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Assessing the Impact of Cognitive Behavioral Therapy on Irrational Beliefs, Anxiety Sensitivity, and Resilience in Patients with Obsessive-Compulsive Disorder: A Quasi-Experimental Study

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Abstract

Aim: Obsessive-Compulsive Disorder (OCD) is a chronic mental health condition marked by persistent, intrusive thoughts and repetitive behaviors or mental acts that individuals feel compelled to perform. This study examines the efficacy of Cognitive Behavioral Therapy (CBT) in addressing irrational beliefs, anxiety sensitivity, and resilience in patients with OCD.

Method: The research employed a semi-experimental, pre-test-post-test design with a control group. The statistical population included patients diagnosed with OCD at Ardabil City in 2024. A total of 34 students with patients were selected using purposive sampling and were divided into two groups: experimental (n = 17) and control (n = 17). The experimental group attended eight 90-minute CBT sessions, while the control group received no intervention. Data collection involved administering the Obsessive-Compulsive Disorder Questionnaire, Irrational Beliefs Questionnaire, Anxiety Sensitivity Index, and Resilience Questionnaire. The data were analyzed using multivariate analysis of covariance in SPSS-27.

Finding: The results indicated that CBT significantly decreases helplessness for change (F=38.59), demand for approval (F=27.35), problem avoidance (F=36.69), emotional irresponsibility (F=33.58), physical (F=34.28), cognitive (F=28.97), social (F=32.62), and increases resilience (F=38.29) in patients with OCD (P<0.001).

Conclusion: These findings demonstrate that CBT effectively reduces irrational beliefs and anxiety sensitivity while enhancing resilience in OCD patients. This supports the broader use of CBT in clinical settings to address these psychological factors in OCD management specifically.

Keywords: Obsessive Compulsive Disorder, Irrational Beliefs, Anxiety Sensitivity, Resilience, Cognitive Behavioral Therapy**.**

Introduction

Obsessive-Compulsive Disorder (OCD) is a chronic and often debilitating mental health condition that affects millions of people worldwide (Blanco-Vieira et al, 2023). It is characterized by the presence of persistent, intrusive thoughts, images, or urges known as obsessions, which provoke significant anxiety or distress (Sharma et al, 2021). In an attempt to mitigate these distressing feelings, individuals with OCD engage in repetitive behaviors or mental acts known as compulsions (Drakes et al, 2021). These compulsions are typically performed according to rigid rules or in response to obsessions. Yet, they provide only temporary relief and can become time-consuming and disruptive to daily life (Mawn et al, 2020). The manifestations of OCD can vary widely (Blanco-Vieira et al, 2023). Common obsessions include fears of contamination, harming others, or doubts about safety, while compulsions might involve excessive cleaning, checking, counting, or arranging objects in a specific manner (Ferentinos et al, 2020). Despite recognizing that their thoughts and behaviors are irrational or excessive, individuals with OCD often feel powerless to stop them, which can lead to a cycle of escalating anxiety and compulsive actions (Pozza et al, 2021). Mohammadi et al. (2021) conducted a study to investigate the prevalence, comorbidity, and predictors of OCD among children and adolescents in Iran. The key findings revealed a prevalence of 3.1% in boys and 3.8% in girls. The predictors of OCD included gender, age, place of residence, and parental history of psychiatric hospitalization. OCD was commonly comorbid with behavioral disorders, elimination disorders, mood disorders, and smoking and alcohol disorders. Data analysis was performed using logistic regression and cross-tabulation tests.

While the overt symptoms of OCD are widely recognized, the underlying cognitive processes that drive and sustain the disorder are equally critical to understanding its pathology (Hooda et al, 2023). One of the most significant cognitive factors implicated in OCD is the presence of irrational beliefs (Collard & Fuller-Tyskiewicz, 2021). These irrational beliefs, which are distorted and unfounded cognitive patterns, play a crucial role in the development and perpetuation of OCD (Steglich-Petersen & Varga, 2024). Irrational beliefs in OCD typically revolve around exaggerated perceptions of threat, responsibility, and the need for certainty (Balkıs & Duru, 2019). Individuals with OCD may hold the irrational belief that failing to perform a specific ritual will lead to catastrophic consequences, thereby heightening the perceived necessity of compulsive behaviors (Vîslă et al, 2016). For example, someone might believe that if they do not check the stove repeatedly, their house will certainly catch fire, or that not washing their hands multiple times will inevitably result in severe illness (Oltean & David, 2018). These beliefs are not based on reality but on an inflated sense of danger and responsibility, which fuels the cycle of obsession and compulsion (Albayrak et al, 2018). Cognitive distortions, such as overestimation of threat, intolerance of uncertainty, and perfectionism, are commonly observed in individuals with OCD (Cochrane & Heaton, 2017). Overestimation of a threat involves believing that a negative event is more likely to occur than it is (Tümkaya et al, 2015). Intolerance of uncertainty reflects a difficulty in accepting that not all outcomes can be predicted or controlled (Taylor, 2022). Perfectionism involves the belief that one must perform actions flawlessly to avoid

