

## A REVIEW ON OBSESSIVE COMPULSIVE DISORDER

D. Rajesh Kumar\*, P. Prathap Reddy, V. Sai Krishna and B. Manikanta

Siddhartha Institute of Pharmaceutical Sciences, Narsaraopet, Guntur District,  
Andhra Pradesh, India.

### ABSTRACT

Obsessive-compulsive disorder (OCD) is an anxiety disorder characterized by uncontrollable, unwanted thoughts and repetitive, ritualized behaviours. It is a good example for neuropsychiatric disorder. It can vary from mild to severe forms. There is no known specific cause for OCD. However, genes and chemical imbalances in the brain may contribute to the illness. Symptoms include obsessions and compulsions, sometimes any one or other. It can be treated by pharmacotherapy, psychotherapy and finally by using psychosurgery. In the future we can expect the exact origin of this disorder.

**Keywords:** Obsessive compulsive disorder, Anxiety, Neuropsychiatric. obsessions and compulsions.

### DESCRIPTION

Obsessive-compulsive disorder (OCD) is one of the more disabling and widespread mental disorder. This disorder is characterized by two central features -- obsessions and compulsions. Obsessions are unwanted ideas or impulses that repeatedly pop up in a person's mind. According to the National Institute of Mental Health (NIMH), "Persistent fears that harm may come to self or a loved one, an unreasonable concern with becoming contaminated, or an excessive need to do things correctly or perfectly, are common." Examples of common obsessions include: "My hands may be contaminated -- I must wash them"; "I may have left the gas on in the house"; or "I am going to injure my child." These thoughts are often intrusive, unpleasant and produce a high degree of anxiety. Sometimes the obsessions are of a violent or a sexual nature, or concern illness. Compulsions are repetitive behaviors to which people who suffer from OCD resort. The two most common compulsions are washing (hands, usually) and checking (e.g., gas is off on stove). Other common compulsions include counting (often while performing another compulsive action such as hand washing), repeating, hoarding and endlessly rearranging objects in an effort to keep them in precise alignment with each other.

A person who has OCD often believes that these behaviors will keep harm away from them or their loved ones and that if they fail to

complete a compulsive behavior, harm is imminent.

### WHAT CAUSES OCD?

Brain imaging studies have also shown that people with OCD have abnormalities, such as increased blood flow and activity, in some parts of their brain. The areas of the brain affected deal with strong emotions and the response to them.

### SIGNS AND SYMPTOMS

Common obsessions include the following

- Contamination
- Safety
- Doubting one's memory or perception
- Scrupulosity (need to do the right thing, fear of committing a transgression, often religious)
- Need for order or symmetry
- Unwanted, intrusive sexual/aggressive thought.

Common compulsions include the following:

- Cleaning/washing
- Checking (e.g., locks, stove, iron, safety of children)
- Counting/repeating actions a certain number of times or until it "feels right"
- Arranging objects
- Touching/tapping objects
- Hoarding
- Confessing/seeking reassurance
- List making

Many patients with OCD have other psychiatric comorbid disorders, and may exhibit any of the following

- Mood and anxiety disorders
- Somatoform disorders, especially hypochondriasis and body dysmorphic disorder
- Eating disorders
- Impulse control disorders, especially kleptomania and trichotillomania
- Attention deficit–hyperactivity disorder (ADHD)
- Obsessive-compulsive personality disorder
- Tic disorder
- Suicidal thoughts and behaviours.

Skin findings in OCD patients may include the following

- Eczematous eruptions related to excessive washing
- Hair loss related to trichotillomania or compulsive hair pulling
- Excoriations related to neurodermatitis or compulsive skin picking.

#### DIAGNOSIS

Formal diagnosis may be performed by a psychologist, psychiatrist, clinical social worker, or other licensed mental health professional. To be diagnosed with OCD, a person must have obsessions, compulsions, or both, according to the Diagnostic and Statistical Manual of Mental Disorders (DSM). The Quick Reference to the 2000 edition of the DSM states that several features characterize clinically significant obsessions and compulsions. Such obsessions, the DSM says, are recurrent and persistent thoughts, impulses, or images that are experienced as intrusive and that cause marked anxiety or distress. These thoughts, impulses, or images are of a degree or type that lies outside the normal range of worries about conventional problems. A person may attempt to ignore or suppress such obsessions, or to neutralize them with some other thought or action, and will tend to recognize the obsessions as idiosyncratic or irrational.

