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PERSONALITY DISORDERS (C SCHMAHL, SECTION EDITOR)

Obsessive–Compulsive Personality Disorder: a Current Review

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Abstract This review provides a current overview on the diagnostics, epidemiology, co-occurrences, aetiology and treatment of obsessive–compulsive personality disorder (OCPD). The diagnostic criteria for OCPD according to the recently published Fifth Edition of the Diagnostic and Statistical Manual of Mental Disorders (DSM-5) include an official set of criteria for clinical practice and a new, alternative set of criteria for research purposes. OCPD is a personality disorder prevalent in the general population (3–8 %) that is more common in older and less educated individuals. Findings on sex distribution and course of OCPD are inconsistent. OCPD is comorbid with several other medical and psychological conditions. As for causes of OCPD, most empirical evidence provides support for disturbed attachment as well as the heritability of OCPD. So far, cognitive (behavioural) therapy is the best validated treatment of OCPD. Self-esteem variability, stronger early alliances as well as the distress level seem to predict cognitive (behavioural) therapy outcome. Future research is needed to further advance knowledge in OCPD and to resolve inconsistencies.

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Introduction

Obsessive–compulsive personality disorder (OCPD) was first described more than 100 years ago [1]. In 1952, with the publication of the first Diagnostic and Statistical Manual for Mental Disorders (DSM) [2], it became a diagnosable mental disorder. Since then, and unlike other personality disorders, it has been included in all revisions of the DSM including the Fifth Edition of the DSM (DSM-5) [3]. It is characterized by eight personality traits: preoccupation with details, perfectionism, excessive devotion to work and productivity, over-conscientiousness, inability to discard worthless objects, inability to delegate tasks, miserliness, and rigidity and stubbornness [4]. As the most common personality disorder in the general population [5•, 6••], it is associated with at least moderate impairment in psychosocial functioning [7, 8•, 9], reduced quality of life [7, 8•] and a considerable economic burden [10]. Despite its importance for public health and economy, research on OCPD is still scant and often inconsistent. Thus, the purpose of the present review is to provide both practitioners and researchers with a summary of significant current theoretical developments as well as empirical findings regarding the diagnostics, epidemiology, course, co-occurrences, aetiology, and treatment of OCPD. Hopefully, this will help in initiating future research on this important but often neglected mental disorder and thus advancing clinical practice in OCPD.

Diagnostics of OCPD

The most important recent development in the classification of OCPD is the inclusion of two sets of diagnostic criteria for OCPD in the DSM-5, namely the official set of criteria and the so called alternative set of criteria [11••]. Whilst the criteria from the official set have remained unchanged from DSM-IV criteria and should be used in clinical practice [12], the criteria from the "alternative set" represent additional and/or revised criteria and should be used for research purposes [11••].

Changes in the alternative set of the DSM-5 for OCPD evolved as a response to criticisms of the DSM-IV criteria for OCPD [13•]. Specifically, DSM-IV criteria had been criticized for not being sensitive enough to correctly identify the percentage of individuals that suffer from OCPD and for not being specific enough to correctly identify the percentage of individuals that do not [13•]. Problems of specificity included the presence of polythetic criteria instead of the inclusion of a hallmark feature [13•]. These problems resulted in an indistinct diagnostic category that contained a plurality of (partly even incompatible) types of OCPD. These were summarized as one diagnosis in which central traits for OCPD were partly neglected [14–18]. Problems of sensitivity included the exclusion of elements that had before been identified as important for the diagnosis of OCPD (e.g. future-oriented planning at the cost of present moment pleasure, attentional bias on minute details and problematic affect regulation) as well as the inclusion of criteria that were formulated too concretely and literally (e.g. miserliness, hoarding) to detect the underlying key disposition [13•, 15, 16].

