

From anxiety to compulsivity – a review of changes to OCD classification in DSM-5 and ICD-11

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Summary

Obsessive-compulsive disorder (OCD) is no longer classified as an anxiety disorder in the fifth edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5). It has become a flagship disorder of the new category of Obsessive Compulsive and Related Disorders (OCRDs) – a group of five disorders linked together by the core symptom of repetitive thoughts and behaviors and phenomenological and neurobiological similarity to OCD. Body dysmorphic disorder, hoarding disorder, trichotillomania, and skin picking disorder are the other disorders included in this group. In the upcoming eleventh edition of the International Classification of Diseases (ICD)-11, the World Health Organization (WHO) is planning to introduce similar changes to its own classification of OCD, further recommending the inclusion of olfactory reference disorder and hypochondriasis, in addition to the disorders listed in the DSM-5. In this article, we will review the classifications of OCD and OCRDs in the DSM-5 and the upcoming ICD-11, as well as describe the rationale and research leading to the creation of this new class of disorders.

OCD, OCRDs, DSM-5, ICD-11, compulsivity

INTRODUCTION

Traditionally classified as one of the anxiety disorders in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV and previous versions), in DSM-5 obsessive-compulsive disorder (OCD) is no longer part of the anxiety category [1]. It was removed from the anxiety disorders and reclassified under the new category of obsessive-compulsive and related disorders (OCRDs), which, in addition to OCD, includes four related disorders linked by a core symptom of compulsivity and the presumed etiological similarity to OCD. *The International Classification of Diseases*, eleventh edition (ICD-11), due to

be published in 2018, will likely follow suit with similar changes to its own OCD classification [2].

Psychopathology and diagnosis of OCD

OCD is a disabling neuropsychiatric condition characterized by the presence of unwanted obsessive thoughts and repetitive behaviors. It affects approximately 2–3% of the general population and is present in all cultures worldwide [3]. The disorder typically begins early in life, equally affects males and females, and has a bimodal age of onset with peaks in early childhood and young adulthood [4]. Psychiatric comorbidities in OCD are more the rule than exception and up to 90% of individuals with OCD will meet criteria for at least one additional psychiatric disorder [3,5]. These comorbidities fur-

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ther complicate the already difficult diagnosis and treatment of OCD.

The DSM-5 diagnostic criteria for OCD are relatively straightforward and are essentially unchanged from those found in the DSM-IV. They include the presence of time-consuming (at least 1 hour per day) obsessions, compulsions or both. These symptoms are experienced as distressing and unreasonable, and are beyond the individual's voluntary control. Although the presence of either obsessions or compulsions is sufficient for a diagnosis of OCD, DSM-5 acknowledges that most patients will present with both of these symptoms and that obsessions are typically primary to compulsions [1]. There is no requirement for a minimum duration of symptoms, but significant distress or dysfunction must be present. Although anxiety is common in OCD, its presence is not required for a diagnosis. Because insight is recognized as closely correlated with treatment prognosis in OCD [6], it must now be assessed in all individuals receiving this diagnosis (and related diagnoses of OCRDs). The level of insight in OCD may range from good to totally absent, and lack of insight, even of delusional quality, is no longer ground for an additional diagnosis of delusional disorder [1]. It is important to note that the ICD-11 Working Group on OCD and related disorders is planning to introduce almost identical diagnostic guidelines to its own classification of OCD, thus significantly diverting from ICD-10 [2].

OCD AND OTHER ANXIETY DISORDERS

Phenomenology

Despite the apparent simplicity of diagnostic criteria, OCD is a complex heterogeneous disorder that defies efforts at unitary classification within any single disorder category. Its symptomatology is extremely diverse and the polythetic nature of OCD diagnostic criteria makes it possible for two people to meet full diagnostic requirements of OCD while sharing only the core symptom of repetitive behavior. The heterogeneity of OCD has been traditionally reduced by grouping symptoms into five content-based subtypes: (1) contamination/washing; (2) harm/checking; (3) symmetry/counting; (4) taboo thoughts/neutralizing behaviors; and (5) hoarding. Considerable evidence

indicates that these subtypes are meaningfully distinct from each other in that they are associated with distinct genetic influences, comorbidities with other psychiatric disorders, neuropsychological profiles and responses to treatment. Reducing the heterogeneity of OCD by clustering the disorder into smaller categories has had an important influence on the development of the current compulsivity-based classification of OCD, because it showed that despite all their apparent differences, all these clusters share a common core symptom repetitive behavior. On the other hand, anxiety symptoms were less consistently associated with various symptom manifestations of OCD [9].

