

Examining the Effect of Psychological Interventions in the Treatment of Individuals with Borderline Personality Disorder

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ABSTRACT

Mindfulness-based therapy is a modified form of cognitive therapy that uses mindfulness practices such as awareness of present moment, meditation, and breathing exercises. This therapy was initially formulated to address depression. However, this research was conducted with the aim of determining the effectiveness of mindfulness-based therapy on improving psychological symptoms and emotion regulation in individuals with borderline personality disorder. The current study was a semi-experimental study with a pre-test, post-test, follow-up design and a control group. The research sample consisted of 40 women diagnosed with borderline personality disorder at a psychiatric hospital in Tehran, selected through purposive sampling and randomly assigned to two groups: experimental group (20 individuals) and control group (20 individuals). Participants completed the Emotion Regulation Questionnaire and the Psychological Symptoms Questionnaire in the pre-test, post-test, and follow-up stages. The participants in the experimental group underwent 20 sessions of mindfulness-based therapy. The results showed that mindfulness-based therapy had a significant effect on improving psychological symptoms and emotion regulation in individuals with borderline personality disorder ($p < 0.001$). The results also indicated that mindfulness-based therapy leads to an increase in positive strategies and a decrease in negative strategies of emotion regulation in the post-test stage, and this effect persists in the follow-up stage.

1. Introduction

Although all individuals have been completely dependent on others at some point in their lives, abnormal dependency is considered a type of psychological harm that disrupts a person's normal life. Borderline Personality Disorder (BPD), characterized by symptoms such as unstable emotions, impulsive behaviors, identity issues, and interpersonal relationship problems, is prevalent in various societies. Borderline Personality Disorder or BPD is defined as "a pervasive pattern of instability in interpersonal relationships, self-image, emotions, and impulsivity that begins in early adulthood and exists in various contexts." Individuals with BPD exhibit a wide range of behavioral and psychological problems (Gunderson, 2009). Interpersonal difficulties, identity issues, academic and occupational problems, as well as legal entanglements, are challenges that individuals with this disorder face in their daily functioning. The prevalence of Borderline Personality Disorder is estimated to be two percent in the general population, 10 percent among patients in outpatient mental health clinics, and approximately 20 percent among hospitalized psychiatric patients (Merza et al., 2017).

It appears that many of them have a significant fear of abandonment and rejection. They often find themselves in tumultuous and troublesome relationships, sometimes only after a single encounter with another person. However, if they perceive that person's behavior as unreasonable or insignificant, they may engage with that person to the same extent. Even if they become involved with someone when their expectations of the relationship are not met, they may fear abandonment or even terror at the thought of losing that relationship. This often leads to an emotional rollercoaster and may result in: (1) unstable and unpredictable changes in self-image and feelings, manifested by changes in personal goals, principles, and occupational efforts, (2) feelings of shame and emptiness leading to episodes of depression, suicidal thoughts, or attempts, (3) impulsive behavior that is often self-injurious such as substance abuse, overspending, binge eating, and (3) difficulty in controlling anger, physical violence, and inappropriate impulsivity. Borderline Personality Disorder has been consistently recognized as the most common disorder among all identified personality disorders. The problem of emotional instability, impulsive thoughts, and behaviors ultimately leads to the disruption of interpersonal relationships in these patients. BPD is often comorbid with disorders such as depression, anxiety disorders, eating disorders, substance abuse, and other psychological disorders (Zanarini, 2012).

In addition, BPD often includes a high level of comorbidity with conditions such as Axis I disorders, mood disorders, anxiety disorders, substance use, and post-traumatic stress disorder. As a result, these data indicate that BPD displays a behavioral style that unfortunately inflicts significant harm on the individual and those around them (Zanarini et al., 2004). Living with this mental state is not only challenging for the individual, but also leads to extensive costs including chronic unemployment, repeated hospitalizations, and increased consumption of general healthcare resources. Therefore, Borderline Personality Disorder imposes a heavy burden on both the patients and the community. It has been argued that childhood traumas such as physical, sexual, and emotional abuse, as well as neglect or harassment during childhood, can lead to the development of this disorder. Although classified as a severe disorder, treatments for this disorder have been effective in improving problems of emotional dysregulation in emotions, thoughts, behaviors, relationships, and self-perception. While therapies such as Dialectical Behavior Therapy, Mentalization-Based Therapy, Transference-Focused Therapy, and good psychiatric management have been effective in treating this disorder.

