



Integrative and Multi-Disciplinary Treatment for Severe Refractory Obsessive-Compulsive Disorder

Eda Gorbis¹ , Aanya Jajoo² 

¹The Westwood Institute for Anxiety Disorders, Los Angeles, CA, USA

²University of California, Los Angeles, CA, USA

*Correspondence

Dr. Eda Gorbis

The Westwood Institute for Anxiety Disorders, 921 Westwood Blvd., Suite 223, Los Angeles, California 90024, United States
E-mail: thewestwoodinstitute@gmail.com

- Received Date: 01 Oct 2024
- Accepted Date: 07 Oct 2024
- Publication Date: 11 Oct 2024

Copyright

© 2024 Authors. This is an open-access article distributed under the terms of the Creative Commons Attribution 4.0 International license.

Abstract

Obsessive-Compulsive Disorder (OCD) is a chronic and complex psychiatric condition characterized by intrusive thoughts (obsessions) and repetitive behaviors (compulsions), affecting approximately 2.3% of the global population. This paper presents an integrative and multi-disciplinary treatment approach employed at the Westwood Institute for Anxiety Disorders, directed by Dr. Eda Gorbis. Traditional treatments like Exposure and Response Prevention (ERP) and pharmacotherapy, while effective for many, often leave residual symptoms or fail in treatment-resistant cases. To address these limitations, the Westwood Institute integrates newer modalities such as Mindfulness-Based Behavioral Therapy (MBBT) and cognitive restructuring into a comprehensive treatment framework.

We review the current understanding of OCD, emphasizing its varied symptomatology, complex etiology, and significant impact on daily functioning. The importance of thorough assessment and psychoeducation in tailoring individualized treatment plans is underscored, ensuring that all relevant aspects of the disorder are addressed. The integrative model at the Westwood Institute involves a diverse team of healthcare professionals, including psychiatrists, psychologists, exposure coaches, and family therapists, working collaboratively to provide holistic care.

This paper aims to provide clinicians with a detailed overview of the integrative treatment strategies utilized at the Westwood Institute, highlighting the potential for improved outcomes in even the most refractory cases of OCD. By combining traditional and innovative therapeutic modalities within a cohesive framework, this approach offers a promising pathway for enhancing the quality of life for individuals living with OCD.

Introduction

Obsessive-Compulsive Disorder (OCD) is a chronic and often debilitating psychiatric syndrome that affects millions of individuals worldwide. Characterized by the presence of persistent, intrusive thoughts (obsessions) and repetitive behaviors or mental acts (compulsions), OCD can significantly impair an individual's daily functioning, relationships, and overall quality of life [1]. The prevalence of OCD is higher than often recognized, with a lifetime prevalence of around 2.5% and a one-month prevalence of 1.3% among adults. However, these figures might be underestimated due to patients' reluctance to disclose their symptoms out of fear of stigma or the failure of healthcare providers to screen for OCD during mental status examinations [2,3].

OCD is not merely a single condition but a syndrome, representing a constellation of different sub-illnesses that often co-occur, creating a spectrum of disorders. Common

comorbidities include body dysmorphic disorder, panic disorder, eating disorders, generalized anxiety disorder, and social phobia. The complexity of OCD lies not only in its varied symptom presentations but also in its heterogeneous etiology, which involves a complex interplay of genetic, neurobiological, and environmental factors [4]. Studies have shown significant genetic contributions to OCD, with twin studies indicating a 63% concordance rate for OCD among monozygotic twins, further highlighting the role of genetic factors in the disorder [3].

Traditional approaches to OCD treatment have primarily focused on cognitive-behavioral therapy (CBT), particularly Exposure and Response Prevention (ERP), and pharmacological interventions using Selective Serotonin Reuptake Inhibitors (SSRIs). While these methods have shown efficacy for many patients, a significant proportion of individuals with OCD continue to experience residual symptoms or fail to respond adequately to first-line treatments [5]. Furthermore, the

Citation: Gorbis E, Jajoo A. Integrative and Multi-Disciplinary Treatment for Severe Refractory Obsessive-Compulsive Disorder. *Neurol Neurosci.*2024;5(3):1-10.

nature of OCD's obsessions and compulsions varies widely among individuals, adding to the diagnostic and treatment challenges. For instance, while common compulsions include checking, washing, cleaning, and repeating actions, there are also uncommon obsessions, such as fears of contamination by geographical area or losing essence by discarding objects, which underscore the diverse and sometimes bizarre nature of OCD symptoms [2,3].

Given these complexities, there has been growing interest in integrative and multi-disciplinary approaches to OCD treatment. These approaches aim to combine established interventions with newer modalities, such as Mindfulness-Based Behavioral Therapy (MBBT), and to involve a diverse team of healthcare professionals to address the various aspects of the disorder.

The Westwood Institute for Anxiety Disorders, under the direction of Dr. Eda Gorbis, has developed an integrative and multi-disciplinary treatment approach that addresses both the symptomatic and underlying neurobiological aspects of OCD. This paper explores this comprehensive treatment model, which has shown promise in treating even the most refractory cases of OCD. This paper aims to present a comprehensive overview of this approach to OCD treatment. We will review the current understanding of OCD, including its diagnostic criteria, epidemiology, and comorbidities, before delving into a detailed discussion of various treatment modalities and how they can be integrated into a cohesive treatment plan. By doing so, we hope to provide clinicians with a framework for developing more effective, personalized treatment strategies for individuals with OCD, particularly those with refractory cases. Future papers will later discuss the connection between OCD and its comorbidities in greater detail.

Understanding OCD

The Nature of OCD

OCD is often referred to as the "Disease of Doubt" [6]. Obsessions typically manifest as doubts or fears, while compulsions serve to alleviate the anxiety caused by these doubts even though there is evidence that doubt is untrue. For example, an individual might experience the obsessive thought, "I might be killed if I cross the street," leading to the compulsive behavior of touching their left foot before crossing to ensure safety. This is characterized by 5 key assumptions: thinking of an action is tantamount to its performance, failing to prevent harm is morally equivalent to causing it, responsibility for harm is not diminished by extenuating circumstances, failing to ritualize in response to an idea about harm constitutes an intention to harm, and one should exercise control over one's thoughts [7].

Diagnostic Criteria

The diagnosis of OCD is based on criteria outlined in the Diagnostic and Statistical Manual of Mental Disorders [1]. These criteria have been refined over time to better capture the essence of the disorder and differentiate it from other related conditions. The key diagnostic features include:

1. Presence of obsessions, compulsions, or both:
 - Obsessions are defined as recurrent and persistent thoughts, urges, or images experienced as intrusive, unwanted, and causing marked anxiety or distress.
 - Compulsions are repetitive behaviors or mental acts that an individual feels driven to perform in response to an obsession or according to rigidly applied rules.

2. Time-consuming nature: The obsessions or compulsions are time-consuming (taking more than 1 hour per day) or cause clinically significant distress or impairment in social, occupational, or other important areas of functioning.
3. Exclusion criteria: The symptoms are not attributable to the physiological effects of a substance or another medical condition.
4. Specification: If the individual has good insight, poor insight, or absent insight/delusional beliefs.
5. The disturbance is not better explained by the symptoms of another mental disorder.

