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Effectiveness of Intensive Short-Term Dynamic Psychotherapy and Mindfulness-Based Cognitive Therapy on Depression of Earthquake-Affected Women in Sarpol-e Zahab City, Iran

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Abstract

The present study was conducted to investigate and compare the effectiveness of intensive short-term dynamic psychotherapy (ISTDP) and mindfulness-based cognitive therapy (MBCT) on depression in women affected by the earthquake in Sarpol-e Zahab city in 2018.The current research population comprised women affected by the earthquake in Sarpol-e Zahab city, who were referred to the counseling clinic of the welfare center of Sarpol-e Zahab city in 2018. Among them, 45 were selected as the study sample through convenience sampling. They were then randomly assigned to a control group and two experimental groups. This was a quasi-experimental study with a pretest-posttest design with the control group.
ISTDP sessions and MBCT were administered to the two experimental groups for 9 weeks. In the end, a post-test was implemented for three groups. The research instrument was Beck Depression Inventory (1961). Analysis of Covariance (ANCOVA) was used for the inferential analysis of data.
The results of the research showed that both ISTDP and MBCT are effective in the depression of earthquake-affected women, and there was no significant difference between ISTDP and MBCT in terms of their effectiveness in the depression of earthquake-affected women.

Keywords: *Intensive Short-Term Dynamic Psychotherapy (ISTDP), Mindfulness-Based Cognitive Therapy (MBCT), Depression, Earthquake-Affected Women*

Introduction

The development of seismic engineering technologies will never delete earthquake disasters. Humans never can conquer nature and can only live in it. While it is very difficult to predict the magnitude, epicenter, and precise time of large earthquakes, and this prediction is beyond our scientific knowledge, earthquakes occur within a long enough time causing destructive incidents in nature. In this case, people may not be able to return to their damaged houses and may have to stay in a shelter for a long time and live there unpleasantly. They may lose their jobs and fall into financial and psychological difficulties (Takagi & Wada, 2019). Hence, earthquakes cause numerous problems, such as social instability and psychological diseases. They create many changes in the external environment but also affect affected people's cognitive knowledge and psychological reactions (Tang et al., 2017). Results related to earthquake disasters indicate an increased prevalence of severe psychiatric symptoms, post-traumatic stress depression, social complaints, and nightmares (Karanci & Rüstemli, 1995; Xu et al., 2019). Genetic factors have a 37%-66% contribution to depression, while the remaining amount is attributed to environmental effects, such as natural disasters that are non-genetic. complicated environmental and genetic factors indeed play a vital role in developing depression. Therefore, natural disasters like earthquakes are important factors for depression, however, numerous changes (4.9-54%) have been reported in depression prevalence in harmful situations (Feng et al., 2017). Hence, depression disorder can be one of the mental factors affected by earthquakes. As such, studies conducted on natural disasters such as earthquakes have considered severe post-traumatic depression. Depression is influenced by cultural fields in sensitive natural disaster situations (Guo et al., 2017). Depression is a prevalent and complex psychiatric syndrome. Epigenic mechanisms create the genetic and environmental factors that contribute to depression pathobiology. Major depressive disorder is known by sadness and grief, loss of interest or pleasure, sense of guilt or low self-worth, and other symptoms such as sleep changes, weight or appetite changes, and low quality of these factors. more than 300 million people worldwide live with depression and depression is the main global cause of disability. Depression can affect people at any age and persist throughout their lifespan. The previous experience of depression increases the probability of future events. Women experience depression almost 50% greater than men. With increased age, women experience more depression (Peña & Nestler, 2018).