Although BPD is often perceived by physicians as one of the most challenging disorders to treat, significant progress has been made in the treatment of this disorder. Systematic reviews indicate that psychotherapy is the preferred method for treating BPD (Wupperman et al., 2013). The following therapeutic methods are some of the treatments that have been explored in recent decades to focus on reducing BPD symptoms: Cognitive Therapy (CT), a method introduced by Beck (1979) focusing on modifying maladaptive cognitions, has evolved into Cognitive-Behavioral Therapy (CBT). CBT can help identify and regulate core beliefs and/or behaviors that underlie incorrect perceptions of self and others along with difficulties in interacting with others (Davey, 2008). However, randomized controlled trials (RCTs) examining the efficacy of CBT for BPD provide conflicting results. Mentalization-Based Therapy (MBT) was developed by Bateman and Fonagy in 1999. The aim of the treatment is to enhance the mental capacity of individuals with BPD. Individuals are taught to carefully examine their thoughts

and beliefs and learn how to tolerate and manage them sufficiently (Ben-Porath et al., 2004). Furthermore, in recent years, we have witnessed an increase in the integration of mindfulness in psychotherapy. The theory of mindfulness, which originates from Buddhist traditions, has attracted widespread attention in Western psychology as it is believed to enhance psychological well-being. Mindfulness can be defined as conscious living in the present moment, with attention, openness, and without judgment (Kabat-Zinn, 2003). Mindfulness is one of the common themes in so-called "third wave" cognitive-behavioral therapies and includes Mindfulness-Based Cognitive Therapy (MBCT), Dialectical Behavior Therapy (DBT), and Acceptance and Commitment Therapy (ACT) (Chafos & Economou, 2014). It has been proven that MBCT is successful for patients at high risk of suicide and psychiatric inpatients. Furthermore, mindfulness meditation is a key component of DBT (Hayes, 2004). This approach combines elements of CBT with mindfulness. It is a client-centered approach that accepts clients as they are but seeks to help the patient regulate their emotions and ineffective thinking patterns about themselves and the world.

As explained by Linehan and colleagues (2004), DBT is the best treatment for BPD. Additionally, ACT helps patients overcome obstacles they face (acceptance) and continue to move towards valuable goals (commitment) in a way that establishes larger patterns of effective behaviors. Reducing experiential avoidance (the tendency to amplify negative events) is a fundamental goal of ACT. Furthermore, Chapman and colleagues (2006) suggested that the severity of BPD symptoms is associated with experiential avoidance.

Mindfulness-based treatment is a specific type of psychodynamic therapy that Bateman and Fonagy have developed to treat individuals with borderline personality disorder. The main assumption of mindfulness-based treatment is that a lack of mentalization capacity leads to the development of borderline personality disorder. Mentalization, perceived as a reflective function, is the ability to understand one's own and others' mental states, which is acquired through interpersonal relationships in childhood, especially in attachment relationships, and forms the basis of overt behaviors. Individuals with borderline personality disorder have deficits in mentalization capacity related to an insecure attachment style (Bateman et al., 2010). The primary focus of mindfulness-based treatment is to help the client bring their mental experiences to the level of awareness and achieve a coherent and complete sense of mental agency.

Since the core of borderline personality disorder is difficulty in self-regulation and emotional regulation in individuals, researchers believe that using positive psychological interventions can improve BPD symptoms by nurturing emotions and positive potentials in patients. It is worth mentioning that information related to the hypothesis has not been found in the literature review. Therefore, this study was conducted to examine the effect of mindfulness-based psychological interventions in treating individuals with borderline personality disorder.

Research Method

The present study was practical in terms of purpose and quantitative in terms of data collection. This research was an experimental type with pre-test and post-test design with a control group along with a follow-up period.

