of the questionnaire was approved by the Alipur et al. (2008) (Alipoor and Noorbala, 1999). The sample size in this study was calculated as 25 for both the intervention and control groups based on the results of a pilot study to determine the 40% difference in percentage change between happiness score in two groups with and without intervention and considering 20% sample dropout using Stata V.11. The convenience sampling method was used. After determining eligibility and obtaining oral and written informed consent from the study population, samples were randomly divided into two groups of intervention and control. To observe the blinding (single blind), both groups were invited separately in order to explain research method and its objectives. In each group, the Depression Anxiety Stress Scales were completed by each patient, and scores of depression, anxiety and stress were calculated for each patient. If none of the mentioned subscales was in severe and very severe range, patient was enrolled in the study. In the first stage, the demographic questionnaire and Oxford Happiness Inventory were distributed among the patients, and full explanation on how to complete the questionnaire was given. In the second stage, intervention including self-management training program were performed. Since

the intervention was done using the teach-back method, and the completion of the intervention was determined by the learning of the patient, the researcher was not able to train subjects in groups and specify the number of training sessions. Therefore, the intervention took place on an individual basis. The self-management training was conducted in two stages. In the first stage, according to the first area of the self-management program, which is medical management, educational content included basic knowledge of breast cancer, drug use, diet, physical activity, and stress and anxiety reduction. In the second stage, role management, including maintaining hygienic behavior, changes in the roles in life, and problem-solving skills were taught. Training in each stage was based on the teach-back method, which included (pre-test, scoping, training, evaluation and decision-making to repeat the above items based on patient's learning and educational objectives). In the teach-back pre-test, open-ended questions based on the goals of each stage were used. If the patient did not give the complete answer, the scoping stage would begin. In the TB scoping stage, behavioral objectives in the cognitive and psychosomatic areas were determined for each session for each patient based on the pre-test. In the TB implementation phase, the training process focused on the delivery of content and concepts in simple and transparent language emphasizing key points and repeating it at the end using short sentences. To evaluate TB after the training, feedbacks were obtained from the patients using the same open-ended questions designed for pretest to assess patients' skills. If the patient's response reflected failure to achieve the objectives set for his/her behavior, TB entered the decision-making stage to repeat the above steps based on the patient's learning and the educational objectives. In this stage, training was repeated based on what the patients did not expressed. All of the above stages were repeated for each educational material of the self-management program. The number of training sessions ranged from 8 to 11 depending on the each patient's learning. Each session was 1.5 to 2-hour long depending on the patient's tolerance and interest. At the end of the self-management program for each patient in the intervention group, the researcher confirmed the learning of the patients using a check list. Immediately after the entire process of self-management program, each patient was asked to recomplete the Oxford Happiness Inventory.

Telephone follow-ups were performed by the researcher for all patients in the intervention group once a week for 10 minutes proportionate to their needs with the content of verbal encouragement and strengthening of training. It should be noted that during the training in self-management program in the intervention group, the control group received routine doctors and nurses' training. The control group completed the Oxford Happiness Inventory as well. They were thanked for their participation and were provided with the self-management program booklets. Ethical considerations such as patient confidentiality and the right to opt out at any stage of the research were observed.

Data were analyzed using SPSS 23, and the statistical software Stata 11 was used for statistical analysis. P-value less than 0.05 was considered significant.

Results

Fifty subjects participated in this study (25 in the intervention group and 25 in control group). The mean age of the participants was 49.1 years with a standard deviation of 13.3. The participants were in the age group of 50 to 65 years (60%), 40 to 50 years (24%) and 30 to 40 years (7.0%). The mean duration of breast cancer in the intervention group and the control group was both 4 years (p=0.1). The mean duration of treatment the intervention group and the control group was both 3 years (p = 0.6). The mean anxiety scores were 8.2 (4.5) in the intervention group and 7.8 (4.7) in the control group (p=0.7). The mean depression scores were 13.28 (5.16) in the intervention group and 11.3 (5.9) in the control group (p=0.2). The mean stress scores were 14.6 (6.9) in the intervention group and 15.3 (6.8) in the control group (p=0.7). Therefore, no significant difference was observed between the two groups in terms of age, duration of disease, duration of treatment and anxiety, depression, and stress scores. However, 25 participants (100%) in the intervention group and 18 (72.0%) in the control group were living in Kerman, and the difference in the frequency of Kerman residents in the two groups was statistically significant (p <0.001). Twenty participants (80%) in the intervention group and 4 participants (16%) in the control group had received breast cancer training before, and the difference was also statistically significant (p<0.001). The two groups were not significantly different in terms of other characteristics including marital status, education, occupation, personal and family history and other trainings they had received (Table 1 and 2).