disaster. These distortions can significantly amplify the distress caused by obsessions and compel individuals to engage in compulsive behaviors as a misguided effort to manage their anxiety (Steglich-Petersen & Varga, 2024).

One critical factor that has gained increasing attention in the study of OCD is anxiety sensitivity, defined as the fear of anxiety-related sensations due to the belief that these sensations have harmful physical, psychological, or social consequences (Krebs et al, 2020). Understanding the role of anxiety sensitivity in OCD can provide valuable insights into the mechanisms underlying the disorder and inform more effective treatment approaches (Kaczkurkin et al, 2018). Anxiety sensitivity is a multidimensional construct that encompasses various fears related to the experience of anxiety (Georgiadis et al, 2020). Individuals with high anxiety sensitivity are prone to interpret normal anxiety responses—such as increased heart rate, sweating, or dizziness—as signs of impending disaster, serious illness, or loss of mental stability (Ojalehto et al, 2021). This heightened anxiety sensitivity can exacerbate the distress associated with OCD, as individuals may become excessively concerned with the physical and emotional symptoms triggered by their obsessive thoughts (Hillman et al, 2022). The interplay between anxiety sensitivity and OCD is complex (Gutierrez et al, 2020). Anxiety sensitivity can amplify the perceived threat of obsessions, leading to increased engagement in compulsive behaviors as a maladaptive coping strategy (Cusack et al, 2018). For example, a person with high anxiety sensitivity might believe that their intrusive thoughts about contamination will lead to severe illness, prompting excessive washing or cleaning rituals to mitigate this perceived risk (Rosa-Alcázar et al, 2020). Conversely, the chronic stress and anxiety resulting from OCD symptoms can elevate anxiety sensitivity over time, creating a vicious cycle that perpetuates the disorder (Krebs et al, 2020).

However, within this challenging context, resilience—the capacity to adapt and thrive despite adversity—plays a crucial role in how individuals manage and overcome the impacts of OCD (Gorelik et al, 2023). Understanding resilience in the context of OCD can provide valuable insights into coping mechanisms, treatment strategies, and overall recovery processes (Hezel et al, 2022). Resilience is a dynamic and multifaceted construct that encompasses psychological, emotional, and social factors (Atalay et al, 2021). It involves the ability to maintain or regain mental health despite experiencing significant stress or adversity (Abd-Elhamed et al, 2023). In individuals with OCD, resilience can manifest as the ability to cope with the distressing nature of obsessions, resist engaging in compulsions, and pursue meaningful life goals despite the presence of symptoms (Williams & Jahn, 2017). Factors contributing to resilience may include positive self-perception, effective problem-solving skills, strong social support networks, and adaptive coping strategies (Bagheri-Sheykhangafshe et al, 2023). Research into resilience in OCD highlights several key components (Holm et al, 2019). Psychological resilience involves cognitive flexibility, optimism, and a sense of self-efficacy—beliefs in one's ability to manage and control their symptoms. Emotional resilience encompasses the regulation of negative emotions and the ability to maintain a positive outlook despite the challenges posed by OCD (Deveci et al, 2024). Social resilience involves supportive relationships with family, friends, and mental health professionals, which can provide crucial encouragement and practical assistance (Hezel et al, 2022).