The statistical population of this study consisted of a more comprehensive group of women diagnosed with borderline personality disorder at psychiatric hospitals in Tehran in the year 2023. The research sample included 40 women diagnosed with borderline personality disorder who were purposefully selected based on acceptance to participate in the study and meeting the entrance criteria from the statistical population. In experimental research, the minimum sample size in each subgroup is 20 individuals; considering the small size of the statistical population, entrance and access criteria were selected for individuals diagnosed with borderline personality disorder.

From the above sample, 15 individuals were randomly assigned to the experimental group to investigate the effectiveness of mindfulness, and 15 individuals were assigned to the control group (without intervention). The entrance criteria were:

- 1) Having diagnostic criteria for borderline personality disorder based on DSM-5 in the assessment by a psychiatrist and in clinical interviews structured for personality disorders according to DSM-5 in the examiner's evaluation
- 2) Age range between 25-35 years old
- 3) No drug intoxication or inhibitory medical problems.

The exit criteria were: (1) Lack of willingness to continue treatment; (2) Missing more than two sessions

during the intervention.

2.1 Research Instruments:

2.1.1 Structured Clinical Interview for Personality Disorders

The Structured Clinical Interview for Personality Disorders (SCIP-5-PD) is a semi-structured diagnostic interview developed by First and colleagues to diagnose personality disorders in the DSM-5. SCIP-5-PD covers the entire personality disorder cluster in DSM-5 and other specific personality disorders (First et al., 1997). One of the features of SCIP-5-PD is that it serves as a self-report personality questionnaire for screening purposes. This questionnaire consists of 106 questions and can be completed in less than 20 minutes, requiring a minimum of 8 educational classes to answer it (Lobbestael et al., 2010). The interviewer conducts the interview based on the questions to which the patient responds positively. Regarding the reliability or validity of SCID-5-PD, information is not readily available; however, some previous studies have examined the reliability of SCID-II. Lobbestael and colleagues reported kappa coefficients ranging from 0.69 for paranoid personality disorder to 0.95 for borderline personality disorder (with an overall kappa of 0.78) (Sharifi et al., 2004).

2.1.2 Symptom Checklist

The Symptom Checklist is a revised short form version of the 90-item Symptom Checklist, known as SCL-90-R, developed by Najarian and Davoodi. SCL-90-R is a self-report and widely used tool for assessing psychological pathology. This tool is specifically designed to measure the types of physical and mental distress that individuals have recently experienced (Najarian and Davoodi, 2002). The initial version of the 90-item Symptom Checklist, SCL-90, was constructed by Derogatis and colleagues using the original items from the Hopkins Symptom Checklist and adding new items to the scale, as well as making changes in the rating method and administration procedures. Based on clinical experiences and psychometric analysis conducted on the SCL-90, modifications were made, and it was renamed as SCL-90-R (Derogatis et al., 1976).

Najarian and Davoodi developed the SCL-25 scale based on the SCL-90-R scale. This scale is also a self-report tool for assessing general psychological pathology. It consists of 25 items, with each question scored on a Likert scale from 1 (not at all) to 5 (most of the time) (Lobbestael et al., 2010). In this questionnaire, scores between 25 and 50 indicate low levels of psychological symptoms, scores between 50 and 75 indicate moderate levels of psychological symptoms, and scores above 75 indicate high levels of psychological symptoms in individuals. The questionnaire covers nine different dimensions including somatization, obsession-compulsion, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, and psychoticism. In a study by Mohaddes (2004), the reliability of this scale was computed using Cronbach's alpha, Spearman-Brown, and Guttman methods, with coefficients of 0.88, 0.92, and 0.87 respectively, indicating relatively good test reliability (Sadeghi, 2006).

2.1.3 Emotion Regulation Questionnaire

This questionnaire, developed by Gross and John, aims to measure emotion regulation. It consists of two subscales: "Reappraisal" with 6 items and "Suppression" with 4 items. Participants respond on a 7-point Likert scale ranging from strongly disagree (rated 1) to strongly agree (rated 7). In the study by Gross and John, internal consistency was reported as 0.79 for Reappraisal and 0.73 for Suppression. Similarly, Carmines and Zeller reported internal consistency as 0.83 for Reappraisal and 0.79 for Suppression. In Iran, Hosseini reported a Cronbach's alpha coefficient of 0.79 for Reappraisal, and in another study, a Cronbach's alpha of 0.83 for Reappraisal and 0.79 for Suppression were obtained (Bigdeli et al., 2013). Furthermore, in the current study, the reliability of the tool was calculated to be 0.79 based on Cronbach's alpha.

