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# Obsessive Compulsive Disorder Related to Mental and Behavioral Problems

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**ABSTRACT:** Obsessive-compulsive disorder (OCD) is a mental and behavioral disorder in which an individual has intrusive thoughts and/or feels the need to perform certain routines repeatedly to the extent where it induces distress or impairs general function.[7][1][2] As indicated by the disorder's name, the primary symptoms of OCD are obsessions and compulsions. Obsessions are persistent unwanted thoughts, mental images, or urges that generate feelings of anxiety, disgust, or discomfort.[8] Common obsessions include fear of contamination, obsession with symmetry, and intrusive thoughts about religion, sex, and harm.[1][9] Compulsions are repeated actions or routines that occur in response to obsessions. Common compulsions include excessive hand washing, cleaning, arranging things, counting, seeking reassurance, and checking things.[1][9][10] Many adults with OCD are aware that their compulsions do not make sense, but they perform them anyway to relieve the distress caused by obsessions.[1][8][9][11] Compulsions occur so often, typically taking up at least one hour per day, that they impair one's quality of life.[1][9]The cause of OCD is unknown.[1] There appear to be some genetic components, and it is more likely for both identical twins to be affected than both fraternal twins. Risk factors include a history of child abuse or other stress-inducing events; some cases have occurred after streptococcal infections.[1] Diagnosis is based on presented symptoms and requires ruling out other drug-related or medical causes; rating scales such as the Yale-Brown Obsessive Compulsive Scale (Y-BOCS) assess severity.[2][12] Other disorders with similar symptoms include generalized anxiety disorder, major depressive disorder, eating disorders, tic disorders, and obsessive-compulsive personality disorder.[2] The condition is also associated with a general increase in suicidality.[13][14]Treatment for OCD may involve psychotherapy such as cognitive behavioral therapy (CBT), pharmacotherapy such as antidepressants, or surgical procedures such as deep brain stimulation (DBS).[4][5][15][16] CBT increases exposure to obsessions and prevents compulsions, while metacognitive therapy encourages ritual behaviors to alter the relationship to one's thoughts about them.[4][17] Selective serotonin reuptake inhibitors (SSRIs) are a common antidepressant used to treat OCD. SSRIs are more effective when used in excess of the recommended depression dosage; however, higher doses can increase side-effect intensity.[18] Commonly used SSRIs include sertraline, fluoxetine, fluvoxamine, paroxetine, citalopram, and escitalopram.[15] Some patients fail to improve after taking the maximum tolerated dose of multiple SSRIs for at least two months; these cases qualify as treatment-resistant and require second-line treatment such as clomipramine or atypical antipsychotic augmentation.[4][5][18][19] Surgery may be used as a final resort in the most severe or treatment-resistant cases, though most procedures are considered experimental due to the limited literature on their side effects.[20] Without treatment, OCD often lasts decades.[2] Obsessive-compulsive disorder affects about 2.3% of people at some point in their lives, while rates during any given year are about 1.2%.[2][6] It is unusual for symptoms to begin after age 35, and around 50% of patients experience detrimental effects to daily life before age 20.[1][2] Males and females are affected equally, and OCD occurs worldwide.[1][2] The phrase obsessive-compulsive is sometimes used in an informal manner unrelated to OCD to describe someone as excessively meticulous, perfectionistic, absorbed, or otherwise fixated.[21]

**KEYWORDS:** OCD, personality, symptoms, diagnosis, treatment, depressive, therapy

## I. INTRODUCTION

OCD can present with a wide variety of symptoms. Certain groups of symptoms usually occur together; these groups are sometimes viewed as dimensions, or clusters, which may reflect an underlying process. The standard assessment tool for OCD, the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), has 13 predefined categories of symptoms. These symptoms fit into three to five groupings.[22] A meta-analytic review of symptom structures found a four-factor grouping structure to be most reliable: a symmetry factor, a forbidden thoughts factor, a cleaning factor, and a hoarding factor. The symmetry factor correlates highly with obsessions related to ordering, counting, and symmetry, as well as repeating compulsions. The forbidden thoughts factor correlates highly with intrusive and distressing thoughts of a



