

## Clinical Insights into PTSD and OCD Comorbidity

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### ABSTRACT

*This paper examines the complex relationship between post-traumatic stress disorder (PTSD) and obsessive-compulsive disorder (OCD), highlighting how trauma can not only exacerbate, but also trigger the onset of obsessive-compulsive symptoms, contributing to treatment resistance. Both disorders share overlapping features such as intrusive thoughts, avoidance behaviors, and abnormalities in brain regions responsible for emotional regulation, including hyperactivity in the amygdala and hypoactivity in the prefrontal cortex. Trauma-induced OCD, which often emerges after trauma, tends to be more resistant to standard treatments like exposure and response prevention (ERP) due to the heightened emotional distress linked to trauma memories. This paper also discusses the neurobiological underpinnings of these comorbid conditions, presenting evidence of disrupted cortico-striatal-thalamo-cortical (CSTC) circuits, which affect fear processing and cognitive control. By incorporating trauma-focused interventions, such as trauma-sensitive ERP, prolonged exposure therapy (PE), and mindfulness-based cognitive therapy (MBCT), clinicians can more effectively address the emotional dysregulation that drives and exacerbates OCD symptoms. A case study of a treatment-resistant OCD patient with comorbid PTSD underscores the need for tailored, multidimensional approaches to improve clinical outcomes. The findings stress the importance of early trauma identification and integrating cognitive-behavioral strategies with trauma-informed care to promote lasting recovery in patients with these dual diagnoses.*

### Keywords

PTSD, OCD, Mental Disorders.

### Introduction

Obsessive-compulsive disorder (OCD) and post-traumatic stress disorder (PTSD) are debilitating mental health conditions that often present with distinct symptoms and treatment protocols. This review explores the connection between PTSD and OCD, examining how trauma can exacerbate obsessive-compulsive symptoms, leading to more severe presentations and treatment resistance. Examining this overlap is crucial for clinicians, as the interaction between trauma-related symptoms and compulsive behaviors often requires specialized, multidimensional treatment approaches. However, it is important to recognize that trauma-induced OCD is more complex. In many cases, OCD begins following a traumatic event, rather than pre-existing OCD being worsened by trauma. This distinction underscores the need for multidimensional treatment

approaches that address both the trauma and the OCD symptoms. Trauma-induced OCD, in particular, tends to be less responsive to standard interventions like exposure and response prevention (ERP), as the emotional intensity of trauma can make it difficult for patients to engage in conventional therapies. Therefore, integrating trauma-informed care into OCD treatment is vital for improving outcomes and ensuring more accurate diagnoses. By addressing both the cognitive and emotional dimensions of PTSD and OCD simultaneously, this paper contributes to the growing recognition that a holistic, tailored approach can lead to better management of symptoms, enhanced quality of life, and more sustainable recovery for patients with comorbid PTSD and OCD.

### Background

#### Understanding Post-Traumatic Stress Disorder (PTSD)

Post-traumatic stress disorder (PTSD) is a debilitating mental health condition that develops following exposure to a traumatic

event. According to the DSM-5, PTSD is characterized by four primary symptom clusters: intrusion, avoidance, negative alterations in cognition and mood, and hyperarousal [1]. Individuals with PTSD experience recurrent, involuntary, and distressing memories or flashbacks of the traumatic event, as well as nightmares and intense psychological distress when exposed to reminders of the trauma. They may also engage in persistent avoidance of trauma-related stimuli, which can lead to significant disruptions in their daily lives. Moreover, PTSD is marked by negative changes in mood and cognition, including persistent negative beliefs about oneself or the world, distorted blame of oneself or others for the trauma, and a persistent inability to experience positive emotions. The hyperarousal symptoms include heightened irritability, hypervigilance, exaggerated startle responses, and difficulties concentrating and sleeping [2]. These symptoms must persist for more than a month and cause significant distress or impairment in social, occupational, or other important areas of functioning for a diagnosis of PTSD to be made [1].

### Understanding Obsessive-Compulsive Disorder (OCD)

Obsessive-compulsive disorder (OCD) is a chronic mental health disorder characterized by the presence of obsessions and/or compulsions. Obsessions are persistent, intrusive, and unwanted thoughts, urges, or images that cause significant anxiety or distress. Compulsions are repetitive behaviors or mental acts performed to reduce the distress associated with the obsessions, even though these behaviors are often irrational or excessive [1].

OCD has been referred to as the "Disease of Doubt", as individuals with OCD often struggle with overwhelming doubt regarding the safety or appropriateness of their actions. For example, an individual might obsess over the thought, "I might cause harm if I do not perform a certain ritual," which leads to compulsive behaviors like checking, counting, or cleaning to prevent perceived harm. According to the DSM-5, for a diagnosis of OCD, these obsessions and compulsions must be time-consuming (taking more than one hour per day) or cause significant distress or impairment in social, occupational, or other important areas of functioning [3]. OCD may present in varying degrees of insight, with some individuals recognizing their thoughts and behaviors as irrational, while others may be fully convinced of their validity [4].