Independent t-test showed no significant difference between the two groups in terms of happiness score before the intervention (P=0.3). In fact, it can be concluded that the observed changes are driven by the teach-back self-management training program. The Wilcoxon test and independent t-test showed that the mean happiness score in the intervention group increased from 37.2 to 62.9, and this 100.1% increase was statistically significant. The mean happiness score in the control group decreased from 41.4 to 29.8, and the 27.9% decrease was also statistically significant (p <0.001). Therefore, the percent increase in the happiness score was significantly higher in the intervention group compared to the control group

Table 1. Mean±Standatd Deviation of Main Characteristics of Subjects by Group

Group Variable	Intervention	Control	P-value
Age	56 (46-60)	40 (40-54)	0.1
Disease duration	4 (3-5)	4 (2-7)	0.6
Treatment duration	3 (2-5)	3 (1-4)	0.5
Depression	13.2±5.2	11.3±5.9	0.2
Anxiety	8.2±4.5	7.8±4.7	0.7
Stress	14.6±6.9	15.3±6.8	0.7

Table 2. Demographic Characteristics of Participants in Study

Group Variable	Intervention groups Number (%)	Control group Number (%)	Probability P-value
Residence location			
Kerman	25 (100%)	18 (72%)	0.005
Kerman suburbs	0 (0%)	7.0 (28%)	
Marital status			
Single	0 (0%)	2 (8%)	0.5
Married	20 (80%)	18 (72%)	
Divorced	0.0 (0.0%)	1.0 (4.0%)	
Widow	5.0 (20.0%)	4.0 (16.0%)	
Education			
Literate	3 (12%)	7 (28%)	0.1
Elementary school	7 (28%)	5 (20%)	
Middle school	6 (24%)	1 (4%)	
High school and above	9 (36%)	12 (48%)	
Insurance status			
Health service	12 (48%)	10 (40%)	0.9
Rural services	0 (0%)	1 (4%)	
Social security	11 (44%)	11 (44%)	
Armed forces	1 (4%)	2 (8%)	
Steel industry	1 (4%)	0 (0%)	
Supplementary	0 (0%)	1 (4%)	
Employment status			
Employee	2 (8%)	6 (24%)	0.3
Retired	3 (12%)	2 (8%)	
Disabled	0 (0%)	1 (24%)	
Self-employed	1 (4%)	0.0 (0.0%)	
Housewife	19 (76%)	16.0 (64.0%)	
Income			
Less than three-hundred USD[1]	19 (76%)	17 (68%)	0.2
three-hundred USD	5(20%)	3 (12%)	
More than three-hundred USD	1 (4%)	5 (20%)	
Other diseases			
Yes	3(12%)	5 (20%)	0.3
No	22 (88%)	20 (80%)	
Family member with the disease			
Yes	7 (28%)	7 (28%)	0.6
No	18 (72%)	18 (72%)	
Training on breast cancer			
Yes	20 (80%)	4 (16%)	$<10^{-3}$
No	5 (20%)	21 (84%)	
Training on self-management			
Yes	6 (24%)	2 (8%)	0.1
No	91 (76%)	23 (92%)	

Table 3. Changes in Happiness Scores in the Two Groups Before and After the Intervention

Variable	Intervention group				Control group				P-value for inter group changes
	Before the intervention	After the intervention	Percent change	P value	Before the intervention	After the intervention	Percent change	P value	
Happiness	37.2 (16.7)	62.9(15.4)	100.1	$<10^{-3}$	41.4 (11.9)	29.8(9.4)	-27.9	$<10^{-3}$	$<10^{-3}$

Table 4. Comparison of Happiness Levels before and After the Intervention in Both Groups

Group	Intervention group		Control group	
Happiness level	Before the intervention	After the intervention	Before the intervention	After the intervention
	Number (%)	Number (%)	Number (%)	Number (%)
Low	4 (16%)	0	1 (4%)	2 (8%)
Moderate	14 (56%)	2 (8%)	14 (64%)	9 (36%)
High	6 (24%)	0	8 (32%)	14 (56%)
Very high	1 (4%)	23 (92%)	0	0

($p<0.001$) (Table 3). Even after controlling for the effect of confounding factors such as residence location and history of cancer education using ANCOVA, the differences observed between the groups were statistically significant ($p<0.001$) (Table 3).

Findings showed that, in the intervention group, the majority (92%) of the participants had very high happiness levels, while none of the participants in the control group had high happiness levels (Table 4)

Discussion

In this study, the statistical difference observed between the two groups in terms of happiness score indicated the positive impact of self-management education intervention using teach-back method on the happiness of breast cancer patients. The present study showed that only 20% of patients with breast cancer enjoyed high and very high levels of happiness before the intervention, indicating that they were facing multiple problems associated with the disease. According to Rahnama et al (2015), diagnosis of cancer affects the patient's whole life so that it changes the lifestyle and leads to multiple psychological, social, economic and family problems. Soroush et al (2014) reported that depression is a side effect of treatments in patients with breast cancer. However, in a study by Oliveira Pinto et al (2013), the majority (57.6%) of studied cancer patients were very happy. The difference between that study and the present study may be due to differences in the type of cancer, stage of disease and sex of the patients, which included both males and females. Moreover, cultural differences between the two societies cannot be ignored. According to Eghlima and Najafabadi (2011), numerous cultural differences affect the perception of the meanings and characteristics of happiness, and the factors that explain happiness are different depending on the cultural meanings of happiness (Aqlyma and Ebrahim, 2011).