Thus, the following criteria have been developed as part of the alternative set of the DSM-5 [19]: (1) There is at least a moderate level of impairment in personality functioning, which is manifested by the specified difficulties in two or more of the following four areas: identity, self-direction, empathy and intimacy. (2) Apart from rigid perfectionism, there must be at least two of three of the following 'pathological personality traits': perseveration, intimacy avoidance and restricted affectivity. As such, the official and alternative criteria differ in four important ways [11••]: First, a diagnosis according to the official set of criteria requires any combination of four OCPD diagnostic criteria, whereas for a diagnosis according to the alternative set, rigid perfectionism must be present. Second, the criteria miserliness and hoarding have been removed in the alternative set whereas most of the alternative criteria (perseveration, intimacy avoidance and restricted affectivity) are not listed in the official set. Third, the official set is categorical whereas the alternative set combines categorical and dimensional diagnostic approaches. And fourth, the alternative criteria seem to be stricter and lead to less frequent diagnoses of OCPD based on these criteria.

Thus, most of the issues of the DSM-IV criteria were addressed in the alternative set of criteria of the DSM-5. However, the development of two different sets for clinical practice and research has in fact increased the heterogeneity of OCPD and further complicates the integration of research findings due to different diagnostic criteria. Thus, there is still a need for clarification and unification of the construct of OCPD for both research and clinical practice.

Epidemiology and Course of OCPD

Due to changing diagnostic criteria, the variety of tools used for the assessment of OCPD and the different populations investigated, findings on the epidemiology and course of OCPD are partially inconsistent. Nonetheless, a number of studies provide evidence that OCPD is the most prevalent personality disorder in the general population (for an overview, see deReus and Emmelkamp, 2012 [5•]; for an inconsistent finding, see for example Lenzenweger, Lane, Loranger, and Kessler, 2007 [20]). Lifetime prevalence rates for OCPD according to DSM-IV criteria range from 3 to 8 % [6••, 21, 22]. In an outpatient population, OCPD was identified as the third most common personality disorder (diagnosed according to DSM-IV criteria) with a point prevalence rate of 8.7 % [23] and in a psychiatric inpatient population as the second most prevalent personality disorder with a rate of 23.3 % (not specified which kind of prevalence) when considering DSM-III-R-criteria [24]. As for sex distribution, some studies demonstrate the same rates for men and women [6••] whereas others indicate higher prevalence rates amongst men than women [25, 26]. Regarding further demographic characteristics, OCPD seems to be less common in younger adults as well as in Asians and Hispanics but more common in individuals with a high school education or less [6••].

In terms of the course of OCPD, an increasing number of studies show that personality disorders including OCPD are less stable and persistent than originally assumed. Shea and colleagues (2002) [27] found that a significant majority of OCPD subjects (58 %) no longer meet DSM-IV diagnostic threshold at a 12-month follow-up. Grilo and colleagues (2004) [28] reported a remission rate of 38 % within a 24-month follow-up period whilst remission was defined as having two or fewer OCPD criteria for 12 consecutive months. In contrast to these findings, other data suggest that OCPD remains stable or even worsens with age [29–31]. These diverging results may be explained by the finding that some OCPD criteria (e.g. rigidity, problems delegating, hoarding) are more stable and trait-like than others (miserly behaviours, strict moral behaviours) that can change in severity and/or expression over time [28, 32–34]. However, the inconsistency of findings might also be a result of methodological differences as described before.