Cognitive Behavioral Therapy (CBT) has emerged as a highly effective treatment for OCD, offering evidence-based techniques that address both the cognitive and behavioral aspects of the disorder (Bragdon et al., 2024). CBT is structured and goal-oriented, focusing on altering the maladaptive thought patterns and behaviors that sustain OCD (Hamatani et al., 2020). A central component of CBT is Exposure without Response Prevention (ERP), which involves gradually exposing individuals to feared situations or thoughts while preventing compulsive behaviors (Pagsberg et al., 2022). ERP specifically targets the behavioral aspect of OCD by reducing anxiety sensitivity and breaking the compulsive cycle, thereby diminishing OCD symptoms (Elsner et al., 2020). In addition to ERP, cognitive restructuring plays a critical role in addressing the cognitive dimension of OCD (Öst et al, 2022). This technique helps individuals identify and challenge irrational beliefs and cognitive distortions that drive obsessive thoughts (Uhre et al., 2020). By reframing these irrational beliefs into more balanced and realistic thoughts, cognitive restructuring directly reduces anxiety and distress, contributing to enhanced resilience (Hoppen et al., 2021). Together, these CBT strategies not only mitigate the intensity of OCD but also foster long-term resilience by reshaping maladaptive cognitive patterns (Matsumoto et al, 2022).

The effectiveness of CBT for OCD is well-documented through extensive research and clinical trials (Aspvall et al, 2021). Studies consistently demonstrate significant reductions in OCD and improvements in quality of life for those undergoing CBT (De Pablo et al, 2023). This therapeutic approach is versatile, being adaptable to various settings, including individual therapy, group therapy, and intensive outpatient programs (Reid et al, 2021). Additionally, CBT can be effectively combined with pharmacotherapy, such as selective serotonin reuptake inhibitors, to enhance treatment outcomes (Pagsberg et al, 2022). Understanding the principles and techniques of CBT for OCD also underscores the importance of early intervention and tailored treatment plans. By addressing OCD promptly and effectively, CBT can prevent the disorder from becoming more entrenched and debilitating over time (Luu et al, 2020). Personalized treatment plans that consider the unique needs and circumstances of each individual are crucial for optimizing the benefits of CBT and ensuring sustainable recovery (Stephenson et al, 2024). Moreover, the skills and strategies learned through CBT have lasting benefits that extend beyond the treatment period (Bragdon et al., 2024). Individuals acquire tools for managing stress, reducing anxiety, and maintaining mental well-being, which can be applied to various aspects of their lives (Poli et al, 2022). This enduring impact highlights the transformative potential of CBT in fostering long-term mental health and resilience (Aspvall et al, 2021).

Öst et al. (2022) found that CBT for OCD delivered in routine clinical settings was highly effective, with very large effect sizes and remission rates of 59.2% post-treatment and 57.0% at follow-up. The results were comparable to those from efficacy studies, but the high risk of bias in many studies suggests a cautious interpretation. Reid et al. (2021) found that CBT with ERP for OCD was highly effective compared to controls and a psychological placebo, though its effectiveness decreased with age. It was comparable to other active psychological therapies and only slightly better than pharmacological treatments, particularly at adequate medication dosages. Stephenson et al. (2024) found

that CBT with ERP significantly improved OCD symptoms and reduced brain activation abnormalities in multiple regions. The results suggest that enhancing therapy with function-specific features could further improve treatment outcomes.
The study aimed to evaluate how CBT affects irrational beliefs, anxiety sensitivity, and resilience in patients with OCD. By using a randomized controlled design, the research sought to provide insights into how CBT can address these psychological factors and improve overall treatment outcomes for OCD.
This evaluation is crucial for understanding the broader impacts of CBT on various aspects of mental health in OCD patients, potentially guiding more effective and comprehensive treatment strategies.

Methods

The design of the current research was semi-experimental with a pre-test-post-test design with a control group. The statistical sample of the research included 81 patients who were referred to psychological clinics and medical centers in Ardabil City in 2024, and who were selected as available. Among these, 34 patients who had the necessary symptoms for OCD were selected by the available sampling method. Using G*Power software, the sample size was 17 people for two groups (Faul, et al, 2007). After sampling, the research participants were randomly assigned to two experimental (n=17) and control (n=17) groups. The criteria for entering the research included not having mental retardation, reading, and writing literacy, the satisfaction of patients, and having OCD. The existence of debilitating physical and mental disorders, non-cooperation, and answering the questions by chance were the exclusion criteria from the present study. It should be noted that all necessary permits were obtained from the relevant organizations before conducting the research. Also, the ethical considerations were fully observed in this research, in such a way that the participants were assured of confidentiality and the use of information only for research, and they completed the questionnaires with satisfaction in a calm and stress-free environment.

