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UPDATE ARTICLE

Obsessive-compulsive (anankastic) personality disorder: toward the ICD-11 classification

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Obsessive-compulsive personality disorder (OCPD) is an early-onset disorder characterized by perfectionism, need for control, and cognitive rigidity. Its nosological status is currently under review. Historically, OCPD has been conceptualized as bearing a close relationship with obsessive-compulsive disorder (OCD). In this article, we discuss the diagnosis of OCPD in anticipation of its review for the ICD-11, from the perspective of clinical utility, global applicability, and research planning. Considering the recent establishment of an obsessive-compulsive and related disorders (OCRD) category in DSM-5, we focus on the relationship between OCPD and the disorders that are currently thought to bear a close relationship with OCD, including DSM-5 OCRD, and other compulsive disorders such as eating disorder and autistic spectrum disorder (that were not included in the DSM-5 OCRD category), as well as with the personality disorders, focusing on nosological determinants such as phenomenology, course of illness, heritability, environmental risk factors, comorbidity, neurocognitive endophenotypes, and treatment response. Based on this analysis, we attempt to draw conclusions as to its optimal placement in diagnostic systems and draw attention to key research questions that could be explored in field trials.

Keywords: Personality disorders; avoidant-dependent-obsessive-compulsive-passive aggressive; obsessive-compulsive disorder; diagnosis and classification; models/theories of psychiatry

Introduction

In the World Health Organization (WHO) ICD-10,[1] approved in 1990, personality disorder is defined as ''a severe disturbance in characterological constitution and behavioral tendencies, usually involving several areas of the personality and leading to considerable personal and social disruption.'' Typically, personality disorder appears in late childhood or adolescence and continues in a stable form through adulthood. Obsessive-compulsive personality disorder (OCPD), as defined by the current versions of the DSM-IV[2] and DSM-5,[3] and termed anankastic personality disorder in the ICD-10,[1] is a disorder characterized by preoccupation with orderliness, perfectionism, and mental and interpersonal control, at the expense of flexibility, openness, and efficiency. This pattern begins by early adulthood and is present in a variety of contexts. Historically, OCPD has been conceptualized as bearing a close relationship with obsessive-compulsive disorder (OCD).[4]

Obsessive-compulsive personality traits are commonly found in the general population[5] and can be advantageous, especially in situations that reward high performance. Depending on the definition of OCPD used, prevalence rates of around 1-2% have been estimated in community samples,[5,6] and up to 26% in clinical samples.[7] Indeed, OCPD is thought to have the highest prevalence of all personality disorders in outpatient groups.[8] It is highly comorbid with many psychiatric disorders, particularly those characterized by compulsive behaviors, including OCD,[9-11] body dysmorphic disorder,[12,13] and eating disorder.[14-17] OCPD affects males and females roughly equally, both in community-based[6,8] and clinical samples.[18,19] Studies have examined OCPD-related functional impairment and found longstanding disability at 1- and 2-year follow-up,[9] even exceeding that found in OCD. Recent studies have shown high levels of treatment utilization by individuals with OCPD, even after controlling for comorbid psychiatric disorders, with high rates of primary health care.[20,21] Indeed, individuals with OCPD are estimated to be three times as likely to receive psychotherapy compared with patients with major depressive disorder.[22,23] Yet, the disorder is poorly researched and underrecognized.[24] Notably, few studies have investigated ''pure'' OCPD in the absence of other major psychiatric comorbidity. This may be attributed, at least in part, to its current classification within the personality disorder grouping.

The validity of separating ''personality trait'' vs. ''mental state'' disorder remains controversial.[25] Follow-up studies have demonstrated a lack of stability in the signs and

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symptoms of OCPD,[26,27] as well as in other personality disorders, e.g., emotionally unstable personality disorder.[28] Indeed, OCPD is increasingly conceptualized as a disorder of neurocognitive function (see section on cognitive and emotional processing) rather than of personality per se.[29] Compared with other personality disorders, OCPD has been found to be associated with less functional impairment.[30] A review of the diagnosis of OCPD by the WHO for the upcoming ICD-11 provides an opportunity to revisit its nosological status and generate new heuristics to enable its better understanding and treatment.

