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## **THE EFFECTIVENESS OF MINDFULNESS TRAINING ON MENTAL HEALTH AND HOPE IN PATIENTS WITH BREAST CANCER**

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### **ABSTRACT**

Cancer is a cell disease, which it's marked by unlimited and uncontrolled proliferation of cells that constitute malignant neoplasms. Cancer exposes its patients to stress, depression and despair and endangers their mental health. In this regard, there are different ways and means that each of its kind has a specific performance and cognitive therapy based on mindfulness is one of the ways. The purpose of this study is the efficacy of mindfulness training on mental health and hope in these patients. For this purpose, a total of 50 women who were admitted to Shohada Hospital in Tehran were selected through available sampling method and were randomly divided into two experimental and control groups. Before and after training, both groups were tested with the General Health Questionnaire (GHQ) and Schneider hope questionnaire. Then the experimental group received 8 sessions of 90 minute mindfulness training but the control group received no intervention. The results of the analysis of covariance showed that the mindfulness training is effective on public health and hope of patients undergoing training. Therefore it can be concluded that mindfulness can be used as an effective method for the patients.

**Keywords:** *Mindfulness, Public Health, Hope and Breast Cancer*

### **INTRODUCTION**

Among the various types of cancers, breast cancer is the most common cancer among women in the world (Akbari *et al.*, 2008a). According to the latest statistics published from Cancer Research Center in Shahid Beheshti University of Medical Sciences, your risk of getting breast cancer in women is 27.5 per thousand (Movahedi *et al.*, 2010). That means every year, more than 8 million new cases of breast cancer are diagnosed that around 7778 cases are among women. The cancer involves all aged between 15 and 85 years but the most common age of onset is 45 to 55 years (Akbari *et al.*, 2008b). Breast cancer with 4 deaths per 100 thousand, is accounted for the fifth leading cause of cancer death among women and has the third place in the burden of cancer among women (Akbari *et al.*, 2008a). Survival rate of 5 years between these patients is 48% to 84% (Akbari *et al.*, 2008b) and the overall survival rate is 71% (Movahedi *et al.*, 2010) in the various centers. This suggests that these patients compared with other type of cancer sufferers can still continue their lives longer time considering the short-term and long-term effects of stress caused by the disease. Naturally this can have an effect on the mental health of the group (Khademi, 2009; Mirzayi *et al.*, 2005; Fizayfant, 2007). Soeken and Carson believe that although the cancer affects the mental health, it seems the biggest problem at this time for the patient is feeling of despair and frustration (From Bijari *et al.*, 2009). Mental health is the mental aptitude for working coordinated, effective and pleasantly in difficult situations, is flexible and to be able to recover self-balance that the World Health Organization has put it into the context of overall health. According to its definition, health means a full potential for playing the social, psychological and physical roles (WHO,

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2001). Studies have shown that breast cancer can cause great fear, depression, despair and psychological trauma from the time of diagnosis and bring challenge to all aspects of life, including physical, psychological and social (Khademi, 2009; Lyon and Ebright, 2004).

To reduce psychological problems in their lives, the use of psychological treatment is of particular importance.

In this regard, there are various methods and ways and each of its kind has a special performance. In the meantime, cognitive therapy based on mindfulness is one of the ways to reduce stress and improve mental health of the people (Kabat-Zinn, 2001; quoted Jamshidi, 2012).

The concept of mindfulness is more than two thousand years old and the basis of this concept can be traced back to the most ancient Buddhist text that includes a receptive awareness and without judgment of current events (Brown and Ryan, 2003).

Mindful people understand inner and outer realities freely and without distortion and have a great ability in dealing with a wide range of thoughts, emotions and experiences (both pleasant and unpleasant) (Brown *et al.*, 2007).

Mindfulness, as a method of distracting, is a cognitive coping strategy to manage with pain and anxiety that its effectiveness is well documented. Using mindfulness and doing research in this field has increased in the recent years (Piet *et al.*, 2012). Growing evidence, show the usefulness of mindfulness in clinical situations especially in psychiatry (O'Connell 2009).

Studies increasingly shows the usefulness of mindfulness in cases such as chronic pain (Leigh *et al.*, 2005), Posttraumatic stress disorder (Smith *et al.*, 2011), Reduction of addictive behaviors (Garland *et al.*, 2012),

Behavioral abnormalities such as aggression and substance abuse (Wupperman *et al.*, 2012), Reduction of impulsivity (Murphy and MacKillop, 2012), Adjustment of social anxiety (Schmertz *et al.*, 2012), Reducing rumination and depression (Mckim, 2008) (Quoted from Aghayousefi *et al.*, 2013).

Mindfulness can also affect the quality of life (Reibel *et al.*, 2001; Carlson *et al.*, 2003; Kaviani *et al.*, 2008) and public health (Shauna *et al.*, 2007; Shapiro *et al.*, 2005; Roth and Robbins, 2004) of people. Therefore, this study investigates on this issue that whether training mindfulness is effective in the mental health and the level of hope for breast cancer patients?