It's important to note that the content of obsessions and compulsions can vary widely among individuals with OCD. Common themes include contamination fears, doubting, need for symmetry or exactness, aggressive or horrific impulses, and sexual imagery. However, the underlying process of experiencing intrusive thoughts and feeling compelled to perform rituals to alleviate anxiety remains consistent across different symptom presentations.

The DSM-5 also introduced a new "insight" specifier, recognizing that individuals with OCD can have varying levels of insight into the irrationality of their obsessions and compulsions. This spectrum ranges from good insight (recognizing that OCD beliefs are definitely or probably not true) to absent insight/delusional beliefs (being completely convinced that OCD beliefs are true).

Epidemiology and Onset

Understanding the epidemiology and onset of OCD is crucial for early identification, intervention, and treatment planning. Recent epidemiological studies have provided valuable insights into the prevalence, age of onset, and risk factors associated with OCD.

OCD has a lifetime prevalence of approximately 2.3% in the general population, affecting an estimated 50 million people worldwide [8]. In the United States alone, about 1.2% of adults, or approximately 3 million individuals, have OCD in any given year [9]. The lifetime prevalence of OCD among U.S. adults is estimated at 2.3% (National Institute of Mental Health). These figures, however, may underestimate the true prevalence of OCD due to several factors. Many individuals with OCD are reluctant to disclose their symptoms due to shame, embarrassment, or fear of stigma. OCD symptoms can sometimes be misattributed to other anxiety disorders or depression. Furthermore, some healthcare providers may not adequately screen for OCD symptoms, particularly in primary care settings.

OCD typically has its onset in late adolescence or early adulthood, with a mean age of onset of 19.5 years [1]. However, it's important to note that approximately 25% of cases start by age 14, with some studies reporting onset as early as 7-12 years old [10]. Some research suggests a bimodal distribution of age onset, with peaks in late childhood/early adolescence and again in early adulthood [11]. Moreover, males tend to have an earlier age of onset compared to females, often during childhood or adolescence [12].

Several factors have been associated with an increased risk of developing OCD. OCD has a notable genetic component, as evidenced by higher prevalence rates among first-degree relatives of individuals with the disorder. Twin studies further support this genetic link, showing a 70% concordance rate for

OCD among identical twins compared to 50% among fraternal twins. This indicates that genetic factors play a significant role in the development of OCD. First-degree relatives of individuals with OCD have a 3-5 times higher risk of developing the disorder [13]. Abnormalities in the cortico-striato-thalamo-cortical (CSTC) circuits have been implicated in OCD [14]. Neuroimaging studies have identified abnormalities in specific brain regions associated with OCD. These include the frontal lobes, which are involved in planning, executive functioning, and organizing behaviors; the basal ganglia, which are involved in routine behaviors like grooming; and the cingulum, which assists in communicating the brain's behavioral and emotional messages. These abnormalities suggest that structural and functional brain differences contribute to OCD symptoms. One of the most well-established biological theories of OCD is the serotonin hypothesis. This theory posits that OCD is linked to abnormally low levels of the neurotransmitter serotonin. Serotonin is crucial for regulating mood, anxiety, and other psychiatric functions. Its deficiency is not only associated with OCD but also with anxiety, depression, and other psychiatric disorders. In some susceptible children, autoimmune responses to streptococcal infections can trigger OCD symptoms. This phenomenon, known as pediatric autoimmune neuropsychiatric disorders, associated with streptococcal infections (PANDAS), highlights the role of immune system dysregulation in the onset of OCD.

Hormonal imbalances are increasingly recognized as significant factors in OCD. Hormonal fluctuations can influence mood, anxiety levels, and stress responses, thereby impacting OCD symptoms. Specific hormonal events and imbalances that play crucial roles in OCD pathophysiology include those involving estrogen, androgens, progesterone, melatonin, and cortisol. OCD symptoms often worsen during premenstrual periods when estrogen levels are highest. Furthermore, fluctuating hormones during pregnancy and postpartum periods can trigger OCD symptoms. Approximately 30% of women observed during pregnancy report the onset or worsening of OCD symptoms. Specific hormonal events and imbalances, such as those involving estrogen, androgens, progesterone, melatonin, and cortisol, play crucial roles in OCD pathophysiology.

Various environmental stressors can trigger or exacerbate OCD symptoms. Stressful life events, trauma, and certain parenting styles (e.g., overprotective parenting) may contribute to OCD development in vulnerable individuals [15]. High levels of neuroticism and harm avoidance have been associated with increased OCD risk [16]. OCD typically follows a chronic, waxing and waning course. Without treatment, complete remission is rare (approximately 20% of cases). However, with appropriate treatment, many individuals can achieve significant symptom reduction and improved quality of life [17].

Comorbidities

OCD is often accompanied by a range of other mental health conditions, highlighting the complexity and multifaceted nature of the disorder. According to the Diagnostic and Statistical Manual of Mental Disorders (5th ed.), 76% of individuals with OCD also have an anxiety disorder, including panic disorder, social anxiety disorder, generalized anxiety disorder, and specific phobia [1]. This comorbidity can exacerbate the distress and functional impairment experienced by individuals with OCD. Additionally, 63% of individuals with OCD experience comorbid depressive or bipolar disorder, with 41% specifically having depression [1]. This overlap is significant because the

presence of depressive symptoms can influence the severity and treatment response of OCD. The combination of OCD and depression often results in greater overall impairment and a more challenging treatment course.

Personality disorders are also prevalent among individuals with OCD, occurring in 23-32% of cases [1]. These may include avoidant, dependent, obsessive-compulsive personality disorder (OCPD), and other personality disorders. The presence of a personality disorder can complicate the clinical presentation and requires careful consideration in treatment planning. Moreover, 40% of individuals with OCD have a comorbid eating disorder [1]. The intersection of OCD and eating disorders can lead to severe dietary restrictions, ritualistic eating behaviors, and a heightened focus on body image and weight. This combination often requires a specialized treatment approach that addresses both the OCD and the eating disorder components.

Other common comorbidities include impulse-control disorders (e.g., trichotillomania, excoriation disorder), substance use disorders, and tic disorders. Up to 30% of individuals with OCD also have a tic disorder, such as Tourette syndrome, which can further complicate the clinical picture and treatment [1].

The high rate of comorbidity underscores the need for comprehensive assessment and tailored treatment approaches to address the various presenting concerns. A thorough assessment is crucial to screen for comorbid conditions to inform a holistic and integrated treatment plan. Treatment strategies need to be individualized to simultaneously target OCD and its comorbid conditions, often requiring a combination of pharmacotherapy and psychotherapy tailored to the individual's unique profile of symptoms.

Treatment Approaches

Initial Assessment

Importance of Assessment

A comprehensive assessment is crucial for effective OCD treatment, serving as the foundation for developing a personalized treatment plan. Without a thorough assessment, treatment can be misguided, leading to ineffective interventions and prolonged suffering for the patient. Accurate assessment aids in identifying treatment targets, developing a symptom hierarchy for exposure exercises, tailoring interventions to the individual's specific needs and circumstances, and establishing a baseline for monitoring treatment progress. The importance of thorough assessment cannot be overstated, as it ensures that all relevant conditions are identified and appropriately treated, minimizing the risks of misdiagnosis and ensuring the best possible outcomes for patients.