violent, religious, or sexual nature. The cleaning factor correlates highly with obsessions about contamination and compulsions related to cleaning. The hoarding factor only involves hoarding-related obsessions and compulsions and was identified as being distinct from other symptom groupings.[23] Some OCD subtypes have been associated with improvement in performance on certain tasks, such as pattern recognition (washing subtype) and spatial working memory (obsessive thought subtype). Subgroups have also been distinguished by neuroimaging findings and treatment response. Neuroimaging studies on this have been too few, and the subtypes examined have differed too much to draw any conclusions. On the other hand, subtype-dependent treatment response has been studied, and the hoarding subtype has consistently responded least to treatment.[24] While OCD is considered a homogeneous disorder from a neuropsychological perspective, many of the putative neuropsychological deficits may be the result of comorbid disorders. For example, adults with OCD have exhibited more symptoms of attention-deficit/hyperactivity disorder (ADHD) and autism spectrum disorder (ASD) than adults without OCD.[25]

Obsessions are stress-inducing thoughts that recur and persist despite efforts to ignore or confront them.[26] People with OCD frequently perform tasks, or compulsions, to seek relief from obsession-related anxiety. Within and among individuals, initial obsessions vary in clarity and vividness. A relatively vague obsession could involve a general sense of disarray or tension accompanied by a belief that life cannot proceed as normal while the imbalance remains. A more intense obsession could be a preoccupation with the thought or image of a close family member or friend dying or intrusions related to relationship rightness.[27][28] Other obsessions concern the possibility that someone or something other than oneself—such as God, the devil, or disease—will harm either the patient or the people or things the patient cares about. Others with OCD may experience the sensation of invisible protrusions emanating from their bodies or feel that inanimate objects are ensouled.[29]

Some people with OCD experience sexual obsessions that may involve intrusive thoughts or images of "kissing, touching, fondling, oral sex, anal sex, intercourse, incest, and rape" with "strangers, acquaintances, parents, children, family members, friends, coworkers, animals and religious figures," and can include heterosexual or homosexual contact with people of any age.[30] Similar to other intrusive thoughts or images, some disquieting sexual thoughts are normal at times, but people with OCD may attach extraordinary significance to such thoughts. For example, obsessive fears about sexual orientation can appear to the affected individual, and even to those around them, as a crisis of sexual identity.[31][32] Furthermore, the doubt that accompanies OCD leads to uncertainty regarding whether one might act on the troubling thoughts, resulting in self-criticism or self-loathing.[30] Most people with OCD understand that their thoughts do not correspond with reality; however, they feel that they must act as though these ideas are correct or realistic. For example, someone who engages in compulsive hoarding might be inclined to treat inorganic matter as if it had the sentience or rights of living organisms, despite accepting that such behavior is irrational on an intellectual level. There is a debate as to whether hoarding should be considered with other OCD symptoms.[33]

## II. DISCUSSION

Some people with OCD perform compulsive rituals because they inexplicably feel that they must do so, while others act compulsively to mitigate the anxiety that stems from obsessive thoughts. The affected individual might feel that these actions will either prevent a dreaded event from occurring or push the event from their thoughts. In any case, their reasoning is so idiosyncratic or distorted that it results in significant distress, either personally or for those around the affected individual. Excessive skin picking, hair pulling, nail biting, and other body-focused repetitive behavior disorders are all on the obsessive-compulsive spectrum.[2] Some individuals with OCD are aware that their behaviors are not rational, but they feel compelled to follow through with them to fend off feelings of panic or dread.[34] Furthermore, compulsions often stem from memory distrust, a symptom of OCD characterized by insecurity in one's skills in perception, attention, and memory, even in cases where there is no clear evidence of a deficit.[35]