Once OCD is suspected, the following should be performed

Screening tools are available to help evaluate the impact of OCD. One of the best-known is the Yale-Brown Obsessive-Compulsive Scale (Y-BOCS). The Y-BOCS includes two components: a symptom checklist and a severity scale. The Y-BOCS is widely used in research studies of OCD treatment, with reductions in severity used as markers of

treatment success. The symptom checklist includes obsessions and both physical and mental compulsions. The severity scale is based on time spent on obsessions and compulsions, resistance to these symptoms, interference from symptoms, related distress, and level of control. Increasing numbers of points are assigned for increasing levels of impact. The scale is scored as follows

- Mild: 8–15 points
- Moderate: 16–23 points
- Severe: 24–31 points
- Extreme: 32–40 points

#### EPIDEMIOLOGY

Obsessive-compulsive disorder (OCD) among adults in the United States has an estimated 12-month prevalence of 1.2 % and an estimated lifetime prevalence of 2.3. Females are affected at a slightly higher rate than males in adulthood, although males are more commonly affected in childhood.

The exact prevalence of OCD is unknown. The National Comorbidity Survey Replication (NCS-R), a nationally representative household survey designed to assess the prevalence, severity, and comorbidity of various psychiatric disorders in the United States, found that OCD affects roughly 2.2 million American adults, or about 1% of adults in any given year. The NCS-R researchers used criteria from the *Diagnostic and Statistical Manual of Mental Disorders Fourth Edition* (DSM-IV) to make the diagnosis, based on responses to a version of the World Health Organization's Composite International Diagnostic Interview (CIDI). The Epidemiologic Catchment Area Study, conducted in the 1980s, found an OCD lifetime prevalence of 1.94% to 3.29% across five study sites. The NCS-R found a median age of onset of 19 years, with about one-fifth of cases starting before 10 years of age. Other studies suggest a mean age of onset between 22 and 35 years, with one-third beginning before 15 years of age. Younger age at onset appears to be associated with more severe symptoms and higher rates of specific comorbidities, including attention deficit hyperactivity disorder, tic disorders, and other anxiety disorders. These patients may be less responsive to first-line pharmacologic treatment as adults.

#### ETIOLOGY: BIOLOGICAL MODELS FUNCTIONAL NEUROANATOMY

Many investigators have contributed to the hypothesis that OCD involves dysfunction in a neuronal loop running from the orbital frontal cortex to the cingulate gyrus, striatum (caudate nucleus and putamen), globus

pallidus, thalamus and back to the frontal cortex. Organic insult to these regions can produce obsessive and compulsive symptoms. The results of neurosurgical treatment of OCD strongly support this hypothesis. Surgical interruption of this loop by means of cingulotomy, anterior capsulotomy or subcaudate tractotomy brings about symptomatic improvement in a large proportion of patients unresponsive to all other treatments. Cingulotomy interrupts this loop at the anterior cingulate cortex, thereby disrupting frontal cortical input into the Papez circuit and limbic system, which are believed to mediate anxiety and other emotional symptoms. Anterior capsulotomy (lesions within the anterior limb of the internal capsules) and subcaudate tractotomy (lesions in the substantia innominata, just under the head of the caudate nucleus) interrupt fronto-thalamic fibers, which may mediate the obsessive and compulsive components of OCD. Baxter et al. in 1992 hypothesized that the hyperactivity observed in this neuronal loop arises because of impaired caudate nucleus function. The impairment allows "worry inputs" from the orbitofrontal cortex to inhibit excessively the inhibitory output from the globus pallidus to the thalamus. The resulting excess in thalamic output then impinges on various brain regions involved in the experience of OCD symptoms, including the orbital frontal region, thus reinforcing hyperactivity in the neuronal loop.

### SEROTONIN AND OTHER NEUROTRANSMITTERS

The hypothesis that an abnormality in serotonergic neurotransmission underlies OCD arose out of the observation that clomipramine, which inhibits serotonin and norepinephrine reuptake, relieved symptoms, whereas noradrenergic reuptake inhibitors did not. The unique efficacy of clomipramine and the SSRIs remains the strongest support for this hypothesis.

### GENETIC CONTRIBUTIONS

Twin studies and family studies strongly suggest that vulnerability to OCD can be inherited, but a positive family history is absent in many patients. Older studies of monozygotic twins show a 65% concordance for OCD, but no control groups were included. One study found an 87% concordance for "obsessional features" (OCD symptoms that may not have

caused significant distress or social impairment) in monozygotic twins; the concordance of dizygotic twins was only half as large. On the other hand, none of eight monozygotic twin pairs in another study were concordant for OCD, according to Andrews et al. in 1990. A recent review notes that in Pauls' study in 1992, 10% of the parents of children and adolescents with OCD themselves had the disorder, and in another study, OCD was present in 25% of fathers and 9% of mothers. The symptoms of parents and children usually differed, arguing against social or cultural transmission. The recent finding, by Murphy et al. in 1997 and Swedo et al. in 1997, that an antigen which is a genetic marker for rheumatic fever susceptibility is also a marker for susceptibility to an autoimmune form of childhood onset OCD will undoubtedly spur progress in unravelling genetic contributions to the pathogenesis of OCD.

### TREATMENT PHARMACOTHERAPY

"Clinical trials in recent years have shown that drugs that affect the neurotransmitter serotonin can significantly decrease the symptoms of OCD."