In this paper, we discuss the diagnosis of OCPD in anticipation of its review for the ICD-11, from the perspective of clinical utility, global applicability, and research planning. Considering the recent establishment of an obsessive-compulsive and related disorders (OCRD) category in DSM-5, we focus on the relationship between OCPD, OCD and the disorders that are currently thought to bear a close relationship with OCD, including DSM-5 OCRD, and other compulsive disorders – such as eating disorder and autistic spectrum disorder – that were not included in the DSM-5 OCRD category, as well as with the personality disorders, focusing on nosological determinants such as phenomenology, course of illness, heritability, environmental risk factors, comorbidity, neurocognitive endophenotypes, and treatment response. A review of these categories is being undertaken by the WHO ICD-11 Working Group on the Classification of Obsessive-Compulsive and Related Disorders, appointed by the WHO Department of Mental Health and Substance Abuse and reporting to the International Advisory Group for the Revision of ICD-10 Mental and Behavioural Disorders. Based on this analysis, we attempt to draw conclusions as to whether OCPD is better conceptualized as an OCRD or as a disorder of personality, and assess its optimal placement in the new ICD-11.

Historical background

Modern concepts of OCPD originate in psychoanalytic theory. In 1903, Janet[31] described ''psychesthenia'' (now called OCD), characterized by traits such as perfectionism, indecisiveness, orderliness, authoritarianism, and restricted emotional expression.[32,33] Sigmund Freud's 1908 theory of ''anal character types'' included orderliness, parsimony, and obstinacy.[4] The need for control was subsequently emphasized as the core ''anal-erotic'' character trait.[34] A common etiology for OCD and OCPD was proposed, involving regression to an ''anal stage'' of childhood development. Aubrey Lewis suggested that there were two types of personality in individuals with obsessional neurosis: one characterized by negative affect, stubbornness, and irritability and the other by uncertainty.[35]

OCPD in modern taxonomy

DSM

In the first edition (DSM-I),[36] ''compulsive personality'' was defined as a ''persistence of an adolescent pattern of behavior,'' or a ''regression from more mature functioning as a result of stress.'' In the second edition (DSM-II),[37] the name was changed to ''obsessive-compulsive personality'' and the term ''anankastic personality'' was introduced as an alternative to mitigate confusion with OCD. In the third edition (DSM-III),[38] OCPD was modified to include traits of ''affective constriction'' and difficulty expressing warm and tender emotions, reminiscent of autistic disorders. In the transition from the DSM-III to the DSM-III-R,[39] affective constriction was downplayed and other criteria, including excessive preoccupation with details and rules, overconscientiousness, scrupulousness, inflexibility about matters of morality, ethics, or values, lack of generosity, and inability to discard worthless objects, were added. In DSM-IV, personality disorder was redefined on a separate axis of classification (Axis II) from mental state disorders (Axis I). DSM-IV OCPD was classified alongside anxious avoidant personality disorder and dependent personality disorder under the ''Anxious-Fearful; Cluster C'' category of personality disorders, on the basis that fear and anxiety about interpersonal situations represented a common characteristic of the three types of disorder. Once the general criteria to diagnose a personality disorder were satisfied, four out of eight specific criteria, comprising a mixed collection of symptoms, traits, and behaviors, were required to make the diagnosis (Table 1). The criteria for diagnosing OCPD in the DSM-5 have not changed from those in the DSM-IV. However, in the DSM-5, the multiaxial approach to personality disorder has been abandoned.

Weaknesses in the conceptualization and assessment of the DSM-IV OCPD construct have been recognized, including poor psychometric strength and diagnostic efficiency (sensitivity, specificity, and predictive power).[40] Studies have also called into question the utility of some of the criteria. For example, in the large Comprehensive Longitudinal Personality Study (CLPS), a multisite study of the course and stability of DSM-IV personality disorders, among the DSM-IV[41] criteria for OCPD, ''preoccupied with details,'' ''perfectionism,'' ''reluctance to delegate,'' and ''rigid and stubborn'' were found to be useful for making the diagnosis, whereas ''miserliness'' and ''workaholic behavior'' performed so poorly that their removal was recommended.[42] Perfectionism, reluctance to delegate, and rigidity were also the most prevalent and stable OCPD criteria in the CLPS database over a 2-year follow-up period, whereas miserliness was the least represented and most variable.[43] A study in a different cohort considered miserliness and hoarding to be unsatisfactory for the diagnosis.[44]

Notwithstanding the above, the DSM-5 retained all eight DSM-IV criteria. Compulsive hoarding was recognized as a separate disorder, classified within the OCRD category. In addition, in recognition of ongoing uncertainties and the need for further research, an ''alternative approach'' to the diagnosis of personality disorder was developed for the DSM-5. The alternative OCPD diagnosis hinges on the presence of (i) general impairment in personality functioning (criterion A) and (ii) a set of specific pathological personality traits (criterion B) (see below). The model emphasizes the degree of impairment