Common compulsions may include hand washing, cleaning, checking things (such as locks on doors), repeating actions (such as turning on and off switches), ordering items in a certain way, and requesting reassurance.[36] Although some people perform actions repeatedly, they do not necessarily perform these actions compulsively; for example, morning or nighttime routines and religious practices are not compulsions. Whether behaviors qualify as compulsions or mere habit depends on the context in which they are performed. For instance, arranging and ordering books for eight hours a day would be expected of someone who works in a library, but this routine would seem abnormal in other situations. In other words, habits tend to bring efficiency to one's life, while compulsions tend to disrupt it.[37] Furthermore, compulsions are different from tics (such as touching, tapping, rubbing, or blinking) and stereotyped movements (such as head banging, body rocking, or self-biting), which are usually not as complex and not precipitated by obsessions.[38] It can sometimes be difficult to tell the difference between compulsions and complex tics, and about 10–40% of people with OCD also have a lifetime tic disorder.[2][39]

People with OCD rely on compulsions as an escape from their obsessive thoughts; however, they are aware that relief is only temporary, and that intrusive thoughts will return. Some affected individuals use compulsions to avoid situations that may trigger obsessions. Compulsions may be actions directly related to the obsession, such as someone obsessed with contamination compulsively washing their hands, but they can be unrelated as well.[9] In addition to experiencing the anxiety and fear that typically accompanies OCD, affected individuals may spend hours performing compulsions every day. In such situations, it can become difficult for the person to fulfill their work, familial, or social roles. These behaviors can also cause adverse physical symptoms; for example, people who obsessively wash their hands with antibacterial soap and hot water can make their skin red and raw with dermatitis.[40] Individuals with OCD often use rationalizations to explain their behavior; however, these rationalizations do not apply to the behavioral pattern but to each individual occurrence. For example, someone compulsively checking the front door may argue that the time and stress associated with one check is less than the time and stress associated with being robbed, and checking is consequently the better option. This reasoning often occurs in a cyclical manner and can continue for as long as the affected person needs it to in order to feel safe. In cognitive behavioral therapy, OCD patients are asked to overcome intrusive thoughts by not indulging in any compulsions. They are taught that rituals keep OCD strong, while not performing them causes OCD to become weaker.[41] This position is supported by the pattern of memory distrust; the more often compulsions are repeated, the more weakened memory trust becomes, and this cycle continues as memory distrust increases compulsion frequency.[42] For body-focused repetitive behaviors (BFRB) such as trichotillomania (hair pulling), skin picking, and onychophagia (nail biting), behavioral interventions such as habit reversal training and decoupling are recommended for the treatment of compulsive behaviors.[43][44] OCD sometimes manifests without overt compulsions, which may be termed "primarily obsessional OCD." OCD without overt compulsions could, by one estimate, characterize as many as 50–60% of OCD cases.[45]

### III. RESULTS

The DSM-V identifies a continuum for the level of insight in OCD, ranging from good insight (the least severe) to no insight (the most severe). Good, or fair, insight is characterized by the acknowledgment that obsessive-compulsive beliefs are or may not be true; poor insight, in the middle of the continuum, is characterized by the belief that obsessive-compulsive beliefs are probably true. The absence of insight altogether, in which the individual is completely convinced that their beliefs are true, is also identified as a delusional thought pattern and occurs in about 4% of people with OCD.[46][47] When cases of OCD with no insight become severe, affected individuals have an unshakable belief in the reality of their delusions, which can make their cases difficult to differentiate from psychotic disorders.[48] Some people with OCD exhibit what is known as overvalued ideas, ideas that are abnormal compared to affected individuals' respective cultures and more treatment-resistant than most negative thoughts and obsessions.[49] After some discussion, it is possible to convince the individual that their fears are unfounded. It may be more difficult to practice ERP therapy on such people because they may be unwilling to cooperate, at least initially. Similar to how insight is identified on a continuum, obsessive-compulsive beliefs are characterized on a spectrum ranging from obsessive doubt to delusional conviction. In the United States, overvalued ideation (OVI) is considered most akin to poor insight—especially when considering belief strength as one of an idea's key identifiers—but European qualifications have historically been broader. Furthermore, severe and frequent overvalued ideas are considered similar to idealized values, which are so rigidly held by and so important to affected individuals that they end up becoming a defining identity.[49] In adolescent OCD patients, OVI is considered a severe symptom.[50]