In general, it can be stated that natural disaster exposure has many times led to pathological effects (e.g., anxiety, post-traumatic stress disorder, insomnia, and depression) and behavioral problems (e.g., suicide, violence, and risk-taking

behavior) for survivors. Therefore, it is normal that researchers mainly focus on the negative mental-social implications for survivors regarding the health costs and mental disorders caused by such severe disasters (Ma, Xia & Lin, 2019). In this case, social-mental factors play a vital role in pain, and physical and mental-social disorders; psychological therapies indeed exist for individuals affected by environmental problems. Intensive short-term dynamic psychotherapy is one of these therapies. Many random controlled studies support admission and the feasibility of ISTDP as an alternative for individuals with mental problems (Chavooshi et al., 2017). In this context, Solbakken and Abbass (2015) indicated that ISTDP could alleviate treatment-resistant mental disorders like depression. Davanloo began with treatment-resistant patients concerning unconscious feelings making the avoid treatment, while he started the work on more resistant patients in the 1970s. He discovered that working with patients showing defense in the session and his efforts to mobilize underlying unconscious layers' feelings led to more complex feelings, helping them to avoid and defend themselves. These complex feelings, what Davanloo called complex transference feelings (CTF) included deep appreciation and positive feelings for the therapist, but also irritation because of the interruption in the common defense. After the complex transference was mobilized, he observed the increased alternating unconscious anxiety and defense, which were observable and definable in patterns. When he tried to stop this defense, he reminded defense hardly interfered between therapist and patient. After this process occurred, a therapist can defend it and change the patient against their defenses. It means that the therapist finds what has caused the anxiety and what defenses have created these symptoms and problems. Only through awareness, the patient understands what they have to face and work on during the therapy, moment by moment (Abbass, Town & Driessen, 2013).

Mindful-based cognitive therapy (MBCT) is another treatment that can be used for earthquake-affected women. As such, researchers report that mindfulness can be defined as the current intentional, uncertain, and instant awareness. As psychological cognitive-behavioral principles are discussed by participants in many of these therapies, mindfulness-based therapy concentrates on the thinking process instead of attempting to change thoughts (Lovas & Schuman-Olivier, 2018). As a third-wave behavior therapy, MBCT is along with dialectical behavioral therapy, acceptance therapy, and commitment to direct participants in developing their mind quality and acceptance of daily life. This method helps participants learn to be aware of physical feelings, thoughts, and emotions, and how to show adaptive responses to relapsing and alarming symptoms (Hayes & Hofmann, 2017). MBCT interventions help patients to be aware of their thoughts, feelings, and physical senses while nurturing a non-judgmental curious attitude and acceptance (Armstrong & Rimes, 2016). According to mentioned points, the extant study aimed at examining and comparing the effect of ISTDP with MBCT on depression among earthquake-affected women.

Hypotheses

1. ISTDP is effective for depression among Sarpol-e Zahab earthquake-affected women.
2. MBCT is effective for depression among Sarpol-e Zahab earthquake-affected women.
3. There is a difference between ISTDP and MBCT in terms of their effect on depression among Sarpol-e Zahab earthquake-affected women.

Method

The extant research design was quasi-experimental with a pretest-posttest and control group. The study's statistical population comprised all earthquake-affected women referring to a counseling clinic in Kermanshah Province, Iran, 2019. Accordingly, the research sample included 45 Sarpol-e Zahab earthquake-affected women referring to a counseling clinic in Kermanshah Province, Iran, in 2019. These subjects were selected conveniently then randomly assigned to control group (n=15), experimental group 1 (n=15), experimental group 2 (n=15). The author specified inclusion and exclusion criteria in sessions based on the following explanations: **Inclusion Criteria:** 1) suffering from depression problems after the earthquake and referring to a counseling center, 2) only those women referred to a well-being center to receive psychological consultation, 3) having secondary education degree for being able to understand and fill out the questionnaire, 4) commitment to attend class to reduce subjects' decline. **Exclusion Criteria**: 1) absence from more than two therapy sessions, 2) those women who will participate in awareness programs or other psychological interventions to decrease their mental problems.