Table 1 Summary of the ICD-10, DSM-IV, and DSM-5 criteria

DSM-IV, DSM-5	ICD-10
Preoccupied with details, rules, lists, order, organization, or schedules so that the major point of the activity is lost	Preoccupation with details, rules, lists, order, organization or schedule
Perfectionism that interferes with task completion	Perfectionism that interferes with task completion
Rigidity and stubbornness	Rigidity and stubbornness
Reluctant to delegate or work with others unless they submit to exactly his or her way of doing things	Unreasonable insistence by the patient that others submit to exactly his or her way of doing things, or unreasonable reluctance to allow others to do things
Overconscientious, scrupulous, and inflexible about morality, ethics, values	Excessive conscientiousness, scrupulousness, and undue preoccupation with productivity to the exclusion of pleasure and interpersonal relationships
Excessively devoted to work/productivity to the exclusion of leisure	Excessive pedantry and adherence to social conventions
Miserliness	Intrusion of insistent and unwelcome thoughts or impulses
Unable to discard worn-out or worthless objects	Feelings of excessive doubt and caution

in personality functioning, and a moderate level of impairment is required for the diagnosis to be made.[3] It also helpfully allows personality functioning and personality traits to be assessed, whether or not the individual meets criteria for a personality disorder.[3]

ICD

Clinical coding of personality disorder in the ICD dates back to ICD-6 (1948).[45] However, it was not until ICD-8 (1965)[46] that anankastic personality disorder was included.[47] With successive iterations, the DSM and the ICD classifications of OCPD became increasingly concordant. The diagnostic criteria for DSM-IV and DSM-5 OCPD are very similar to those of ICD-10 anankastic personality disorder,[1] which requires the diagnostic requirements for personality disorder to be satisfied, along with at least three of the eight features listed in Table 1. The threshold for diagnosis may be lower in ICD-10 than in DSM-5, where four criteria are required. The items that overlap in ICD-10, DSM-IV and DSM-5 include ''preoccupation with details,'' ''perfectionism,'' ''rigid and stubborn,'' ''excessive conscientiousness,'' ''pedantry,'' and ''reluctance to delegate.'' The DSM-IV and DSM-5 include two additional behavioral items not included in ICD-10, namely difficulty discarding (hoarding) and miserliness. Hoarding and miserliness have each been difficult to validate as a construct within the definition[43,48] (see below). ICD-10 anankastic personality disorder includes the additional items doubt and intrusive thoughts, which are not included in the DSM-5. These items overlap with the diagnosis of anxiety disorder and OCD, which may lead to conceptual difficulties in discriminating between these diagnoses, especially when they occur together. For this reason, there may be an argument to exclude these items in the reformulation of the OCPD diagnosis for ICD-11.

Categorical vs. dimensional models of OCPD

The diagnostic approach used in the DSM-IV, DSM-5, and ICD-10 follows a categorical perspective that conceptualizes personality disorders as qualitatively distinct clinical syndromes characterized, broadly speaking, by the failure to develop an adaptive self-concept and interpersonal relations. They represent an enduring pattern of inner experience and behavior that deviates markedly from the expectations of the individual's culture, are pervasive and inflexible, have an onset in adolescence or early adulthood, are stable over time, and lead to distress or impairment. Within this framework, OCPD is described as an excessively rigid self-concept, to the extent that the ability to respond adaptively to environmental contingencies, such as unexpected change in routines or the need to prioritize timeliness over perfection, is impaired.

Criticisms of the categorical model of personality disorder include the fact that it has the potential to produce considerable within-group variability, such that two people with the same diagnosed disorder may display very different features because they score for different items. The model also assumes that personality disorders are one-dimensional, whereas the empirical literature and clinical opinion suggests that a multifactorial model may be a more appropriate way to understand their structure.[49] In studies of patients with OCPD and comorbid eating disorder, results suggested that a model incorporating either two overriding factors, i.e., ''perfectionism'' (including items such as preoccupation with details, perfectionism, work devotion) and ''rigidity'' (including rigidity, reluctance to delegate, and hypermorality), reflecting underlying intrapersonal and interpersonal control respectively,[24] or a three-factor model[49] comprising ''rigidity,'' ''perfectionism,'' and ''miserliness'' (miserliness, inability to discard), may better explain OCPD. Results of a confirmatory factor analysis from the CLPS indicated that this three-factor model may also apply to individuals with OCPD investigated within a generic ''personality disorders'' sample.[50]

