The Effectiveness of Schema Therapy on Obsessive-Compulsive Disorder in Individuals with Borderline Personality Disorder

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A B S T R A C T

Borderline personality disorder, a severe and pervasive mental health condition, has attracted the interest of many researchers. Therefore, the present study aimed to examine the effectiveness of schema therapy on obsessive-compulsive disorder in individuals with borderline personality disorder. This study employed a quasi-experimental design with a pretest-posttest control group structure. The statistical population included all married women diagnosed with borderline personality disorder who visited the Family Green Psychological Services Center in Semnan in 2024. From this population, 30 individuals were selected using purposive sampling based on inclusion and exclusion criteria and were randomly assigned to either the experimental or control group (15 participants per group). The research instrument was the Maudsley Obsessive-Compulsive Inventory (MOCL). The schema therapy sessions were conducted based on the schema therapy protocol developed by Young et al. (2003; translated by Hamidpour, 2007). Data analysis was performed using SPSS-24 software and multivariate analysis of covariance (MANCOVA) while ensuring statistical assumptions were met. The results indicated that after controlling for the pretest effect, the difference in pretest-posttest scores in the experimental group for obsessive-compulsive disorder was statistically significant. Additionally, the posttest mean scores for obsessive-compulsive disorder in the experimental group were significantly lower than those in the control group (p < .001). Based on the study findings, schema therapy has a significant impact on the research variables. To enhance the external validity of the findings, further studies in this area are recommended.

Keywords: Schema Therapy, Obsessive-Compulsive Disorder, Borderline Personality Disorder

1. Introduction

Borderline personality disorder (BPD) is characterized by sudden changes in identity, interpersonal relationships, and affect, as well as impulsive behavior, episodes of intense anger, feelings of emptiness, suicidal behaviors, self-harm, transient stress-related paranoid thoughts, and severe dissociative symptoms (such as experiences of unreality regarding oneself or the surroundings). BPD is typically diagnosed by a mental health professional using semi-structured interviews. Most individuals with BPD have comorbid psychiatric disorders, such as mood disorders (e.g., major depression or bipolar disorder) (83%), anxiety disorders (85%), or substance use disorders (78%). The etiology of BPD is linked to both genetic factors and adverse childhood experiences, such as sexual and physical abuse (Lieb et al., 2023). BPD is a severe

and pervasive mental health condition characterized by emotional dysregulation, a high rate of self-injury and suicide, and significant comorbidity with other psychiatric disorders (1). In recent years, there has been a growing research effort to elucidate the complex neurobiological underpinnings of BPD. Studies examining the structural and functional aspects of the brain have revealed significant alterations, primarily in limbic-prefrontal regions, including the amygdala, hippocampus, and prefrontal cortex. These changes are associated with the emotional dysregulation characteristic of BPD (2, 3). Additionally, genetic and family studies have provided valuable insights into the heritability of BPD, emphasizing the role of genetic factors in its etiology. Furthermore, gene-environment interactions, particularly in the context of traumatic experiences, have been investigated as contributing factors to the onset and severity of BPD symptoms (4, 5).

Anxiety disorders and obsessive-compulsive disorder (OCD) are among the most common psychiatric disorders, with lifetime prevalence rates of 28.8% and 1.6%, respectively (6). These disorders significantly impact individuals' quality of life (Olatunji et al., 2007). OCD is a major psychiatric disorder due to its prevalence and associated disability, as well as its classification within a broader category of conditions known as obsessive-compulsive and related disorders. OCD is characterized by the presence of obsessions and/or compulsions. Obsessions are recurrent and persistent thoughts, images, impulses, or urges that are intrusive and unwanted, typically accompanied by anxiety. Compulsions are repetitive behaviors or mental acts that an individual feels compelled to perform in response to an obsession, according to rigid rules, or to achieve a sense of "completeness." Children may have difficulty identifying or describing their obsessions, whereas most adults recognize the presence of both obsessions and compulsions. Cognitive-behavioral theories have long emphasized that obsessions often lead to heightened anxiety or distress, and compulsions are performed in response to obsessions. However, some evidence suggests that compulsive behaviors may occur first, with obsessions arising as a post-hoc rationalization of these behaviors, although this theory requires further study. Most individuals with OCD are aware that their compulsive

symptoms are excessive and wish to exert greater control over them (7).