Research Tools

ISTDP was adopted from Davanloo's therapy protocol (1995) and MBCT was designed based on the mindfulness-based cognitive therapy protocol of Segal, Williams, and Teasdale (2002) based on the mindfulness-based cognitive therapy book (Crane). The Beck Depression Inventory designed by Aaron Beck (1961) was used as a questionnaire tool. This 13-item questionnaire is classified into three groups: affectional, cognitive, and physical symptoms. Depression classes of this questionnaire are as follows: affectional symptoms (A) and 8 items: sadness, dissatisfaction, feeling of guilt, self-dislike, crying, indecisiveness, social withdrawal, irritability; cognitive symptoms (C) and 8 items: pessimism, sense of failure, punishment, self-accusation, suicide ideas, indecisiveness,

worthlessness, trouble concentrating; and physical symptoms (P) and 5 items: helplessness, insomnia, fatigue, change in appetite, and loss of libido. This is a self-report questionnaire. This questionnaire includes several groups of items that express a person's state. The Depression score of the person is measured by summing up the options selected by the person. The Depression rate is determined based on these scores and the table below. Depression rate is determined based on the Beck depression inventory (short form): minimal depression (score 4 and lower), mild depression (5-7), moderate depression (8-15), and severe depression (16-39). Accordingly, a score lower than 4 indicates possible denial of depression and good pretend even for healthy individuals. Higher scores even obtained by individuals with severe depression imply the likelihood of depression or borderline personality disorder. However, severe depression is also seen in these individuals. This questionnaire was normalized by Dadstan and Mansour (1989) in Iran and used by many researchers, including Noorbala and Shaddel (1994). Rajabi et al. (2001 quoted by Fathi Ashtiani, 2009) reported C0.87, 0.83, and 0.49 for Cronbach's alpha coefficient, split-half coefficient, and three-week retest, respectively. Hojat Shapurian and Mehryar (1986) found a positive significant correlation between Beck's depression inventory and anxiety, loneliness, and external locus of control indicators. Moreover, Rajabi (2005) reported Cronbach's alpha coefficient and half-split rates of 0.82 and 0.89 for the whole questionnaire. According to the results of the meta-analysis on BDI, the internal consistency coefficient equaled 0.73-0.93 with a mean value of 0.86. Validity coefficients obtained from retesting equaled 0.48-0.86 based on the distance between implementation times and population type (Beck et al., 1998; Fathi Ashtiani & Dastani, 2013).

Table 1. ISTDP sessions

Session	Goal	Content	Change in expected behavior	Homework
1	Introduction and explaining rules of sessions/pretest	The principles of therapy sessions were explained in the first session, and the preliminary interview was done with dynamic sequence implementation (called trial therapy) for the initial appraisal of patients.	Being aware of some experimental results of ISTDP and how to use these results	-
2	Work on tactical defenses	From session two onwards, suitable and effective interventions were implemented based on the defense types of individuals.	-	-
3	Identifying the positive and negative aspects of personality	Assessing specialized words that patients use, tactical defenses in indirect speech, and possible ill thoughts. The effective intervention of challenging patients' defenses and determining speech, challenge with defense and doubt in defense.	Accepting negative emotions and thoughts without any judgment	Concentrating on behavioral thoughts, behaviors, and moods without any prejudgment
4	Teaching conflict-settlement methods	Assessing rumination defense and reasoning: effective interventions in a row: clarification, request a definite response, doubt in defense, challenge the defense, challenge, defense obstacle	Attempting for psychological flexibility	Identifying and isolating from the current interaction pattern
5	Work with rationalization defense	Renationalization defense and generalization; effective interventions: clarification, collision and locking, challenge and crystallization, challenge with defense.	Acquiring psychological flexibility and dropping affectional resistance	Rebuilding the ineffective structures
6	Teaching emotion regulation skills	Diversionary and forgetting tactics. Effective interventions: locking defense and doubt in defense, challenge with defense.	Self-criticization and increased realism	Preparing a list of obstacles to expressing affection
7	Coping with emotion disclosure resistances	Denial and retraction. Effective interventions: clarification, doubt in defense, and challenging defense	Admitting that emotions and thoughts are not static structures	Recording intelligent thoughts emotionally

8	Challenging emotions	Speaking instead of touching feelings, passive compliance. Passiveness obedience. Effective interventions: clarification, doubt in defense, challenging defense, clarification, challenge	Emotional disclosure and higher cope with a negative attitude toward emotions	Separating thoughts from feelings
9	Summarization and implementation of posttest	In conclusion, a reimplementation of instrument, acknowledgment, and appreciation, and ending treatment	Getting rid of negative thoughts and emotions and increasing psychological flexibility	Exercising all effective techniques