Instrument

Obsessive-Compulsive Disorder Questionnaire (OCDQ): The Padova questionnaire was created by Sanavio (1988) in Italy, which has 60 items and is used to evaluate the severity of OCD symptoms in clinical and normal participants. Each content is given a score between 0 and 4 depending on how disturbed it is. A self-report measure called the Padova questionnaire distinguishes between the characteristics of obsessive thoughts and the aspects of practical obsessions (Sternberger and Burns, 1990). For the Iranian population, Goodarzi and Firoozabadi (2005) first standardized this questionnaire. For convergence validity, the correlation between the total score of the Padova questionnaire with Madsley's OCD questionnaire and Litan's OCD questionnaire was obtained between 0.65 and 0.75. Cronbach's alpha (0.95) and reliability (0.84) of this questionnaire were confirmed in the Iranian population. Cronbach's alpha coefficient on this scale was 0.86.

Irrational Beliefs Questionnaire (IBQ): This questionnaire was developed by Jones in 1968 to assess irrational beliefs. It consists of 40 questions and four subscales: helplessness for change, demand for approval, problem avoidance, and emotional irresponsibility. The responses are measured on a 5-point Likert scale ranging from completely disagree (1) to completely agree (5). The score range for the questionnaire is between 40 and 200, with a higher score indicating higher levels of irrational beliefs (Jones, 1968). Jones (1968) reported the internal consistency of the IBQ to be between 0.45 and 0.72, with a test-retest reliability coefficient of 0.92 and concurrent validity with psychiatric problems of 0.61. In the present study, Cronbach's alpha for the total score was 0.85, and for the subscale's helplessness for change (0.82), the demand for approval (0.78), problem avoidance (0.83), and emotional irresponsibility (0.90), indicating satisfactory reliability.

Anxiety Sensitivity Index-3 (ASI): Anxiety Sensitivity Index-Three measures the level of worry about different symptoms of anxiety (Taylor et al, 2007). This index is derived from the edited anxiety sensitivity index, which consists of 18 items. The anxiety sensitivity index evaluates the three levels of physical (6 items), cognitive (6 items), and social (6 items) related to anxiety, and the response and scoring of the anxiety sensitivity index is a five-point Likert scale from zero (a little) agree) to 4 (completely agree) and the total score is between 0 and 72. Anxiety sensitivity index from internal consistency (between 0.76 and 0.86 for physical concerns, between 0.79 and 0.91 for cognitive concerns, and between 0.73 and 0.86 for social concerns), validity It has good convergent and divergent validity (Taylor et al, 2007). In the present study, Cronbach's alpha coefficient of physical, cognitive, and social subscales was reported as 0.81, 0.86, and 0.87 respectively.

Resilience Questionnaire (RQ): Connor and Davidson (2003) designed a resilience questionnaire to measure the ability to deal with stress. The Connor and Davidson resilience questionnaire consists of 25 items that are answered and scored based on a 5-point Likert scale (0 to 4). The range of scores on this scale is between 0 and 100, and higher scores on this scale indicate higher levels of resilience. In the study of Connor and Davidson (2003), the mean and standard deviation of the scale for the normal group were 80.4 and 12.8. Cronbach's alpha for the scale was 0.89 and item-total correlations were between 0.30 and 0.70. The test-retest reliability results in the group of generalized anxiety disorder and post-traumatic stress disorder showed a suitable intraclass correlation coefficient of the resilience scale (0.87). In the present study, Cronbach's alpha coefficient on this scale was 0.89.

Cognitive-Behavioral Intervention Protocol: Before the treatment sessions began, research questionnaires were distributed to the patients as part of the pre-test phase. Following the completion of the pre-test, 17 patients underwent CBT administered by a licensed clinical psychologist with a master's degree in psychology and over five years of experience in treating OCD (Wright et al., 2017). The therapist was trained specifically in CBT. The intervention consisted of eight 90-minute sessions spanning two months.

After the experimental group completed their treatment sessions, all participants took part in a post-test and answered the research questionnaires again. To minimize dropout, the therapist emphasized the importance of commitment during the initial interviews with all group members, reinforcing this throughout the meetings. The resulting solidarity among the group members helped maintain group cohesion. Below is a summary of the CBT group sessions for patients with OCD (Table 1).