Psychological Assessments at Westwood Institute for Anxiety Disorders

At the Westwood Institute for Anxiety Disorders, the assessment process typically involves several key components. A structured or semi-structured clinical interview is conducted to gather information about the onset, course, and current presentation of OCD symptoms. This includes a detailed exploration of obsessions and compulsions, a battery of assessments to give insight into the irrationality of OCD thoughts, understanding the impact on daily functioning and quality of life and taking a family history of OCD or related disorders. The battery of assessments includes the use of various validated assessment tools such as the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS), Hamilton Psychiatric Rating Scale for Depression, Structured Interview Guide for the Hamilton Anxiety Scale

(SIGH-A), Fixity of Beliefs Questionnaire, Global Assessment of Functioning (GAF) Scale, NIMH Global Obsessive-Compulsive Scale and the Brown Assessment of Beliefs Scale (BABS). Emphasizing the importance of thoroughness, Dr. Gorbis advocates for an assessment process that is extensive, involving around 500 questions and lasting 2-5 hours. This comprehensive approach ensures that all aspects of the patient's condition are understood, minimizing the risks of misdiagnosis.

The Y-BOCS is a semi-structured interview and the gold standard for assessing OCD severity. It includes 10 items that separately evaluate obsessions and compulsions, with scores ranging from 0 to 40, where higher scores indicate more severe symptoms. The scale is divided into Obsession Severity and Compulsion Severity subscales and is extensively validated and widely used in both clinical and research settings [18-20]. The Hamilton Psychiatric Rating Scale for Depression (HAM-D) is a clinician-administered questionnaire used to assess the severity of depression symptoms, which are often comorbid with OCD. It covers various aspects of depression, such as mood, insomnia, and somatic symptoms, and is validated for both clinical practice and research use [21,22]. The SIGH-A standardizes the administration of the Hamilton Anxiety Rating Scale (HAM-A), ensuring reliable assessment across different clinicians. It focuses on both psychic and somatic anxiety and is used extensively in clinical trials and research studies [23].

The Fixity of Beliefs Questionnaire measures the rigidity of obsessive beliefs, providing insight into cognitive rigidity, which can be a significant barrier in treating OCD. It helps clinicians tailor cognitive-behavioral interventions to challenge these entrenched beliefs, which is crucial for effective therapy [24]. The GAF Scale provides a global assessment of a patient's psychological, social, and occupational functioning, with scores ranging from 0 to 100. Higher scores indicate better functioning, and the scale is widely used to assess overall functioning in patients with psychiatric disorders, including OCD [25]. The NIMH Global Obsessive-Compulsive Scale offers a global measure of the severity of OCD symptoms, providing a quick overview of the patient's condition. It is often used alongside other scales to assess overall functioning and the impact of OCD on the patient's life [26]. The BABS evaluates the degree of insight patients have into their OCD-related beliefs, assessing conviction, perception of others' views, and willingness to consider alternative explanations. It is critical for distinguishing between different levels of insight, which can significantly influence treatment outcomes [24].

For functional analysis clinicians identify antecedents (triggers) of obsessions and compulsions, consequences (reinforcing factors) maintaining the symptoms and patterns of avoidance behavior. Clinicians also complete a comorbidity screening for common co-occurring conditions such as depression, other anxiety disorders, tic disorders, autism spectrum disorders, etc. A medical evaluation is conducted to rule out medical conditions that may mimic or exacerbate OCD symptoms, such as thyroid dysfunction or neurological conditions (e.g., frontotemporal dementia). These include neurological exams, MRIs, and other diagnostic tools that ensure the correct diagnosis. The cognitive assessment evaluates cognitive functioning, particularly in cases of early-onset OCD or when cognitive deficits are suspected and the family assessment explores family dynamics, accommodation behaviors, and the impact of OCD on family functioning.

The comprehensive assessment not only aids in accurate

diagnosis but also helps in identifying treatment targets, developing a symptom hierarchy for exposure exercises, tailoring interventions to the individual's specific needs and circumstances and establishing a baseline for monitoring treatment progress

Impact of Misdiagnosis

Despite the availability of robust diagnostic tools, they are often not used to their fullest capacity, often resulting in haphazard administration and diagnosis. The lack of thorough assessment and incorrect diagnoses can have severe negative outcomes. Untreated mental health conditions can worsen, extending the time of suffering and leading to decreased functioning, poor quality of life, and even suicidal thoughts or actions. Inappropriate treatment can exacerbate symptoms; for example, prescribing antidepressants to a patient with bipolar disorder misdiagnosed as depression can worsen their condition, delay proper treatment, and prolong their suffering. Additionally, misdiagnosis can negatively impact physical health due to the interconnected nature of the brain and body, and it often leads to increased healthcare costs due to repeated visits, prolonged treatment periods, and unnecessary treatments.

Comprehensive assessment, as emphasized by Dr. Gorbis, is critical to prevent these negative outcomes, ensuring that the correct diagnosis is made, and the appropriate treatment plan is implemented. This approach not only improves the chances of successful treatment but also protects the patient's overall well-being and reduces unnecessary healthcare expenditures.

Psychoeducation

Psychoeducation is a crucial component of OCD treatment, serving multiple important functions. This normalizes the experience by helping patients understand that intrusive thoughts are common in the general population and explaining the difference between normal intrusive thoughts and clinical obsessions. Clinicians clarify that OCD is not about cleanliness or perfectionism and these thoughts do not reflect a person's true desires or character. It is also important to understand the OCD cycle which illustrates the relationship between obsessions, anxiety, and compulsions and demonstrates how compulsions reinforce obsessions in the long term. Biological and psychological models of OCD delve into the neurobiological factors (e.g., brain circuitry involved in OCD) and explain cognitive-behavioral models of OCD maintenance. It is also crucial to outline treatment protocol and provide a clear explanation of how ERP works, discuss the role of medication in OCD treatment and introduce other possible treatment modalities (e.g., mindfulness, cognitive restructuring). Clinicians teach patients how to track their symptoms and introduce tools for identifying triggers and patterns.

Involving family in treatment planning and implementation is done by educating family members about OCD and its impact and teaching them how to reduce accommodation behaviors. The family is also informed about the chronic nature of OCD and the possibility of symptom fluctuations. The patient and family are provided with strategies for managing setbacks and maintaining gains. Effective psychoeducation empowers patients and their families, increases treatment engagement and adherence, and sets realistic expectations for the treatment process. It is an ongoing process that continues throughout treatment, adapting to the patient's evolving needs and understanding.

Behavioral Therapy Guidelines and Goal

A key tenet of the behavioral approach to OCD treatment is

the recognition that while individuals cannot always control their thoughts or feelings, they can exert control over their behaviors. The goal of treatment is to "disconnect feeling from functioning" - in other words, to help patients break the cycle where obsessive thoughts lead directly to compulsive behaviors. By changing their overt actions, even in the face of distressing internal experiences, patients can gradually influence and reshape their thoughts and emotions.

This is exemplified in the guiding principles of behavioral therapy for OCD: "You cannot always control your thoughts, you cannot always control your feelings, but you can control your behavior. As you change your behavior, your thoughts and feelings will also change." The central aim is to empower patients to make behavioral choices that are incongruent with their OCD, ultimately reshaping the neural pathways and cognitive-emotional patterns that maintain the disorder. Through this process, the ultimate goal is for patients to be able to function effectively in daily life, despite the continued presence of obsessive thoughts or anxious feelings.