Table 2. MBCT sessions

Week 1: introduction/doing pretest	
Introduction	It is explained to individuals of three groups why they have been invited to participate in the protocol.
Pretest	BDI (1961) was distributed
Week 2: automated implementation	
Practices of each session	Eating a risen or food mindfully/body scan meditation
Experiences acquired in each session	Forming a group, giving ethical codes of the method and group borders/what results from I gain from this course and what we are going to do in this course?
Home practice	45-min body scan meditation, creating daily attention for active and permanent care through showering/eating mindfully within a week
Week 3: overcoming obstacles	
Practical exercises in each session	Body scan meditation/10-min mindful breathing and mindful meditation
Experiences of each session	Thinking of practices and feeling them mindfully
Home practice	45-min body scan treatment/10-min mindful breath/paying attention to different daily activities to record the experience of a pleasant and daily event in the day
Week 4: mindful breathing (doing physical movement based on this technique)	
Practical exercises in each session	Mindful movements/stretching and breathing practice/watching and listening mindfully
Experiences in each session	3-min breath/discovering pleasant daily experiences or discovering unpleasant experiences during the week.
Home practice	Keep breathing practice on days 1, 3, and 5 in the week/doing practices mindfully on days 2, 4, and 6 in the week/attention to daily pleasant and desired experiences/3-min breath in time section of the day
Week 5: being at the present moment	
Practical exercises for each session	5-min watching or listening mindfully (being aware of breath, body organs, sounds, thoughts, and mindful

	choices)/3-min breathing-presenting the learned practices to use when facing hard feelings.
Experiences of each session	Discovering unpleasant experiences/discovering and defining mental pain problems/post-traumatic stress and depression or different focus groups/chronic or severe fatigue, stress, etc.
Home practice	Relaxation and meditation/3-min normal breathing, review (three times a day)/3-min patterned breathing
Week 6: accepting and allowing	
Practical exercises in each session	Meditation sessions to be aware of breath and body organs and emphasize how reacting to what we think, feel, and anything caused by body feelings; creating a hard practice condition and discovering the effects of practices on the mind and body
Experiences in each session	Reading poetry and discovering the content suited the goal of group/practicing to discover the response to normalized patterns and using the potential talent of mindfulness skills to ease the reaction to present experiences
Home practice	Relaxation and meditation session/3-min normal breathing, reviewing it (three times a day)/3-min practices breathing/imitation for the time when unpleasant feelings occur; then practicing to discover the choice to open body doors and enter the space outside (inside) the body
Week 7	
Practical exercises in each session	Meditation sessions-being aware of breath and body-meanwhile, explaining the problems of the patient during the practice and discovering its effects on the body and mind, 3-min breathing
Experiences of each session	Practicing to change mood, thoughts, and attitudes/expansion of personal recurrences and activity plan/being ready for course ending
Home practice	Doing practices 40-min per day- working on different combinations of three practices: examining the application of short-term practices/3-min normal breathing/3-min practices breathing and modeling it/opening the thought doors/ and reflecting and working on it to prevent personal recurrences and relapses
Week 8: how well we can care for ourselves?	
Practical exercises in each session	Meditation sessions- being aware of breath, body organs, sounds, thoughts, and emotions/3-min breath and introducing a problem during the practice and discovering its effect on the body and mind
Experiences of each session	Discovering the connection between activity and mood, a general list of daily activities, and addressing emotional or strong evacuation that creates the desired feeling of power/addressing ways to increase beneficial

	activities/detecting recurrences and activities leading to relapses
Home practice	Choosing all forms of practices that give a common pattern to persons allowing them to pursue it after the end of program/normal and practiced breath; after discovery practices, the subject selects a practice; opening practical skills and developing an initial alarming dynamic system to detect relapses/ expansion of the executive program to apply the practices in the most minor difficult cases
Week 9: how to use the practices in future decisions	
Practices of each session	Body scan meditation/end of therapy
Experiences of each session	Revision of initial alarming system and operational projects provided to be applied in recurrences; it was reviewed what thoughts are most valuable in the life of the person to allow them to use that thought in formal and informal learning/making participants asking questions and answering their reflections during the course
Home practice	A session for home practice to allow you being able to continue the program alone in future months/doing post-test using BDI (1961)