### Diagnostic Criteria (DSM-5) for PTSD and OCD

According to the Diagnostic and Statistical Manual of Mental Disorders (DSM-5), post-traumatic stress disorder (PTSD) is defined by the following criteria:

- **Criterion A:** Exposure to actual or threatened death, serious injury, or sexual violence in one (or more) of the following ways: directly experiencing the traumatic event, witnessing it, learning it occurred to a close family member or friend, or experiencing repeated or extreme exposure to aversive details of the event.
- **Criterion B:** Presence of one (or more) of the following intrusion symptoms: recurrent, involuntary, and intrusive distressing memories, distressing dreams, dissociative

reactions (e.g., flashbacks), intense psychological distress, and physiological reactions to trauma-related cues.

- **Criterion C:** Persistent avoidance of trauma-related stimuli, including thoughts, memories, or external reminders.
- **Criterion D:** Negative alterations in cognitions and mood, such as exaggerated negative beliefs, distorted blame, and persistent negative emotional states.
- **Criterion E:** Marked alterations in arousal and reactivity, such as hypervigilance, exaggerated startle response, irritability, and difficulties with concentration or sleep [1].

In comparison, obsessive-compulsive disorder (OCD) is defined by the following criteria:

- **Criterion A:** Presence of obsessions, compulsions, or both.
  - **Obsessions** are recurrent, persistent thoughts, urges, or images that are experienced as intrusive and unwanted, causing anxiety or distress. The individual attempts to suppress or neutralize them through other thoughts or actions (compulsions).
  - **Compulsions** are repetitive behaviors (e.g., hand washing, checking) or mental acts (e.g., counting, praying) that the individual feels driven to perform in response to an obsession or according to rigid rules. These behaviors are aimed at reducing anxiety or preventing a feared outcome, though they are excessive or not realistically connected to the feared event.
- **Criterion B:** The obsessions or compulsions are time-consuming (take more than 1 hour per day) or cause significant distress or impairment in social, occupational, or other important areas of functioning.
- **Criterion C:** The obsessive-compulsive symptoms are not attributable to the physiological effects of a substance (e.g., drugs, medication) or another medical condition.
- **Criterion D:** The disturbance is not better explained by the symptoms of another mental disorder (e.g., generalized anxiety disorder, body dysmorphic disorder, hoarding disorder, trichotillomania, schizophrenia). For a diagnosis of OCD, these symptoms must be time-consuming or cause significant distress or impairment in daily functioning [3].

### Trauma's Role in OCD

Although PTSD is inherently a trauma-induced disorder, trauma also plays a significant role in the onset and exacerbation of obsessive-compulsive disorder (OCD), particularly in treatment-resistant cases. Trauma, especially involving interpersonal violence, abuse, or life-threatening events, can trigger obsessions and compulsions that are closely tied to past traumatic experiences. These trauma-related obsessions typically center around themes such as contamination, safety, or harm, and the resulting compulsions are often aimed at neutralizing perceived threats [5]. For instance, an individual who has experienced a traumatic event may develop compulsions to avoid any situation or object associated with the trauma in an effort to feel secure.

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Recent neuroimaging studies have identified similar neurobiological mechanisms in both PTSD and OCD. Specifically, the amygdala, a brain region involved in processing emotions and fear responses, shows hyperactivity in both disorders. In PTSD, this hyperactivity contributes to the intense emotional responses and hypervigilance that follow trauma exposure. In OCD, similar amygdala hyperactivity is linked to heightened anxiety, which drives obsessive thoughts and compulsive behaviors. This shared neurobiological feature suggests a convergent pathway in how trauma impacts the emotional regulation systems of the brain [6,7]. Further studies have also demonstrated that trauma can dysregulate the hypothalamic-pituitary-adrenal (HPA) axis, which is essential in the body's stress response. Dysregulation of the HPA axis may perpetuate chronic anxiety and compulsive behaviors in OCD, as the body remains in a state of hyperarousal long after the traumatic event [8]. This aligns with findings that trauma-related OCD is frequently more resistant to conventional treatments, such as exposure and response prevention (ERP), because of the deep-rooted emotional distress tied to the trauma [5].

### **Symptomatology Comparison Between PTSD and OCD**

While PTSD and OCD have distinct core features, they share overlapping symptoms, particularly in the areas of intrusive thoughts and avoidance behaviors. In PTSD, intrusive thoughts often manifest as flashbacks or distressing memories of a traumatic event, while in OCD, these thoughts take the form of persistent, unwanted obsessions that provoke anxiety. For example, PTSD flashbacks may relate to life-threatening situations, whereas OCD obsessions may center around fears of harm or contamination. Both disorders involve avoidance behaviors; however, in PTSD, avoidance is tied to trauma-related reminders, such as places or people associated with the event. In OCD, avoidance is directed at neutralizing the anxiety caused by obsessions, leading to compulsive behaviors like washing or checking.