Co-occurrences of OCPD

OCPD has been found to co-occur with a variety of mental as well as medical conditions. Due to the large amount of studies reporting co-occurrence rates of OCPD and other mental disorders, we focused on studies in which structured interviews and DSM-IV criteria were used for assessment purposes. Studies from non-clinical populations indicate that a lifetime diagnosis of OCPD is moderately common in individuals with 12-month diagnoses of anxiety disorders (23–24 % [6••, 35]), affective disorders (24 % [6••, 35]) and/or substance-related disorders (12–25 % [6••, 36]). Amongst patients with anxiety disorders, a lifetime diagnosis of OCPD is most common in individuals with 12-month diagnoses of panic disorder (23–38 % [6••, 35]), generalized anxiety disorder (34 % [35]), social phobia (33 % [6••, 35]) and specific phobia (22 % [35]). Amongst patients with affective disorders, lifetime prevalence rates of OCPD are comparably high in individuals with 12-month diagnoses of unipolar (23–28 % [6••, 35]) and bipolar disorders (26–39 % [6••, 35]). However, amongst patients with substance use disorders, prevalence rates of lifetime OCPD are higher in individuals with 12-month diagnoses of alcohol or drug dependence (15–29 % [6••, 36]) than in individuals with alcohol or drug abuse (9–13 % [6••, 36]). Studies from clinical samples demonstrate moderate prevalence rates of lifetime OCPD in individuals with lifetime diagnoses of alcohol dependence (31 % [37]), panic disorder (17 % [21]), hypochondriasis (15–22 % [38, 39]), eating disorders (13 % [40]) and unipolar depression (14 % [41]). Moreover, there is growing evidence for a considerable co-occurrence of OCPD with Cluster A personality disorders, in particular with paranoid and schizotypal personality disorders [16, 24, 42], which have led to the question whether OCPD should continue to be classified as a Cluster C personality disorder. Finally, it has recently been found that OCPD is very common amongst individuals suffering from medical conditions such as joint hypermobility syndrome/Ehlers–Danlos syndrome hypermobility type [43] and Parkinson's disease [44]. High rates in joint hypermobility syndrome/Ehlers–Danlos syndrome hypermobility type were explained with an elevated need of a "hyper-control" in congenitally hypermobile subjects due to musculoskeletal consequences or associated features, such as joint instability and lack of proprioception, which occur early in their life [43]. The association of OCPD with Parkinson's disease was explained by similar dysfunctions in the fronto-basal ganglia circuitry [44].

OCPD and Obsessive–Compulsive Disorder

The relationship between OCPD and obsessive–compulsive disorder (OCD) has long been a source of much controversial debate (e.g. deReus and Emmelkamp, 2012 [5•]). Consistent with the classification of OCPD and OCD as distinct mental disorders in the DSM [4], some researchers assume that both disorders constitute different mental conditions that are not specifically related to each other [21, 45, 46]. Accordingly, it is a common use in clinical practice to distinguish OCPD from OCD due to its ego-syntonic character and the absence of obsessions and compulsions [4, 47]. However, the utilization of these criteria to separate both disorders from each other can be questioned as clinical manifestations of OCPD are not always ego-syntonic (e.g. perfectionism) and manifestations of OCD are not always ego-dystonic (e.g. contamination preoccupation) [11••]. Moreover, many researchers hypothesize that both conditions are strongly related to each other or even overlap conceptually and share many common features, for example compulsions (see for a detailed overview, Pinto and Eisen, 2011 [47] and Starcevic and Brakoulias, 2014 [11••]; Baer, 1994 [48]). Some researchers even suggest that there might be a distinct subtype of individuals with OCD who also suffer from OCPD [47, 49, 50] or that the comorbidity of OCPD and OCD indicates a marker of severity of OCD [51].

Empirical evidence regarding this theoretical debate is not in all parts consistent, but there appears to be a specific but rather small to moderate overlap between both disorders. Indication for this hypothesis comes from studies that utilized structured interviews and DSM-IV criteria demonstrating co-occurrence rates that range between 23 and 45 % [21, 49, 52–54]. Lower co-occurrence rates were found in (earlier) studies in which DSM-III, DSM-III-R or ICD-10-criteria were utilized as well as clinical judgments, questionnaires, and semi-structured interviews for diagnostic assessment purposes [e.g. 55–57]. Further evidence for an overlap between OCD and OCPD originates from studies showing significantly higher co-occurrence rates between OCPD and OCD than between OCPD and the general population [21, 22] or other mental disorders [52, 58] (for contradictory findings, see Albert et al., 2004 [21]) (for more details, see Table 1). Even more evidence comes from studies demonstrating (significantly) higher comorbidity rates between OCPD and OCD than between other personality disorders and OCD [22, 53, 54, 56, 59, 60]. Moreover, studies investigating similarities and differences between both disorders specified that (pure) obsessions as well as contamination and cleaning-related symptoms seem to be specific for individuals with OCD, whilst rigidity and excessive self-control were found to be specific for individuals with OCPD [8•, 48]. In contrast, symmetry and hoarding-related symptoms as well as compulsions were identified as common in both individuals with OCPD and OCD and seem to connect both conditions [8•, 48]. Findings showing that OCPD and OCD seem to have both similarities and differences might—apart from methodological issues such as variety in study populations and the heterogeneity of the construct of OCPD—at least in part explain the variety of results on the relationship between OCPD and OCD.

