

## **Examining the effectiveness of Mindfulness based cognitive therapy (MBCT) on increasing resilience of war injured veterans**

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### **Abstract**

The present study aimed to investigate the impression of Mindfulness based on cognitive therapy (MBCT) on raise resilience of war injured veterans. The study is quasi-experimental study, with pre-test and post-test and control group. The sample included 30 war injured veterans in Mashhad city and they were divided into two groups as 15 in Mindfulness based cognitive therapy and 15 people in control group. The members of MBCT received 8 sessions of MBCT but there was no intervention for control group. Before and after intervention, Conner-Davidson Resilience Scale (CD-RISC) was completed by sample group. The results of covariance analysis showed that in post-test resilience scores in MBCT group had significant increase compared to control group. The study findings released that MBCT increased resilience of war injured veterans.

**Keywords:** Resilience, Mindfulness based cognitive therapy, War injured veterans

### **Introduction**

Although it took 30 years after imposed war, despite basic and general attempts to reduce physical, welfare and psychological problems of injured veterans, we are encountered with numerous number of injured veterans suffering from non-adaptation and psychological health problems. War injuries cause many disabilities of youth to middle-aged and as they are alive and their routine performance is restricted from many aspects. On the other hand, these disabilities impose psychological, social and economic problems to family and society institutions. It is possible the attitude of people and social institutions have some problems in long-term to this vulnerable group and this phenomenon has negative impact on mental health of injured veteran who sacrificed his body and soul to protect this country. Based on their specific limitations, war veterans should receive specific social and psychological interventions and we should attempt to increase wellbeing of injured veteran as an empowerment purpose (Najarzadegan and Tulayi, 2012).

Injured veterans in Iran as major percent as -0.5 million people of Iran population are encountered with many psychological and social problems. During 8 year imposed war, many of veterans became injured after the war with different disability degree and various problems. The various studies regarding injured veterans in recent years in our society emphasized on disabilities and chronic diseases and disability of injured veterans as a health issue. The relevant statistics show that injured veterans are exposed to many psychological and social injuries and their psychological health is considerable. Thus, the psychological health of injured veterans requires serious investigation (Taghipour et al., 2009).

One of the variables considered in new researches with its relation with mental health of injured veterans is health protecting structures as a problem solving skills, stress coping strategies and resilience. Traditionally, the studies regarding psychological condition of injured veterans focus on pathology symptoms and to evaluate the effective factors on mental health, these people mostly consider risk factors. Today, a new view is formed and developed in health-relevant sciences generally and in psychology specifically. In this view and scientific approach, the focus is on health and life satisfaction of positive aspect (Ryff, Keyes & Shomtkin, 2002). In a new point of view, mental health requires perceiving existential challenges of life. In this view, no disease is adequate for health and satisfaction of life, adequate progress, efficient interaction with world, positive energy and mood, good relation with group and society and positive progress are the features of a healthy person. One of the variables considered in positive view to human being is resilience. Resilience has special position in transformation psychology, family psychology and mental health and the findings of this construct are increased. Resilience as a process, ability or outcome has successful consistency with threatening conditions (Samani, Jokar and Sahragard, 2007). In other words, resilience is positive adaptation to bad conditions (Waller, 2001).

Resilience is not resistance to problems or threatening conditions and it is not passive view to encounter risky conditions and it is active participation in the surrounding environment. We can say resilience is one's empowerment to establish mental-biological balance under risky conditions (Conner & Davidson, 2003). Additionally, these researchers believe that resilience is repairing self with positive emotional and cognitive outcomes (Masten, 2001). Kumpfer (1999) believes that resilience is returning to initial balance or achieving high level balance under threatening conditions and it provides successful adaptation in life. Kumpfer believes that positive adaptation with life is considered as resilience outcome and as result, high level of resilience. Resilience is considered as one of moderating factors in mental health changes of injured veterans. The internal abilities of people can involve in interaction with one's environment in a person adaptation with the problems of war disabilities.

In the past decade, by progress of therapy methods, some plans are formulated to reduce mental pathology symptoms and improvement of mental health of injured veterans including behavioral, cognitive, emotional and metacognitive components. In the third wave of psychotherapies called post-modern psychotherapies, it is believed that recognition and emotions are considered in conceptual context of phenomena. Thus, instead of some approaches as cognitive-behavioral therapy as modifying the inefficient beliefs and recognitions to modify the emotions and behaviors, the patient is trained to accept his emotions at first and follow present time with high flexibility. In these therapies, traditional cognitive-behavioral techniques are combined with mindfulness (Hayes, Luoma and Bond, 2006). Mindfulness is a form of meditation rooted in eastern religious traditions namely Buddhism. Kabat-Zinn (2003) was the first one introduced mindfulness techniques as comprehensive therapy plan to reduce stress. His definition of mindfulness is as: Mindfulness means special, purposeful consideration without bias. Also, mindfulness is keeping one's consciousness alive to perceive reality here and in present time (Crane, 2009). Bishob et al., (2004) presented an operating definition of mindfulness including two main components. The first component is consideration as it focuses on immediate experience and the reviewing of mental events is increase and the second component is taking orientation of curiosity, openness and acceptance to the current experiences (Barnhofer, Crain, Hargus and Amarasingh, 2009).

