REVIEW ARTICLE

Obsessive-Compulsive Disorder : An Overview

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ABSTRACT

Obsessive-compulsive disorder (OCD) is known as a neuropsychiatric disorder and a complex illness having genetic background. Various genetic studies have observed that there is an impact of both biological and environmental factors in the beginning of OCD. Usually, OCD is not concerned easily, as people are not so much aware about such kind of disorder and they keep going on with it as their normal routine or general habits. In this review the main focus is on almost all the aspects of OCD, including the individuality of obsession and compulsion and their combined role in producing OCD, and their salient features, forms, causes, diagnosis on the basis of ICD10 and DSM-IV and their therapeutic approaches. It focuses on the new medication approaches as well as some traditional non pharmacological augmentations such as Cognitive-Behaviour Therapy (CBT).Both of the pharmacological and non-pharmacological treatments have been proved beneficial for the treatment of OCD in various research studies, but there is always a need of further researches to improve the present model of therapeutic approaches of the disease.

KEYWORDS: Diagnosis, Obsessive-Compulsive Disorder, Remedial approaches.

How to cite this article:

Rehman R, Singh H, Jain A. Obsessive-Compulsive Disorder. Int J Dent Med Res 2014;1(2):70-79.

INTRODUCTION

Obsessive-compulsive disorder (OCD) is a form of anxiety disorder in there has a neuropsychiatric and complex genetic aetiology. In this disorder time is consumed in obsessions and compulsions, which significantly affects a person's routine, by making it comparatively difficult and resists him to lead a normal social life. The onset of this disease is far from the geographic, ethnic, or economic boundaries and equally found in men and women[1]. There are two individual diseases active in OCD, which are as follows:

Obsession: it includes repetition and persistence of thoughts, impulses and images which produced stressing thoughts, fear or shame.

Compulsion: it includes those thoughts, images or actions which are used by the patient to reduce the anxiety, originated by the obsession.[2]

The beginning of OCD is often seen either in the three stages of life: childhood, adolescence or early adulthood.[1]

THE OCD CYCLE

It is important to understand the relationship between obsessions and compulsions, because they feed into each other and create a vicious anxiety-provoking cycle. Figure No .1 shows how obsessions and compulsions are connected in an OCD cycle: [3]

Figure No.1: OCD CYCLE

CLINICAL FEATURES OF OBSESSION

The Clinical Features of Obsession are :

1. Uncontrollable thoughts, images or impulses which are persistent and occur repeatedly.
2. The person wants to be away these ideas, but can't be away.
3. They are disturbing in nature, unwanted and do not have a valid sense.
4. They occur with uneasiness of feelings such as fear, doubt, shame or a kind of obsession of perfection.
5. They are time-consuming and interfere in the important activities which are the valuable for the person i.e. participating in social activities, doing job, house-hold works, and going to school etc.).[4]

CLINICAL FEATURES OF COMPULSION

The clinical features of Compulsion are:

1. Repetitions of such behaviours or thoughts owned by a person to neutralize, counteract, or make themselves free from their obsessions.
2. People with OCD find it as only a temporary solution to get rid of from their obsessions, but in the absence of a better way to cope with it, they have to rely on the compulsion for temporary escape.
3. OCD include avoiding situations also that trigger their obsessions.
4. It takes a lot of time and affects day-to-day important activities of the person negatively.[5]

FORMS OF OBSESSIVE-COMPULSIVE DISORDER

A. Forms of obsessions: [6,7]

a) **Obsessive doubt (60-70%):** Fluctuation of thoughts for not to believe that a task has been completed satisfactorily.
b) **Obsessive thinking (30-50%):** Repetition of thoughts which come into conscious awareness and interfere normal thinking and give distress to the patients. Lingering indecisive thinking about a subject usually pertaining to future.
c) **Obsessive magical thinking (30-40%):** Those ideas which are based on a magic or any paranormal formula of thoughts, which equals similar activity. Usually it has observed in children (~10% of OCD subjects) which is called "obsessive conviction".[8]
d) **Obsessive fear (25-40%):** An uncontrollable fear that results into a socially embarrassing activity.
e) **Obsessive impulse (10-15%):** A powerful impulse to do an activity that is trifling or socially troublemaking or assaultive.
f) **Obsessive image (4-5%):** Persistent and repeated imaging of something in mind that is seen previously or images of brutal activity, morally and socially insignificant thoughts of sex or repulsive nature.
g) **Miscellaneous:** This includes that form of obsession that cannot be classified into any of the above six forms.