Maladaptive personality traits can be identified in the general population in those without a diagnosis of personality disorder. Indeed, most of the criteria used to make a diagnosis of OCPD could be considered as maladaptive variants of general personality functioning.[51] As an alternative to the categorical approach, dimensional

models propose that personality disorders represent maladaptive variants of personality traits that merge imperceptibly into normality and into one another.[52] The DSM-IV and DSM-5 personality disorder clusters A-C (i.e., odd-eccentric, dramatic emotional, and anxious-fearful) may be viewed as dimensions, representing spectra of personality dysfunction on a continuum with other mental disorders. Other dimensional models (e.g., the five-factor model [FFM]),[53] have been proposed to cover important areas of personality dysfunction. Their integration, clinical utility, and relationship with the personality disorder diagnostic categories and with various aspects of personality dysfunction are under active investigation.[3]

The "alternative" personality disorder classification proposed by the DSM-5 is informed by the FFM and incorporates both categorical and dimensional elements. Each personality disorder is defined by typical impairments in personality functioning, refined according to characteristic pathological personality traits that are organized into five broad dimensions: negative affectivity (vs. emotional stability), detachment (vs. extraversion), antagonism (vs. agreeableness), disinhibition (vs. conscientiousness), and psychoticism (vs. lucidity). In an attempt to improve upon the mixed collection of signs, symptoms, traits, and behaviors that comprised the DSM-IV diagnostic criteria, the model proposes traits within a conceptual framework linked to a possible underlying endophenotypic structure.[3] Healthy, adaptive, and resilient personality traits, identified as the polar opposites of the pathological traits (listed above in parentheses), are also included.

In defining OCPD, the alternative model for the DSM-5 proposes impairment in personality function characterized by problems with identity (sense of self derived predominantly from work or productivity; constricted experience and expression of strong emotions), self-direction (difficulty completing tasks and realizing goals, associated with rigid and unreasonably high and inflexible internal standards of behavior; overly conscientious and moralistic attitudes), empathy (difficulty understanding and appreciating the ideas, feelings, or behaviors of others) and intimacy (relationships seen as secondary to work and productivity; rigidity and stubbornness negatively affect relationships with others). These are accompanied by three out of four pathological personality traits, one of which must be: 1) rigid perfectionism (an aspect of extreme conscientiousness); 2) perseveration (an aspect of negative affectivity); 3) intimacy avoidance (an aspect of detachment); and 4) restricted affectivity (an aspect of detachment).

OCRD and OCPD

While retaining OCPD within the personality disorders cluster, the DSM-5 has created a new category of OCRD, which comprises OCD, body dysmorphic disorder, hoarding disorder, trichotillomania, and skin-picking disorder. These disorders share common features of compulsivity, including repetitive urges to perform a narrow repertoire of behaviors designed to relieve distress (compulsions) and recurrent, intrusive thoughts (obsessions), as well as evidence suggesting an underlying psycho-biological relationship, higher than expected levels of comorbidity, and shared inheritance patterns. This model is intended to improve the diagnostic efficiency for these disorders and is likely to generate new research in the field.

OCPD has been relatively under-researched compared to some of these disorders; thus, arguments for its reclassification with OCRD have not been perceived by some as being strong.[54] Siever & Davis[55] argued that, according to a dimensional view, no meaningful boundary between personality and mental state disorders exists, and OCPD should undergo reformulation as a generalized, severe, and chronic variant of OCD. As we approach the reclassification of mental disorders for the ICD-11, the question as to whether OCPD should be clustered within an OCRD grouping remains valid. In the following paragraphs, we examine the nosological similarities and differences between OCPD and OCRD to advance the debate.

Phenomenology

The clinical features of OCPD are listed in Table 1. OCPD may be differentiated from OCD by the fact that it does not necessarily produce obsessions and compulsions, as strictly defined in DSM-IV[41] and ICD-10.[1] In OCD, obsessions are intrusive, distressing, and generally ego-dystonic. In contrast, OCPD traits and symptomatic behaviors are considered ego-syntonic, inasmuch as they are consistent with the individual's value system and are viewed as rational, reasonable, or desirable.[56] However, compulsive behaviors are frequent in OCPD (i.e., intentional, repetitive, time-consuming, difficult to resist or control, not pleasurable, and associated with considerable distress).[41,57]

The strength of overlap between the phenomenology of OCPD and OCD is highlighted by the work of Summerfeldt et al.[58,59] Reminiscent of the work of Lewis,[35] they proposed two core dimensions of OCD, "incompleteness" and "harm avoidance," with unique affective, cognitive, and motivational characteristics. Incompleteness represents an inner sense of imperfection or the uncomfortable subjective state that one's actions or experiences are "just not right." It is proposed as a temperament-like motivational variable within OCD that results in symmetry, counting, repeating and slowness compulsions, as well as in tic and skin-picking behavior.[60] Incompleteness is also believed to contribute to OCPD traits such as pathological perfectionism and indecisiveness. High incompleteness scores in OCD have been shown to be predictive of meeting criteria for OCPD.[58] Thus, symptoms of OCD motivated by feelings of incompleteness may be strongly related to OCPD (as opposed to those motivated by harm avoidance).