These similarities are driven by abnormalities in the cortico-striato-thalamo-cortical (CSTC) circuit, which plays a key role in regulating emotions and behaviors in both disorders. In PTSD, this dysfunction contributes to re-experiencing symptoms like flashbacks, while in OCD, it fuels compulsive rituals aimed at neutralizing obsessive thoughts [9]. Both disorders also share hyperactivity in the amygdala, which is linked to fear responses, and hypoactivity in the prefrontal cortex, which regulates emotional responses [7]. This common neural circuitry explains why both PTSD and OCD feature hyperarousal and avoidance, although they differ in the triggers and focus of their compulsions.

Key differences include PTSD's emotional numbing and difficulty experiencing positive emotions, symptoms less common in OCD. OCD, conversely, is marked by overvalued ideation, where patients believe that simply thinking about a negative event can make it more likely to occur [4]. While both disorders involve intrusive cognitions, PTSD focuses on re-experiencing the trauma, whereas OCD is primarily concerned with neutralizing obsessions through compulsive behaviors [5].

### **Comorbidity Rates and Clinical Complexity**

The comorbidity of PTSD and OCD presents significant challenges in both diagnosis and treatment, with individuals who suffer from both disorders experiencing more severe symptoms and poorer treatment outcomes compared to those with either condition alone. Epidemiological studies have consistently shown that individuals with PTSD are at a higher risk of developing OCD. For instance, Dykshoorn [10] found that 30% of individuals diagnosed with PTSD also meet the criteria for OCD, compared to a lifetime prevalence of OCD in the general population of 1.6% to 2.5%. This elevated comorbidity rate is particularly pronounced in populations exposed to severe trauma, such as military veterans or survivors of abuse.

This overlap in disorders results in a complex clinical presentation. Patients with both PTSD and OCD are often considered treatment-resistant due to the way the disorders interact and reinforce each other. The intrusive thoughts and hypervigilance characteristic of PTSD can amplify the compulsive behaviors seen in OCD, leading to a vicious cycle of avoidance and obsessional thinking. For example, a person with comorbid PTSD and OCD might develop obsessive fears around safety that stem from their traumatic experience. These fears then fuel compulsive behaviors, such as checking or seeking reassurance, which are aimed at preventing perceived harm but ultimately serve to reinforce the anxiety associated with both PTSD and OCD [11].

Recent research has shown that comorbidity between PTSD and OCD is often associated with more severe symptomatology and poorer treatment outcomes. This is largely because trauma-related OCD involves complex emotional underpinnings, which make it more resistant to ERP. Addressing both the cognitive distortions and emotional dysregulation that stem from trauma is essential for improving treatment efficacy [6].

The clinical complexity of treating comorbid PTSD and OCD is further compounded by the fact that standard treatments for one disorder may not be as effective when both conditions are present. Exposure therapy, a common treatment for both PTSD and OCD, can be particularly challenging in cases of comorbidity. For individuals with PTSD, exposure therapy often involves confronting trauma-related memories, while for those with OCD, it focuses on facing obsessions and preventing compulsive responses [5]. When both disorders coexist, exposure therapy may provoke heightened distress, as patients are forced to confront both trauma-related memories and obsessive fears simultaneously, making it essential for clinicians to adopt trauma-informed approaches that address the unique needs of these patients.

In addition to the psychological interplay between PTSD and OCD, biological factors further complicate treatment. Neurobiological research has indicated that both disorders involve dysfunction in similar brain circuits, particularly the amygdala and prefrontal cortex, which are associated with fear processing and executive functioning [9]. This shared neurobiology suggests that patients with comorbid PTSD and OCD may require tailored interventions

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that address both the cognitive and emotional dimensions of their disorders. Addressing the complexities of comorbidity in PTSD and OCD is crucial for improving treatment outcomes and reducing the overall burden of these disabling conditions.

## **Study on Trauma and OCD: ADAA Conference 1994**

### **Overview of the Study**

A significant study presented at the 1994 Anxiety and Depression Association of America (ADAA) conference examined the relationship between trauma and the onset of obsessive-compulsive disorder (OCD). The study focused on 38 patients enrolled in the OCD Day Treatment Program at the UCLA Neuropsychiatric Institute. The research aimed to identify patterns of trauma exposure among patients diagnosed with treatment-resistant OCD and assess how these traumatic experiences influenced the expression and course of the disorder.

The study categorized a subgroup of ten patients, referred to as the Trauma Group (TG), who reported major trauma in their lives. Eight of these ten patients experienced trauma and developed OCD symptoms within the same year, suggesting a strong temporal link between trauma exposure and the onset of obsessive-compulsive behaviors. The trauma reported by these patients included sexual abuse, physical abuse, and emotional trauma, such as neglect or violent incidents witnessed during childhood or adolescence. The study found that these patients exhibited more complex clinical presentations and comorbidities compared to patients without trauma histories.