B. Forms of compulsions:

a) **Yielding compulsion (60%):** A compulsivity to do a particular activity to express the implicit obsessive urge or thought. e.g. a 29 year old clerk with OCD, had an obsessive doubt that there was an important document in one of his pockets, in spite of being aware about that this was not true, but he found himself forced to check his pockets again and again.
b) **Controlling compulsion (<10%):** A compulsive act that intrude or divert to express the inherent obsession by doing some insignificant or non-sense activity e.g. A 16 year old boy controlled his incestuous impulses to reduce his anxiety by loudly counting to 10. This form of compulsion (without associated obsessions) has been termed as autonomous compulsion.[9]

C. Contents of Obsessions-Compulsive Disorder:

a) **Dirt and contamination (40-50%):** It includes dust, dirt, menstrual blood, human or animal's body waste, other eliminating wastes of the body, germs, virus, bacteria etc.
b) **Inanimate and impersonal (26%):** It includes abstract concepts and things i.e. Mathematical figures, orderliness in arrangement of things in certain alignment, performance of certain tasks, bolt, locks, electronic or mechanical devices etc.
c) **Sex (10%):** An impulsive urge of sexual advancement towards self or others, or doing other sexual activities i.e. masturbation, incest, sexual competence etc.
d) **Religion:** An extraordinary belief in the existence of God, religious practices and mythological tales etc.
e) **Aggression (30%):** Physical or verbal violence towards self or others, deaths, mishaps, accidents, wars, and natural

disaster are considered under this section etc.

f) **Miscellaneous:** Those contents, which have not been classified in any of the above-mentioned categories.[10]

CAUSES OF OCD

There is variety of theories about the development of OCD, but none of them have been found competent enough to fully explain all the causes of OCD, but some of them are giving below to understand the basic causes to an-extent.

a) Dysfunctional beliefs

The term 'dysfunctional' beliefs and interpretations denote such kind of intrusive thoughts, which have no significant sense or idea i.e. a person with OCD, might believe that they might push someone in front of a train on a crowded platform. Most of the people ward off it as a passing thought and do not believe they would actually do it, but sometimes their reaction may be out of proportion. This makes them anxious or scared, and then they develop a compulsion to prevent it from being happened. This may start an OCD cycle.

b) Personal experience

Various psychological studies suggest that personal experience is one the major causes of OCD. According to these theories if one has painful childhood experiences or trauma and abusive treatment, he or she may learn to use obsessions and compulsions to reduce his or her anxiety.

It has also been seen in various studies that the some person also learn this type of behaviour if his or her either both or one parent do/does similar behaviour to reduce their anxiety i.e. such as obsessional washing, this may be learned by the person as a coping technique.

c) Biological factors

Many biological theorists suggest that the deficiency of a neurotransmitter serotonin in brain may produce the OCD in the person, but more studies are required to prove the role of such kind of brain chemical in OCD.[10]

d) Genetic Research in Obsessive Compulsive Disorder

OCD is also known as a psychiatric disorder, having a relatively high degree of inheritability. In the monozygotic twin the concordance degree have been found in between 63% and87%, and first-degree relatives have shown an increment in the rates of OCD to be between 10–22.5%, whereas the normal population has a risk of 2–3% . Relational studies have concerned the chromosome 9 and other areas which are shared by the disorder to other anxiety disorders. This considers OCD as a neuropsychiatric/psychiatricdisorder.[11]

e) Proof of Mutilation from Brain Imaging Studies

Unusual changes in brain structures and size had been observed in patients of OCD when compared to normal people, in various structural studies. The Table 1.below, is showing the brain structures in OCD patients.