OCPD and OCD also overlap in the expression of inflexible and stereotyped patterns of thinking and behavior, including preoccupation with orderliness, perfectionism, scrupulosity, as well as behavioral or cognitive

rigidity,[57,61,62] which may often lead to diagnostic confusion. According to Eisen et al.,[63] three OCPD criteria – preoccupation with details, perfectionism, and hoarding – occurred significantly more frequently in subjects with OCD than in subjects without OCD. However, a recent study suggested that a greater capacity to delay reward differentiated OCPD from OCD.[64] Autistic spectrum disorder is an early-onset, neurodevelopmental disorder that also shares overlapping phenomenology with OCPD, including rigid and inflexible thinking patterns, preoccupation with details, and a narrow/restricted repertoire of interests.[65] Its relationship with OCPD is poorly researched and merits further study.

Compulsive hoarding is another potential source of overlap between OCPD and OCRD. However, the nosological status of hoarding and its relationship to OCPD remains complex and controversial. Compulsive hoarding is simultaneously defined as an OCPD trait, an OCD symptom,[66] and a stand-alone OCRD.[67] Studies that have examined the internal consistency and factor structure within OCPD have suggested that the hoarding and miserliness criteria might be less indicative of OCPD, and that the OCPD construct may be improved with their exclusion.[42,44] Three studies that recruited large samples of individuals with compulsive hoarding[68-70] noted the lack of any specific relationship between hoarding and OCPD and considered that the link could largely be explained by overlapping item content. On the other hand, other studies have shown that patients with OCD and comorbid OCPD are characterized by an increased frequency of hoarding symptoms compared to non-comorbid OCD.[47,71] Conversely, the presence of hoarding symptoms in patients with OCD was found to be associated with an increased frequency of OCPD traits,[72] even when the hoarding criterion was removed from analysis,[73] suggesting an association does exist between OCD, hoarding symptoms, and the remaining OCPD criteria. It is noteworthy, however, that the ICD-10 definition of anankastic personality disorder does not include a hoarding criterion.

Course

A lack of stability of the signs and symptoms of OCPD, as demonstrated in several follow-up studies, has led to questions as to its correct classification as a personality disorder. For example, only 42% of patients diagnosed with OCPD at baseline in one study remained above the threshold for the diagnosis at 12-month follow-up.[74] In another follow-up study of adolescents with personality disorders, only 32% of those initially diagnosed with OCPD still met the diagnostic criteria 2 years later,[26] suggesting the disorder may not be fixed in adolescence. In the CLPS, only roughly 60% of the adults with OCPD at baseline continued to have the diagnosis after 2 years.[75] Nonetheless, personality disorders including OCPD were found to be more stable than major depression and to constitute a significant and long-term public health problem with respect to associated functional impairment.[76] The most stable criteria (i.e., perfectionism, reluctance to delegate, and rigidity) were trait-like or attitudinal in nature, whereas the most unstable (e.g., miserliness) could be considered as symptomatic behaviors. Based on these findings, the authors proposed a "hybrid" model for OCPD, consisting of stable personality traits linked to less stable, or intermittently expressed, dysfunctional behaviors, utilized to compensate for the pathologic traits, that are discrete (people either adopt them or do not) and are susceptible to life events and stress. They suggested the stable traits may relate more to genetics and biology and constitute prime targets for biological treatments, whereas the latter may relate more to nurture and learning and represent targets for psychosocial interventions.[43]

Similarities have been noted between the course of OCPD and OCD, with onset relatively early in life[77] and a chronic, fluctuating course[78,79] (although a subsample of OCD with episodic illness has also been described). A retrospective, long-term study directly comparing first psychiatric admissions diagnosed with OCD or OCPD showed similar levels of diagnostic stability over up to 8 years of follow-up.[80] However, another study[81] failed to find a clear longitudinal association between the course of comorbid anxiety disorder (including OCD) and OCPD, suggesting that the two disorders may share only surface phenomenological similarity rather than common underlying substrates. An alternative explanation is that the expression of such substrates is complex and varies over time.