Table 1 Overview and characteristics of studies comparing frequencies of OCPD in OCD with frequencies of OCPD in the general population or other mental disorders

Study	Prevalence	Instrument of evaluation	Diagnostic criteria	*N*	Samples	Frequencies	*p* value
Albert et al., 2004 [21]	Lifetime	SCID-I SCID-II	DSM-IV	109 101	OCD General population	23 % (25) 3 % (3)	<.001
Samuels et al., 2000 [22]	Lifetime	SIDP-R	DSM-IV	72 72	OCD General population	32 % (23) 6 % (4)	<.001
Albert et al., 2004 [21]	Lifetime	SCID-I SCID-II	DSM-IV	109 82	OCD Panic disorder	23 % (25) 17 % (14)	=.32
Gordon et al., 2013 [52]	Not specified	SCID-I SCID-II	DSM-IV	189 170	OCD Panic disorder	45 % (85) 15 % (25)	<.001
Diaferia et al., 1997 [58]	Lifetime	DIS-R SIDP-R	DSM-III-R	88 131	OCD Panic disorder	31 % (27) 11 % (15)	<.001
Diaferia et al., 1997 [58]	Lifetime	DIS-R SIDP-R	DSM-III-R	88 58	OCD Major depressive disorder	31 % (27) 14 % (8)	<.001

OCPD = obsessive–compulsive personality disorder, *OCD* = obsessive–compulsive disorder, *SCID* = Structured Clinical Interview for DSM Disorders, *SIDP-R* = Revised Structured Instrument for the Diagnosis of Personality Disorders, *DIS-R* = Diagnostic Interview Schedule, Revised Version, *DSM* = Diagnostic and Statistical Manual for Mental Disorders

Hence, research so far indicates that there might be a particularly strong relation between OCPD and OCD for a subgroup of individuals who suffer from specific symptoms of both disorders. Studies specifically focusing on characteristics of individuals suffering from both disorders show that these individuals suffer from higher rates of doubting, symmetry and hoarding obsessions [51, 52]; cleaning, ordering, repeating and hoarding compulsions [49, 51, 61]; and alcohol consumption [52] as well as lower levels of insight and global functioning [49–51, 53] than individuals suffering from OCD alone. However, findings also consistently demonstrate that individuals who only suffer from OCD and subjects with a comorbid OCPD do not differ significantly with respect to sex, clinician-rated severity of OCD, duration of OCD, morbidity risk for OCD, levels of disability, positive family history for tic disorder/Tourette syndrome and distribution of gene variants [51, 58, 61]. Finally, findings are inconsistent regarding possible differences in both groups in the age at onset of first OC symptoms [50–52, 58, 61], the severity of self-reported OCD symptoms [49–53] and treatment response [51, 62]. Thus, in sum, there is at least some indication for the existence of an OCPD-OCD subtype.

Aetiology of OCPD

The literature on psychological and biological theories regarding OCPD is scant and often contradictory. Psychological etiological models on OCPD include psychoanalytic theories as well as the attachment theory [63•]. Psychoanalytic etiological models (for an overview, see Hertler, 2014 [63•]) attribute the obsessive character formation to parental dominance, over-control and intrusiveness (e.g. rigid toilet training practices). However, the small number of studies that has been conducted so far does not provide any evidence for these etiological models [64]. According to attachment theory, attachment issues are considered an important etiological factor [63•]. So far, at least two studies provide support for this hypothesis showing that individuals suffering from OCPD have never formed secure attachments, received less care and more overprotection during their childhood and failed to develop emotionally and empathetically [65, 66] (for an inconsistent finding, also see Perry, Bond, and Roy, 2007 [66]).