MBCT is the third generation cognition-behavioral therapy and it is focused on the changes of consideration of patients to their negative recognitions (physical senses and emotions) and their management (Crain, 2009). The studies regarding the effectiveness of this therapy approach proved its positive effects on improving mental health. MBCT facilitates cognitive change (Tizdel, 1999),

improves alleviating responses to stress (Borkovec & Sharpless, 2004) and leads to adaptive meta cognitive processing (Wels, 2002), it reduces the inflexible verbal overcoming on behavior (Hayes, 2002), increases self-efficacy and comparative coping (Craske & Hazlett-Stevens, 2002), it reduces avoidance of experience and deepens emotional processing (Roemer & Orsillo, 2002) and emotional regulation, emotional awareness and emotional understanding are improved (Mennin, Heimberg, Turk & Fresco, 2002).

Based on the impacts of war injury on mental health and various aspects of physical health of people, the investigation of effective factors on improving psychological condition of injured veterans is of great importance. The main problem in the study is evaluation of effectiveness of MBCT on increasing resilience of injured veterans.

### **Methodology**

**Study design:** This study was a quasi-experimental with pre-test and post-test and control group. The data were analyzed by descriptive statistics including mean and standard deviation and ANCOVA analysis in inference statistics.

**Population, Sample and sampling:** Population was all injured veterans in Mashhad. Due to various limitations, random sampling was not used and convenient purposeful sampling method with random replacing is used. As in experimental and quasi-experimental studies, sample size is 30 (Yalom and Leszcz, 2005), the researcher selected a sample with the same number based on inclusion criteria (war injury) among the study population. The samples were selected randomly in two groups (15 people).

**Participants:** All the participants were men with war injury. Among the experiment members, 53.3% had Diploma, 26.7% BA and 20% MA. Among control group, 60% had Diploma, 33.3% BA and 6.7% PhD. The age mean of experiment group was 48.93 and age mean of control group was 47.93.

**Study measure:** The Conner-Davidson Resilience Scale was used to evaluate resilience. This questionnaire was normalized by Mohammadi (2005) in Iran with 25 items and 5-item scale scored as 0 to 4. In a study done by Samani, Jokar and Sahragard (2007), the reliability of this scale is 0.87 by Cronbach's alpha. Mohammadi (2005) achieve reliability coefficient 0.89 and validity by correlation method with total score of coefficients ranging 0.41 to 0.64.

**Procedure:** After selecting samples and random replacing in experimental and control groups, they completed pre-test and then group sessions of MBCT were performed for experimental group in eight sessions (1.5 hour, one session per week) and control group didn't receive training. The sessions were held in sanatorium of injured veterans of Mashhad. After the end of educational sessions, both groups completed post-test.

### **Results**

The results of resilience questionnaire on control and experiment group are presented. Table 1 shows descriptive indices of data of resilience questionnaire in pre-test and post-test with separated groups.

**Table 1. Descriptive indices of the data of pre-test and post-test of resilience**

Group	Variable	N	Pre-test		Post-test	
			Mean	SD	Mean	SD
Experiment	Resilience	15	57.0667	9.29260	68.4000	6.08041
Control	Resilience	15	63.0000	7.65320	62.4667	9.05433

As shown, the mean of resilience scores of experiment group in post-test is increased considerably compared to pre-test. These changes are not observed in control group.

To evaluate effectiveness of MBCT on resilience of subjects, covariance analysis is used. Indeed, covariance analysis is used to compare the mean of resilience scores of two groups subjects in post-test. The pre-test effects are controlled as variable. Before performing covariance analysis test, the assumptions are investigated. To be sure of normality of data distribution, resilience questionnaire of Kolmogrov-Smirnov test is used. The results show that the data of resilience questionnaire had normal distribution. Also, homogeneity assumption of resilience variances was investigated by Leven's test. The results showed that Leven's test was not significant ( $F(1, 28)=0.161, P=0.691$ ) and it showed that variances were homogenous. Thus, the covariance analysis test is used to compare post -test of resilience. The results of test showed that the mean of resilience of scores of two groups in post-test can be compared and are shown in Table 2.