Exposure and Response Prevention (ERP)

Exposure and Response Prevention (ERP) is widely considered the gold standard psychological treatment for OCD. It is a specific type of Cognitive Behavioral Therapy (CBT) that directly targets the mechanisms maintaining OCD symptoms. The efficacy of ERP has been well-established through numerous randomized controlled trials and meta-analyses [27].

In vivo exposure involves direct confrontation with anxiety-provoking stimuli within the environment, such as contact with germs. For example, a patient with contamination fears might be asked to touch doorknobs or use public restrooms without washing their hands afterward. The exposures are typically arranged in a hierarchical manner, starting with medium anxiety-provoking situations and gradually progressing to more challenging ones. Imaginal exposure entails indirect confrontation with feared stimuli via imagination. This technique is particularly useful for obsessions that cannot be easily recreated in real life, such as fears of harming others or experiencing catastrophic events. Patients are asked to vividly imagine these scenarios without engaging in neutralizing behaviors or mental rituals. Response prevention involves refraining from engaging in compulsive behaviors or rituals that typically follow obsessive thoughts. Patients are encouraged to resist these urges, even as their anxiety increases during exposure exercises.

A critical aspect of successful ERP is the accurate identification of the patient's fear structures. Fear structures refer to the underlying cognitive and emotional components that constitute a person's fear response. Identifying these correctly is essential because it ensures that the exposure exercises are targeting the core elements of the patient's anxiety. If the fear structures are not accurately identified, the exposure tasks may not address the true source of the anxiety, leading to less effective treatment outcomes. The mechanism of ERP is based on the principles of habituation and extinction. Through repeated exposure to feared stimuli without the performance of rituals, patients learn that: a) Their anxiety will naturally decrease over time without compulsions (habituation). b) The feared consequences of not performing rituals do not materialize (disconfirmation of beliefs). c) They can tolerate the distress associated with obsessive thoughts (increased distress tolerance).

Creating an In Vivo Hierarchy is a critical component of ERP that involves developing a structured plan to gradually

expose patients to their feared situations, with the goal of reducing anxiety through the process of habituation. The in vivo hierarchy is carefully designed based on the patient's specific fears, starting from the least anxiety-provoking situations to the most challenging ones. This method is particularly essential in treating severe OCD and related anxiety disorders where avoidance behaviors are prominent. For instance, an In Vivo Hierarchy is developed using the Subjective Units of Distress (SUD) scale, where patients rate their anxiety on a scale from 0 to 10. The exposure begins with situations that produce a SUD level of around 6, ensuring that the patient can tolerate the anxiety without being overwhelmed. This careful planning helps prevent early departure from treatment and supports the gradual build-up of exposure intensity. In practice, exposure exercises are repeated until the patient's anxiety level decreases significantly, ideally reducing to a SUD of 3 or less before moving to more challenging tasks. The effectiveness of long, continuous exposure sessions has been consistently found to be superior to shorter exposures, particularly in severe cases.

Implementation of ERP typically follows these steps: First, assessment and case conceptualization, where a thorough assessment helps in understanding the patient's specific obsessions and compulsions and identifying the correct fear structures. This involves gathering detailed information about the patient's fears, triggers, and rituals. Second, psychoeducation about OCD and the rationale for ERP, which is crucial for treatment engagement. This includes explaining how exposure to feared stimuli can help reduce anxiety over time. Third, development of a fear hierarchy, involving ranking feared situations from least to most anxiety-provoking, is essential for structuring the exposure exercises effectively. Fourth, gradual exposure exercises, starting with medium-anxiety items, are designed to be manageable, gradually increasing in difficulty. This approach helps build the patient's confidence and tolerance for anxiety, while low-anxiety items can be worked on independently by the patient. Fifth, response prevention instructions and practice, where patients are taught to resist the urge to engage in compulsive behaviors or mental rituals. Consistent practice of response prevention is key to breaking the cycle of compulsions. Sixth, homework assignments to practice exposures between sessions reinforce the skills learned during therapy sessions and help maintain progress. Lastly, gradual progression to more challenging items on the hierarchy ensures comprehensive treatment of their fear structures as patients become more comfortable with lower-anxiety exposures.

Examples of ERP exercises for contamination fears include sitting on a public toilet with clothes on or shaking hands with a person on the street; for future concerns, deliberately writing stories about future troubles or listening to loop tapes about not succeeding in life; and for supernatural harm, reading aloud a satanic prayer or using a Ouija board to predict the future. By accurately identifying and targeting the correct fear structures, ERP can effectively reduce the symptoms of OCD and improve the patient's overall quality of life.

Pharmacotherapy

Pharmacological interventions play a crucial role in the treatment of OCD, particularly for moderate to severe cases. The primary class of medications used in OCD treatment is SSRIs and Clomipramine (a tricyclic antidepressant with strong serotonergic effects), which have shown consistent efficacy in numerous clinical trials [28]. OCD often requires higher doses of SSRIs compared to those used for depression. A trial of 8-12

weeks at the maximum tolerated dose is recommended before considering a medication ineffective. Long-term maintenance treatment is often necessary to prevent relapse. Approximately 40-60% of patients show a clinically significant response to SSRIs [29]. Clomipramine may be slightly more effective than SSRIs but has a less favorable side effect profile.

For patients with partial response to SSRIs, augmentation with other medications, such as antipsychotics (e.g., risperidone, aripiprazole), glutamatergic agents (e.g., memantine, N-acetylcysteine) or cognitive enhancers (e.g., D-cycloserine) in combination with CBT may be considered. Antipsychotic medications, in particular, are often used as augmenting agents in cases where SSRIs alone do not provide sufficient relief. They work by targeting dopamine pathways, which may be implicated in the pathophysiology of OCD, thereby enhancing the therapeutic effects of SSRIs [30].

Emerging pharmacological approaches for treatment-resistant OCD include ketamine and other glutamate modulators, cannabinoids and psilocybin and other psychedelics (in research settings). These new approaches are currently being studied for their potential to provide rapid and sustained relief from OCD symptoms, particularly in individuals who have not responded to traditional treatments.

It's important to note that while medications can provide significant symptom relief, they are often most effective when combined with psychotherapy, particularly ERP. The metaphor of medications as "water wings" is apt, as they can provide support and symptom reduction that allows patients to more effectively engage in challenging therapeutic work [31].

Mindfulness-Based Behavioral Therapy (MBBT)

Mindfulness-Based Behavioral Therapy (MBBT) has emerged as a promising adjunctive treatment for OCD, integrating mindfulness techniques with traditional cognitive-behavioral approaches. MBBT aims to help individuals develop a different relationship with their thoughts and feelings, reducing the automaticity of compulsive responses. The lead directives of mindfulness practice are to stay in the present moment and not to appraise internal and external events as they unfold. This is in direct contrast to OCD behavior that tends to ruminate on the past, dread the future, and over-value negative ideation at the expense of recognizing the current reality of a situation.