2.1.4 Positive-focused Mentalization-Based Treatment

In 2016, Bateman and Fonagy developed a method for treating personality disorders, particularly borderline personality disorder. This treatment protocol has been utilized in several studies on borderline personality disorder and its effectiveness has been confirmed (Bateman and Fonagy, 2012). The research procedure involved obtaining ethical approval from the Educational and Research Deputy of Tehran University of Medical Sciences and coordinating with the head of Tehran Psychiatric Hospital.

Initially, diagnostic assessments based on DSM-5 were conducted by neurologists and psychiatrists on

the patients. A structured clinical interview for personality disorders based on DSM-5 criteria was then administered. Among the referred women, 40 individuals who expressed willingness to participate in the study were purposefully selected through stratified sampling and randomly assigned to either the experimental group or the control group. In adherence to ethical considerations, after explaining the research topic and goals, participants were assured of the confidentiality of their information. Finally, participants were informed that they could withdraw from the study at any time.

The sessions were conducted in a question-and-answer and group discussion format, and homework assignments were given at the end of each session. The content of the sessions is presented in Table (1). A one-month follow-up was conducted after the completion of the therapy sessions.

Table1. Content of the Mentalization-Based Therapy (MBT) Protocol Sessions by Bateman and Fonagy

Sessions	Session Content
1st (Mentalization and Positioning of Mentalization)	Stating the goals of group sessions, emphasizing active participation of members in the group, introducing group members, explaining the dimensions of mentalization benefits, presenting homework assignments.
2nd (Having Problems with Mentalization)	Stating the session goals (indicators of weak and good mentalization, problems in reading one's and others' minds, emotional regulation and reactivity issues, interpersonal sensitivity), presenting homework assignments.
3rd (Why Do We Have Emotions and What Are the Primary Emotions)	Stating the session goals (main and social emotions, primary and secondary emotions), individual differences in emotion regulation, presenting homework assignments.
4th (Mentalization of Emotions)	Stating the session goals (how to deal with emotions and feelings), interpreting internal emotional signs of oneself and others, self-regulation of emotions, how others can help regulate our emotions, managing non-mental emotions, presenting coping strategies, presenting homework assignments.
5th (The Importance of Attachment Relationships)	Stating the session goals (the importance of attachment relationships), discussing attachment and attachment strategies in adulthood, presenting homework assignments.
6th (Attachment and Mentalization)	Stating the session goals (attachment and mentalization), conflicts of attachment, presenting homework assignments.
7th (What is Personality Disorder and What is BPD)	Stating the session goals (what is personality disorder and what is BPD), presenting an educational approach, group activities, presenting notes on borderline personality disorder criteria, presenting assignments.
8th (Mindfulness-based Therapy)	Stating the session goals (mindfulness-based therapy), presenting the characteristics and specific goals of MBT, teaching and practicing mentalization in the group, presenting homework assignments.
9th (Mindfulness-based Therapy)	Stating the session goals (attachment aspect of mindfulness-based therapy), importance of connecting with others, creating attachment relationships with therapists and other group members, presenting homework assignments.
10th (Anxiety, Attachment, and Mentalization)	Stating the session goals (providing education on anxiety and fear, types of anxiety disorders and their therapeutic solutions, and the key role of another person in treatment), presenting homework assignments.
11th (Depression, Attachment, and Mentalization)	Stating the session goals (providing an educational approach to depression, presenting education on the course and treatment of depression, discussing depressive thinking, presenting homework assignments.
12th	Summary and Conclusion
13th (Support and Honest Confirmation)	Review of the previous group discussion, stating the goals of group sessions, questioning group members about the issues they want to raise in the group, friendly confirmation.
14th and 15th	Clarification of the topics raised by group members by therapists, problem combining, exploring problems and challenging them if necessary.
16th (Emotional Identification and Emotional Focus)	Emotional identification and emotional focus on topics raised by group members.
17th	Education for mentalization in order to facilitate epistemic trust.
18th and 19th	Mentalization of relations considering transference markers.
20th	Preparation for ending therapy focusing on feelings of loss in the context of ending therapy.