Table 1. Characteristics of CBT Training Sessions (Wright et al., 2017)

Session	Target
1	Introducing and explaining the basic principles of CBT, introducing the fundamental concepts of therapy, setting the schedule of sessions, discussing the rules of sessions
2	Determining the agenda of the meeting, evaluating, formulating, conceptualizing the subjects' problems, and filling the formulation worksheet.
3	Determining the agenda of the meeting, selecting goals and determining treatment goals with the help of members, preparing notebooks for treatment and activity planning
4	Determining the agenda of the meeting, identifying and recognizing their thoughts, practicing recording thoughts, and assigning them to the patient as homework.
5	Changing and correcting one's thoughts, teaching the technique of creating a logical alternative, introducing the weekly activity registration form as homework
6	Diagnosing cognitive errors, examining evidence, and preparing confrontation cards
7	Graded task design, use of visual confrontation technique
8	Review of uncompleted activities, homework, and therapy notebooks, answers to members' questions, and summaries

Results

The mean and standard deviation of age in the intervention group were 27.33 ± 5.47 years, and in the control group, they were 27.84 ± 5.19 years. The results of the chi-square test indicated no significant differences between the intervention and control groups regarding age, gender, marital status, educational level, and duration of OCD (P>0.05). The mean and standard deviation of pre-test-post-test scores of irrational beliefs, anxiety sensitivity, and resilience in the patients with OCD in the experimental and control groups are presented in Table 2. The Shapiro-Wilk test (S-W) findings are also included in this table to examine the normality of the variable distributions in the two groups. This table shows that not all variables are significant using Shapiro-Wilk statistics. As a result, it may be said that the variables' distribution is normal.

Table 2. Descriptive Indices of Study's Variables in Control and Experimental Groups

Variables		Groups	Mean	SD	S-W	P*
Obsessive Compulsive Disorder	Pre-test	Experimental	115.35	2.74	0.119	0.050
		Control	115.25	2.69	0.114	0.086
	Post-test	Experimental	98.32	2.94	0.103	0.084
		Control	115.94	2.39	0.118	0.094
Helplessness for change	Pre-test	Experimental	34.71	1.59	0.103	0.071
		Control	34.58	1.74	0.110	0.093
	Post-test	Experimental	31.58	1.60	0.096	0.052
		Control	34.82	1.84	0.087	0.074
		Experimental	32.41	1.60	0.092	0.062

Demand for approval	Pre-test	Control	32.52	1.54	0.142	0.051
		Experimental	29.23	1.39	0.103	0.094
	Post-test	Control	32.29	1.87	0.118	0.071
		Experimental	32.71	1.25	0.114	0.076
Problem avoidance	Pre-test	Control	32.58	1.91	0.112	0.063
		Experimental	29.47	1.55	0.120	0.082
	Post-test	Control	32.76	1.27	0.138	0.095
		Experimental	30.82	1.39	0.104	0.078
Emotional irresponsibility	Pre-test	Control	30.71	1.57	0.129	0.062
		Experimental	27.71	1.65	0.111	0.089
	Post-test	Control	30.88	1.27	0.095	0.061
		Experimental	18.59	1.65	0.089	0.055
Physical	Pre-test	Control	18.47	1.82	0.114	0.079
		Experimental	15.53	1.64	0.101	0.062
	Post-test	Control	18.71	1.35	0.103	0.055
		Experimental	19.58	1.84	0.107	0.061
Cognitive	Pre-test	Control	19.70	1.97	0.091	0.057
		Experimental	16.41	1.65	0.114	0.085
	Post-test	Control	19.47	1.75	0.110	0.074
		Experimental	17.47	1.96	0.088	0.052
Social	Pre-test	Control	17.58	1.82	0.139	0.094
		Experimental	14.47	1.63	0.084	0.068
	Post-test	Control	17.36	1.84	0.125	0.053
		Experimental	47.58	2.86	0.120	0.070
Resilience	Pre-test	Control	47.71	2.74	0.130	0.083
		Experimental	51.58	2.60	0.115	0.087
	Post-test	Control	47.48	2.09	0.093	0.074