• Orbitofrontal cortex +++
• Striatum ++
• Anterior cingulate cortex ++
• Thalamus ++
• Dorsolateral prefrontal cortex +
• Temporal cortex +
• Parietal cortex ++
• Insula ++++

Table No.1 : Brain Structures implicated to be involved in OCD patient.

Many scholars and researchers have reported that a disproportion, between the direct and indirect pathways inside frontal-striatal circuits (which results in a hyper-activated ventral and a subdued dorsal frontal-striatal system), explains the clinical and neuropsychological symptoms in the patients of OCD.[12-14] The considered hypothesis is proved by the previous functional neuroimaging studies of OCD, which have revealed the hyperactivity in the following areas i.e. anterior cingulate cortex (ACC), orbitofrontal cortex (OFC), thalamus and caudate nucleus, which compose the ventral cognitive circuits by using inactive/resting state or symptom provocation paradigms.

Above results show a conceptualization of OCD in terms of abnormalities contained by a distributed set of neural structures, including frontal-striatal circuitry.[15]

f) Medical Conditions Associated with Obsessive and Compulsive Symptom

Straital lesions were primarily reported to be presented in Encephalitis Lethargica, von Economosencephalitis. Patients with myoclonus dystonia and in the patients with Sydenham's chorea and Huntington's disease also found with OCD which are affecting their basal ganglia as tic disorders.[10]

g) Neurological Soft Signs (NSS)

It includes motor, sensory, or integrative disturbances shown on a neurological exam of an individual without having any cerebral lesion. They are not significantly correlated with specific neuro-anatomical lesions, but rather, they seem to reflect intricate patterns of deficits in various systems.[16]

A progressive fluctuation of abnormalities in soft sign on neurological exam of an OCD patient has been reported emphasizing on the following points:

- neural corroboration of the disorder.[9]
- more common in medication free OCD patients and they appear with higher frequency in those with obsessional slowness.
- deficits in visuospatial function have been noted in patients with neuropsychological deficits in OCD.
- choreiform movements and nonspecific neuro-developmental abnormalities have been reported in children and adolescents with OCD.[17-19]

Several studies have reported soft signs in patients with OCD similar to schizophrenics i.e. deficits in motor speed, coordination, sequencing, and working memory which found similar abnormalities in both populations, reminiscent of frontal-subcortical dysfunction. The impact of dysfunction of neurological soft signs and organizational strategies exerted independent influences on nonverbal memory in OCD as it has been observed that this may be due to general frontal subcortical dysfunction in OCD also.[15] Table 2. Below shows relation of neurological conditions and OCD.

Disorder		Comments
Traumatic brain injury	-	Obsessive and compulsive symptoms seen with and without obvious basal ganglia injury
Straital lesion	-	Most commonly seen following cerebral vascular accidents, also may be seen in Fahr's disease
Huntington's disease	-	Onset of obsessive and compulsive symptoms may be much later in life than is seen in primary OCD
Sydenham's chorea	-	Includes the syndrome of pediatric auto immune neuropsychiatric disorder associated with streptococcal infections (PANDAS)
Chorea gravidum	-	Behavioural symptoms may Tourette's syndrome be more severe than the movement disorder
Tic disorders Postencephalitic, parkinsonism	-	von Economo's encephalitis

Table No.2: Neurological Condition associated with increased frequency of OCD or Obsessive Compulsive symptoms

DIAGNOSIS OF OCD

1. DSM-IV Diagnostic Criteria for OCD.[20]

Obsession:

- Continuing and importunate thoughts, impulses, or images are experienced by the person when he/she is disturbed. These thoughts are intrusive and inappropriate and they cause anxiety or distress.
- These thoughts, impulses, or images are not realistic or related with excessive worries of real life.
- The affected person does efforts to ignore or suppress such kind of thoughts, impulses, or images, or try to cope with them by some other thought or actions.
- Recognition of these obsessional thoughts, impulses, or images as fantasies by the affected person and he finds them a product of his own thoughts.