At the core of MBBT is traditional ERP, which involves prolonged and repeated exposure to both internal (e.g., violent mental images for aggressive compulsions) and external stimuli (e.g., non-symmetrical objects for symmetry-obsessed patients) that provoke OCD symptoms. This exposure is paired with mindfulness techniques, particularly the Four Steps Method (FSM) developed by Jeffrey Schwartz, which teaches patients to recognize and label their OCD symptoms without engaging in compulsive behaviors. The FSM is modified within the MBBT protocol to ensure that patients undergo sufficient exposure to feared stimuli until habituation occurs. This approach prevents patients from avoiding the discomfort necessary for therapeutic progress, making MBBT particularly effective for individuals who were previously unresponsive to traditional interventions [6].

Mindful awareness in MBBT is conducted using practices like body scanning and breath focus. The body scan involves systematically focusing attention on different parts of the body, helping individuals become more aware of physical sensations associated with anxiety and urges. For the breath focus,

patients are advised to use the breath as an anchor for attention, promoting present-moment awareness and reducing rumination. Thoughts are observed by identifying and labeling them as "just thoughts" rather than facts or imperatives, or by visualizing thoughts as leaves floating down a stream, emphasizing the transient nature of thoughts. This leads to cognitive defusion, reducing the tendency to over-identify with or become "fused" with obsessive thoughts. Patients are instructed to observe the rise and fall of urges to engage in compulsions without acting on them, increasing their experiential avoidance by promoting a willingness to experience uncomfortable thoughts and feelings without engaging in compulsive behaviors. Emotional regulation is enhanced as the ability to tolerate distress and regulate emotional responses to obsessive thoughts improves. It is also important to cultivate self-compassion to reduce the shame and self-criticism often associated with OCD.

In addition to these mindfulness practices, MBBT implementation often includes extensive writing exercises that serve as a powerful tool for externalization. Externalization, as a therapeutic technique, involves directing manipulation with objects or writing that represent or trigger internal pathological processes, such as intrusive thoughts or distorted self-image. This process helps in breaking down and disintegrating maladaptive connections, such as those between internal cues (emotional memories, thoughts) and external reminders [32]. Patients are asked to write about their internal and external cues for obsessions and compulsions, as well as narratives and catastrophic scenarios related to their OCD. This writing process externalizes the physiological, cognitive, and emotional structures involved in OCD, creating a greater distance between the patient and their problem. By writing in complete sentences, the disturbing thoughts and reactions are put through grammatical, syntactical, and semantic filters, which helps in clarifying and diffusing the anxiety associated with them. This structured approach not only allows patients to observe their OCD symptoms from an outside perspective but also engages different brain regions, potentially creating new neural pathways that contribute to recovery [32].

Moreover, research suggests that the act of handwriting, as opposed to typing, can have profound effects on the brain, particularly in the context of therapeutic writing exercises. Handwriting engages the motor cortex of the brain in a more direct way, creating stronger neural pathways and connections between the hand, the visual cortex, and the language centers of the brain [33,34]. The kinesthetic experience of forming letters and words by hand facilitates the internalization and personalization of the written content, enhancing memory encoding and retrieval, and making the therapeutic concepts more deeply ingrained and easier to apply in daily life.

Within the MBBT framework, these targeted writing exercises are designed to help patients develop a deeper understanding of their OCD, challenge maladaptive thought patterns, and ultimately transform how they interact with their obsessive thoughts and compulsive behaviors. Moreover, these writing exercises help patients externalize their OCD experience, making it an object of scrutiny rather than an internalized source of distress. By repeatedly documenting their symptoms and the associated triggers, patients gain insight into their OCD cycle and challenge the irrational beliefs that fuel their compulsions. By integrating these extensive writing exercises into the MBBT protocol, the clinic aims to not only facilitate emotional processing and cognitive restructuring but

also promote long-term recovery through the externalization of pathological processes that would otherwise remain internalized and debilitating.

Cognitive Restructuring

Dr. Jeffrey Schwartz's Four-Step method provides a structured approach to cognitive restructuring in OCD treatment. This method aims to help individuals gain more control over their OCD symptoms by changing their relationship with their thoughts and urges. The four steps are Relabel, Reattribute, Refocus and Revalue.

Relabeling involves identifying obsessive thoughts and compulsive urges as symptoms of OCD. Patients learn to recognize when they are experiencing an obsession or compulsion and to label it as such. For example, instead of thinking "I need to wash my hands," they learn to say, "I'm having an obsessive thought about contamination." This step helps create distance between the individual and their OCD symptoms, reducing the automatic belief in the content of obsessions.

Reattribution is the realization that the intensity and intrusiveness of the OCD thoughts are due to a biochemical imbalance in the brain. Patients learn about the neurobiological basis of OCD, including the role of the brain's error detection system and the cortico-striato-thalamo-cortical (CSTC) circuits. This understanding can reduce self-blame and increase motivation for treatment by framing OCD as a medical condition that can be managed.

Refocusing is shifting attention away from the OCD thoughts and onto a constructive activity or behavior. Patients develop a list of pleasant or engaging activities (e.g., reading, exercising, calling a friend) to turn to when OCD symptoms arise. They practice focusing on these activities for increasing periods, starting with just a few minutes. This step helps break the cycle of obsessions and compulsions by providing an alternative response to intrusive thoughts. It is important to note that while the first two steps, Relabel and Reattribute, can be introduced early in the treatment, Refocusing cannot be effectively utilized until after exposure therapy is completed. This is because exposure therapy reduces the anxiety and distress associated with OCD thoughts, making it easier for patients to shift their focus to other activities.

Revaluing is the realization that the OCD thoughts and urges are not significant in themselves and don't need to be acted upon. Building on the previous steps, patients learn to more accurately assess the importance of their OCD thoughts. They practice saying, "It's not me, it's my OCD" when symptoms arise. This step helps reduce the power and significance attributed to OCD thoughts, making them easier to resist over time.

By introducing cognitive restructuring at the end of the treatment, clinicians ensure that patients have first reduced their anxiety and distress through exposure therapy. This sequencing allows patients to more effectively engage in Refocusing and Revaluing, ultimately leading to better long-term management of their OCD symptoms.

Integrative and Multi-Disciplinary Approach

An integrative and multi-disciplinary approach to OCD treatment involves assembling a team of professionals who collaborate to provide comprehensive care tailored to the individual's needs. This approach is particularly beneficial for complex or treatment-resistant cases. The team typically includes a psychiatrist, psychologist or psychotherapist, exposure coach, occupational therapist, nutritionist, physical

trainer, and family therapist.

The psychiatrist plays a crucial role in medication management, differential diagnosis, and the treatment of comorbid conditions. Their responsibilities include conducting thorough psychiatric evaluations, prescribing and monitoring psychotropic medications, adjusting medication regimens based on treatment response, and collaborating with other team members to integrate pharmacological and psychological interventions effectively. The psychologist or psychotherapist is responsible for psychological assessment, individual therapy, and family therapy. This individual is the ERP expert and is crucial in the treatment process. They conduct comprehensive psychological assessments, implement evidence-based therapies (such as ERP, CBT, and MBBT), provide ongoing psychoeducation to patients and families, and coordinate with other team members to ensure consistency in the treatment approach. An exposure coach assists with in vivo exposures and supports the implementation of ERP. They help design and implement exposure hierarchies, accompany patients during challenging exposure exercises, provide real-time support and guidance during exposures, and report progress and challenges to the primary therapist.