Familial aggregation

Genetic studies, including twin studies, suggest a high level of heritability exists for OCPD[82-86] and that a shared genetic mechanism may underpin obsessive-compulsive symptoms and traits.[87] Increased frequencies of obsessional personality traits are found in relatives of OCD patients, including those with tic-related OCD.[88] One family study[89] found a higher incidence of DSM-IV OCPD in the parents of pediatric OCD probands compared to the parents of healthy control children, even after parents with OCD were excluded. Similarly, another family study[10] found a raised prevalence of OCPD in the first-degree relatives of OCD-affected probands. In a further study, OCPD was the only PD to co-occur significantly more often in the relatives of OCD probands than in relatives of controls, regardless of the presence of OCPD in the probands.[90] Taken together, these results suggest a specific shared heritability exists for OCPD and OCD.[90] High neuroticism scores on the FFM (e.g., anxiety, self-consciousness, and vulnerability to stress) characterize family members of individuals with OCD and OCPD, irrespective of the presence of mental disorder, additionally suggesting a shared vulnerability to stress and anxiety.[90] However, high neuroticism is a non-specific dimension that is present in many forms of psychopathology.[54] Familial aggregation of OCPD traits has also been reported in anorexia nervosa,[91] another disorder characterized by obsessive-compulsive behavior. Thus, these data, although not specific to OCD, offer convincing support for a familial relationship between OCPD and OCRD.

In contrast, statistical modeling of genetic and familial factors found limited shared genetic (11%) and environmental (15%) variance between OCPD and the other cluster C personality disorders,[86] suggesting that OCPD may be etiologically distinct from anxious avoidant and dependent personality disorders. Moreover, in a multivariate twin study,[92] OCPD had the highest "disorder-specific" genetic loading, i.e., genetic risk factors that were specific to only this personality disorder, compared to all other DSM-IV personality disorders; there results are consistent with previous findings from factor analysis studies[93] suggesting that OCPD is only weakly related to the three traditional personality disorder clusters.

Environmental risk factors

Few studies have examined the contribution of environmental factors to the development of OCPD. Compared to healthy controls and to other psychiatric outpatients, patients with OCPD reported significantly lower levels of parental care and significantly higher levels of overprotection.[94] Similar findings have been reported for OCD.[95,96]

Comorbidity

The coexistence of two or more illnesses, at a rate exceeding that expected from the population frequency, indicates the possibility of a shared etiology (environmental and/or genetic). Although the prevalence of OCPD is elevated in patients with OCD, the majority of OCD patients do not have comorbid OCPD.[97] OCPD rates are, however, elevated in individuals with disorders that are characterized by compulsive behaviors, including OCD (25-32%)[9,11,90] body dysmorphic disorder (14-28%),[12,13,98,99] and eating disorder (20-61%).[14-17,100] In a large, longitudinal study of OCD, 25% of cases were diagnosed with comorbid DSM-IV OCPD, compared with 15.3% diagnosed with avoidant personality disorder.[9] Another study of OCD patients that identified OCPD in one-quarter of the sample[11] found that patients with comorbid OCD and OCPD reported an earlier onset of OCD symptoms, more symmetry and hoarding obsessions, and more cleaning, ordering, repeating, and hoarding compulsions compared to the non-comorbid group. They were also more globally impaired compared to those without OCPD. OCPD has also been found to be the most frequent personality disorder co-occurring with anorexia nervosa-restricting type, binge eating disorder,[100] and bipolar disorder.[101,102] OCPD also co-occurs in 31% of cases of major depressive disorder[101,103] and17% of cases of panic disorder.[18] All these disorders also show high levels of comorbidity with OCD.[104-106]

Conversely, studies suggest that the most common lifetime comorbid disorders for individuals with OCPD are illnesses for which considerable comorbidity with OCD has been reported. For example, individuals with OCPD in the CLPS were found to have suffered with high rates of major depressive disorder (75.8%), generalized anxiety disorder (29.4%), alcohol abuse/dependence (29.4%), substance abuse/dependence (25.7%), as well as OCD itself (20.9%).[27] Thus, although OCPD is not uniquely or preferentially associated with OCRD, its comorbidity profile is similar to theirs.

