Obsessive-compulsive disorder (OCD) is a disorder in which patients experience either obsessions (intrusive, senseless and anxiety-provoking thoughts) alone or a combination of obsessions and compulsions (anxiety releasing rituals) due to which an individual's level of functioning is affected. Genetic factors, a proposed biological model, and a proposed cognitive-behavioral model are seen to play a role in the pathogenesis of OCD. The diagnosis of OCD is purely clinical and no investigations are needed. A thorough history of the patient's obsessions and compulsions and their comparison with certain 'identifiable themes' will aid in the diagnosis. The management of OCD can be done with a combination of cognitive behavior therapy and physical treatments (tricyclic anti-depressants, selective serotonin reuptake inhibitors, anti-glutamatergic agents, deep brain stimulation and psychosurgery) and OCD is related to a number of medical comorbidities.

Definition of Obsessive-Compulsive Disorder
Obsessions

Obsessions are defined as thoughts that are intrusive, senseless, and distressing to the patient, thereby increasing anxiety. For example, people may think whatever they touch will contaminate their hands.

Compulsions

Compulsions are defined as rituals that are performed to neutralize obsessive thoughts. For instance, in response to the obsession in our example above, a person washes the hands again and again. Compulsions tend to lower anxiety, but they are time-consuming and affect an individual’s level of functioning.

Obsessive-compulsive disorder

Obsessive-compulsive disorder is a disorder in which patients experience either obsessions alone or a combination of obsessions and compulsions due to which an individual’s level of functioning is affected. A combination of obsessions and compulsions is more commonly seen than ‘obsessions alone,’ and obsessions alone are even more difficult to treat. Everyone may have some minor obsessions and compulsions, but if they are so intense that they affect an individual’s social, work, and family life, it becomes a disorder.

Diagnostic Criteria for Obsessive-Compulsive Disorder

The diagnostic criteria for obsessive-compulsive disorder are as follows:

1. The presence of obsessions or compulsions or both.
2. The obsessions and/or compulsions are time-consuming and affect an individual’s functioning (social life, work, and family life). For example, checking that the stove is off repeatedly in the morning may make a person late for work. Another example would be that if a patient has obsessions of hitting people, he may fear to go to social gatherings and may avoid them altogether.
3. The patient is not on medicine or a drug of abuse.
4. The patient does not have some other medical condition whose symptoms resemble that of OCD.
5. The symptoms are not better explained by another psychiatric disorder like generalized anxiety disorder, body dysmorphic disorder, hoarding disorder, or a stereotypic movement disorder, etc.

Pathogenesis of Obsessive-Compulsive Disorder

Genetic

A small percentage of patients with OCD have first-degree relatives with the same. Studies have also shown that if one monozygotic twin has OCD, there is about a 90% chance that the other twin will also have it, and if one dizygotic twin has OCD, there is about a 50% chance that the other twin will also have it. Therefore, genetic factors place a role in its etiology. Genetic factors account for more of the variance in childhood-onset cases than in those who develop it as an adult.
Biological model

Neuroimaging studies suggest dysfunction in the orbitostriatal area (including the caudate nucleus) and the dorsolateral prefrontal cortex, combined with abnormalities in serotonergic (underactive) and glutamatergic (overactive) neurotransmission. Further evidence of this model comes from an association of OCD with a number of neurological disorders involving striatum dysfunction, including Parkinson’s disease, Huntington’s disease, and Sydenham’s chorea. The latter has also been associated with OCD and tic disorders in the pediatric autoimmune neuropsychiatric disorder associated with streptococcal infection (PANDAS). This is a rare condition in children who have had a group A hemolytic streptococcal infection. Obsessive-compulsive disorder can also follow head trauma.

Cognitive-behavioral model

Most people have the occasional intrusive thoughts, but would ordinarily dismiss them as meaningless. In some individuals, these thoughts develop into an obsession and assume great significance, causing greater anxiety. This anxiety motivates thought suppression and the development of ritual behaviors to reduce anxiety.

Clinical Features of Obsessive-Compulsive Disorder

Obsessions are unpleasurable, involuntary, repetitive and persistent thoughts (for example, checking locks again and again (compulsion) in response to the thought that a thief may enter the house), images (for example, checking locks again and again (compulsion) in response to an image of murder), or urges (for example, thinking that someone has a weapon). Obsessions are unwanted and cause great anxiety in patients. The patient either tries to ignore or suppress the obsession or engages in compulsive behavior to overcome the anxiety.