**Table 2. The comparison of resilience post-test in two groups with the control of pre-test effect**

Variance	Df	Mean of Square	F	P value	Eta Square	Test power
Pre test	1	655.908	17.544	.000	.394	.981
Group	1	574.830	15.375	.001	.363	.965
Error	27	37.386				
Total	30					

As shown in the above Table, the results of comparison of post-test of resilience variable in two groups, by controlling pre-test effect, we can say after participation in MBCT sessions, the scores of resilience variable scores of war veterans in experiment group showed significant increase compared to those replaced in control group ( $F(1, 27)=15.375, P<0.001$ ). The size of test effect is equal to 0.363 and it means that intervention of MBCT in increasing resilience has relatively high impact size.

### Discussion and Conclusion

The present study evaluates the effectiveness of MBCT on increasing resilience injured veterans. The results showed that participation in MBCT sessions by group method increased resilience injured veterans. This finding is in line with the results of the studies of Hamidpour (2007), Shahrestani, Qanbari, Nemati and Rahbardar (2012), Kavyani, Javaheri and Bahirayi (2005), Azargun et al., (2009), Kocovski, Felming and Rector (2009), Kingston et al., (2007), Pradhan, Baumgarten & Langenberg (2007) and Greeson, Brainard and Rosenzweig (2001) referring to the positive effects of MBCT on mental health as generally and resilience as specifically.

Regarding the above results, we can consider the nature of MBCT. Many researches of health psychology are regarding the methods showing that mental and behavioral processes as control and accepting negative emotions, reduction of motivation, reduction of internal warning and methods of alleviation and problem solving skills can help people for coping with stressful conditions. Probably, effectiveness of MBCT on increasing resilience of injured veterans is due to the variables as increasing comfort and internal awareness by mindfulness techniques, reduction of negative emotions of thoughts experience and bad emotions, increasing tolerance of confusion and training identification and replacing negative and inefficient thoughts and beliefs. It seems that MBCT practices by increasing awareness of people of present time can have useful effects on

coping power leading the increase of resilience via some techniques as considering breathing and body and considering awareness or present time.

When a person with negative thoughts is aware of the symptoms of his bad thoughts, he can cope up better with the problems and can increase his tolerance. Indeed, increasing confusion tolerance is with improving resilience. Regarding the effect of MBCT on increasing resilience, the change of inefficient coping strategies is of great importance. Non-adaptive coping strategies as repetitive thought, control of threat and avoiding unsuitable emotions can lead to the failure in coping up with threatening conditions. These non-adaptive coping strategies in the mind of a person are considered as positive coping strategy. Indeed, required supervision is disturbed to achieve mental comfort and it increases stress to cope up with the threatening situations. MBCT provides better supervision for a person and his stress is reduced and resilience is increased by presenting the MBCT-based coping strategies and strategies including review, thinking about positive points and thoughts.

Another issue in MBCT with the aim of increasing resilience of members, improving defensive mechanisms to cope up with stressful issues is important. When MBCT methods are trained to members, the members can learn to use good defensive mechanisms. Thus, there is no denying regarding coping with issues. The therapist encourages the group members to accept the issues and use suitable coping mechanisms including problem solving and searching social support, planned problem solving and positive review. Also, the members of experience group can share coping up strategies with each other and at the end of each session, in conclusion, effective solutions are emphasized. This issue increases the stress of coping up strategies in members and it can increase their resilience. The people experiencing MBCT learn to encounter with the environments with new experiences and challenge their creativities and create positive experiences for themselves and they experience many positive feelings. These people can adapt well with new social conditions and can welcome establishing relation with new people and they can achieve wide social supports and increase their resilience. On the other hand, these experiences have positive effect on meeting emotional, social and materialistic needs in life as improving his mental capitals. Suitable meeting of emotional, social and materialistic needs can increase their resilience.

As shown, study hypotheses are supported. The results showed that MBCT can increase resilience of injured veterans. The results of this study and previous studies support the interventions and MBCT methods to improve empowerment and psychological condition of war injured people.

Based on the findings of study, MBCT components as implementation of mindfulness techniques, increasing awareness and internal consciousness, increasing tolerance of confusion and identification of physical and emotional sensitivities, training the identification and replacing the inefficient and negative beliefs and thoughts and increasing physical and internal comfort by increasing resilience of injured veterans can improve their psychological condition and adaptation with limitations of their injuries. Based on the results of this study, it is proposed to present the therapy plans by MBCT with the aim of improving psychological condition of injured veterans for their family members.

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