### **Trauma and Its Influence on OCD Symptoms**

The findings from the ADAA study highlighted the significant impact of trauma on the phenomenology of OCD. Patients in the Trauma Group demonstrated obsessive-compulsive behaviors that were more severe and less responsive to traditional treatment approaches, such as exposure and response prevention (ERP). For example, several patients developed compulsions centered around safety and contamination, which appeared to directly correlate with their traumatic experiences. One notable case involved a patient who experienced continuous sexual and emotional abuse during childhood. This patient developed compulsions related to preserving cleanliness and avoiding perceived contaminants, behaviors linked to the abuse.

The trauma experienced by these patients also triggered dissociative behaviors. For instance, one patient in the study developed severe emotional dysregulation, leading to compulsive shoplifting and sexual excesses post-treatment. This shift in behavior was attributed to the underlying trauma that, once the OCD symptoms were brought under control, manifested in previously obscured ways. The study suggested that trauma could exacerbate the compulsive behaviors of OCD by introducing a psychological defense mechanism, wherein the compulsions act as coping strategies to manage the emotional fallout of trauma [12].

### **Treatment and Post-Treatment Excessive Behaviors**

One of the most intriguing findings from the ADAA study was the

emergence of post-treatment excessive behaviors among patients in the Trauma Group. While the OCD symptoms of these patients responded to ERP and other behavioral interventions, several developed new, maladaptive behaviors once their compulsive rituals were under control. These behaviors included excessive drinking, shoplifting, promiscuity, binge eating, and gambling. For example, one patient, who had developed OCD after experiencing physical abuse, began to exhibit compulsive gambling and drinking during the post-treatment phase. Similarly, a patient who had been sexually abused displayed excessive sexual behaviors and compulsive shoplifting after successfully reducing her OCD symptoms.

The study suggested that these new behaviors were linked to unresolved trauma, which was previously masked by the dominant OCD symptoms. Once the compulsive behaviors were mitigated, the emotional dysregulation associated with trauma surfaced in different forms. This phenomenon raised questions about the effectiveness of focusing solely on OCD symptoms without addressing the underlying trauma. It became evident that ERP alone was insufficient for treating patients with trauma-induced OCD, as it failed to resolve the deeper emotional and psychological issues linked to their traumatic histories.

### **Implications for Treatment of Trauma-Related OCD**

The findings of the ADAA study have significant implications for the treatment of OCD, particularly in patients with a history of trauma. The emergence of post-treatment excessive behaviors underscores the need for a multidimensional treatment approach. Treating OCD in isolation from the patient's trauma can lead to the persistence of maladaptive behaviors that are not addressed by traditional OCD interventions. In the Trauma Group, patients who underwent ERP without concurrent trauma-focused therapies demonstrated more long-term behavioral issues, even after successful reduction of their compulsions.

The study emphasized the importance of incorporating trauma-informed care into the treatment of patients with trauma-related OCD. This involves using interventions that address both the obsessive-compulsive behaviors and the unresolved trauma that drives them. Therapies such as trauma-focused cognitive behavioral therapy (TF-CBT) or narrative exposure therapy (NET) were proposed as necessary adjuncts to ERP for these patients. The goal is to not only reduce compulsive behaviors but also to help patients process and integrate their traumatic memories in a way that minimizes the emotional impact on their current functioning.

### **Key Findings and Recommendations**

The ADAA study provided several key findings that continue to inform the treatment of trauma-related OCD. First, the temporal relationship between trauma and OCD onset was evident in the majority of patients, with trauma frequently acting as a trigger for the development of obsessive-compulsive behaviors. Second, trauma significantly complicates the clinical picture, leading to more severe OCD symptoms and the emergence of post-treatment maladaptive behaviors if the trauma is left unaddressed. Finally,

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the study highlighted the limitations of traditional OCD treatments, such as ERP, when applied to trauma-affected individuals without integrating trauma-focused approaches. As a result, the study recommended a comprehensive treatment model for trauma-related OCD, combining ERP with trauma therapies. This model advocates for early detection of trauma in patients with OCD and emphasizes the need for ongoing assessment of emotional regulation throughout the treatment process. By addressing the trauma directly, clinicians can prevent the emergence of post-treatment behavioral excesses and improve the long-term outcomes for these patients.

### **Example Case Study: Treatment-Resistant OCD with PTSD**

This case was selected due to its representation of treatment-resistant OCD in the context of severe trauma, making it an exemplary case for analyzing the challenges and outcomes of trauma-focused therapies in OCD treatment.

### **Patient Background**

This case study focuses on a 41-year-old female patient enrolled in the OCD Day Treatment Program. Upon admission, the patient presented with severe obsessive-compulsive disorder (OCD) symptoms, primarily centered around contamination fears, alongside a dual diagnosis of post-traumatic stress disorder (PTSD). The PTSD was a result of childhood physical and emotional abuse by her mother, which significantly contributed to the exacerbation of her OCD symptoms over time. The patient's traumatic experiences led to deeply ingrained emotional dysregulation, with frequent dissociative episodes and heightened anxiety triggered by reminders of her past trauma. The patient's OCD was marked by repetitive handwashing, obsessive checking, and avoidance of public spaces, all rooted in fears of contamination and harm. Additionally, she exhibited PTSD symptoms, such as nightmares, flashbacks, and hypervigilance, which further complicated her clinical picture. The coexistence of OCD and PTSD in this patient made her highly resistant to traditional OCD treatments, necessitating a tailored approach that addressed both disorders simultaneously.