Although OCPD is reported to share substantial comorbidity with other personality disorders, suggesting the existence of shared underpinning mechanisms, the data are inconsistent. In one study, a high proportion of OCPD patients (77%) endorsed a diagnosis for other concurrent personality disorder, though only comorbidity with paranoid personality disorder (23%) occurred at a rate that was significantly higher than expected.[44] In the CLPS, the most common comorbid personality disorder in the OCPD sample was avoidant (27.5%), followed by borderline (9.2%), paranoid (7.9%), and narcissistic (7.2%).[107]

Neurocognitive endophenotypes

OCPD is characterized by difficulties in responding flexibly to unpredictable changes in environmental contingencies, which may be underpinned by specific neurocognitive endophenotypes (intermediate phenotypes) previously identified in OCRD, including (a) hyperactive error responses,[108] (b) a tendency to focus attention on parts rather than the whole,[109] and (c) impaired attentional set-shifting.[110] A controlled study (n=20) suggests that patients with OCD and comorbid OCPD demonstrated even greater cognitive inflexibility on the extra-dimensional set-shift paradigm (www.camcog.com), thought to be mediated by prefrontal cortex and associated subcortical brain circuitry, than patients with OCD without comorbid OCPD.[56] A recent unpublished study in a sample of 21 nonclinical subjects with DSM-IV OCPD, which specifically excluded those with psychiatric comorbidity, also identified extra-dimensional set-shift deficits compared to 15 matched healthy controls.[29] This abnormality has been shown to exist in OCD probands and their unaffected first-degree relatives,[110] as well as patients with schizo-OCD,[111] body dysmorphic disorder,[109] and anorexia nervosa,[112] and may represent a neurocognitive endophenotype or "vulnerability factor" for compulsive disorders sharing neurocircuitry with OCD.

Systematic brain imaging of patients with OCPD has yet to be performed. Blunted fenfluramine-mediated prolactin responses have been reported in OCPD and in several other disorders, including depression, anorexia nervosa, and binge-eating disorder,[113-115] suggesting similarities in serotonergic processing. Blunted fenfluramine responses have also been reported for OCD, but increased responses have also been reported (reviewed in Fineberg et al.).[116] Failure to screen for comorbid OCPD and depression in some of these studies impedes interpretation.

Treatment response

OCD responds relatively selectively to drugs with serotonin reuptake inhibitor properties. No randomized

Table 2 Toward a reclassification of OCPD in ICD-11

Evidence for OCPD moving into the OCRD group
1. Symptom similarity with OCRD: compulsive behaviors that are intentional, repetitive, time-consuming, difficult to resist, not pleasurable and associated with considerable distress.
2. Specific shared heritability between OCPD and OCD in OCD families.
3. Elevated comorbidity with other compulsive disorders, e.g., OCD, BDD, anorexia nervosa.
4. Elevated comorbidity with other disorders with which OCRD share major comorbidity, e.g., affective disorder, anxiety disorder.
5. Similar age of onset (early adulthood) and course (chronic) as OCRD.
6. Shared neurocognitive endophenotypes with OCD, BDD, schizo-OCD (extra-dimensional set shift, cognitive inflexibility), reflecting likely corticostriatal involvement.
7. Shared treatment modalities; SRIs, capsulotomy.
Evidence against OCPD moving into the OCRD group
1. Majority of individuals with OCD do not have OCPD.
2. Much of the existing evidence on familial aggregation, neurocognitive endophenotypes, and treatment response is derived from a few small studies and requires replication.
Evidence for OCPD moving away from personality disorder
1. On factor analysis, OCPD forms its own factor separate from other personality disorders.
2. OCPD may be etiologically different from cluster C (anxious avoidant and dependent) personality disorders.
3. Presence of adaptive traits.
4. OCPD may be conceptualized as a disorder of neurocognitive functioning rather than personality.
5. Stigmatizing effect of personality disorder label.
Evidence against OCPD moving away from personality disorder
1. OCPD fits the description of a personality disorder, with enduring, pervasive and stable traits, and adolescent onset.
2. OCPD shares substantial comorbidity with other personality disorders, at least in clinical samples.

BDD = body dysmorphic disorder; OCD = obsessive-compulsive disorder; OCPD = obsessive-compulsive personality disorder; OCRD = obsessive-compulsive and related disorders.

controlled trials have evaluated treatments for uncomplicated OCPD, stringently defined.[56] However, the available evidence hints that OCPD traits may respond to serotonin reuptake inhibitors (SRIs). A small randomized placebo-controlled trial suggests OCPD may respond to SRIs.[117] Twenty-four outpatients with DSM-IV OCPD were randomized to fluvoxamine (50-100 mg/day) or placebo for up to 12 weeks. The results showed substantially greater improvement ($p = 0.0003$) in OC personality severity scores for individuals in the group treated with fluvoxamine (n=12; mean reduction from 18.6 to 13.7) than for those in the placebo-treated group (n=12; mean reduction from 18.5 to 17.7).[117] Ekselius and von Knorring[118] studied the effects of 24 weeks of sertraline and citalopram on 308 depressed patients with comorbid DSM-III-R personality disorders. Significant reductions in dysfunctional personality traits were observed in most personality disorder categories, including that of OCPD, and the improvement did not appear to depend on changes in depressive symptoms.