2.2 Findings

The average age in the experimental group was 52.29 years and in the control group was 71.30 years. In the experimental group, 44% of individuals were unmarried, while in the control group, 51% were unmarried. The educational status of participants in both groups consisted of 1 individual with a primary school education, 14 individuals with a high school diploma, 7 individuals with post-diploma education, 5 individuals with a bachelor's degree, and 3 individuals with a postgraduate degree.

Before using repeated measure analysis of variance, the assumptions of the analysis were examined. The Kolmogorov-Smirnov test was used to check the normality of data distribution. The results of this test indicated that the distribution of dependent variable scores in pre-test, post-test, and follow-up were normal, and the data were normally distributed ($p < 0.05$). Similarly, the Levene's test results showed that there was no significant difference in the variances of the two groups in the two dependent variables, and the variances are homogeneous.

According to the results in Table (2), the interaction effect of the emotion regulation variable and the measurement time on women with borderline personality disorder is statistically significant ($p = 0.001$). The results of the analysis of covariance in Table 1 showed that after removing the pre-test effect, there was a significant difference in post-test scores indicating mental disorder symptoms and emotion regulation between the experimental and control groups ($p < 0.001$). Therefore, 25.0% of the changes in mental disorder symptoms and 37.0% of the changes through the independent variable (positive mentalization-based training) can be explained (Table 3).

The results in the follow-up stage compared to the pre-test showed that the experimental group significantly differed from the control group in mental disorder symptoms ($p = 0.001$) and emotion regulation ($p = 0.02$). Furthermore, 23.0% of the changes in emotion regulation and 26.0% of the changes in mental disorder symptoms can be attributed to the independent variable (positive mentalization-based training) (Table 3).

Table 2. Results of analysis of variance for emotional regulation of two groups in pre-test, post-test, and follow-up stages

Source	Sum of Squares	Degrees of Freedom	Significance
Variable × Time	1514.84	1.64	0.001
Group	135.224	1	
Error	4.35	46.14	
Variable × Time x Error	348.68	1.64	

Table 3. Mean and standard deviation of the scores of mental disorder and well-being of the subjects categorized into two experimental and control groups along with the results of the covariance analysis

Variable	\bar{x} , s	Experimental	Control	F Value	P Value	Eta Squared	
Indicators of Mental Disorder	Pre-test	Mean	60	21.56	12.10	<0.001	0.25
		Standard Deviation	10.21	14.32			
	Post-test	Mean	46.71	63.25			
		Standard Deviation	9.25	14.20			
	Follow-up	Mean	46.73	54.25	11.75	<0.001	0.26
		Standard Deviation	8.46	12.25			
Emotion Regulation	Pre-test	Mean	22.5	23.21	18.23	<0.001	0.37
		Standard Deviation	4.80	4.60			
	Post-test	Mean	35.64	28.73			
		Standard Deviation	4.14	6.55			
	Follow-up	Mean	18.19	21.34	11.13	0.03	0.23
		Standard Deviation	3.15	4.30			

Discussion and Conclusion

The aim of the current study was to investigate the effectiveness of positive mindfulness-based therapy in treating individuals with borderline personality disorder. Based on the results obtained, positive

mindfulness-based therapy had a significant impact on the psychological symptoms and emotion regulation of individuals with borderline personality disorder. The findings of the present study indicated that positive mindfulness-based therapy had a positive effect on improving psychological symptoms and emotion regulation in individuals with borderline personality disorder. While no study directly aligning with these results was found, there are studies that could lead to such conclusions. Seligman (2006) demonstrated in his study that gratitude plays a significant role in enhancing happiness in life. The more grateful we are, the happier we will be. Positive psychotherapy training leads individuals to have more commitment to their lives, be more actively involved, and engage with more motivation in it. As the prerequisite for this active engagement is a better identification of inherent abilities and their effective utilization in life, setting life goals based on them, therefore, such training can be a step towards well-being and fulfillment. By generating positive emotions, enhancing personal abilities, and creating meaning in the patient's life, this approach can act as a shield against depression and even prevent its recurrence.