Results

Table 3. Descriptive values of depression

Group	**Stage**	**Mean**	**SD**	**Lowest score**	**Highest score**
Test group (ISTDP)	Pretest	5.200	1.740	2	8
	Posttest	2.466	1.245	1	5
Test group (MBCT)	Pretest	6.266	2.051	3	10
	Posttest	2.866	1.187	1	5
Control	Pretest	4.533	2.133	2	9
	Posttest	4.200	1.971	1	8

Table 4. ANCOVA results

Group	Variation sources	Sum of squares	df	Mean squares	F value	Sig.	Effect size Eta
ISTDP	Group	8.901	1	0.901	11.755	0.002	0.320
	Error	18.930	25	0.757	-	-	-
MBCT	Group	11.691	1	11.691	13.667	0.001	0.353
	Error	21.386	25	0.855	-	-	-

According to Table 4, there is a significant difference between research groups in terms of depression disorder, and the significance level obtained from the alpha value (α=0.05) in each test group is smaller. Therefore, ISTDP and MBCT had a significant effect on depression with a probability value of 95%. Hence, the corresponding hypotheses are confirmed.

Table 5. Comparing tow-way results

Variable	Group 1	Group 2	Mean difference	SD	Sig.
Depression	ISTDP	MBCT	-0.400	0.551	0.472

According to Table 5 which reports the results of the LSD posthoc test for two-way group comparison, the obtained significance level indicates no significant difference between test groups in terms of depression variable based on two independent variables. Accordingly, two test groups of IST DP and MBCT had no significant difference in the post-test on this variable.

Table 6. Results of mixed ANOVA with remeasurements

Variable	Groups	Variation source	Sum of squares	df	Mean squares	F ratio	Sig.	Effect size
Depression	ISTDP	Intervention steps	17.8	1.04	14.5	11.58	0.001	0.68
		Intra-group steps	10.55	1.09	9.25	9.10	0.001	0.59
		Intergroup	8.99	1	8.99	7.99	0.001	0.58
	MBCT	Intervention steps	20.21	1.01	19.55	11.12	0.004	0.70
		Intra-group steps	16.17	1.81	15.47	10.79	0.001	0.68
		Intergroup	10.84	1	10.84	8.41	0.003	0.62

Table 6 indicates that ISTDP (p=0.001) and MBCT (p=0.003) had effect on depression with effect sizes of 0.58 and 0.62, respectively.

Discussion and Conclusion

This study aims to examine and compare the effectiveness of ISTDP and MBCT on depression among Sarpol-e Zahab earthquake-affected women. The obtained results indicated that both MBCT and ISTDP alleviated the depression symptoms in test groups compared to the control group. These therapies were effective in reducing depression, while there was not any significant difference between their effectiveness rates.

The hypothesis about the effect of ISTDP and MBCT on the depression of Sarpol-e Zahab earthquake-affected women was confirmed. The result of this hypothesis is in line with the results obtained by Town, Abbass, Stride, and Bernier (2017). It can be explained that because a person faces undesired feelings during ISTDP, his/her anxiety will increase at the first stage causing increased depression symptoms while the feelings are expressed, processed, and controlled after several sessions so the anxiety and depression symptoms (sadness, grief, loss of energy and pleasure) are reduced. ISTDP ate based on relationship therapy and the disclosure of clients and their problems. The active role of a dynamic psychotherapist and the application of accurate techniques in this role helps patients or clients to identify and touch the depth of their feelings and thoughts within the shortest time. Hence, the most original relationship and deepest form of honesty and originality culture are manifested in the therapist-client interaction. We also used the mentioned principles in our psychotherapy sessions in which all earthquake-affected women suffered from depression caused by natural disasters. When feelings were unlocked and expressed unconsciously in therapy sessions, the accumulated feelings, such as despair, sadness, etc. were considerably reduced, which in turn led to fewer depression symptoms among affected women. Therefore, it can be claimed that short-term dynamic psychotherapy could reduce depression symptoms among earthquake-affected women.