## **MATERIALS AND METHODS**

This study was a quasi-experimental design with pretest and posttest with the control group. Thus among female patients with breast cancer of Shohada Tajrish Hospital in Tehran, first, 50 patients were selected through available sampling method and randomly divided into two 25 groups of experimental and control. Both groups before and after training were tested with Snyder's mental health and hope questionnaire. The experimental group received 8 sessions of 90 minute mindfulness training but the control group did not receive any training.

### **Tool**

Snyder hope scale: This scale was developed in 2000 by the Snyder group which consist of 12 items, 4 items related to passage, 4 items related to server and the other 4 items are diversional. The reliability of the scale factor in some studies have been reported, respectively, 0.89, 0.87 and 0.82 (From Bijari, 2007; SotoudehAsl *et al.*, 2007; Alaeddin, 2008). In the present study, Cronbach's alpha for this scale was calculated to be 0.79.

Mental Health Inventory: This questionnaire by Goldberg (1972) is developed and set to identify non-psychotic mental disorders.

It contains 28 items and 4 subscales that each scale has 7 items. The overall reliability coefficient of this test is equal to 0.88 and the coefficient of the subtests is reported to be between 0.50 to 0.81 (From Fathi-Ashtiani and Dastani, 2009).

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**Performance Method**

**Table 1: Summary of sessions of mindfulness**

Session	The content of the sessions
First:	1. Introduction of participants and a brief explanation of the 8 sessions. 2. The technique of eating raisins and then a 30-minute body scan meditation and talking about the feelings of this meditation.
Second:	1. A body-scan meditation and talk about the experience; 2. Talk about the difference between thoughts and feelings; 3. Sitting meditation
Third:	1. Seeing and hearing training (in this exercise, participants will be asked to be non-judgmental and look and listen for 2 minutes); 2. Sitting meditation and breathing with regard to the physical senses; 3. Conducting one of the movements of the mindfulness exercises.
Fourth:	1. Sitting meditation with regard to breathing sounds of the body and mind (which is also called a four-dimensional seated meditation); 2. discussion on stress responses and a person's reaction to difficult situations and alternative attitudes and behaviors; 3. Mindful walking Practice.
Fifth:	1. Implementation of mindfulness body movements; 2. Sitting meditation, three-minute breathing space in an unpleasant event and a new mindful exercise routine.
Sixth:	1. Three-minute breathing space exercise; 2. Acceptance of emotions as a feeling.
Seventh:	1. Four-dimensional meditation, being aware of what enters consciousness in the moment; 2. The theme of this session is: what is the best way to take care of myself; 3. Providing an exercise where participants specify which of the events of life are pleasant and which are not. 3. Teaching acceptance without judgment.
Eighth:	1. Scanning; 2. The theme of this session is: using what has been learned; three-minute breathing space exercise; 3. Discussion on the ways of dealing with barriers of meditation.

**RESULTS AND DISCUSSION**

**Results**

In Table 1, the mean and standard deviation of the pretest of hope and mental health and the mean and standard deviation of these variables in the post-test is presented.

**Table 3: Analysis of covariance to compare the pre-test and post-test in both groups of women with breast cancer**

Variable	Group	mean and	Sum of	F
Alpha Standard deviation				
	Experiment	27.28		
Pretest	Hope	3.91	108.002	18.27
0.001	Control	26.92		
		4.46		

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Pretest health	Mental	Experiment	23.28	2781.87	51.39	0.001
			1.17			
		Control	21.69			
			1.01			
Posttest	Hope	Experiment	29.92	173.63	29.37	0.001
			1.99			
		Control	25.80			
			3.54			
Posttest health	Mental	Experiment	18	726.61	13.42	0.001
			8.75			
		Control	25.11			
			1.21			

**Discussion**

This research aims to increase the effectiveness of mindfulness training on public health and hope of patients with breast cancer. The results of the analysis showed that mindfulness training was effective on mental health and hope of patience. The explanation for this finding could be argued that the mindfulness meditation reduces symptoms of anxiety and increases the hope of recovery with emphasis on the presence at the moment and acceptance of existing situation and also paying attention to all the emotions and physical changes in the moment of anxiety and focus on your breathing without a person's judgment. Also, the results of data analysis show that mindfulness training is effective on the public health of people with generalized anxiety. These results correspond with findings by Shayuna and colleagues (2007), Shapiro (2005), Ruth and Robbins (2004) and Kaviani (2008). The explanation for this finding could be argued that long-term exposure to painful feelings without disastrous consequences, can lead to desensitization and reduce the emotional responses. Continuous monitoring without judgment of feelings and without trying to escape or avoid them can cause constant exposure to feelings, thoughts and emotions.

This can lead to desensitization of conditional response and is associated with the reduction of avoidance behaviors. Probably this matter results in reduced anxiety, depression and despair of these people, thereby helped to improve the public health of the people. Another possible explanation for the interpretation of the efficacy of mindfulness training is in improving public health in women with breast cancer. In fact, it can be stated that the feeling of despair and hopelessness is more a mental and cognitive implication. Because through this, one learns to temporarily release attitudes and beliefs that are rooted in the past, and the fears and concerns of the future, with the techniques that are associated with the experience of the present moment (KabatZin, 2002). Also this attitude occurs in them to accept all things (pleasant and unpleasant) without judgment. The acceptance without judgment improves hope in patients and they can pass their disease process with better health and with the hope of improving.

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