In this study, the changes in the mean scores of happiness before and after the intervention in the intervention and control groups, as well as the differences in the mean scores in the intervention group that received teach-back self-management training and the control group that received only the routine trainings, were indicative of the increased happiness levels in the intervention group and was suggestive of the fact that self-management capability in patients with breast cancer improves happiness. Karamouzan et al (2013) reported a positive association between self-efficacy and happiness in patients with breast cancer (M et al., 2013). Lavasani et al (2014) stated that happiness training is an effective intervention in increasing the patients' self-efficacy (Gholamali et al., 2014). Bakhtiari et al (2011) reported an improved mental health following self-care in breast cancer patients (M et al., 2011), which is consistent with the results of our study and confirms the association of these two issues. The two studies were compared because self-efficacy can be regarded as one of the aspects of self-management. The findings of a study by Kafaami et al (2012) indicated the improvement of different aspects of health following self-management program in patients. Although this study is different with the present study in terms of population under study, the two studies were compared because it points out to positive impact of self-management on various aspects of patients' health, and happiness also reflects a person's emotional health. However, Shams et al. (2016) reported that self-care training in diabetic patients had no impact on their quality of life in the mental aspect, which may be due to the difference in training methods and study population. In a study on effect of life skills training on happiness and hope in patients with type II diabetes, Shirkavand et al (2015) reported that the training significantly increased the patients' hope and happiness (N et al., 2015b). Although that study had a different study population than the present study, it was compared with the present study as it indicated that impact of learning how to manage the affairs of life improved happiness.

In this study, the effectiveness of teach-back training

method in improving patients' self-management capabilities and happiness was confirmed. According to Miller et al (2016), teach-back method is regarded as an effective method in self-care training. In this respect, studies by Oshvandi et al (2014), Nasiri and Poudineh-Moghaddam (2012), Mahmoudi-Rad (2015) and Negarandeh (2013) suggested the positive effect of teach-back method on the diabetic patients' adherence and self-care. Although these studies are different with the present study in terms of study population, they were mentioned here because they suggested the positive impact of teach-back method on self-care as one of its components of self-management. In a review article titled "impact of teach-back technique on self-management training of patients with chronic obstructive pulmonary disease, Dantic (2014) reported that most studies show an increased proper use of spray by patients, which is in agreement with the results of the present study.

The present study showed that breast cancer patients' happiness levels increased following teach-back self-management training. Therefore, it can be concluded that, through providing patients with necessary trainings tailored with each patient's conditions using the teach-back method, nurses can not only help patients obtain self-management capabilities but also effectively improve their mental health and happiness. This research can also be groundwork for a broader and more diverse research in this field; however, since the time limitations for sampling and long teach-back training process limited the possibility of conducting research with larger sample size, similar studies with larger sample size are recommended.

References

Abdollahi S, Mehrabizadeh HM, Sodani M (2012). The effect of happiness training on blood pressure and happiness in patients with blood pressure. *J Soc Psychol*, **7**, 61-79.

Ahmadi m, poormansouri s (2016). Effectiveness of educational program based on self management model on depression, anxiety and stress in patients with sickle cell disease (24 weeks follow up). *J Urmia Nurs Midwifery Fac*, **13**, 1039-49.

Alipoor a, Noorbala aa (1999). A preliminary evaluation of the validity and reliability of the oxford happiness questionnaire in students in the universities of Tehran. *Iran J Psychiatry Clin Psychol*, **5**, 55-66.

Aqlyma M, Ebrahim NAA (2011). The effect of cultural capital on the happiness of young women (aged 15-24) in Isfahan. *Jame Pazhuhiy Farhangi*, **2**, 1-24.

Dantic DE (2014). A critical review of the effectiveness of 'teach-back'technique in teaching COPD patients self-management using respiratory inhalers. *Health Educ J*, **73**, 41-50.

Fann JR, Thomas-Rich AM, Katon WJ, et al (2008). Major depression after breast cancer: a review of epidemiology and treatment. *Gen Hosp Psychiatry*, **30**, 112-26.

Ford BQ, Mauss IB, Gruber J (2015). Valuing happiness is associated with bipolar disorder. *Emotion*, **15**, 211.