Based on the results of this research, in the pre-test stage, there was no significant difference between the experimental and control groups in terms of emotion regulation levels. However, after the intervention (positive mindfulness-based therapy training), a significant difference was observed between the two groups. According to the adjusted means resulting from the analysis of covariance, it can be concluded that mindfulness-based training leads to an improvement in emotion regulation levels in the experimental group compared to the control group. This finding is in line with the findings of Gooyedbakh and colleagues (2015) and Ghaari et al. (2017). This indicates the significant impact of positive psychology-based interventions on improving emotional regulation in patients with borderline personality disorders. Studies suggest the meaningful impact of positive emotions in clinical and non-clinical samples and the engagement of experienced participants in emotional expression and adaptive emotional regulation. Additionally, Anthony and colleagues (2018) demonstrated that mindfulness-based interventions have a significant impact on positive and negative emotion regulation. Researchers also showed that positive psychology training is effective in increasing cognitive emotional regulation capacity in individuals, enhancing positive strategies, and reducing negative cognitive emotional regulation strategies. Positivity is a method that allows individuals to have more freedom of action in viewing the world. Positive thinkers have a healthier perspective and tend to live longer than their pessimistic counterparts. Mindfulness-based psychological interventions help individuals redirect their attention, memory, and expectations from negative and traumatic events towards positive and hopeful events. Focusing on positive aspects leads to experiencing positive emotions and ultimately expands the immediate list of individual actions and thoughts. In this regard, the goal of positive psychology is to optimize human functioning and by experiencing emotions, improve human performance (Seligman et al., 2006). In a positive psychology therapy program, one of the most important goals is to enhance and increase satisfaction with life, happiness, and well-being of individuals. According to this approach, enhancing abilities, positive emotions, commitment, and meaning make life happier and more fulfilling, while also reducing emotional difficulties (Khanjani, 2017).

In explaining this finding, it can be stated that individuals with borderline personality disorder transition from an agitated emotional state (anger, impulsivity) back to a normal state with difficulty, struggle to differentiate their negative feelings, and use them as negative self-concepts and devaluations (Bateman et al., 2013). In other words, this imbalance in emotional mentalization is against cognitive; in mindfulness-based therapy, the therapist, based on the patient's level of arousal, reconstructs the mentalization based on techniques like pause, review, and exploration, creating grounds for stronger and more flexible mentalization capacity. Garland and colleagues (2010) explained how triggering positive emotions can be effective in treating mental illnesses related to emotional disorders such as depression, anxiety, and schizophrenia. The article argued that positive emotional spirals counteract negative emotional spirals. Bayern and Agn investigated the effectiveness and mechanisms of change in three psychological interventions (dialectical behavior therapy, schema therapy, and mindfulness-based therapy) for borderline personality disorder; the results showed that increasing mentalization skills can be a key factor in various treatments for individuals with a borderline personality disorder. Positive psychologists focus on positive emotions and memories in their discussions. They also address issues related to clients' problems with the goal of integrating positive and negative emotions; as a result, individuals learn to make active choices in the world and shape their lives personally. In such circumstances, individuals will experience better mental well-being.

Overall, it can be said that mindfulness-based therapy is an appropriate intervention for improving psychological symptoms and emotion regulation in women with borderline personality disorder. It can be used as an effective intervention method in psychiatric hospitals to treat individuals with borderline personality disorder. Among the limitations in this research that may affect the generalizability of the results, initially, the difficult access to individuals with borderline personality disorder and other criteria mentioned in the research and therefore the limited sample size. Secondly, the presence of female participants in the research sample and thirdly, the possibility of participants dropping out of long-term therapy twice a week for a year, and the potential dropout of sample individuals over time. Conducting similar comparative research between this approach and cognitive-behavioral or transpersonal approaches on patients with borderline personality disorder to investigate the specific and unique effects of this treatment is recommended to future researchers. Furthermore, based on the research results, the use of this therapeutic approach in psychological clinics with clients suffering from surface personality disorders is recommended. It is also suggested to conduct research on men with borderline personality disorder and to examine a larger sample size.

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