The hypothesis of the effectiveness of MBCT on depression of Sarpol-e Zahab earthquake-affected women was confirmed. This finding is matched with results obtained by Mehdizadeh Azdin and others (2018). It can be explained that MBCT teaches patients moment-to-moment awareness. Therefore, depressed patients observe and accept their mood, behavioral, and cognitive changes without any judgment. Moreover, this technique teaches subjects how to make a relationship with their unpleasant thoughts and feelings differently by not considering them as a part of self or a reflection of reality. They learn not to suppress or avoid such thoughts and feeling but accept them as transient mental incidents or as a part of their present experience. If persons can accept their thoughts and feelings without being involved in them, they do not feel any pressure to act based on such thoughts and feelings. As such, the person feels more freedom thinking that he/she has control over transient thoughts and emotions instead of dominance over them (Talebizadeh, Shahmir, Jafarifard, 2012). In this case, Teasdale et al. (2000) explain that cognitive therapy alleviates inefficient attitudes by changing the content of depressing thoughts. Mindfulness presents a different relationship with thoughts. This method does not emphasize not collecting or to responding incidents that agree or disagree with the thoughts of the subjects. In contrast, this technique wants individuals to resist negative thoughts with more mindfulness attention. MBCT is a new therapy that corrects, controls, and processes thoughts (Teasdale et al., 2000). It also can be explained that the main core of cognitive-behavioral therapy in depression reduction is a direct connection between individuals' mood and their thinking patterns, so negative thoughts and dysfunction cause negative moods, feeling, behavior, or physical states. Therefore, the mood of earthquake-affected patients is related to their unpleasant and negative thoughts. Hence, cognitive-behavioral therapy helps individuals to rebuild their negative thinking patterns about a natural disaster or earthquake, such as depression by replacing negative thoughts with positive ones, which reduces depression symptoms. Therefore, it is concluded that MBCT reduces depression symptoms in earthquake-affected women so this therapy can be used to recover these patients.

Finally, there is a difference between the effectiveness rate of ISTDP and MBCT on depression among earthquake-affected women. This result was consistent with findings obtained by Kaiken et al. (2015), and Mehrienejad and Saatchi (2016). It can be explained by the result of this hypothesis that a person's thoughts are experienced as mental incidents in MBCT and attention and focus on breathing is used as a tool to live in the moment. This technique helps patients to stop the rumination cycle and forget their negative thoughts. Teaching flexibility and resilience in attention, mental enrichment, stopping rumination, correcting wrong positive and negative beliefs, and challenging negative beliefs about emotions will reduce depression and rumination. On the other hand, some researchers addressed the feelings of loss or rejection of patients in short-term dynamic psychotherapy and also dynamic psychotherapy focused on Halgin, Richard P. and Whitburn intrapsychic processes as mood disorders (Halgin &Whitburn, 2005), targeting these intrapsychic processes and adjusted mood of depressed persons. Therefore, it is clear that MBCT and ISTDP both could reduce an aspect of depression by emphasizing the thoughts and inner processes such as grief and loss, respectively. However, there are other aspects of

depression that these two therapies have not had effectiveness in them. It is worth noting that the mentioned two therapies have had the same effect with no significant difference in reducing depression symptoms.

Like other studies, the extant research also faced some limitations: 1) it was not possible to control intervening variables, such as age range, education level, number of children, and so forth. Because of the difficult situation of the studied women; 2) some irregularities in entering and exiting the sessions were unavoidable; 3) some subjects suffered from other psychological factors that effects were not easily diagnosable.

Practical Recommendations

1) Consultants and therapists can use MBCT and ISTDP to treat depression.
2) Consultants and therapists should pay more attention to depression among earthquake survivors since it can be one of the factors causing mental disorders and individual-social dysfunction in these affected persons.

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