Although OCD has been traditionally conceptualized as an anxiety disorder, with anxiety as its core feature, it was thought it was an awkward fit. As early as 1990, the phenomenology of OCD was considered to be sufficiently distinct from other anxiety disorders to classify it in the ICD-10 as a separate disorder, albeit within the same main category as classic anxiety disorders. It has been noted, for example, that although obsessions and compulsions are commonly accompanied by symptoms of anxiety, OCD may be associated with distressing experiences other than anxiety, such as disgust in contamination obsessions [7] or a sense of incompleteness and things "just not feeling right" in symmetry obsessions [8]. Furthermore, although obsessive thinking is common in all anxiety disorders, taboo obsessions, such as those related to sex, violence and religion, occur almost exclusively in OCD [9]. OCD compulsions are also quite distinct from avoidance behaviors in classic anxiety disorders in that they are more ritualistic and driven than avoidance behaviors in anxiety disorders. In addition, the severity of anxiety in OCD does not correlate strongly with measures of OCD severity and overall disability [10,11]. Epidemiological studies additionally show that OCD differs from anxiety disorders in several other ways, including childhood onset in up to 50% of all patients [4], more variable comorbidity profiles [12,13], and more chronic waxing and waning course [3].

NEUROBIOLOGY

OCD neurobiology is also distinct from that in classic anxiety disorders. Whereas OCD is char-

acterized by abnormalities in cortico-striatal neurocircuitry [14] and serotonin neurotransmission [15], the neurobiology of anxiety more characteristically involves abnormalities in frontal-limbic neurocircuitry [16]. OCD is also associated with a characteristic pattern of cognitive impairment in executive functioning, including reduced mental flexibility, deficits in response inhibition and reduced capacity for planning [17,18]. Finally, OCD preferentially responds to treatment with serotonergic agents, such as clomipramine and SSRIs [19], and cognitive-behavioral therapy (CBT) with exposure and response prevention (ERP) [20]. On the other hand, other anxiety disorders respond to a much wider range of treatments, including benzodiazepines and forms of psychotherapy other than CBT.

Compulsivity as a core symptom of OCD

These lines of evidence have led to a dramatic shift in thinking about the core psychopathology of OCD, ultimately resulting in the proposal that compulsivity, defined as a tendency to engage in repetitive behaviors, is the core symptom of this disorder [21]. Compulsivity theory holds that although repetitive behaviors may be accompanied by other symptoms, such as anxiety or depression, a compulsive urge, together with an inability to modify the course of behavior, is the defining feature of OCD and other compulsive disorders. While the traditional learning model of OCD views compulsions as goal-directed behaviors that are performed to reduce anxiety associated with intrusive thoughts [22], a recently proposed habit-based conceptualization of compulsivity theory puts forward a different view on the relationship between obsessions, compulsions and anxiety in OCD [23]. Thus, compulsions are best conceptualized as automatic, inflexible habits that have overrun and replaced an individual's more adaptive goal-oriented problem-solving behaviors [23]. These habits are believed to be etiologically related to a dysregulation of cortico-striatal neurocircuitry, which leads to the breakdown of control over goal-oriented behaviors with the consequent over-reliance on the brain's habit system. Unlike the classic learning model of OCD, compulsivity theory assumes that anxiety has no direct functional connection with compulsive symptoms. Never-

theless, it concedes that both stress and anxiety make it more likely that goal-oriented problem-solving behaviors will be replaced by over-learned, inflexible habits [23].

As conceptualized by Hollander [24,25], compulsivity is a complex construct that can refer to a symptom of repetitive behavior, part of a syndrome or disorder (such as OCD), or a group of disorders with prominent obsessive or compulsive features. In its broadest sense, the term compulsivity refers to a transdiagnostic construct that links many diverse neuropsychiatric disorders. Included in that group are OCD, somatic anxiety disorders, such as body dysmorphic disorder (BDD), somatization disorder and hypochondriasis; eating disorders, such as anorexia nervosa, bulimia nervosa and binge eating disorder; impulse control disorders, such as trichotillomania and kleptomania; addictive disorders, such as gambling disorder, sex addiction and shopping addiction; personality disorders, such as obsessive compulsive personality disorder (OCPD); and neurological disorders with prominent perseverative features, such as tic disorder, Tourette's disorder and autism. Although these disorders all share the core feature of repetitive behaviors, they differ in terms of where they can be placed on the dimension of compulsivity-impulsivity [25]. Whereas the disorders with primarily compulsive features, such as OCD, BDD and anorexia nervosa, are characterized by risk aversion, harm avoidance, increased serotonin function and underlying abnormalities in dorsal cortico-striatal neurocircuitry, disorders with predominantly impulsive features, such as pathological gambling, kleptomania and binge eating, are impulsive, driven by pleasure seeking and characterized by decreased serotonin function and underlying abnormalities in the ventral cortico-striatal circuitry [26]. In addition, many disorders, such as trichotillomania, autism and Tourette's disorder, are neither entirely compulsive nor impulsive; rather, to a large degree, they appear to share both compulsive and impulsive features [25]. Despite important differences, compulsive and impulsive behaviors share many common features, including the experience of diminished control over own behavior and a tendency to persevere with the same non-functional habits despite obvious negative consequences. Moreover, compulsive