Schema therapy (ST) was developed by Young (1990, 1999) for patients who do not respond adequately to cognitive-behavioral therapy (CBT), particularly those with chronic personality disorders (8). The goal of ST is to target the hypothesized developmental origins of current symptoms by focusing on rigid patterns of social and psychological functioning and addressing the maladaptive cognitions and behaviors that are believed to maintain symptoms (9). ST expands upon traditional CBT by integrating elements from various therapeutic approaches, including CBT, attachment theory, Gestalt therapy, object relations theory, constructivist theories, and psychodynamic therapy. Central to ST are core emotional needs, early maladaptive schemas (EMS), coping styles, and schema modes. Schema theory posits that for an individual to develop into a psychologically healthy adult, their core emotional needs (e.g., safety, secure attachment to others, realistic limits, self-control, coherence of self, and fairness) must be adequately met (10). When these core emotional needs are not sufficiently met, maladaptive emotional and cognitive patterns, known as EMS, can develop (e.g., vulnerability to harm or illness, emotional inhibition, social isolation). When an EMS is triggered in the present moment, it can lead to the activation of intense and overwhelming emotions. The activation of a schema interacts with specific coping strategies that an individual employs in response to it (e.g., surrendering to the schema, attempting to overcompensate for it, or trying to avoid its activation) (10). The combination of an activated EMS with a particular coping style results in a behavioral and emotional/cognitive state known as a schema mode (8, 10).

ST has been shown to be effective for various personality disorders, particularly BPD (Sempertegui et al., 2013). It has also demonstrated efficacy in treating cluster C personality disorders (11), which are frequently comorbid with anxiety disorders and OCD (12). However, research on the effectiveness of ST for chronic psychiatric disorders other than personality disorders is limited. Evidence supporting the efficacy of ST for anxiety disorders and OCD has recently been summarized in a systematic review (Peters et al., 2022). This review suggests that ST, either alone or in combination with guided treatment, may be effective for

patients with anxiety disorders (13-19). Therefore, the present study aims to investigate the effectiveness of schema therapy on obsessive-compulsive disorder in individuals with borderline personality disorder.

2. Methods and Materials

2.1. Study Design and Participants

The study employed a quasi-experimental design with a pretest-posttest control group structure. The statistical population consisted of all married women diagnosed with borderline personality disorder who visited the Family Green Psychological Services Center in Semnan in 2024. From this population, 30 individuals were selected using purposive sampling based on inclusion and exclusion criteria and were randomly assigned to the experimental and control groups (15 participants in each group). The research instrument included the Maudsley Obsessive-Compulsive Inventory (MOCL). The inclusion criteria for the study included a confirmed diagnosis of borderline personality disorder by a psychiatrist or clinical psychologist (clinical interview), a minimum level of literacy (reading and writing skills), and informed consent to participate in the study. The exclusion criteria included a history of substance abuse and the presence of comorbid disorders with high co-occurrence with borderline personality disorder (e.g., bipolar disorder, histrionic personality disorder).

2.2. Data Collection Tool

The Maudsley Obsessive-Compulsive Inventory (MOCL) was developed by Hodgson and Rachman (1977) to investigate the nature and scope of obsessive-compulsive problems. The inventory consists of 30 items, with half scored as true and the other half as false. In its initial validation at the Maudsley Hospital, the inventory successfully distinguished 50 obsessive patients from 50 neurotic patients. Further content analysis of responses from 100 patients identified four major components reflecting different types of obsessive-compulsive problems: checking, cleaning, slowness, and obsessive doubt. A fifth component, termed "rumination," was also identified, but it was represented by only two items. Consequently, based on this analysis, four subscales were developed. A simple scoring method allows for the calculation of an overall obsessive-

compulsive score along with four subscale scores. The administration of this inventory is quick and straightforward, as it consists of 30 statements that require a true or false response (20). In addition to providing an overall obsessive-compulsive score, the MOCL yields four subscale scores: checking, washing and cleaning, slowness and repetition, and doubt-precision. However, the inventory includes only two items related to obsessive thoughts and does not assess the degree of disability or severity of symptoms in relation to their prevalence. Despite these limitations, the MOCL effectively distinguishes individuals with obsessive-compulsive disorder (OCD) from other neurotic individuals. Overall, the Maudsley Obsessive-Compulsive Inventory is a useful and simple tool that can be used alongside conventional assessment methods. It is particularly beneficial for evaluating changes resulting from treatment interventions. The inventory is designed so that a fully obsessive individual would endorse exactly half of the items as true and the other half as false. The total MOCL score ranges from 0 to 30. The reliability and validity of the MOCL have been confirmed in clinical samples across different countries. For example, Sanavio reported a correlation of .70 between MOCL total scores and the Padua Inventory. The test-retest reliability coefficient was also found to be high (r = .89). In Iran, Mohammadi and Farjad confirmed the content validity of the inventory and reported a reliability coefficient of .75 (21).