Historically, OVI has been thought to be linked to poorer treatment outcome in patients with OCD, but it is currently considered a poor indicator of prognosis.[50][51] The Overvalued Ideas Scale (OVIS) has been developed as a reliable quantitative method of measuring levels of OVI in patients with OCD, and research has suggested that overvalued ideas are more stable for those with more extreme OVIS scores.[52]

Though OCD was once believed to be associated with above-average intelligence, this does not appear to necessarily be the case.[53] A 2013 review reported that people with OCD may sometimes have mild but wide-ranging cognitive deficits, most significantly those affecting spatial memory and to a lesser extent with verbal memory, fluency, executive function and processing speed, while auditory attention was not significantly affected.[54] People with OCD show impairment in formulating an organizational strategy for coding information, set-shifting and motor and cognitive inhibition.[55] Specific subtypes of symptom dimensions in OCD have been associated with specific cognitive deficits.[56] For example, the results of one meta-analysis comparing washing and checking symptoms reported that washers outperformed checkers on eight out of ten cognitive tests.[57] The symptom dimension of contamination and cleaning may be associated with higher scores on tests of inhibition and verbal memory.[58]



#### IV. IMPLICATIONS

People with OCD may be diagnosed with other conditions as well as, or instead of, OCD, such as obsessive-compulsive personality disorder, major depressive disorder, bipolar disorder, generalized anxiety disorder, anorexia nervosa, social anxiety disorder, bulimia nervosa, Tourette syndrome, transformation obsession, ASD, ADHD, dermatillomania, body dysmorphic disorder, and trichotillomania.[61] More than 50% of people with OCD experience suicidal tendencies, and 15% have attempted suicide.[12] Depression, anxiety, and prior suicide attempts increase the risk of future suicide attempts.[62] Individuals with OCD have also been found to be affected by delayed sleep phase syndrome at a substantially higher rate than the general public.[63] Moreover, severe OCD symptoms are consistently associated with greater sleep disturbance. Reduced total sleep time and sleep efficiency have been observed in people with OCD, with delayed sleep onset and offset and an increased prevalence of delayed sleep phase disorder.[64]

Some research has demonstrated a link between drug addiction and OCD. For example, there is a higher risk of drug addiction among those with any anxiety disorder (possibly as a way of coping with the heightened levels of anxiety), but drug addiction among people with OCD may serve as a type of compulsive behavior and not just as a coping mechanism. Depression is also extremely prevalent among people with OCD. One explanation for the high depression rate among OCD populations was posited by Mineka, Watson and Clark (1998), who explained that people with OCD (or any other anxiety disorder) may feel depressed because of an "out of control" type of feeling.[65] Someone exhibiting OCD signs does not necessarily have OCD. Behaviors that present as obsessive-compulsive can also be found in a number of other conditions, including obsessive-compulsive personality disorder (OCPD), ASD, or disorders in which perseveration is a possible feature (ADHD, PTSD, bodily disorders or habit problems).[66] Some cases of OCD present symptoms typically associated with Tourette syndrome, such as compulsions that may appear to resemble motor tics; this has been termed tic-related OCD or Tourettic OCD.[67][68]

OCD frequently occurs comorbidly with both bipolar disorder and major depressive disorder. Between 60 and 80% of those with OCD experience a major depressive episode in their lifetime. Comorbidity rates have been reported at between 19 and 90% because of methodological differences. Between 9–35% of those with bipolar disorder also have OCD, compared to 1–2% in the general population. About 50% of those with OCD experience cyclothymic traits or hypomanic episodes. OCD is also associated with anxiety disorders. Lifetime comorbidity for OCD has been reported at 22% for specific phobia, 18% for social anxiety disorder, 12% for panic disorder, and 30% for generalized anxiety disorder. The comorbidity rate for OCD and ADHD has been reported to be as high as 51%.[69]