In terms of biological causes of OCPD, empirical evidence clearly provides support for the heritability of OCPD [67, 68]. However, findings on the extent of the impact of genes on the development of OCPD are inconsistent. Whilst Togersen and colleagues (2000) [68] identified a heritability rate of 0.78 for OCPD, Reichborn-Kjennerud and colleagues (2007) [67] found that genetic effects account for only 27 % of the variance of OCPD. Unfortunately, only few studies have dealt with specific genetic and neurobiologic abnormalities in OCPD so far, especially when compared to the vast amount of research that has been conducted on genetics and neurobiology in OCD (for an overview, see for example Karch and Pogarell, 2011 [69] or Pauls, Abramovitch, Rauch, and Geller, 2014 [70]). Some of the few studies that have been conducted in individuals with OCPD indicate associations between OCPD and the dopamine D3 receptor Gly/Gly genotype [71], the serotonin transporter 5HTTLPR polymorphism [72] and a blunted prolactin response to fenfluramine indicating a potential serotonergic dysfunction [73]. However, it must also be noted that some of these findings could not be replicated [26] and others were questioned by inconsistent empirical evidence [74]. Thus, more research should be

Table 2 Characteristics of studies investigating psychotherapy in OCPD

Study	Sample	Assessment	Design	Intervention	Summary of results
Fiore, Dimaggio, Nicolo, Semerari, and Carcione (2008) [94]	1 outpatient with APD + OCPD	SCID-II for DSM-IV	Case study	31 weekly individual sessions and 36 weekly group sessions of MIT	Patient no longer met full criteria for any personality disorder, but some traits were still present.
Dimaggio et al. (2011) [93]	1 outpatient with OCPD + MDD	SCID-II, not specified whether DSM-III-R or IV	Case study	3 years of MIT	There was a significant drop in depression, personality disorder psychopathology, general distress level as well as alexithymic symptoms from pre to post therapy.
Lynch and Cheavens (2008) [95]	1 outpatient with OCPD + PPD + MDD	SCID-II for DSM-IV	Case study	9 months of weekly individual DBT and 6 months of weekly DBT group skills training	The patient no longer met criteria for OCPD or PPD and his Hamilton Rating Scale for Depression score decreased from 21 at baseline to 6 at follow-up.
Montazeri, Neshatdoos, Abedi, and Abedi (2014) [91]	1 inpatient with OCPD	SCID-I and II for DSM-IV	Case study	16 weekly sessions of ST	Schema therapy was effective in reducing OCPD symptoms.
Ng (2005) [86]	20 outpatients with OCPD + chronic depression	SCID-I and II for DSM-IV	Pre–post	~22 sessions of CT	There was a significant drop in depression and anxiety from pre to post therapy. Nine patients no longer fulfilled the DSM-IV diagnosis of OCPD. Eight patients were also free from axis I disorders.
Popa, Nirestian, Ardelean, Buicu, and Ile (2013) [88]	31 in. and outpatients with OCPD + GAS	SCID-II for DSM-IV	Pre–post	40 sessions of CBT + escitalopram	There were significant improvements in anxiety, extroversion, agreeableness and emotional stability from pre to post therapy.
Strauss et al. (2006) [87]	30 outpatients with OCPD/APD	SCID-I and II for DSM-III-R	Longitudinal	≤52 weekly sessions of CT	Stronger early alliances and rupture–repair episodes predicted more improvement in symptoms of personality disorder and depression.
Cummings, Hayes, Cardaciotto, and Newman (2012) [85••]	27 inpatients with APD + OCPD (+ depressive disorder)	SCID-I and II for DSM-III-R; confirmation with SCID-II for DSM-IV	Longitudinal	52 weeks of CT	More self-esteem variability during the first 10 weeks of treatment predicted more improvement in OCPD and depression symptoms at the end of the treatment, beyond baseline and average self-esteem.
Enero et al. (2012) [89••]	116 outpatients with OCPD	Met criteria for an OCPD according to DSM-IV	Longitudinal	10 sessions of group CBT	Distress level was identified as a significant predictor of treatment response.
Barber, Morse, Krakauer, Chittams, and Crits-Christoph (1997) [96]	38 outpatients with OCPD/APD + depressive and/or anxiety disorder	SCID-I and II for DSM-III-R, PDE	Longitudinal	52 weekly sessions of supportive–expressive dynamic psychotherapy	Individuals with OCPD improved significantly across time on measures of personality disorder symptoms, depression, anxiety, general functioning and interpersonal problems. By the end of treatment, only 15 % of individuals with OCPD still retained their diagnosis.
Barber and Muenz (1996) [90]	239 outpatients with MDD and an elevated level of OCPD/APD	Met criteria for MDD according to DSM-IV; dimensional assessment of PDs with the PAF	RCT	≥12 sessions and 15 weeks of CT or IPT	Results revealed a superiority of IPT over CT in depressed individuals suffering from elevated OCPD levels regarding treatment-related reductions in depression.
Bamelis, Evers, Spinhoven, and	323 outpatients with personality disorders	SCID-I and II for DSM-IV; DSM-IV	RCT	Weekly sessions of ST, COT or TAU;	ST led to significantly more recoveries than did COT and TAU. Dropout rates were also lower compared to TAU. ST