The occupational therapist focuses on improving daily functioning and quality of life. They assess the impact of OCD on daily activities and roles, develop strategies to improve functional independence, teach adaptive skills and compensatory techniques, and collaborate with the team to integrate functional goals into the overall treatment plan. Nutritionists address nutrition-related concerns, especially in cases with comorbid eating disorders or health anxiety. They assess dietary habits and nutritional status, develop balanced meal plans that accommodate OCD-related food restrictions, provide education on nutrition and its impact on mental health, and work with the team to address food-related obsessions and compulsions. In some extreme cases, an ED expert is included in the treatment process to target the comorbid eating disorder. Physical trainers promote physical health and use exercise as a therapeutic tool. They design safe and appropriate exercise programs, use exercise as a means of stress reduction and mood improvement, help patients overcome exercise-related obsessions or compulsions, and coordinate with the team to integrate physical activity into the overall treatment. Family therapists address family dynamics and work to reduce accommodation behaviors. They assess family functioning and patterns of interaction, provide family psychoeducation about OCD, teach family members how to support treatment without enabling symptoms, and collaborate with other team members to ensure family involvement in treatment.

The integrative approach involves regular team meetings to discuss progress, challenges, and treatment adjustments. Each team member provides updates from their area of expertise, ensuring a coordinated and comprehensive treatment strategy. A centralized system for treatment notes and progress tracking ensures all team members have access to up-to-date information. The treatment intensity and team involvement are adjusted based on patient needs and response, with some patients working primarily with a therapist and psychiatrist, while more complex cases involve the full team. Regular meetings with the patient and, if appropriate, their family are conducted to review progress and gather feedback, with treatment plan adjustments made collaboratively. This multi-disciplinary approach allows for a comprehensive, personalized treatment plan that

addresses the complex needs of individuals with OCD. By combining expertise from various disciplines and maintaining open communication, the team can provide more effective and holistic care, particularly for treatment-resistant cases.

Relapse Prevention

While intensive treatments like ERP can provide substantial relief, the risk of relapse remains high. A structured Relapse Prevention Program is essential to sustain treatment gains and prevent symptoms from recurring. Since OCD is a chronic illness, consistent observation, ongoing education, and proactive management are critical to maintaining control and preventing disruptions in daily life [35]. The Westwood Institute for Anxiety Disorders implements a comprehensive relapse prevention protocol following intensive treatment phases.

This program begins after completing an intensive treatment regimen, such as a three-week ERP protocol, and is designed to help patients anticipate and manage setbacks, reducing the likelihood of relapse. Key components include education, goal setting, cognitive restructuring, stress management, regular monitoring, follow-up, relapse planning, and family involvement. Daily treatment continuity is crucial, particularly through regular engagement with nearby fear structures. Patients are encouraged to confront these structures daily, reinforcing progress made during intensive therapy. Additionally, continuous externalization of internal feelings through writing or other expressive activities is emphasized, helping patients maintain a healthy distance from obsessive thoughts and preventing the internalization of distressing emotions.

Education empowers patients and their families with knowledge about the chronic nature of OCD, common relapse triggers, and symptom management strategies, enabling early recognition and proactive intervention [35]. Goal setting involves encouraging patients to set realistic and regularly reviewed short-, mid-, and long-term goals, maintaining focus on recovery [36]. Cognitive restructuring helps patients replace distorted self-perceptions with more positive and realistic views, crucial for sustaining treatment progress [37]. Stress management is also essential, as stress is a common trigger for OCD symptoms; the program includes training in deep breathing, mindfulness, and problem-solving strategies [34].

Regular monitoring ensures signs of relapse are addressed promptly. Patients are encouraged to maintain contact with their therapist, participate in support groups, and continue practicing self-exposure to previously avoided situations [38]. Relapse planning prepares patients for setbacks, distinguishing between temporary challenges and full relapses, with strategies for managing both [39]. Family support is vital, with relatives educated on how to assist and encourage adherence to the plan [40].

The Westwood Institute's relapse prevention program has led to long-term symptom alleviation and maintenance of treatment gains for many patients. By integrating educational, cognitive, and behavioral strategies, the program equips patients with the necessary tools to manage their condition effectively over time. In summary, relapse prevention is a critical element of long-term OCD management, ensuring progress through careful planning, consistent support, and proactive measures to reduce the risk of relapse and enhance quality of life.

Case Studies from WIAD

In this section, we present three detailed case studies that exemplify the application of the integrative and multi-

disciplinary treatment approach utilized at the Westwood Institute for Anxiety Disorders (WIAD). These cases have been selected to demonstrate the breadth and effectiveness of the treatments, particularly in addressing severe and treatment-resistant forms of OCD.

Case Study 1: Jessica

Jessica, a 17-year-old Caucasian female, was referred to the Westwood Institute for Anxiety Disorders (WIAD) in November 2023 with a history of OCD, PTSD, and a mood disorder, alongside secondary diagnoses including panic disorder, mild trichotillomania, social phobia, and autism spectrum disorder (ASD). Her OCD, which began at age six, worsened at 15 after a traumatic incident, leading to self-harm and suicidal ideation. She was hospitalized twice in 2023 due to suicide attempts.

During intake at WIAD, Jessica was extremely nervous and presented as mute. After establishing rapport with Dr. Gorbis, she expressed irrational fears of harming herself and others. Her OCD symptoms included excessive checking, counting, and praying, which took up to seven hours daily. These behaviors, driven by perceived moral failings, were compounded by social anxiety, body image issues, and a need for symmetry.

Jessica began intensive, multidisciplinary treatment at WIAD in January 2024, including ERP therapy, cognitive-behavioral techniques, mindfulness practices, and physical health interventions. Her progress was monitored weekly through a battery of assessments. At the start, her Y-BOCS score was 30 (severe OCD), with Hamilton Depression and Anxiety scores at 35 and 17. By the end of January, her Y-BOCS score dropped to 14, showing significant improvement. As treatment continued, Jessica's Global Assessment of Functioning (GAF) score improved from 30 to 51. Targeted ERP exercises reduced her subjective distress levels (SUDs) from 8/10 to 4/10. By May 2024, her Y-BOCS score stabilized at 11, with minimal depressive and anxiety symptoms. She gained confidence, especially in managing OCD triggers and self-harm. After completing relapse prevention, she continued talk therapy via Telehealth to ensure the results of the program carry forward in her daily life.

By July 2024, Jessica had transitioned out of WIAD support, with significant improvements in her OCD symptoms and mental health. She started performing on stage, attending school part-time, and forming strong friendships. The comprehensive treatment at WIAD not only reduced her symptoms but also provided tools for sustained recovery.