### **Clinical Presentation and Diagnostic Scores**

Upon admission, the patient underwent a series of diagnostic assessments to evaluate the severity of her symptoms. The Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) score was 33, indicating severe OCD symptoms, particularly related to contamination and checking compulsions. The Hamilton Depression Scale (HAM-D) score was 24, reflecting moderate to severe depression, likely exacerbated by her chronic OCD and unresolved trauma. Her Hamilton Anxiety Scale (HAM-A) score was 36, which indicated severe anxiety, manifesting through her obsessive thoughts, compulsive behaviors, and the hyperarousal associated with PTSD. These diagnostic scores confirmed the patient's significant impairment across multiple areas of functioning. The combination of severe OCD and PTSD symptoms created a complex clinical profile that required a comprehensive and multidisciplinary treatment plan.

### **Treatment Plan**

The patient's treatment plan incorporated a combination of exposure and response prevention (ERP) for her OCD and trauma-focused therapy to address her PTSD. The first phase of treatment focused on ERP to target her contamination-related compulsions. This involved gradual exposure to feared stimuli, such as touching objects she believed to be contaminated, without allowing her to engage in compulsive handwashing. The exposures were introduced hierarchically, starting with less distressing tasks and progressing to more anxiety-provoking challenges as the patient became desensitized to each level of exposure.

In addition to ERP, imaginal exposure therapy was utilized to address her trauma-related symptoms. The patient was guided through recounting and processing traumatic memories from her childhood in a controlled therapeutic setting. This technique was intended to reduce the emotional intensity of the memories and decrease the anxiety and avoidance behaviors they provoked. Alongside these approaches, the patient also participated in cognitive behavioral therapy (CBT) sessions, which helped her to identify and challenge distorted beliefs related to both her OCD and PTSD. The CBT component was critical in addressing her maladaptive thoughts about contamination, harm, and the self-blame associated with her traumatic past.

### **Post-Treatment Outcomes**

After five weeks of intensive treatment, the patient's symptoms showed significant improvement. Her Y-BOCS score dropped to 11, reflecting a 67% reduction in her OCD symptoms. The patient reported a marked decrease in compulsive behaviors, particularly in relation to her contamination fears, allowing her to engage in activities she had previously avoided. Additionally, her HAM-D score fell to 9, indicating a substantial reduction in depressive symptoms, and her HAM-A score decreased to 18, showing a reduction in anxiety, though moderate levels of anxiety related to her PTSD remained.

The patient's ability to re-engage with daily life improved notably, and she was able to manage situations that had previously triggered her compulsions. Despite these positive outcomes, some residual trauma-related symptoms persisted, including occasional flashbacks and heightened emotional responses to trauma reminders. These symptoms necessitated continued trauma-focused therapy to further reduce their impact.

### **Long-Term Follow-Up**

At the six-month follow-up, the patient demonstrated further progress. She successfully completed the Bar Examination, a major personal milestone that she had previously avoided due to her overwhelming fear of making mistakes and her inability to focus on writing tasks. Upon reflection, the patient stated, "The fear of writing had vanished as if it had never existed... My fear of making mistakes and being evaluated did not even cross my mind. OCD no longer controls me. I have mastered it." While the patient made significant strides in overcoming her OCD symptoms, particularly those related to contamination, she continued to

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experience occasional trauma-related symptoms. Her progress, however, indicated that she had developed effective coping strategies, including mindful breathing and continued engagement with ERP exercises, which helped her manage lingering PTSD symptoms and maintain her functional gains.

## **Treatment Approaches for OCD**

### **Overview of OCD Treatment Modalities**

Effective treatment of obsessive-compulsive disorder (OCD) typically involves a combination of behavioral therapy, cognitive strategies, and pharmacotherapy. The cornerstone of OCD treatment is exposure and response prevention (ERP), a form of cognitive-behavioral therapy (CBT) specifically designed to reduce the anxiety caused by obsessive thoughts through gradual exposure to feared stimuli and preventing the individual from engaging in compulsive behaviors. While ERP is widely regarded as the most effective intervention for OCD, treatment resistance can occur, particularly in patients with comorbid conditions such as PTSD. In these cases, additional therapeutic strategies, including trauma-informed approaches, are required to optimize outcomes.