and impulsive disorders tend to share similar disease burden characteristics, including young age at onset, high rates of comorbidity and misdiagnosis, chronic course with unpredictable response to treatment, high level of occupational and social disability, and a high socioeconomic cost to society [27].

Candidate OCRDs

In recommending which compulsive disorders should accompany OCD in the new category of OCRDs, the DSM-5 and the ICD-11 working groups made a preliminary decision to only include those disorders that are experienced as unwanted and associated with distress or other ego-dystonic features [28]. Consequently, conditions from the strongly impulsive end of the spectrum, such as pathological gambling, sexual addiction, compulsive shopping, binge eating, and other impulsive disorders associated with pleasurable experiences, were excluded from further consideration. This decision found a middle ground between, on the one hand, those who were against any changes to the existing OCD classification [29] or who proposed a joint category of anxiety and obsessive-compulsive disorders [30] and, on the other, those who favored a broad transdiagnostic category of compulsive-impulsive disorders [21,24]. This decision was consistent with emerging genetic, familial and comorbidity studies showing that addictive disorders and eating disorders are likely not genetically related to OCD [12].

It was a decision that also concurred with popular opinion among 187 OCD expert clinicians and researchers who, in a survey conducted by Mataix et al. [31], were asked whether they were in favor of removing OCD from the category of anxiety disorders in the upcoming 5th edition of the DSM; and, assuming that the new category of OCRDs would be created in DSM-5, they were asked about their preferred choice of disorders for this category. The results indicated that 60% of experts (mostly psychiatrists) were in favor of removing OCD from the category of anxiety disorders and 40% (mostly psychologists and related professionals) were against. Most respondents believed that a new category of OCD disorders should be small; thus, it should only include BDD (72%), trichotillomania (70%), tic

disorders (61%) and hypochondriasis (57%). Fifty-five percent were against the inclusion of OCPD and the vast majority disapproved of the inclusion of impulse control disorders other than trichotillomania (67%), eating disorders (72%), autism (91%), and addictions (95%) [30,31].

The final selection of disorders to be included in the OCRDs category in DSM-5 and ICD-11 was guided by the idea that the disorders should, as much as possible, be phenomenologically and neurobiologically related to OCD, and be distinct from anxiety disorders and other groups of disorders. Each candidate disorder was evaluated on a number of diagnostic validators, including symptomatology, comorbidity, familial aggregation, genetic risk factors, brain circuitry, neuropsychological profile and response to treatment, and was only recommended for inclusion in the OCRDs grouping if at least several of these criteria were met [24,30]. Thus, the following disorders were selected: OCD, BDD, hoarding disorder, trichotillomania and skin picking disorder. Hoarding disorder and skin picking disorder are new disorders in DSM-5, and BDD and trichotillomania are reclassifications from the somatoform disorders and impulse control disorders, respectively.

Although a final decision on the ICD-11 classification of OCRDs will not be known until early 2018, the current proposal, as described by Stein et al. [2] is that, in addition to OCD and the OCRDs already listed in DSM-5, the ICD-11 grouping of OCRDs will also include a new category of olfactory reference disorder and the former somatoform disorder of hypochondriasis. In addition, Tourette's disorder and OCPD, which will continue to be listed in their respective diagnostic groupings in ICD-11, will be cross-referenced to the OCRDs chapter to emphasize their phenomenological connection with OCD [2]. Other than the difference in the number of disorders included in the grouping, it would appear that the DSM-5 and ICD-11 classifications of OCRDs are essentially parallel classifications. The only other, relatively minor, difference that should be mentioned here is in the handling of trichotillomania and skin picking disorder. While these disorders are classified as distinct OCRDs in DSM-5, it is proposed they are clustered under the larger subcategory of body-focused repetitive disorders in ICD-11.