Gholamali LM, Rastgoo L, Azarniad A, et al (2014). The effect of happiness cognitive-behavioral training on self-efficacy beliefs and academic stress. *J of Cognit Strate In Lear*, **2**, 1-18.

Grogan S, Mechan J (2016). Body image after mastectomy: A thematic analysis of younger women's written accounts. *J Health Psychol*, 1359105316630137.

Hashemi N, Morteza S, Baghbani G, et al (2016). The effectiveness of cognitive behavioral therapy and schema therapy on happiness and mental health of nursing students. *J Clin Nurs Midwifery*, **5**, 12-22.

Kafami F, Mohammadi F, Norouzi K, et al (2012). The effect of self-management program on the health status of multiple sclerosis patients. *Journal of Nursing & Midwifery,* **9**, 24-33.

Kazemi A, Kalantari Khandni B (2015). The effect of 8 weeks aerobic training on serum levels of adiponectin and estradiol in women with breast cancer. *Iran J Breast Dis,* **8**, 16-24.

M B, M E, M F, et al (2011). Effect of self care education on mental health of breast cancer women undergoing chemotherapy in cancer Institute of Tehran. *Iran J Breast Dis*, **4**, 42-7.

M K, M B, A D, et al (2013). The effects of cognitive behavioral stress management on sels- efficacy and happiness as normal personality traits. *J of Person Indi Differ*, **1**, 32-47.

Mahmoudirad G, Hoseini MS, Madarshahian F (2015). The effect of teach-back education on foot self-care among patients with type II diabetes mellitus. *Mod Care J*, **12**, 1-7.

Miller S, Lattanzio M, Cohen S (2016). "Teach-back" from a patient's perspective. *Nursing*, **46**, 63-4.

Motamedi A, Haghighat S, Khalili N, et al (2015). The correlation between treatment of depression and quality of life in breast cancer survivors. *Iran J Breast Dis*, **8**, 42-8.

N HM, Elahi N MK, M F, et al (2015a). Effect of teach - back educational method on surgical anxiety in primiparous cesarean section women. *J clin Res in Para Sci*, **4**, 169-77.

N S, S Gh, Z As (2015b). The impact of life skills training on happiness and hopefulness among patients with type 2 diabetes. *J Diabetes Nurs*, **3**, 8-19.

Nasiri A (2012). Effect of an educational plan based on Teach-Back method on hemodialysis patients' self-care deficits. *Mod Care J*, **9**, 344-54.

Negarandeh R, Mahmoodi H, Noktehdan H, et al (2013). Teach back and pictorial image educational strategies on knowledge about diabetes and medication/dietary adherence among low health literate patients with type 2 diabetes. *Prim Care Diabetes*, **7**, 111-8.

Noguchi W, Morita S, Ohno T, et al (2006). Spiritual needs in cancer patients and spiritual care based on logotherapy. *Support Care Cancer*, **14**, 65-70.

Oliveira Pinto SM, Alves Caldeira Berenguer SM, Martins JCA (2013). Cancer, health literacy, and happiness: perspectives from patients under chemotherapy. *Nurs Res and pract*, 291767.

Oshvandi K, Jokar M, Khatiban M, et al (2014). The effect of self care education based on teach back method on promotion of self care behaviors in type Ii Diabetic patients: a clinical trial study. *J of Diabetes & Metabolic* , **13**, 131-43.

Pahlevan SA, Bakhtiar NH (2009). Happiness program education of fordyce and its effect on level of happiness in martyrs'and veterans'family. *Daneshvar Medicine,* **16**, 35-46.

Rahnama M, Khoshknab M, Seyed BMS, et al (2014). Religion as an alleviating factor in Iranian cancer patients: a qualitative study. *Asian Pac J Cancer Prev*, **16**, 8519-24.

shams S, Zaker M, Ghavami H (2016). Effect of self management educative package on quality of life among diabetic patients in Urmia diabetes centers between in the years Of 2013. *J Urmia Nurs Midwifery Fac*, **13**, 863-8.

Sheikh Abumasoudi R, Kashani F, Karimi T, et al (2015).

Comparison of two methods of training (face-to-face and electronic) on depression, anxiety and stress in breast cancer patients. *Iran J Breast Dis*, **8**, 24-34.

Soroush M, Hejazi E, Shoakazemi M, et al (2015). Body image psychological characteristics and hope in women with breast cancer. *Iran J Breast Dis*, **7**, 52-63.

Stephens PJ, Tarpey PS, Davies H, et al (2012). The landscape of cancer genes and mutational processes in breast cancer. *Nature*, **486**, 400-4.

T M, S F, L C, et al (2012). Evalution of an educational intervention, Utillizing Simulation and Teach – Bach (TB) Method, to in crease nurses Knowledge and retention of heart failure (HF) self – Management (SM) principlees. *Heart &Lung*, **41**, 145-55.