* Shapiro-Wilk test

Multivariate analysis of covariance was used to evaluate the efficacy of CBT on irrational beliefs, anxiety sensitivity, and resilience in patients with OCD. The results of the Levin test to examine the homogeneity of variance of dependent variables in groups showed that the variance of irrational beliefs (F=1.74, P=>0.135), anxiety sensitivity (F=1.96, P=>0.369), and resilience (F=1.41, P=>0.220) were equal in the groups. The results of the box test to evaluate the equality of the covariance matrix of dependent variables between the experimental, and control groups showed that the covariance matrix of the dependent variables is equal (Box M = 63.21, F=1.28, P=>0.125). The significance of the box test is greater than 0.05, so this assumption is valid. Additionally, the findings of the Chi-Square-Bartlett test used to determine the sphericity or importance of the link

between irrational beliefs, anxiety sensitivity, and resilience revealed that there is a substantial association between them (χ^2=352.90, df=35, P<0.05). Another important assumption of multivariate analysis of covariance is the homogeneity of regression coefficients. The homogeneity test of regression coefficients was examined via the interaction of dependent variables and independent variables (intervention method) in the pre-test and post-test. The interaction of these pre-tests and post-tests with the independent variable was not significant and indicated the homogeneity of regression slope; Therefore, this assumption also holds (F=0.893, P=0.406). Considering the establishment of multivariate analysis of covariance, using this test will be allowed. Then, to find out the differences between the groups, a multivariate analysis of covariance was performed.

Table 3 .The Results of Multivariate Analysis of Covariance on Mean Post-Test Scores

Test	Value	F	df	Error df	P	Effect Value
Pillai's Trace	0.686	4.652	8	17	<0.001	0.68
Wilks Lambda	0.314	4.652	8	17	<0.001	0.68
Hotelling Trace	2.189	4.652	8	17	<0.001	0.68
Roy's Largest Root	2.189	4.652	8	17	<0.001	0.68

According to Table 3, the results showed the effect of the independent variable on the dependent variables; in other words, experimental and control groups have a significant difference in at least one of the variables of irrational beliefs, anxiety sensitivity, and resilience, which according to the calculated effect size, 68% of the total variance of experimental and control groups is due to the effect of the independent variable. Thus, the statistical power of the test is equal to 1, which indicates the adequacy of the sample size. However, to determine in which areas the difference is significant, a univariate analysis of the covariance test was used in the MANCOVA text, the results of which are reported in Table 4.

Table 4 .Results of Univariate Analysis of Covariance on the Mean of Post-Test Scores of Dependent Variables in Two Experimental and Control Groups

Variables	SS	SS Error	F	DS	MS Error	F	P	Effect Value
Helplessness for change	88.02	54.73	1	8	2.28	38.59	<0.001	0.62
Demand for approval	71.63	62.85	1	7	2.61	27.35	<0.001	0.53
Problem avoidance	92.41	62.14	1	9	2.59	36.69	<0.001	0.59
Emotional irresponsibility	84.36	60.30	1	8	2.51	33.58	<0.001	0.58
Physical	77.61	54.65	1	7	2.27	34.08	<0.001	0.59

Cognitive	69.68	57.71	1	6	2.40	2	<	0.55
Social	63.93	47.03	1	6	1.96	3	<	0.57
Resilience	137.80	86.37	1	1	3.59	3	<	0.61

Based on the contents of Table 4, the F-statistic is significant for helplessness for change (F=38.59), demand for approval (F=27.35), problem avoidance (F=36.69), emotional irresponsibility (F=33.58), physical (F=34.28), cognitive (F=28.97), social (F=32.62), and resilience (F=38.29) at the level of 0.001. These findings indicate that there is a significant difference between the groups in these variables. Furthermore, based on the calculated effect size, 62% of helplessness for change, 53% of demand for approval, 59% of problem avoidance, 58% of emotional irresponsibility, 59% physical, 55% cognitive, 57% social, and 61% of resilience was independent of the effect of the variable; consequently, it can be stated that CBT significantly increases resilience and decreases irrational beliefs, anxiety sensitivity in patients with OCD.

Discussion

This study examines the efficacy of CBT in addressing irrational beliefs, anxiety sensitivity, and resilience in patients with OCD. This study provides robust evidence supporting the effectiveness of CBT in reducing irrational beliefs among patients with OCD. The findings underscore CBT's potential to address a core aspect of OCD, namely the irrational beliefs that perpetuate the disorder. The core mechanism through which CBT influences irrational beliefs involves a structured approach to cognitive restructuring. Irrational beliefs and cognitive distortions are central to the maintenance of OCD. CBT systematically challenges these maladaptive thoughts by helping patients identify, scrutinize, and reframe their irrational beliefs (Bragdon et al., 2024). The reduction in irrational beliefs observed in this study is consistent with the theoretical framework of CBT, which posits that modifying dysfunctional thought patterns can alleviate OCD (Reid et al., 2021).