Table 2 (continued)

Study	Sample	Assessment	Design	Intervention	Summary of results
Arntz (2014) [91]	including 89 with OCPD	Personality Disorders Questionnaire		different treatment durations	patients had higher general and social functioning and lower rates of depressive disorder at follow-up.

OCPD = obsessive–compulsive personality disorder, *APD* = avoidant personality disorder, *MDD* = major depressive disorder, *PPD* = paranoid personality disorder, *GAS* = generalized anxiety disorder, *SCID* = Structured Clinical Interview for DSM Disorders, *DSM* = Diagnostic and Statistical Manual for Mental Disorders, *PD* = personality disorder, *PAF* = Personality Assessment Form, *PDE* = Personality Disorder Examination, *RCT* = randomized controlled trial, *CT* = cognitive therapy, *CBT* = cognitive–behavioural therapy, *IPT* = interpersonal psychotherapy, *MIT* = metacognitive interpersonal therapy, *DBT* = dialectical–behavioural therapy, *ST* = Schema Therapy, *COT* = Clarification-Oriented Therapy, *TAU* = Treatment as Usual

conducted to attain more consistent results on relevant genetic and neurobiological mechanisms in OCPD.

Further biological models which try to explain the development of OCPD include amongst others the hypothesis that neurological regions of the limbic system are especially dense and well branched amongst individuals with OCPD [75]. However, this hypothesis is not consistent with the findings by Reetz and colleagues (2008) [76] who have conducted the only study in this field so far. They found the grey matter volume in the limbic cingulate to be reduced in individuals with OCPD compared to healthy controls.

Next to this hypothesis, in the context of biological causes, it has been stated that characteristic OCPD traits may represent, at least in part, compensatory tactics in response to preexisting cognitive deficits [77], and finally it has been hypothesized that individuals suffering from OCPD show a decreased activity in the so called empathizing system (an evolutionary system that enables comprehension of intentional motivated behaviour characteristics of humans) and an increased activity in the so called systemizing mechanism (a system that enables comprehension for lawful and non-intentional events) [16]. Even though the latter three theories provide at least some explanation for the development of OCPD, all of them have been criticized for positing proximate but not ultimate explanations as well as for their failures in reckoning the heritability of OCPD traits themselves and in applying evolutionary thought and theory [63•].

Treatment Seeking and Treatments in OCPD

Regarding treatment-seeking behaviour in individuals suffering from OCPD, evidence is mixed. Some findings suggest that individuals suffering from OCPD often seek treatment on their own and receive more treatment than, for example, individuals suffering from depression [78–80], whilst other studies suggest the opposite [66, 81]. However, from a theoretical perspective, decreased treatment-seeking behaviour in individuals with OCPD might be easily explained by the egosyntonic character of OCPD as well as the great need of individuals with OCPD for independence and control [66, 81].