Compulsions are repetitive physical behaviors (for example washing hands repeatedly) or mental behaviors (for example praying or calculating in the mind) performed in an effort to neutralize obsessions. The patient may try to suppress the obsession at first but, eventually, cannot resist the compulsion. The goal of compulsive behavior is to decrease the anxiety caused by the obsession or to prevent an unrealistic, anticipated feared event (for example, death) or doing it ‘just to be perfect.’

The obsessions and compulsions are time-consuming and intrusive so that they affect functioning and cause considerable distress.

The types of obsessions and compulsions vary greatly between different patients; however, they are specific identifiable themes, for example:

1. The obsession of fear of contamination and resultant compulsion of washing body parts or other things again and again.
2. Violent urges, sexual or religious obsessions, and their resultant compulsions.
3. The obsession of being a ‘perfectionist’ and the resultant compulsion of arranging and counting items again and again.
4. Obsessions (thoughts or images) about harm befalling oneself or others and their resultant compulsions, like checking that the locks of doors are closed, again and again.

The frequency and intensity of symptoms vary among patients with obsessive-compulsive
disorder. Some patients have mild to moderate symptoms (occurring a few hours in a
day) while others have severe obsessions and compulsions (occurring throughout the
day).

Studies show a strong association between suicidal thoughts and obsessive-compulsive
disorder.

Patients with OCD tend to avoid people and situations that trigger their obsessions. For
example, patients who have obsessions to hit people may avoid going to social
gatherings or even outside the home. Avoidance behavior can become very severe and
affect an individual’s functioning.

Obsessions and compulsions are associated with many emotions like anxiety leading to
panic attacks, distress, depression, emptiness, and uneasiness.

Many patients with obsessive-compulsive disorder hold unreasonable beliefs. For
example:

1. A tendency to overestimate threat.
2. Perfectionism and intolerance to slight imperfections.
3. Exaggerating the value of thoughts (for example, believing that a religiously wrong
   thought is as sinful as implementing on it).

Patients vary in the degree to which they believe that their obsessions and compulsions
are unreasonable. Some people are completely convinced that their obsessions are
correct, but most patients realize that their obsessions and compulsions are dysfunctional
or unreasonable.

Investigations for Obsessive-Compulsive Disorder

Obsessive-compulsive disorder needs no diagnostic testing; the diagnosis is purely
clinical.

Differential Diagnosis of Obsessive-Compulsive Disorder

<table>
<thead>
<tr>
<th>Disorder</th>
<th>Description</th>
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<tbody>
<tr>
<td>Generalized anxiety disorder</td>
<td>In generalized anxiety disorder, the anxiety-causing worries are realistic,</td>
</tr>
<tr>
<td></td>
<td>unlike obsessions. Also, in generalized anxiety disorder, there are no</td>
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<tr>
<td></td>
<td>compulsions.</td>
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<tr>
<td>Phobias</td>
<td>Phobias are usually more specific than obsessions and there are no</td>
</tr>
<tr>
<td></td>
<td>compulsions.</td>
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<tr>
<td>Social anxiety disorder</td>
<td>In social anxiety disorder, specific symptoms, like fear of going to social</td>
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<td></td>
<td>gatherings and poor social skills, are common.</td>
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<tr>
<td>Hoarding disorder</td>
<td>In hoarding disorder, the patient has difficulty discarding or parting with</td>
</tr>
<tr>
<td></td>
<td>possessions. Extreme sadness on discarding items and excessive accumulation</td>
</tr>
<tr>
<td></td>
<td>of objects are common clinical features.</td>
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<tr>
<td>Depression</td>
<td>Depressive thoughts should be distinguished from obsessions, and there are</td>
</tr>
<tr>
<td></td>
<td>no compulsions in depression.</td>
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<tr>
<td>Schizophrenia, schizoaffective disorder, and</td>
<td>Delusions, hallucinations, and disorganized thinking are symptoms of</td>
</tr>
<tr>
<td>other psychotic disorders</td>
<td>psychotic disorders, and they have no obsessions and compulsions.</td>
</tr>
<tr>
<td>Obsessive-compulsive personality disorder</td>
<td>Patients with obsessive-compulsive personality disorder tend toward</td>
</tr>
<tr>
<td>(OCPD)</td>
<td>perfectionism and rigid control, which leads to compulsive behavior.</td>
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<tr>
<td></td>
<td>Compulsions in OCPD, unlike OCD, are not performed in response to</td>
</tr>
<tr>
<td></td>
<td>obsessions.</td>
</tr>
<tr>
<td>Other differentials</td>
<td>Tic disorder, body dysmorphic disorder, trichotillomania (hair-pulling</td>
</tr>
<tr>
<td></td>
<td>disorder), excoriation (skin picking disorder) and eating disorders, such as</td>
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<td></td>
<td>anorexia nervosa and bulimia nervosa.</td>
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</tbody>
</table>
Management of Obsessive-Compulsive Disorder