By applying techniques such as cognitive restructuring, CBT enables patients to confront and alter their irrational beliefs (Stephenson et al, 2024). This process involves guiding individuals to recognize the unrealistic nature of their thoughts and replace them with more balanced and evidence-based perspectives. The observed decrease in irrational beliefs post-intervention reflects the effectiveness of CBT in addressing and correcting these cognitive distortions, thereby contributing to symptom relief (De Pablo et al., 2023). CBT’s ability to reduce irrational beliefs is not just about symptom reduction but also about enhancing overall psychological functioning. The therapeutic process equips patients with skills to challenge and modify their irrational beliefs, fostering a greater sense of control over their thoughts and behaviors (Luu et al., 2020). This empowerment extends beyond the therapy sessions, influencing patients' daily lives and their approach to managing OCD.

Moreover, reducing irrational beliefs through CBT has broader implications for treatment outcomes. As patients learn to manage and alter their irrational thoughts, they experience improved treatment adherence and engagement. This enhanced adherence is crucial for achieving long-term therapeutic goals and maintaining progress (Elsner et al., 2020). Additionally, by addressing irrational beliefs, CBT promotes resilience and adaptive coping strategies, which are essential for navigating the ongoing challenges associated with OCD. The clinical significance of these findings lies in CBT's ability to target the cognitive underpinnings of OCD. By focusing on irrational beliefs, CBT provides a comprehensive approach to managing OCD that goes beyond symptomatic relief. The study's results support the integration of CBT into standard treatment protocols for OCD, highlighting its role in improving cognitive and behavioral outcomes (Sheykhangafshe et al, 2023).

From a theoretical perspective, the study reinforces the cognitive model of OCD, which emphasizes the role of irrational beliefs in the maintenance of the disorder. The efficacy of CBT in reducing these beliefs provides empirical support for this model and contributes to a deeper understanding of how cognitive interventions can impact mental health outcomes. In summary, CBT demonstrates significant efficacy in reducing irrational beliefs among patients with OCD. By addressing and modifying these beliefs, CBT not only alleviates OCD but also enhances patients' overall psychological well-being. The findings advocate for the continued use of CBT as a cornerstone in the treatment of OCD, with implications for improving treatment adherence, resilience, and long-term outcomes (Öst et al, 2022).

The findings of this study provide robust evidence supporting the beneficial impact of CBT on reducing anxiety sensitivity in patients with OCD. The significant improvement in anxiety sensitivity following CBT underscores its therapeutic potential in promoting a more positive self-perception and enhancing overall well-being for individuals managing OCD (Rosa-Alcázar et al., 2020). Cognitive Restructuring: CBT employs cognitive restructuring to challenge and modify catastrophic interpretations of anxiety-related sensations. This technique involves helping patients identify and reframe irrational fears about the consequences of anxiety symptoms. By reducing the tendency to catastrophize, CBT helps patients develop a more balanced perspective on anxiety, thereby lowering anxiety sensitivity (Poli et al., 2022).

Another key component of CBT is exposure therapy, which involves gradual and controlled exposure to feared stimuli. This technique helps patients systematically confront their anxiety triggers, reducing the exaggerated fear response that characterizes anxiety sensitivity (Hamatani et al., 2020). Over time, exposure therapy helps patients build tolerance to anxiety-provoking situations and diminishes their fear of anxiety sensations (Reid et al., 2021) **.**The reduction in anxiety sensitivity achieved through CBT has several important implications. Lower levels of anxiety sensitivity contribute to improved symptom management by reducing the intensity of anxiety responses and the likelihood of engaging in compulsive behaviors. Additionally, reduced anxiety sensitivity is associated with enhanced treatment adherence, as patients are less likely to avoid therapy or drop out due to excessive fear (Pagsberg et al., 2022).

Moreover, by equipping patients with skills to manage anxiety more effectively, CBT promotes resilience and supports long-term recovery. Improved anxiety management leads to a better quality of life and overall psychological well-being, enabling individuals with OCD to function more effectively in their daily lives and maintain progress in their treatment (Aspvall et al., 2021). In summary, the study provides strong evidence of CBT's beneficial impact on reducing anxiety sensitivity in patients with OCD. Through techniques such as cognitive restructuring and exposure therapy, CBT effectively addresses the cognitive and emotional aspects of anxiety sensitivity, leading to improved symptom management and enhanced overall well-being. These findings underscore the importance of incorporating CBT into treatment plans for OCD, highlighting its role in fostering resilience and supporting long-term recovery.