Compulsion:

- Repetition of some specific activities i.e. washing of hands, ordering the things, checking something again and again. It includes some mental acts also (e.g., praying for a long time, counting loudly, repeating some words silently) which the person feels compelled to perform in response to reduce the anxiety originated by an obsession.
- These preventing acts are not either clearly extreme or not connected to the realistic world.
- The affected person recognizes at some point of time during the course of the disorder, that these obsessional thoughts or compulsions are excessive or unreasonable.
- Obsessions or compulsions are time consuming (take more than 1 hr/day), they produce distress or interfere considerably with the person's normal custom, occupational or academic performance, or normal social activities or relationships.
- Subjects of these obsessions or compulsions are not restricted to any other Axis I disorder.
- A disturbance is experienced by the person that is not because of the direct physiological factors of a substance or a general medical condition.
- Patients with OCD, having poor insights, do not recognize the obsessions and compulsions as excessive or unreasonable, during the course of disorder.

2. ICD-10 Criteria of OCD[10]

This criteria state that a person maybe encountered by obsessions, compulsions or both. Many time symptoms are not presented for prolonged periods, although atleast 2 weeks have been specified in the definition. It has been also noticed in practice that most patients would have suffered symptoms for considerably prolonged periods. So the criteria state that symptoms might be in both forms either prolonged or short-timed. ICD-10 has classified 3 subtypes of OCD -predominantly obsessions, predominantly compulsions and mixed type. Obsession and compulsion must have following features for considering it as OCD:-

- They must be considered as developed by the person's own mind or may be called as fantasies, and are not imposed by outside persons; this makes it different from insertion of thoughts and schizophrenia.

- The obsessional thoughts and compulsion activities must be repetitive and seem unpleasant and atleast one obsession must be approved as either excessive or non-sensible.
- Preventing or resisting activities should be done by the patient to resist the thoughts coming into his mind and try to stop himself for performing the compulsive act; but this type of resistance to very long-standing obsession may, however, be temporary. Atleast one obsession that couldn't be resisted successfully should be present.
- Obsessional thoughts or compulsion must not be pleasurable for the patient in itself they just provide a momentary relief from anxiety but do not give enjoyment to patient.
- Symptoms may cause either distress or intrude with social or individual activities and it is and it is time consuming. However, these criteria do not include a "bench mark" to compare the levels of distress and time wasting. Moreover, it has not been actually stated how to make the judgment that the obsession/compulsion is not result of mood disorders or schizophrenia.

TREATMENT

In this section, some major treatment approaches will be discussed which are generally used for the treatment of patients with OCD, including cognitive-behavioural therapy, serotonin-reuptake inhibitors therapy, alternative medications and Neurosurgery etc.

Cognitive Behavioural Therapy (CBT)

It is one of the effective treatments known as exposure and response prevention technique. In the course of the treatment sessions; patients are exposed to such anxiety producing situations that provoke compulsive actions or mental rituals. Through this type of exposure, patients are trained to decrease and then prevent the rituals that disturb their lives. They discover that the anxiety producing from their obsessions decreases without doing ritualistic behaviour. This technique is effectively applied on those patients whose compulsions focus on such kind of situations which can be re-created easily. But those patients who indulged in performing compulsive rituals due to the fear of catastrophic events that can't be re-created, imagining exposure to the anxiety-producing situations is applied in this therapy. During the entire therapy session, the patient is followed by the exposure and response prevention guidelines, on which the agreement is done from both therapist and patient. With the help of Cognitive-behaviour therapy, many OCD patients significantly reduce their OCD symptoms. However, treatment works effectively if patients lingered with the procedures. Some patients do not agree to participate in cognitive-behavioural therapy due to anxiety producing situations, it involves, and others have depression that must be treatedsimultaneously.[1]

Medication

Some people use drug treatment alone or along with cognitive behaviour therapy (CBT) for OCD. Most studies reported that about 70% of patients with OCD will be benefitted from either medicine or cognitive behaviour therapy (CBT).Patients who rapidly respond to medication usually report a 40 to 60% decrease in their OCD symptoms, in the comparison of those patients who respond to CBT often report a 60 to80% reduction in their OCD symptoms. However, medication should be on regular basis and patients must enthusiastically participate in CBT for the effective treatment. However, some studies show that about 25% of OCD patients refuse CBT, and about50% of OCD

patients break off medication because of its side effects or for other reasons.