Case Study 2: Thomas

Thomas, a 76-year-old Caucasian male, initially overcame OCD after treatment at the Westwood Institute for Anxiety Disorders (WIAD) in 2001, leading a successful life with a wife and child. He previously went through treatment from multiple other clinics, but their attempts were unsuccessful in helping him. Dr. Gorbis' focus on writing helped him overcome his OCD through the 3-week intensive program. WIAD's treatment was successful for over 20 years, however, in May 2024, he returned to WIAD due to a relapse characterized by perfectionism, OCD, depression, and body dysmorphic disorder (BDD) related to aging and hair loss. This relapse was triggered by extreme depression and a lack of motivation. His compulsive behaviors, including excessive checking of emails and conversations, were driven by fears of catastrophic mistakes. Additionally, Thomas avoided social interactions due to concerns about his appearance and suffered from erratic

sleep, concentration difficulties, reduced libido, and anxiety stemming from a phishing incident. Despite these challenges, he maintained insight into the irrational nature of his obsessive thoughts.

Thomas was enrolled in a 15-day Four-Phase Hybrid Program (4HP), divided over several weeks, with an initial focus on treating his severe depression through weekly psychiatric consultations at home. This stabilization allowed Dr. Gorbis to implement ERP therapy at WIAD, with exercises such as intentionally sending emails with mistakes and refraining from rechecking, targeting his perfectionism. Physical therapy was also integrated into his treatment plan to enhance motivation and improve his self-image, recognizing the importance of the mind-body connection in combating depression.

Assessments conducted before and after treatment showed substantial improvements across multiple measures. Thomas's Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) score decreased from 30 to 10, indicating a 67% reduction in OCD severity. His Global Assessment of Functioning (GAF) score improved dramatically from 40 to 70-80, reflecting enhanced overall functioning. Other significant improvements included a 53% reduction in the Obsessive-Compulsive Inventory (OCI-SV) score, an 82% improvement in the Obsessive-Compulsive Cognitions (OCON) scores, and an 87.5% improvement in the Brown Assessment of Beliefs Scale (BABS), indicating greater insight and cognitive flexibility.

By the end of May 2024, Thomas had made significant progress in managing his OCD and depressive symptoms. The structured, integrative approach at WIAD, which combined ERP, cognitive-behavioral techniques, and physical health interventions, proved effective in reducing his compulsions and improving his overall mental health.

Case Study 3: Karen

Karen, a 44-year-old Caucasian woman, sought treatment at the Westwood Institute for Anxiety Disorders (WIAD) in September 2023 for severe OCD that significantly impaired her daily functioning. Karen first exhibited signs of OCD in childhood, and her symptoms have worsened over time, particularly after the deaths of her father and a friend, as well as her husband's progressive neurological disorder. Her OCD is characterized by obsessions with her health, self-harm, and bodily sensations, along with compulsive behaviors such as re-reading, re-writing, and seeking reassurance. These symptoms occupy 8-12 hours of her day, leading to severe disruptions in her sleep, concentration, and ability to work as a writer.

Karen has a complex history, including a past eating disorder, alcohol and substance abuse, and lifelong depression. Although she has been sober for 18 years, she now relies heavily on Nicorette gum, consuming about 60 pieces daily. Her depression, exacerbated by her OCD, has led to recent occupational and social withdrawal, including the cancellation of a writing tour. Karen's mental health deteriorated further after participating in an outpatient day program for depression, prompting her to seek more intensive treatment.

Given the severity of her condition, WIAD recommended a full-time treatment plan, initially consisting of six-hour daily sessions for two weeks, six days a week, with a multidisciplinary team. This team includes a psychiatrist, OCD experts, and an eating disorder specialist, all coordinated by Dr. Gorbis. The treatment initially focused on stabilizing Karen's sleep patterns and addressing her depression and mental compulsions, to target

the OCD more effectively.

Assessments conducted before and after treatment showed substantial improvements across multiple measures. Karen's Yale-Brown Obsessive-Compulsive Scale (Y-BOCS) score decreased from 36 to 25, indicating a 33% reduction in OCD severity. Her Depression and Anxiety scores reduced by 36% and 44% respectively, reflecting an enhanced overall functioning. Other significant improvements included a 30% reduction in Fixity beliefs, and a 42% improvement in the Brown Assessment of Beliefs Scale (BABS), indicating greater insight and cognitive flexibility.

Discussion

These case studies demonstrate the effectiveness of the integrative and multi-disciplinary approach implemented at the Westwood Institute for Anxiety Disorders. Each case underscores the importance of tailoring treatment to the specific needs of the patient, utilizing a combination of traditional and innovative therapeutic modalities. The success of these interventions highlights the potential for this approach to be applied more broadly in the treatment of severe and treatment-resistant OCD.

Conclusion

Obsessive-Compulsive Disorder is a profoundly complex and debilitating condition that demands a sophisticated and multifaceted approach to treatment. This paper has presented a detailed examination of the integrative and multi-disciplinary framework employed at the Westwood Institute for Anxiety Disorders, underscoring the necessity of a comprehensive, personalized treatment strategy. By weaving together established interventions such as ERP and pharmacotherapy with innovative approaches like MBBT and cognitive restructuring, this model offers a powerful toolset for clinicians addressing the challenges of OCD, particularly in treatment-resistant cases.

The strength of this integrative approach lies in its ability to address the full spectrum of OCD's manifestations, from the neurobiological underpinnings to the cognitive and emotional dimensions of the disorder. The inclusion of a diverse team of healthcare professionals—comprising psychiatrists, psychologists, exposure coaches, occupational therapists, nutritionists, physical trainers, and family therapists—ensures a holistic treatment plan that not only targets symptom reduction but also enhances overall quality of life and daily functioning.

This paper highlights the potential for such a collaborative, multi-disciplinary model to transform OCD treatment. By embracing both traditional and cutting-edge therapies within a cohesive framework, clinicians can provide more effective, individualized care that meets the unique needs of each patient. As the field continues to evolve, further research should focus on refining these integrative strategies, rigorously evaluating their long-term outcomes, and exploring the intricate connections between OCD and its comorbidities. By advancing these efforts, the mental health community can move closer to achieving consistent and lasting recovery for individuals struggling with this challenging disorder.

In conclusion, the Westwood Institute for Anxiety Disorders offers a comprehensive and integrative treatment approach that addresses the complexities of OCD. By combining traditional and innovative modalities within a multi-disciplinary framework, the institute has set a new standard in the treatment of OCD, offering hope to patients with even the most challenging cases.