The results of the present study underscore the effectiveness of CBT in enhancing resilience among patients with OCD. Resilience, defined as the ability to recover from adversity and maintain psychological well-being, is a critical factor in managing chronic mental health conditions such as OCD **.**This study provides strong evidence that CBT significantly improves resilience by addressing both cognitive and behavioral aspects of the disorder Gorelik et al., 2023).

A central component of CBT, cognitive restructuring, plays a crucial role in enhancing resilience. This technique involves identifying and challenging maladaptive cognitive patterns that contribute to OCD. By helping patients reframe irrational and distorted thoughts, CBT reduces the emotional impact of these thoughts and fosters a more balanced perspective (Uhre et al., 2020). This cognitive shift is fundamental in building resilience, as it enables patients to approach challenges with greater psychological flexibility and less emotional distress. ERP, another key element of CBT, involves gradual exposure to feared situations or thoughts while preventing the associated compulsive responses. This technique helps patients face their fears in a controlled and systematic manner, reducing the intensity of their anxiety over time (Matsumoto et al., 2022). By learning to tolerate anxiety without resorting to compulsions, patients develop more adaptive coping strategies and enhance their ability to manage stress and setbacks, thereby improving resilience.

CBT equips patients with practical skills for managing anxiety and stress. These skills include mindfulness techniques, problem-solving strategies, and relaxation exercises, all of which contribute to improved coping and resilience (Pagsberg et al., 2022). By integrating these strategies into their daily lives, patients become better prepared to handle the challenges and stressors associated with OCD, leading to greater overall psychological well-being. The enhancement of resilience through CBT has several important implications. Improved resilience not only aids in better symptom management but also contributes to increased treatment adherence and long-term recovery. Patients who develop greater resilience are more likely to persist with their treatment plans and engage actively in therapy, which can lead to more successful outcomes and a more favorable long-term prognosis (Elsner et al., 2020; De Pablo et al., 2023). Furthermore, enhanced resilience supports improved coping mechanisms and psychological health beyond the immediate context of OCD. By fostering resilience, CBT helps individuals

maintain stability and well-being in the face of life's broader challenges, thereby promoting a more positive and sustainable recovery (Gorelik et al., 2023).

The findings of this study reinforce the clinical value of CBT in treating OCD. By focusing on enhancing resilience, CBT offers a comprehensive approach that not only addresses OCD but also strengthens individuals' ability to cope with stress and adversity. This holistic approach aligns with the cognitive-behavioral model of therapy, which emphasizes the importance of both cognitive and behavioral interventions in fostering psychological resilience and well-being (Bragdon et al., 2024). The study demonstrates that CBT is highly effective in improving resilience among patients with OCD. Through techniques such as cognitive restructuring and exposure therapy, CBT enhances psychological flexibility and coping abilities, leading to better management of OCD and overall psychological health. These findings highlight the importance of incorporating CBT into treatment plans for OCD, emphasizing its role in promoting resilience and supporting long-term recovery (Stephenson et al, 2024).

The study's limitations include a small sample size (34 participants from Ardabil City), which limits the generalizability of the results to broader and more diverse populations. Future research should use larger and more varied samples to improve external validity. While the semi-experimental design is suitable for evaluating treatment effectiveness, it may not address all confounding variables. Future studies should also incorporate clinician-rated assessments and objective measures, explore the sustained benefits of CBT, and compare it with other treatments. Additionally, investigating the mechanisms behind CBT's effects and exploring its integration into routine practice could enhance treatment accessibility and adherence.

Conclusion

This study provides robust evidence supporting the multifaceted benefits of Cognitive Behavioral Therapy in patients with OCD. The significant improvements in resilience, irrational beliefs, and anxiety sensitivity following CBT intervention highlight its efficacy in addressing the core features of OCD and enhancing overall psychological functioning. By targeting cognitive distortions and maladaptive behaviors, CBT equips individuals with skills to challenge irrational beliefs, manage anxiety-related sensations, and cultivate resilience. These outcomes are pivotal in reducing symptom severity, improving treatment adherence, and promoting long-term recovery for individuals living with OCD. Continued research and clinical application of CBT is essential to further elucidate its mechanisms and optimize treatment outcomes for OCD and related anxiety disorders. Ultimately, integrating CBT into standard care protocols can enhance quality of life and empower individuals to lead fulfilling lives despite the challenges posed by OCD.

Disclosure Statements

The authors declare that there is no conflict of interest regarding the publication of this article.

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