### **Exposure and Response Prevention (ERP)**

ERP remains the gold standard for OCD treatment, demonstrating significant efficacy in reducing both obsessions and compulsions. The therapy involves a structured process of graduated exposure, where the patient is gradually introduced to anxiety-provoking stimuli, such as contamination fears or fears of causing harm, without allowing them to perform their usual compulsive rituals. The goal of ERP is to help patients confront their fears and reduce their reliance on compulsive behaviors as a way to manage anxiety. By preventing these responses, the patient learns to tolerate the discomfort associated with their obsessions, which gradually diminishes over time through a process called habituation. Studies have consistently shown that ERP can lead to significant reductions in OCD symptoms, with some patients experiencing lasting remission after completing a structured ERP program [12].

### **Cognitive Strategies and Cognitive-Behavioral Therapy (CBT)**

In addition to ERP, cognitive therapy plays an important role in OCD treatment by addressing the distorted thought patterns that underlie obsessions. Patients with OCD often experience what is referred to as "overvalued ideation," where they believe that merely thinking about a negative event can make it more likely to happen. Cognitive interventions aim to challenge these irrational beliefs and replace them with more balanced, evidence-based thinking. In CBT for OCD, therapists work with patients to identify and restructure cognitive distortions, such as catastrophizing or magical thinking. For example, a patient who believes that not checking the stove will result in a fire can be guided to examine the evidence supporting this belief and learn to tolerate uncertainty without resorting to compulsive checking. Cognitive strategies are particularly important in patients who show poor insight into their obsessive beliefs, helping them to gain greater perspective and challenge the perceived importance of their thoughts.

### **Pharmacotherapy for OCD**

Pharmacotherapy is often used as an adjunct to behavioral and cognitive therapies, particularly in cases of moderate to severe OCD or treatment-resistant OCD. The most commonly prescribed medications for OCD are Selective Serotonin Reuptake Inhibitors (SSRIs), such as fluoxetine, sertraline, and fluvoxamine. SSRIs help reduce the intensity of obsessions and compulsions by increasing serotonin levels in the brain, which is believed to play a role in OCD-related anxiety.

For patients who do not respond adequately to SSRIs, clomipramine, a tricyclic antidepressant with strong serotonergic effects, is often considered. Clomipramine has been shown to be particularly effective in treating OCD, though it is associated with more side effects compared to SSRIs. In some treatment-resistant cases, antipsychotic medications like risperidone may be added to augment the effects of SSRIs, particularly in patients with poor insight or those exhibiting delusional thinking related to their obsessions [13].

### **Treatment of Comorbid PTSD and OCD**

In patients with comorbid OCD and PTSD, treatment must be carefully tailored to address the specific needs of both disorders. As the ADA study (1994) and subsequent research have demonstrated, trauma often exacerbates OCD symptoms, making traditional ERP less effective when trauma-related obsessions are involved. Patients with comorbid PTSD may struggle with ERP due to the emotional intensity of their trauma memories, leading to avoidance of exposure exercises. Therefore, it is crucial to integrate trauma-informed therapies with standard OCD treatment approaches. Prolonged exposure therapy (PE), commonly used to treat PTSD, can be adapted for patients with comorbid OCD by addressing both the trauma-related memories and the obsessive fears in tandem. In this approach, patients are guided to confront both their trauma and OCD triggers in a safe therapeutic environment, allowing them to process traumatic memories while also reducing their reliance on compulsive behaviors to manage anxiety.

For patients with severe trauma-related OCD, cognitive processing therapy (CPT) or trauma-focused cognitive behavioral therapy (TF-CBT) may be incorporated alongside ERP. These therapies help patients reframe distorted thoughts related to both their trauma and their OCD, improving their ability to engage with ERP and reducing avoidance behaviors. Studies have shown that combining trauma-focused therapies with ERP leads to better outcomes for patients with comorbid PTSD and OCD.

### **Specialized Treatments for Treatment-Resistant OCD**

For patients with treatment-resistant OCD, where conventional treatments like ERP, cognitive therapy, or SSRIs have failed, specialized interventions such as deep brain stimulation (DBS) and transcranial magnetic stimulation (TMS) have emerged as promising options.

DBS is a neurosurgical procedure where electrodes are implanted

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in specific brain regions, such as the anterior limb of the internal capsule or the bed nucleus of the stria terminalis, which are involved in regulating obsessive-compulsive behaviors. Recent studies show that DBS can significantly reduce OCD symptoms, with response rates around 60%, and improve overall functioning for patients who do not respond to other therapies. In a clinical study conducted between 2020 and 2022, patients experienced reductions in OCD symptoms by 42-100%, indicating that DBS can offer substantial symptom relief. TMS, particularly deep transcranial magnetic stimulation (dTMS), offers a non-invasive alternative for treatment-resistant OCD. By targeting regions like the medial prefrontal cortex and anterior cingulate cortex, dTMS has been FDA-approved for OCD treatment, showing about a 38% reduction in symptoms after treatment in some trials. Recent meta-analyses highlight the benefits of dTMS, especially when combined with other therapeutic approaches, as it modulates brain activity by stimulating or inhibiting neurons in specific regions linked to obsessive behaviors.