Psychological treatment

**Cognitive behavior therapy**

Cognitive behavior therapy in obsessive-compulsive disorder is conducted by exposure and response prevention. In this technique, patients must refrain from carrying out compulsions despite their strong urges to do so. This is called response prevention. If the restraint continues for long enough (usually at least an hour), the urge diminishes. As treatment progresses, these urges are deliberately increased by encouraging patients to enter obsession provoking situations they had previously avoided (exposure).

At first, patients are accompanied by the therapist and reassured while they strive to overcome their obsessions, but with practice, they are able to do this on their own. Sometimes, the therapist reassures the patient on the first few occasions by carrying out the exposure procedure personally, which is called ‘modeling.’

The therapist begins by explaining the aim of treatment and agreeing on targets for exposure with the patient. If the obsession is to wash the hands repeatedly, a target might be to touch a contaminated object, such as a door handle, and not to wash the hands during the next hour. A more advanced target might be to do all the household dusting without washing the hands until the task is completed.

Patients need to feel confident that every task will be agreed upon in advance and that they will never be faced with the unexpected. Response prevention generates substantial anxiety at first, but patients usually tolerate this since they know that it will decline eventually. Obsessive thoughts accompanying compulsions improve as the compulsions are brought under control. Obsessive thoughts without compulsions are more difficult to treat. They can be treated by habituation training or thought-stopping.

**Habituation training**

This is a form of mental exposure treatment. Patients dwell on the obsessive thoughts for long periods or repeatedly listen to a tape recording of the thoughts spoken aloud for an hour or more.

**Thought-stopping**

This is a type of distraction technique in which a sudden sensory stimulus is produced (for example, snapping a rubber band on the patient’s wrist) to distract the patient from the obsessive thought.

Physical Treatment of Obsessive-Compulsive Disorder

**Tricyclic anti-depressants and selective serotonin reuptake inhibitors**

Clomipramine (a tricyclic anti-depressant) and the selective serotonin reuptake inhibitors (SSRIs) are drug treatment mainstays. Their efficacy is independent of their antidepressant action, but the doses required are usually higher than those that are
effective for depression. Although many patients respond, relapse rates after discontinuation are high.

Three months of treatment with the maximum tolerated dose may be necessary for a positive response. In those who fail to respond, adding an antipsychotic significantly improves outcomes, especially when tics occur comorbidly. Positive correlations between reduced OCD severity and decreased orbitofrontal and caudate metabolism after behavioral and SSRIs treatments have been demonstrated in a number of studies.

**Anti-glutamatergic agents**

Recent studies have suggested that riluzole, an anti-glutamatergic agent, may be effective. Studies also suggest that D-cycloserine (an N-methyl-D-aspartic acid (NMDA) receptor agonist) administered in combination with cognitive behavioral therapy, prior to sessions, may speed treatment response time.

**Deep brain stimulation**

This is a non-ablative surgical technique that involves the electrical stimulation of the basal ganglia by implanted electrodes, creating a ‘functional lesion.’ Although this has had success, often impressively so in refractory cases, issues still remain regarding subject selection and the optimum anatomical targets.

**Psychosurgery**

Psychosurgery may be an option in cases of chronic and severe OCD that have not responded to other treatments. Surgical interventions, such as subcaudal tractotomy and cingulotomy, with small yttrium radioactive implants that induce lesions in the cingulate area or the ventromedial quadrant of the frontal lobe, have shown to be effective.

**Medical comorbidities**

The most common psychiatric comorbidities found in adults with obsessive-compulsive disorder are as follows:

- Anxiety disorder (e.g., panic disorder, social anxiety disorder, generalized anxiety disorder, specific phobia)
- Mood disorder, most commonly major depressive disorder
- Obsessive-compulsive personality disorder
- Tic disorder (tic disorder has been most commonly seen in males who had an onset of OCD in childhood)

Disorders that occur more frequently in individuals with the obsessive-compulsive disorder than in those without the disorder include:

- Body dysmorphic disorder
- Trichotillomania (hair-pulling disorder)
- Excoriation (skin-picking) disorder

Obsessive-compulsive disorder is more common in people with certain other disorders, including:

- Eating disorders, such as anorexia nervosa and bulimia nervosa
- Tourette’s disorder
- Schizophrenia
References


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