Obsessive-Compulsive Disorder

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KEYWORDS

- Obsessive-compulsive disorder (OCD) • Obsessions • Compulsions • Serotonin
- Serotonin reuptake inhibitors (SRIs) • Glutamate
- Cortico-striato-thalamo-cortical (CSTC) circuit • History

KEY POINTS

- Obsessive-compulsive disorder (OCD) is marked by recurrent and disturbing thoughts (obsessions) and repetitive behaviors (compulsions) that the person feels driven to perform.
- Patients with OCD generally recognize the senselessness of their obsessions and the excessiveness of their compulsive behaviors.
- OCD affects up to 2.3% of the population over the course of a lifetime and can be disabling.
- The 2 prevailing neurochemical based theories of OCD pathophysiology implicate the brain serotonin and glutamate systems, with the latter gaining traction.
- Based largely on brain imaging and neurosurgical experience, frontal–striatal pathways have been proposed as the dysfunctional neurocircuit underlying obsessive-compulsive behavior.

INTRODUCTION

Obsessive-compulsive disorder (OCD) is a common, typically chronic disorder marked by intrusive and disturbing thoughts (obsessions) and repetitive behaviors (compulsions) that the person feels driven to perform. Typical themes include fears of illness and contamination, unwanted aggressive thoughts, other taboo thoughts involving sex or religion, and the need for symmetry or exactness. Compulsions, such as excessive cleaning, arranging, checking, counting, repeating, or reassurance

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seeking, generally serve to neutralize the distress of obsessions. However, sometimes the compulsions themselves can become so time consuming or onerous that they engender anxiety. Avoidance of triggers to obsessions and compulsions is a common feature of OCD.

Starting with the fifth edition of the *Diagnostic and Statistical Manual for Mental Disorders* (DSM-5), OCD was removed from the anxiety disorders and added to a new section termed obsessive-compulsive and related disorders.[1] A common feature of disorders in this category is the presence of repetitive behaviors. This nosologic revision reflects growing neurobiological and treatment response data that distinguish OCD from anxiety disorders such as panic disorder, generalized anxiety disorder or social anxiety disorder.[2] This change does not imply that anxiety is absent in OCD; in fact, anxiety is often a prominent feature of the illness. On the other hand, marked physiologic arousal or specific fears that are often present in anxiety disorders are less evident in some forms of OCD. For example, patients with OCD involving exactness or symmetry obsessions may report that they perform their associated rituals until they feel "just right," instead of describing relief from anxiety. Similarly, patients concerned with bodily waste may not experience a "fear" of a dreaded consequence, such as disease; rather, they may report "disgust"[3] as the primary emotional driver. Such examples raise the question whether these phenotypic differences also point to distinct neurobiological circuits that distinguish some forms of OCD from anxiety disorders.[4–6] Future research on the validity of the DSM criteria and, more important, investigations that adopt dimensional approaches such as the Research Domain Criteria[7] will tell us whether DSM-5 got it right or not.[8,9] New to the DSM-5 criteria for OCD are specifiers for level of insight and for tic relatedness.

This article provides an overview of the clinical features and pathophysiologic theories of OCD at the neurotransmitter and circuit levels of analysis. Separate articles within this issue address etiologic theories based on infection-triggered immune dysfunction, genetic factors, and cognitive neuroscience (see articles by Murphy, Gerardi, Leckman, Scharf and Grice, as well as Stern and Taylor, respectively). Treatment interventions (pharmacologic, behavioral, and device based) for OCD are also covered elsewhere in this issue.

EPIDEMIOLOGY AND COURSE

OCD is a leading cause of disability worldwide.[10–12] According to the National Comorbidity Survey Replication, the lifetime prevalence of OCD is 2.3%, and during the prior 12 months. In addition, 1.2% of respondents met criteria for a full DSM-IV diagnosis.[11] The prevalence of subthreshold OCD symptoms was much higher.[11] Other epidemiologic studies have estimated the lifetime prevalence of OCD as ranging between 1.9% and 3.0%.[13] The modal onset of OCD is usually in early adulthood with nearly 50% of cases presenting during childhood or adolescence[11,14]; onset after the age of 40 is unusual.[14] Males tend to have an earlier age of onset than females, but by adulthood females outnumber males by a small margin. If untreated, OCD is usually chronic and follows a waxing and waning course.[15,16] Only about 5% to 10% of OCD sufferers have a spontaneous remission.[14,16] Another 5% to 10% experience progressive worsening of their symptoms.[14] Some cases in childhood may follow an episodic course.[17,18]

CLINICAL FEATURES

OCD is characterized by persistent disturbing thoughts, images, or impulses (obsessions), or repetitive, ritualized behaviors that the person feels driven to perform (compulsions), or both. The majority of patients have both obsessions and compulsions,