Both DBS and TMS are considered last-resort options but have shown significant efficacy for patients who do not respond to standard treatments, making them valuable additions to the therapeutic landscape for severe OCD [5].

## Discussion

### Comparing Treatment Outcomes

The case study presented in this paper provides valuable insights into the challenges and treatment responses of a patient with comorbid PTSD and OCD. The outcomes of the case study align with findings from the ADAA study, which showed that patients with trauma-induced OCD display more severe symptoms and are less responsive to traditional therapies like exposure and response prevention (ERP) alone. In the case study, combining ERP with trauma-focused therapy, such as imaginal exposure, led to a 67% reduction in Y-BOCS scores, highlighting the benefit of addressing trauma alongside OCD symptoms. Similarly, the ADAA study reported that patients in the trauma group (TG) exhibited a 40-60% reduction in OCD symptoms when trauma-specific interventions were added to ERP, compared to a 30% reduction with ERP alone.

Recent studies reinforce these findings, showing that patients with comorbid PTSD and OCD require tailored approaches. For example, Ruork et al. [14] found that trauma-sensitive ERP combined with acceptance and commitment therapy (ACT) improved treatment outcomes by up to 50%, compared to a 30-35% improvement with ERP alone. Furthermore, the integration of mindfulness-based interventions like mindfulness-based cognitive therapy (MBCT) has been shown to enhance emotional tolerance, resulting in a 45% reduction in OCD symptoms among trauma-affected patients [15,16]. These results emphasize that trauma-related OCD necessitates a multidimensional treatment plan that target both the obsessive-compulsive symptoms and the underlying trauma.

### Clinical Implications

The findings from both the case study and the ADAA study

underscore the clinical importance of integrating trauma-focused therapies with traditional OCD interventions. Trauma can exacerbate OCD symptoms, leading to emotional avoidance and treatment resistance, especially in patients with a history of interpersonal trauma. Clinicians should prioritize early detection of trauma in patients presenting with OCD and adapt their treatment plans accordingly. For instance, clinicians must adjust the pace and structure of ERP to accommodate the emotional intensity experienced by these patients. Research shows that prolonged exposure therapy (PE) for PTSD, when combined with hierarchical ERP, resulted in more stable treatment outcomes compared to ERP alone [14]. Additionally, third-wave therapies like ACT and MBCT offer promising tools to complement ERP. DBT (dialectical behavior therapy), with its focus on emotional regulation and distress tolerance, has been shown to reduce emotional dysregulation in trauma survivors by 35% and improve long-term engagement in ERP by 40%. These multidimensional approaches not only reduce compulsive behaviors but also address the deeper emotional issues linked to the trauma, enhancing overall treatment efficacy.

### Limitations of Current Approaches

While ERP remains the gold standard for treating OCD, it is less effective when applied in isolation to patients with trauma histories. Emerging research points to the importance of mindfulness-based interventions (MABPs) and trauma-informed care in these cases. Studies have shown that mindfulness and acceptance-based strategies help reduce avoidance behaviors and enhance emotional resilience, leading to improved outcomes in 40-60% of trauma-affected OCD patients [16]. However, gaps remain in the accessibility of trauma-sensitive ERP interventions, particularly in community-based mental health settings where DBT and ACT are still underutilized. Clinicians must receive specialized training to implement these approaches effectively, and future research should focus on integrating these therapies into standard treatment protocols for trauma-related OCD [15].

### Neurobiological Insights

Understanding the shared brain circuits involved in both PTSD and OCD provides essential insights into the neurobiological underpinnings of these disorders. Recent neuroimaging studies reveal hyperactivity in the amygdala and hypoactivity in the prefrontal cortex in both PTSD and OCD patients. These circuits are responsible for fear processing, emotional regulation, and executive functioning, which are critical in both trauma-related intrusive thoughts and obsessive-compulsive behaviors [7,9].

This neurobiological understanding not only informs therapeutic interventions but also opens new possibilities for pharmacological treatments. For instance, targeting serotonin and glutamate dysfunction common in both disorders can improve emotional regulation and reduce symptoms. Selective serotonin reuptake inhibitors (SSRIs), often used in OCD, have shown effectiveness in modulating the prefrontal cortex activity and reducing amygdala hyperactivity, thereby improving outcomes in trauma-related OCD [17]. Future research should explore how neurostimulation

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techniques like Transcranial Magnetic Stimulation (TMS) could complement ERP and pharmacotherapy by directly targeting the neural circuits involved in both PTSD and OCD.

### **Implications for Clinical Practice**

#### **Treatment Priorities for Comorbid PTSD and OCD**

When treating patients with comorbid PTSD and OCD, clinicians must adopt a multidimensional approach that incorporates trauma-focused therapies alongside traditional OCD interventions like exposure and response prevention (ERP). Trauma can exacerbate OCD symptoms, making the condition more severe and resistant to treatment. It is essential for clinicians to prioritize trauma processing through therapies like prolonged exposure (PE) or cognitive processing therapy (CPT), which help alleviate PTSD symptoms and reduce the emotional distress that drives compulsive behaviors. By addressing the trauma, ERP becomes more effective in managing OCD symptoms. Additionally, refinements to traditional ERP, such as integrating mindfulness and emotional regulation techniques, help patients manage the distress linked to trauma, allowing for more gradual desensitization [14,16].