It is important to read the patient's information brochure and discuss all possible benefits and side effects with the doctor before taking any medication.[21]

Antidepressants

The drugs prescribed for OCD are SSRI antidepressants.ex:fluvoxamine(Faverin),fluoxetine (Prozac),citalopram (Cipramil), paroxetine (Seroxat),and sertraline (Lustral). Theseall drugs are suggested by NICE for the curing of OCD. These drugs may havefollowing side effects:

- Nausea
- Headache
- Sleep disturbance
- Gastric upsets
- Increased anxiety
- Sexual problems.

The tricyclic antidepressant clomipramine (Anafranil) is also recommended for the treatment of obsession in adults. This should be prescribed only in the case of SSRI antidepressant already been tried and not proved effective. It has also reported some side effects i.e. clomipramine: can include a dry mouth, constipation, blurred vision, dizziness and drowsiness.[22]

Tranquilisers

Tranquillising drug i.e. diazepam (Valium) is very useful in the case of severe OCD. This type of medication is useful if applied for short periods of treatment due to its risk of addiction. It has following side effects including drowsiness, unsteadiness, confusion, and nausea.

Beta-blockers

Beta-blockers are used to treat the immediate symptoms of severe anxiety. They do not directly reduce the anxiety itself, but be active on the heart and blood pressure to decrease physical symptoms i.e. palpitations. The beta-blocker propranolol (Inderal) is usually used for anxiety. The main side effects of this drug are slow heartbeat, nausea, diarrhoea, cold fingers, sleep problems and tiredness.[21]

Neurosurgery

Despite of the lack of reliable and valid data, numerous types of operations for severe OCD, treatment-refractory OCD are performed all over the world: anterior capsulotomy, anteriorcingulotomy, limbic leucotomy and subcaudate tractotomy. These all operations have the common symptoms of severing connections between dorso-lateral and the orbitomedialareas of the frontal lobes and limbic and thalamicstructures. In observational studies, impending trials of cingulotomy and capsulotomy, approximately 45% of patients showed a reduction of at least 35% in the severity of symptoms. Adverse effects include:

- Seizure
- weight gain
- transient headache

Despite of above side effects, neurosurgery is the last alternative to treat various forms of OCD. Various studies reported that there are commonly no negative effects on cognitive activities seen in the patients with OCD.[22, 23]

CONCLUSION

If OCD is not effectively treated, most patients have clinically considerable abnormalities, but if effectively treated after prolonged observed symptoms, OCD rarely remits. However, the symptoms decrease so that patients can work comfortably, raise a family, and can lead an active social life. The Obsessive Compulsive Foundation [http://www.ocfoundation.org] is a

national non-profit organization that provides information for patients with OCD and family members. Useful information on cognitive–behavioural therapies is also available by this foundation, in addition to the Association for Advancement of Behavior Therapy, whose website [http://www.aabt.org] lists provide efficient and licensed behavioural therapists.

OCD is an uncommon neuropsychiatric anxiety disorder, which should be self-diagnosed by the patient himself as soon as possible to avail an effective treatment. Various techniques and therapeutic approaches have been discussed above, which play a very prominent role in the curing of the patients with OCD. A therapist should always keep benefits as well as the side effects of the therapeutic method, whatever he or she is going to apply for the treatment. If a patient with OCD is diagnosed on the right course of the illness and got the appropriate treatment, he or she can actively ward off from this disorder and can have a happy and distress-free personal, social and occupational live.

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Source of Support: Nil
Conflict of Interest: Nil