2.3. Intervention

In the present study, schema therapy sessions were conducted based on the schema therapy protocol developed by Young et al. (2006). The intervention protocol consisted of 18 sessions designed based on schema therapy principles, aimed at addressing obsessive-compulsive disorder in individuals with borderline personality disorder. The first three sessions focused on assessing the patient's problems, evaluating maladaptive schemas and coping styles, and formulating the problem according to the schema therapy approach. Sessions four through eight were dedicated to identifying maladaptive schemas and employing cognitive techniques to challenge them. In sessions nine to fourteen, the primary objective was to apply experiential (emotional) techniques, allowing patients to emotionally connect with the developmental origins of their schemas, as this step is

crucial for facilitating behavioral change. These sessions emphasized emotional processing as a key component of treatment. The final phase, covering sessions fifteen to eighteen, aimed to encourage patients to abandon maladaptive coping styles and practice effective coping behaviors to fulfill their core emotional needs. Throughout the intervention, the integration of cognitive, emotional, and behavioral techniques provided a structured approach to modifying maladaptive thought patterns and promoting psychological flexibility (8).

2.4.   Data Analysis

Data in this study were analyzed at both descriptive and inferential levels. In the descriptive section, frequency, percentage, mean, and standard deviation of the findings were reported. In the inferential section, the Kolmogorov-Smirnov test was used to assess the normality assumption of the research variables. Additionally, data analysis was performed using SPSS-24 software, and a multivariate analysis of covariance (MANCOVA) was conducted while ensuring the fulfillment of statistical assumptions.

3.   Findings and Results

The descriptive statistical results indicated that the mean age of the schema therapy group and the control group was 30.66 and 29.54 years, respectively. Furthermore, the results of the one-way analysis of variance (ANOVA) showed that there was no significant difference in the mean age between the two groups (F = 0.28, p = 0.733).

Table 1

Mean and Standard Deviation of the Study Variable in the Experimental and Control Groups

Variable	Measurement Phase	Group	Mean	Standard Deviation
Obsessive-Compulsive Disorder	Pretest	Control	16.44	2.03
		Experimental	15.33	3.22
	Posttest	Control	16.5	3.88
		Experimental	11.12	2.44

Table 1 presents the descriptive statistics, including the mean and standard deviation for obsessive-compulsive disorder in both groups across the two assessment phases. As shown in the table, obsessive-compulsive disorder decreased in the experimental group after the intervention, whereas in the control group, scores remained relatively stable between the two assessment phases. To examine the differences, an appropriate statistical method was selected based on data conditions. Prior to choosing the statistical method, the assumptions for the analysis of covariance (ANCOVA) were tested.

The results of the Kolmogorov-Smirnov test indicated that none of the research variables were statistically significant (p > .05), suggesting that obsessive-compulsive disorder scores were normally distributed. Therefore, to maintain normality without altering the mean scores, a ranking method was used. Additionally, the results of Levene's test demonstrated that the variance of obsessive-compulsive disorder was equal between the two groups and did not differ significantly (p > .05). Consequently, the assumption of homogeneity of variances between the two groups was met.

Table 2

ANCOVA Results for the Experimental and Control Groups in Obsessive-Compulsive Disorder

Source of Variation	SS	df	MS	F	p-value	Effect Size
Group	103.41	1	103.41	22.34	< .001	0.54
Error	96.42	21	5.66			
Total	165405	24				

The results showed that after controlling for the pretest effect, the difference in pretest-posttest scores between the two groups for obsessive-compulsive disorder was statistically significant. Additionally, the mean scores for

obsessive-compulsive disorder in the experimental group were significantly lower than in the control group (p < .001). Therefore, it can be concluded that schema therapy was

significantly effective in reducing obsessive-compulsive disorder in individuals with borderline personality disorder.