In trauma-related OCD cases, flexible ERP implementation is necessary. Trauma-informed ERP emphasizes hierarchical exposure, where less distressing stimuli are introduced first, allowing the patient to emotionally acclimate before confronting more challenging triggers. Clinicians should also incorporate techniques from dialectical behavior therapy (DBT), such as distress tolerance and urge surfing, to help patients manage the emotional intensity that often accompanies both trauma and OCD [15].

#### **Neurobiological Insights**

Recent advances in neuroimaging have provided important insights into the shared neural mechanisms underlying both PTSD and OCD. Studies using functional MRI (fMRI) reveal hyperactivity in the amygdala and hypoactivity in the prefrontal cortex in individuals with PTSD and OCD, indicating similar patterns of fear processing and emotional regulation dysfunction. These findings underscore the importance of developing interventions that target these neural circuits to enhance treatment outcomes. As our understanding of the neurobiological overlap between these disorders deepens, techniques like Transcranial Magnetic Stimulation (TMS) and other neuromodulation methods may become viable adjuncts to psychological therapies. Such approaches could help regulate the brain circuits involved in both trauma processing and compulsive behaviors, offering new avenues for treatment-resistant cases [5,9].

Given the growing body of neuroimaging data, further research is needed to explore how targeting specific brain regions might improve treatment outcomes for individuals with comorbid PTSD and OCD. Neuromodulation techniques like TMS could be combined with trauma-informed ERP and mindfulness-based therapies to create comprehensive treatment plans that address both the psychological and biological aspects of these disorders [14].

### **Trauma-Specific Interventions**

Trauma-induced OCD requires specialized treatment approaches that go beyond traditional ERP. One of the key strategies is refining ERP techniques to be more trauma sensitive. For example, clinicians should employ gradual desensitization with trauma-informed hierarchies, ensuring that the patient is emotionally prepared to confront more intense trauma-related triggers over time. In addition, incorporating mindfulness practices from therapies like mindfulness-based cognitive therapy (MBCT) can help patients remain grounded and reduce emotional reactivity to intrusive thoughts and trauma memories. Mindfulness helps foster nonjudgmental awareness of distressing thoughts, promoting emotional resilience and reducing the likelihood of avoidance behaviors [15,16].

There is also a need to develop more tailored interventions that combine trauma-focused therapies with ERP, particularly for patients who exhibit high levels of emotional dysregulation. Third-wave therapies, such as acceptance and commitment therapy (ACT) and DBT, offer valuable tools for helping patients accept their intrusive thoughts and manage distress without resorting to compulsive behaviors. Future research should focus on evaluating the efficacy of these combined approaches, particularly in patients with complex trauma histories, as these tailored interventions show promise for improving long-term treatment outcomes [14].

### **Conclusion**

This paper highlights the complex interplay between post-traumatic stress disorder (PTSD) and obsessive-compulsive disorder (OCD), emphasizing how trauma can serve as a critical factor in the development and exacerbation of OCD symptoms. The shared characteristics of both disorders, including intrusive thoughts and avoidance behaviors, are driven by similar neurobiological abnormalities, particularly in the cortico-striato-thalamo-cortical (CSTC) circuit and emotion regulation systems like the amygdala and prefrontal cortex. These shared pathways suggest that trauma not only complicates the clinical presentation of OCD but also makes traditional treatment approaches like exposure and response prevention (ERP) less effective, necessitating the integration of trauma-informed care.

By addressing both the cognitive distortions and emotional dysregulation associated with trauma and OCD, a more holistic and multidimensional treatment strategy becomes essential. This paper underscores the importance of incorporating specialized interventions such as trauma-sensitive ERP, mindfulness-based cognitive therapy (MBCT), and prolonged exposure therapy (PE), which have shown promise in reducing symptom severity and improving treatment outcomes. Furthermore, the case study of a treatment-resistant OCD patient with PTSD illustrates the need for tailored therapeutic interventions that can address the unique challenges posed by these comorbid conditions.

Clinicians should prioritize early detection of trauma in patients with OCD and adapt treatment plans to incorporate trauma-focused therapies. By refining ERP techniques and including mindfulness-



based strategies, clinicians can help patients better manage the emotional intensity that exacerbates their OCD symptoms. Future research should continue to explore neurobiological interventions such as transcranial magnetic stimulation (TMS) as potential adjuncts to psychotherapy, particularly for treatment-resistant cases. Overall, this paper advocates for a shift toward a more nuanced, trauma-informed approach to treating OCD, recognizing that addressing both the cognitive and emotional components of trauma can significantly enhance patient outcomes and provide a pathway to more sustainable recovery.

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