The medications most frequently used to treat OCD are antidepressants including selective serotonin reuptake inhibitors (SSRIs) and serotonin-norepinephrine reuptake inhibitors (SNRIs). Clomipramine, a medication belonging to the class of tricyclic antidepressants, appears to work as well as SSRIs but has a higher rate of side effects.[4]

SSRIs are a second-line treatment of adult OCD with mild functional impairment and as first-line treatment for those with moderate or severe impairment. In children, SSRIs can be considered as a second-line therapy in those with moderate to severe impairment, with close monitoring for psychiatric adverse effects.[122] Patients treated with SSRIs are about twice as likely to respond to treatment as are those treated with placebo, so this treatment is qualified as efficacious.[130][131] Efficacy has been demonstrated both in short-term (6–24 weeks) treatment trials and in discontinuation trials with durations of 28–52 weeks. In 2006, the National Institute of Clinical and Health Excellence (NICE) guidelines recommended augmentative second-generation (atypical) antipsychotics for treatment-resistant OCD.[5] Atypical antipsychotics are not useful when used alone, and no evidence supports the use of first-generation antipsychotics.[19][135] For OCD, there is tentative evidence for risperidone and insufficient evidence for olanzapine. Quetiapine is no better than placebo with regard to primary outcomes, but small effects were found in terms of YBOCS score. The efficacy of quetiapine and olanzapine are limited by an insufficient number of studies.[136] A 2014 review article found two studies that indicated that aripiprazole was "effective in the short-term" and found that "[t]here was a small effect-size for risperidone or anti-psychotics in general in the short-term"; however, the study authors found "no evidence for the effectiveness of quetiapine or olanzapine in comparison to placebo." [5] While quetiapine may be useful when used in addition to an SSRI/SNRI in treatment-resistant OCD, these drugs are often poorly tolerated, and have metabolic side effects that limit their use. A guideline by the APA suggested that dextroamphetamine may be considered by itself after more well-supported treatments have been tried.[137]



## V. CONCLUSIONS

Movies and television shows may portray idealized or incomplete representations of disorders such as OCD. Compassionate and accurate literary and on-screen depictions may help counteract the potential stigma associated with an OCD diagnosis, and lead to increased public awareness, understanding and sympathy for such disorders.

- In the film *As Good as It Gets* (1997), actor Jack Nicholson portrays a man with OCD who performs ritualistic behaviors that disrupt his life.
- The film *Matchstick Men* (2003), directed by Ridley Scott, portrays a con man named Roy (Nicolas Cage) with OCD who opens and closes doors three times while counting aloud before he can walk through them.
- In the television series *Monk* (2002–2009), the titular character Adrian Monk fears both human contact and dirt.
- In *Turtles All the Way Down* (2017), a young adult novel by author John Green, teenage main character Aza Holmes struggles with OCD that manifests as a fear of the human microbiome. Throughout the story, Aza repeatedly opens an unhealed callus on her finger to drain out what she believes are pathogens. The novel is based on Green's own experiences with OCD. He explained that *Turtles All the Way Down* is intended to show how "most people with chronic mental illnesses also live long, fulfilling lives".
- The British TV series *Pure* (2019) stars Charly Clive as a 24-year-old Marnie who is plagued by disturbing sexual thoughts, as a kind of primarily obsessive compulsive disorder. The series is based on a book of the same name by Rose Cartwright.

The naturally occurring sugar inositol has been suggested as a treatment for OCD.  $\mu$ -Opioids, such as hydrocodone and tramadol, may improve OCD symptoms. Administration of opiate treatment may be contraindicated in individuals concurrently taking CYP2D6 inhibitors such as fluoxetine and paroxetine. Much current research is devoted to the therapeutic potential of the agents that affect the release of the neurotransmitter glutamate or the binding to its receptors. These include riluzole, memantine, gabapentin, N-acetylcysteine, topiramate and lamotrigine.

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