Table 3

Adjusted Posttest Means for Obsessive-Compulsive Disorder

Dependent Variable	Group	Adjusted Mean	Standard Error
Obsessive-Compulsive Disorder	Control	16.5	0.37
	Experimental	11.12	0.37

4. Discussion and Conclusion

The objective of this study was to examine the effectiveness of schema therapy on obsessive-compulsive disorder (OCD) in individuals with borderline personality disorder (BPD). The results indicated that schema therapy is a promising approach for treating OCD in individuals with BPD. By focusing on identifying and modifying maladaptive schemas and schema modes, this approach can help individuals alter their dysfunctional cognitive and behavioral patterns and improve their quality of life. The findings of this study are consistent with prior findings (22, 23), and Jacob and Arntz (2013). Schema therapy flexibly integrates four interactive pathways in each treatment session: cognitive, experiential (emotional), behavioral, and interpersonal (therapeutic relationship) techniques (24). Patients enter therapy sessions after achieving cognitive and emotional insight into their problems, rooted in their developmental relationships with parents, siblings, school, neighborhood, culture, and initially adaptive coping styles that have now become maladaptive, perpetuating their schemas. Case conceptualization facilitates trust and the therapeutic relationship between the client and the therapist. The client gains emotional and cognitive understanding of the problem, which forms the foundation for therapy and sustains their engagement in the treatment process (25).

The findings suggest that schema therapy addresses the impact of early maladaptive schemas (EMS) on daily life and interpersonal relationships. Since schemas are formed in childhood and relate to an individual's core perceptions of self, others, and the world, adverse conditions can lead to the development of maladaptive schemas and related coping styles for emotional survival. In a healthier environment, these maladaptive coping mechanisms may result in

interpersonal dysfunction and emotional instability. The goal of schema therapy is to assist patients in identifying their most significant maladaptive schemas and responding more adaptively when these schemas are activated in daily life (17).

Previous research has established that individuals with OCD lack adaptive coping strategies and are more likely to endorse maladaptive coping mechanisms (26, 27). Dysfunctional mechanisms for preventing anxiety, anxiety disorders, compulsions, and fear-inducing events define OCD as an anxiety disorder (19, 28).

Beyond the three predominant EMS, moderate correlations were found between OCD and EMS in the disconnection and rejection domain, including mistrust/abuse, social isolation/alienation, and defectiveness/shame. This suggests that individuals with OCD may believe they are being mistreated, humiliated, or abused, and that they do not belong, are unworthy, or are unlovable (Young et al., 2003). Early maladaptive schemas (EMS) originate from developmental trauma and insecure attachment (Young et al., 2003) and are associated with higher rates of childhood neglect and abuse (Pilkington et al., 2021). Similarly, childhood abuse has been linked to OCD symptoms in adulthood (Destrée et al., 2021; Ou et al., 2021). The present review provides further evidence that OCD is associated with maladaptive beliefs related to attachment deficits, safety, belongingness, and upbringing (Dostal & Pilkington).

Studies have demonstrated that schema therapy can effectively reduce OCD symptoms in individuals with BPD (16, 29). These disorders often overlap and share common maladaptive schemas, such as defectiveness/shame, social isolation/alienation, and vulnerability to harm or illness (18). Schema therapy helps individuals identify their maladaptive

schemas and modify the associated cognitive and behavioral patterns. Changing schema modes enables individuals to recognize their dysfunctional schema modes (e.g., the vulnerable child, punitive parent) and replace them with healthier modes (e.g., the healthy adult) (30). Schema therapy employs experiential techniques such as imagery rescripting and role-playing to help individuals experience and alter the emotions associated with maladaptive schemas (31). A strong and empathetic therapeutic alliance between the therapist and client is a crucial component of schema therapy, fostering a sense of security and acceptance (32). Schema therapy is a time-intensive process and may require long-term treatment sessions. This approach may not be suitable for all individuals with OCD and BPD and requires careful evaluation by a specialist. Further research is needed to investigate the effectiveness of schema therapy in different populations using more rigorous research methodologies.

Authors' Contributions

Not applicable.

Declaration

In order to correct and improve the academic writing of our paper, we have used the language model ChatGPT.

Transparency Statement

Data are available for research purposes upon reasonable request to the corresponding author.

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Declaration of Interest

The authors report no conflict of interest.

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Ethics Considerations

The study placed a high emphasis on ethical considerations. Informed consent obtained from all participants, ensuring they are fully aware of the nature of the study and their role in it. Confidentiality strictly maintained, with data anonymized to protect individual privacy. The study adhered to the ethical guidelines for research with human subjects as outlined in the Declaration of Helsinki. Ethical considerations included obtaining informed consent, ensuring confidentiality and anonymity, and avoiding any harm to participants.

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