OCRDs SELECTED FOR DSM-5 AND ICD-11

Body dysmorphic disorder

Of all the OCD-related disorders, BDD has the most common features with OCD. BDD involves a persistent obsession about a nonexistent or slight defect in physical appearance that causes significant distress or dysfunction [32]. In addition, individuals with BDD commonly engage in repetitive behaviors aimed at reassurance seeking, checking, hiding or fixing the presumed defect. Like OCD, BDD occurs early in life, is equally common in males and females, and has a chronic waxing and waning course with symptoms exacerbated under stress [32]. In addition, comorbidity rates are high for OCD and BDD, and the prevalence of BDD is elevated in first-degree relatives of individuals with OCD [17]. Other lines of evidence suggest that BDD shows similarities with OCD in terms of its neural substrates [33] and preferential response to treatment with SSRIs and with CBT/ERP [34]. However, insight is typically much poorer in BDD than in OCD [32].

Olfactory reference disorder

With diagnostic symptom criteria almost identical to BDD, olfactory reference disorder involves preoccupation with the idea of having foul body odor or breath. The perceived unpleasant smell is either imagined or hardly apparent to others. Preoccupations can focus on smells originating from one or more body areas, including the mouth, anus, genitals, underarms, feet, or urine or sweat [35]. Similar to BDD, individuals with olfactory reference disorder engage in repetitive mental acts and behaviors, including frequent showering, seeking (non-psychiatric) medical help, sniffing body parts in search of the source of the smell, and adopting various odor-camouflaging strategies. Available evidence suggests that olfactory reference disorder shares comorbidity with OCD and that it also shares response to SSRIs and CBT typical of OCD and other OCD-related disorders [35,36].

Hypochondriasis

Hypochondriasis is well known to psychiatry as a somatic preoccupation disorder that is charac-

terized by obsessive thoughts about having a serious undiagnosed medical illness. In terms of its symptoms, hypochondriasis resembles both OCD and BDD in that, in addition to obsessive thinking about being ill, it also involves prominent compulsive behaviors, including reassurance seeking, health-information search and other health-checking behaviors. Like OCD, hypochondriasis typically follows a chronic course [37]. Comorbidity studies support the link with OCD [5,12]. However, although hypochondriasis has been shown to respond to SSRIs and CBT/ERP, it is unclear whether these are preferential or if they are just one of several effective modes of treatment for the disorder [38,39]. Furthermore, the placebo effect was found to be much higher in hypochondriasis than in OCD and withdrawal of treatment with fluoxetine did not result in the recurrence of symptoms [40]. Other diagnostic validators, including genetic risk factors and neural circuitry, have not shown strong evidence of a preferential link between OCD and hypochondriasis [41]. Based on this and similar evidence, the ICD-11 Working Group has decided to add hypochondriasis to the OCRDs grouping in ICD-11 [2]. On the other hand, the American Psychiatric Association has recommended against the reclassification of hypochondriasis into a compulsive disorder in DSM-5, citing lack of sufficient evidence that hypochondriasis is etiologically more strongly related to OCD than to somatic disorders [30].

Hoarding disorder

Previously listed as one of the symptom subtypes of OCD, hoarding became a distinct OCRDs disorder in DSM-5 [1]. It is also one of the disorders proposed for inclusion in ICD-11 [2]. Hoarding disorder involves excessive collecting and difficulty discarding personal possessions resulting in clutter, which interferes with normal functioning and safety. Although it shares some symptom similarities with OCD, the ego-syntonic nature of acquiring and holding onto things also resembles some impulse control disorders, particularly compulsive shopping [42]. Research shows that hoarding behaviors are common in individuals with OCD and severe hoarders have a significantly increased lifetime risk of OCD [43]. Like OCD, hoarding

disorder typically has a chronic lifelong course but, unlike OCD, it is more often associated with stable rather than waxing and waning symptomatology. Despite earlier reports to the contrary [19], response to treatment with SSRIs does occur in hoarding disorder [44], although it is less robust than in OCD. In addition, while CBT/ERP are largely ineffective [45], CBT therapies based specifically on hoarding models have shown more promise [46]. However, the neurobiology of hoarding disorder is likely distinct from the neurobiology of OCD, as hoarding disorder tends to rely on fronto-limbic connections rather than on cortico-striatal circuitry [47].