References

- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.). Washington, DC.
- Gorbis, E. (2004).
- Gorbis, E. (2010).
- Pauls et al., 2014
- Pallanti S, Hollander E, Bienstock C, et al. Treatment non-response in OCD: methodological issues and operational definitions. *Int J Neuropsychopharmacol*. 2002;5(2):181-191. doi:10.1017/S1461145702002900
- Gorbis E. Entertain the Doubt: Integrative and Multi-Disciplinary Treatment for OCD. Presented at: OCD and Related Disorders Conference; 2017.
- Salkovskis PM. Obsessional-compulsive problems: A cognitive-behavioural analysis. *Behav Res Ther*. 1985;23(5):571-583. doi:10.1016/0005-7967(85)90105-6
- Ruscio AM, Stein DJ, Chiu WT, Kessler RC. The epidemiology of obsessive-compulsive disorder in the National Comorbidity Survey Replication. *Mol Psychiatry*. 2010;15(1):53-63. doi:10.1038/mp.2008.94
- Kessler RC, Berglund P, Demler O, Jin R, Merikangas KR, Walters EE. Lifetime prevalence and age-of-onset distributions of DSM-IV disorders in the National Comorbidity Survey Replication. *Arch Gen Psychiatry*. 2005;62(6):593-602. doi:10.1001/archpsyc.62.6.593
- Geller DA, Biederman J, Jones J, et al. Obsessive-compulsive disorder in children and adolescents: a review. *Harv Rev Psychiatry*. 1998;6(1):1-17. doi:10.3109/10673229809000309
- Taylor S. Early versus late onset obsessive-compulsive disorder: evidence for distinct subtypes. *Clin Psychol Rev*. 2011;31(7):1083-1100. doi:10.1016/j.cpr.2011.06.007
- Labad J, Menchón JM, Alonso P, et al. Gender differences in obsessive-compulsive symptom dimensions. *Depress Anxiety*. 2008;25(10):832-838. doi:10.1002/da.20356
- Pauls DL. The genetics of obsessive-compulsive disorder: a review. *Dialogues Clin Neurosci*. 2010;12(2):149-163. doi:10.31887/DCNS.2010.12.2/dpauls
- Milad MR, Rauch SL. Obsessive-compulsive disorder: beyond segregated cortico-striatal pathways. *Trends Cogn Sci*. 2012;16(1):43-51. doi:10.1016/j.tics.2011.11.003
- Brander G, Pérez-Vigil A, Larsson H, Mataix-Cols D. Systematic review of environmental risk factors for obsessive-compulsive disorder: a proposed roadmap from association to causation. *Neurosci Biobehav Rev*. 2016;65:36-62. doi:10.1016/j.neubiorev.2016.03.011
- Samuels J, Nestadt G, Bienvenu OJ, et al. Personality disorders and normal personality dimensions in obsessive-compulsive disorder. *Br J Psychiatry*. 2000;177(5):457-462. doi:10.1192/bjp.177.5.457
- Skoog G, Skoog I. A 40-year follow-up of patients with obsessive-compulsive disorder. *Arch Gen Psychiatry*. 1999;56(2):121-127. doi:10.1001/archpsyc.56.2.121
- Goodman WK, Price LH, Rasmussen SA, et al. The Yale-Brown Obsessive Compulsive Scale (Y-BOCS): I. Development, use, and reliability. *Arch Gen Psychiatry*. 1989;46(11):1006-1011.
- Steketee, 1994
- Moritz S, Meier B, Hand I. Evaluating the Yale-Brown Obsessive-Compulsive Scale in German patients: frequency and severity. *J Anxiety Disord*. 2002;16(1):1-13.
- Hamilton M. The assessment of anxiety states by rating. *Br J Med Psychol*. 1959;32(1):50-55.
- Hamilton M. A rating scale for depression. *J Neurol Neurosurg Psychiatry*. 1960;23(1):56-62.
- Shear MK, Vander Bilt J, Rucci P, et al. Reliability and validity of a structured interview guide for the Hamilton Anxiety Rating Scale (SIGH-A). *Depress Anxiety*. 2001;13(4):166-178.
- Eisen JL, Phillips KA, Baer L, et al. The Brown Assessment of Beliefs Scale: reliability and validity. *Am J Psychiatry*. 1998;155(1):102-108.
- Jones SH, Thornicroft G, Coffey M, Dunn G. A brief mental health outcome scale—reliability and validity of the Global Assessment of Functioning (GAF). *Br J Psychiatry*. 1995;166(5):654-659.
- Murphy DL, Tancer ME, Pigott TA. Obsessive-compulsive disorder: advances in assessment and treatment. *Psychiatr Ann*. 1985;15(11):688-694.
- Öst LG, Havnen A, Hansen B, Kvale G. Cognitive behavioral treatments of obsessive-compulsive disorder: a systematic review and meta-analysis of studies published 1993-2014. *Clin Psychol Rev*. 2015;40:156-169. doi:10.1016/j.cpr.2015.06.003
- Soomro GM, Altman D, Rajagopal S, Oakley-Browne M. Selective serotonin re-uptake inhibitors (SSRIs) for obsessive compulsive disorder (OCD). *Cochrane Database Syst Rev*. 2008;1. doi:10.1002/14651858.CD001765.pub3
- Fineberg NA, Hengartner MP, Bergbaum C, Gale T, Rössler W, Angst J. Remission of obsessive-compulsive disorders and syndromes; evidence from a prospective community cohort study over 30 years. *Int J Psychiatry Clin Pract*. 2015;19(3):99-107. doi:10.3109/13651501.2015.1031686
- Pittenger C, Bloch MH. Pharmacological treatment of obsessive-compulsive disorder. *Psychiatr Clin North Am*. 2014;37(3):375-391. doi:10.1016/j.psc.2014.06.006
- International OCD Foundation. Medications for OCD. Published 2017. Accessed October 6, 2024. <https://iocdf.org/about-ocd/medications/>
- Gorbis E. Externalization as a therapeutic tool in treating OCD, BDD, PTSD, Panic Disorder, and Social Phobia. Westwood Institute for Anxiety Disorders; 2007.
- Mangen A, Velay JL. Digitizing literacy: reflections on the haptics of writing. In: Zadeh MH, ed. *Advances in Haptics*. InTech; 2010. doi:10.5772/8716
- Longcamp et al., 2008
- Mancebo MC, Eisen JL, Sibrava NJ, Dyck IR, Rasmussen SA. Patient utilization of cognitive-behavioral therapy for OCD. *Behav Ther*. 2011;42(3):399-412. doi:10.1016/j.beth.2010.11.001
- Abramowitz JS, Taylor S, McKay D. Obsessive-compulsive disorder. *Lancet*. 2009;374(9688):491-499. doi:10.1016/S0140-6736(09)60240-3
- Wilhelm S, Tolin DF, Steketee G. Cognitive therapy for obsessive-compulsive disorder: a meta-analysis. *Cogn Behav Ther*. 2005;34(3):153-166. doi:10.1080/16506070510043774
- Steketee G, Shapiro LJ. Obsessive-compulsive disorder: overview and cognitive-behavioral theory. In: P. Salkovskis, ed. *Frontiers of Cognitive Therapy*. New York: Guilford Press; 1995.
- Foa EB, Franklin ME, Kozak MJ. Psychosocial treatments for obsessive-compulsive disorder: literature review. In: Oldham JM, Riba MB, Tasman A, eds. *American Psychiatric Press Review of Psychiatry*. Vol. 24. American Psychiatric Publishing, Inc.; 2005:373-393.
- Calvocoressi L, Mazure CM, Kasl SV, et al. Family accommodation of obsessive-compulsive symptoms: instrument development and assessment of family behavior. *J Nerv Ment Dis*. 1995;183(8):465-473. doi:10.1097/00005053-199508000-00001
- Longcamp M, Boucard C, Gilhodes JC, Velay JL. Remembering the orientation of newly learned characters depends on the associated writing knowledge: a comparison between handwriting and typing. *Hum Mov Sci*. 2006;25(4-5):646-656.
- Longcamp M, Zerbato-Poudou MT, Velay JL. The influence of writing practice on letter recognition in preschool children: a comparison between handwriting and typing. *Acta Psychol (Amst)*. 2005;119(1):67-79.
- Schwartz JM. *Brain Lock: Free Yourself from Obsessive-Compulsive Behavior*. New York, NY: ReganBooks; 1996.