In the 2008 *Practice Guideline for the Treatment of Patients with Obsessive-Compulsive Disorder*, the American Psychiatric Association (APA) recommends two options for first-line therapy, either alone or in combination: SRIs and cognitive behavioural therapy (CBT).

Five SRIs are approved by the U.S. Food and Drug Administration (FDA) for OCD treatment, including four SSRIs and one serotonin-specific tricyclic antidepressant (TCA)

- Fluoxetine
- Fluvoxamine
- Paroxetine
- Sertraline
- Clomipramine

Two other SSRIs also appear to be effective, although they do not have an indication for OCD:

- Citalopram (approved for depression)
- Escitalopram (approved for depression and generalized anxiety disorder in the United States; approved for OCD in Europe)

All of the SSRIs are recommended as options for first-line therapy by the APA.

**DOSING OF SSRI<sub>s</sub> FOR THE TREATMENT OF OCD**

SSRI	Starting and Incremental Dose	Usual Target Dose	Usual Maximum Dose	Occasionally Prescribed Maximum Dose
Citalopram	20 mg	40 mg*	40 mg*	40 mg*
Escitalopram	10 mg	20 mg	40 mg	60 mg
Fluoxetine	20 mg	40–60 mg	80 mg	120 mg
Fluvoxamine	50 mg	200 mg	300 mg	450 mg
Paroxetine	20 mg	40–60 mg	60 mg	100 mg
Sertraline	50 mg	200 mg	200 mg	400 mg
*Maximum dose: 40 mg				

**DURATION OF TREATMENT**

The best duration for pharmacotherapy in OCD has not been determined. A minimum of 1 to 2 years has been recommended before withdrawal should be considered. Sudden discontinuation can lead to a drug discontinuation syndrome, with symptoms that may include nausea and vomiting, headache, dizziness, insomnia, and agitation or lethargy. Patients may also experience paresthesias or myoclonic jerks.

**PSYCHOTHERAPY**

A type of therapy called cognitive behavioural therapy (CBT) can be effective. The form of CBT most commonly studied in OCD involves exposure and response prevention. Exposure and response prevention consists of talk therapy and specific exercises designed to reduce anxiety and dampen the need to perform compulsions. Unless otherwise specified, "CBT" will be used in this course to refer to forms of therapy that incorporate exposure and response prevention. CBT should be initiated and monitored by a professional trained in this specific mode of treatment. The exercises often can and should be done by the patient at home, which requires a strong level of commitment. Patients who experience too much anxiety to do the exercises or are not willing to accept this form of participatory treatment may be better candidates for pharmacotherapy, at least as the first step. Therapy may take place in individual, family or group sessions.

In 2008, Simpson and colleagues conducted a randomized controlled trial to examine the effects of augmenting SRIs with exposure and ritual prevention. Participants were 108 adult outpatients with OCD. All had been taking an SRI at a therapeutic dose for at least 12 weeks prior to entry but still had a Y-BOCS total score of 16 or greater. The patients were provided with 17 biweekly sessions of CBT, either an OCD-specific program of exposure

and ritual prevention or a control setting of stress management training, while still continuing the SRI. After 8 weeks, patients receiving the exposure and response prevention sessions were more likely to have at least a 25% decrease in severity on the Y-BOCS scale. They were also more likely to have achieved a Y-BOCS score of 12 or less.

**ELECTROCONVULSIVE THERAPY**

Electroconvulsive therapy (ECT) has been found to have effectiveness in some severe and refractory cases.

**PSYCHOSURGERY**

For some, medication, support groups and psychological treatments fail to alleviate obsessive–compulsive symptoms. These patients may choose to undergo psychosurgery as a last resort. In this procedure, a surgical lesion is made in an area of the brain (the cingulate cortex). In one study, 30% of participants benefited significantly from this procedure. Deep-brain stimulation and vagus nerve stimulation are possible surgical options that do not require destruction of brain tissue. In the US, psychosurgery for OCD is a treatment of last resort and will not be performed until the patient has failed several attempts at medication (at the full dosage) with augmentation, and many months of intensive cognitive–behavioural therapy with exposure and ritual/response prevention. Likewise, in the United Kingdom, psychosurgery cannot be performed unless a course of treatment from a suitably qualified cognitive–behavioural therapist has been carried out.

**OTHER TREATMENT OPTIONS**

Sometimes, medications and psychotherapy aren't effective enough in controlling your OCD symptoms. In rare cases, other treatment options may include:

- Psychiatric hospitalization
- Residential treatment
- Transcranial magnetic stimulation
- Deep brain stimulation

### RECOMMENDATION

In the future a better understanding of the pathogenesis of obsessive compulsive disorder will hopefully lead to further expansion of the present range of treatments, including innovations in pharmacotherapy, psychotherapy, and other modalities of intervention.

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