Trichotillomania and skin picking disorder

Trichotillomania and skin picking disorder are phenomenologically two very similar body-focused disorders that are characterized by recurrent, time-consuming habitual pulling of hair or picking of skin resulting in significant distress, physical disfigurement and functional impairment [48]. Like OCD, they involve repetitive, unwanted and ritualistic behaviors that are difficult to resist or control. However, unlike in OCD, these compulsive behaviors are typically not preceded by obsessions or intrusive thoughts, though various negative emotions, such as tension, sadness or anxiety, may precede them. Both disorders show female preponderance. Age at onset is typically early to middle adolescence in trichotillomania and has a narrower range than in skin picking disorder, which may begin at any age in childhood, adolescence or adulthood [48]. Comorbidity studies show that lifetime prevalence rates of trichotillomania are elevated in patients with OCD, and the risk of OCD is higher in individuals who initially present with trichotillomania. In addition, rates of trichotillomania are increased in first-degree relatives of individuals with OCD [12]. Trichotillomania also shares a strong similarity with OCD in terms of underlying abnormalities in cortico-striatal pathways as well as some associated impairments in the cognitive abilities linked to the integrity of these brain structures [18,49]. However, in contrast to OCD, trichotillomania is not consistently responsive to serotonin-based pharmacotherapy; it also shows a better response to a non-selective serotonin reuptake inhibi-

tor clomipramine than to SSRIs [50]. Therefore, CBT is typically recommended as the first line of treatment for trichotillomania, especially in children [48]. Research shows that trichotillomania responds to treatment with CBT, although it generally shows a preferential response to habit reversal training than to ERP [51].

THE NEW CATEGORY – OCRDS

It should be noted that the new classification of OCD as a compulsive disorder is controversial. In fact, three years after the publication of DSM-5, many OCD clinicians and researchers still argue that the removal of OCD from the category of anxiety disorders and the creation of a new category of obsessive-compulsive related disorders was arbitrary and not sufficiently supported by evidence [22]. The most contentious issue in this nosological controversy still centers on the question of whether OCD is better conceptualized as an anxiety disorder or as a compulsive disorder. However, growing research indicates that this question may no longer be appropriate, since converging evidence from clinical, genetic, comorbidity and neurobiological studies suggests that OCD and anxiety disorders can never be clearly separated into two entirely independent diagnostic categories. Clinical experience shows that reports of fear and anxiety are very high in OCD and are comparable to those seen in other anxiety disorders [29]. In addition, recent genetic evidence shows that OCD shares common risk factors with both anxiety disorders and obsessive-compulsive disorders. For example, in a large population-based twin study [52] that investigated genetic overlap and pattern of etiological relationships among a group of OCRDs (hoarding disorder and BDD) and a group of anxiety disorders (social phobia, panic disorder and generalized anxiety disorder), the proportion of common genetic variance in OCD symptoms was higher when modeling with both groups of disorders than when modeling with the OCRDs group alone. These results support the idea that OCD is a complex disorder that shares genetic features with both anxiety disorders and OCRDs [52].

Findings from comorbidity and familial studies also support the view that OCD is related

both to anxiety disorders and disorders on the OCD spectrum. In the study of Bienvenu et al. [12], individuals with OCD were more likely than control subjects to have elevated lifetime rates of both OCDs and anxiety disorders. The parallel albeit somewhat less robust pattern was demonstrated in first-degree relatives of individuals with OCD in comparison with control subjects [12]. Finally, neuroimaging and anatomical studies indicate that the neurocircuitries of compulsivity and anxiety cannot be as easily disentangled as previously thought. Anatomical studies show that substantial portions of the cortical-striatal neurocircuitry implicated in OCD have important connections with the amygdala and other brain regions that mediate fear and anxiety [53,54]. Evidence from neuroimaging studies further indicates that a dysfunction of cortico-striatal circuitry may not be the only neural mechanism mediating OCD symptoms, and that lateral and medial orbitofrontal cortices, the dorsal anterior cingulate cortex and the amygdala that mediate fear and anxiety may be equally important in the pathophysiology of OCD [54].

Collectively, these findings suggest that the compulsivity model of OCD may be overly simplistic and that the model incorporating anxiety, and possibly depression [11,55] in addition to compulsivity, may better capture the complex psychopathology of OCD. Future studies are needed to validate the diagnostic validity and clinical utility of the new classification of OCD and related disorders and to further elucidate the essential genetic relationship and other correlations among OCD, related disorders, anxiety, depression, and other disorders from the compulsivity – impulsivity spectrum.

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