It is of clinical relevance to consider the effect of comorbid OCPD on the anti-obsessional treatment-response in cases of primary OCD, to see if the presence of OCPD alters outcome. Cavedini et al.[119] investigated a group of 30 OCD patients. Those with comorbid OCPD experienced a worse outcome following 10-week SSRI treatment than those with uncomplicated OCD. In another study of patients with OCD, clomipramine was more efficacious than imipramine in improving scores on a self-rated OCPD inventory, suggesting that SRIs might be preferentially efficacious for OCPD traits.[120] However, the results were not clinically confirmed and were based on a completer analysis rather than on the intention-to-treat sample. Studies on the impact of comorbid OCPD as a risk factor for a negative treatment outcome for cognitive behavior therapy in OCD have so far produced conflicting results.[121] In a recent neurosurgical study, capsulotomy was effective in reducing compulsive symptoms in OCD patients with and without OCPD.[122,123] On the other hand, Denys et al.[124] have reported that comorbid OCPD traits may confer a poor prognosis for deep brain stimulation in cases of highly resistant OCD.

New directions in the ICD-11

OCPD is a common yet under-researched disorder. It tends to be overlooked in clinical examination, yet it carries major impact for treatment outcome and prognosis.[125] The existing evidence suggests overlapping phenomenology, course of illness, gender ratio, heritability, comorbidity, neurocognitive endophenotypes, and treatment response aspects with OCD and OCRD, suggesting a convincing relationship based on pathophysiology, and a relatively weaker relationship with personality disorder, though the evidence remains tantalizingly incomplete (Table 2).

The reclassification of OCPD under a new OCRD category could be expected to revitalize the neuropsychological investigation of the disorder, reduce stigma, and facilitate comparative study with other disorders that share compulsivity as a key neurocognitive mechanism. This change would be analogous to the status of schizotypal disorder, which, in ICD-10, is classified as a variant of schizophrenia rather than as a personality disorder (as in DSM).[25] Specifically, classification of OCPD as an OCRD could be expected to reduce sociocultural biases[8] and reduce its confusion with OCD. Recognition rates would be expected to increase with removal of the potentially stigmatizing ''label'' of a personality disorder. In addition, by defining the disorder alongside other OCRD, it could be expected to raise

awareness of the key diagnostic features among clinicians, thereby leading to improved recognition and treatment. Increased utilization of the disorder in research would help promote understanding of shared etiologies and improve recognition rates and diagnosis outside specialist mental health settings, which, in turn, could lead to better utilization of treatment services.

However, there are also cogent arguments for retaining OCPD within the personality disorders grouping. As OCPD remains grossly under-researched, confidence in neurobiological and treatment data is not strong. Moreover, removing OCPD from the personality disorders cluster would challenge theoretical constructs regarding the universal profile of personality traits.[25] Therefore, a compromise would be to refer to OCPD in both the personality disorder and OCRD chapters, i.e., "dual parenting." Multinational field trials designed to compare the diagnostic efficiency and clinical utility of prototype ICD-11 OCPD diagnoses classified either within the OCRDs cluster or within the personality disorder cluster may help to resolve this dilemma. In a similar way, field trials could be used to resolve the uncertainty regarding the relative benefits of a categorical vs. a dimensional model for diagnosing OCPD, and to investigate whether co-parenting improves the clinical utility of the ICD-11 diagnosis compared to ICD-10 diagnosis, resulting in better recognition of the diagnosis by clinicians.

Conclusion

There is a clear need for epidemiological, genetic, and neurobiological research to determine the clinical boundaries of OCPD, as well as to elucidate the status of the disorder with respect to other key diagnostic groups. In the interim, any changes to existing diagnosis and classification should be approached with caution. A compromise option for the ICD-11, which acknowledges limitations in the existing data while responding to the need to invigorate such research, would be to include OCPD within both the personality disorder and OCRD categories, under "dual parenting" status. Field trials examining the efficiency of the proposed vs. existing criteria and categorization that could be rolled out across a wide range of cultures, ethnicities, and socioeconomic groups are recommended to determine the clinical utility and global applicability of any such changes.

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