Main treatments for OCPD include pharmacological and psychological treatments (for an overview of studies on psychotherapy, see Table 2; for studies on pharmacotherapy, see Table 3). As for pharmacological treatments, there are only few research findings until now. The little research that has been conducted provides preliminary evidence for the efficacy of carbamazepine and fluvoxamine in reducing OCPD traits in individuals suffering from OCPD only [82, 83] and for citalopram in individuals suffering from OCPD and depressive symptoms [84]. Regarding the efficacy of psychological treatments, more research has been conducted. However, these studies mostly consist of case studies or uncontrolled longitudinal designs with individuals suffering from comorbid disorders in addition to OCPD. Thus, there is a great need of randomized controlled trials with individuals solely suffering from OCPD.

Most recent studies investigating psychological treatments for OCPD have examined cognitive therapy (CT) or cognitive–behavioural therapy (CBT). Studies investigating the efficacy of CT suggest that it is effective in reducing symptom severity of personality disorder, depression and anxiety from pre to post [85••, 86, 87]. Moreover, findings suggest that variability in self-esteem as well as the therapeutic alliance, if handled well, is associated with significant improvement in cognitive therapy [85••, 87]. Group CBT combined with escitalopram also showed to lead to improvements in anxiety, extroversion, agreeableness and emotional stability from pre to post [88], and distress level was identified as a significant predictor of CBT response [89••].

In spite of this at least moderate support for CT or CBT in the treatment of OCPD, interpersonal psychotherapy has been proven to be even superior to CT in reducing depressive symptoms in a randomized controlled trial [90]. Moreover, schema therapy was shown to be superior to a clarification-oriented psychotherapy and a treatment-as-usual condition at follow-up in terms of decreasing depressive disorders and increasing social and occupational functioning [91]. Finally, few case studies also provide at least some evidence for the efficacy of schema therapy [92], as well as further psychological treatments, such as metacognitive interpersonal therapy [93, 94], an adapted version of dialectical behaviour therapy [95], as well as supportive–expressive dynamic psychotherapy [96] on

Table 3 Characteristics of studies investigating pharmacotherapy in OCPD

Study	Sample	Assessment	Design	Intervention	Summary of Results
Greve and Adams (2002) [83]	1 outpatient with OCPD + features of OCD	Not specified	Case study	~8 months of carbamazepine (100–200 mg/day)	There was a substantial drop in OCPD traits from pre to post therapy.
Ansseau, Troisfontaines, Papart, and Frenckell (1991) [82]	46 outpatients with a MDD including 24 with a comorbid OCPD	Met criteria for a MDD (and OCPD) according to DSM-III	Quasi-experimental	8 weeks of fluvoxamine (100–200 mg/day)	Results demonstrated significantly greater decreases of depressive symptoms in the subgroup with OCPD than in the non-compulsive subgroup.
Ekselius and Von Knorring (1998) [84]	308 outpatients with OCPD + MDD + OCD	SCID screening questionnaire	RCT	24 weeks of sertraline (50–150 mg/day) vs. citalopram (20–60 mg/day)	In the citalopram group, there was a significant reduction in OCPD diagnoses after 24 weeks of treatment. In addition, the number of OCPD traits decreased significantly in both groups, the citalopram group being the most effective.

OCPD = obsessive–compulsive personality disorder, *MDD* = major depressive disorder, *OCD* = obsessive–compulsive disorder, *SCID* = Structured Clinical Interview for DSM Disorders, *RCT* = randomized controlled trial, *DSM* = Diagnostic and Statistical Manual for Mental Disorders

various outcome measures, such as personality disorder symptoms, depression, anxiety, general functioning, and interpersonal problems. However, more research is needed to support these preliminary findings.

Conclusions

Recent theoretical developments and empirical findings have come up with important knowledge, particularly regarding the concept and associated diagnostic criteria of OCPD, as well as potentially effective treatments of OCPD. Rigidity, self-control and conscientiousness might be key components of OCPD (especially when compared to OCD) [8•], and the patient–therapist alliance, state anxiety as well as self-esteem variability might constitute important predictors of the efficacy of cognitive(–behavioural) treatments in OCPD [85••, 87, 89••]. These findings are of particular interest and value for the theoretical and clinical understanding of OCPD. From a clinical perspective, it might be concluded that OCPD is a distinct disorder (when conceptualized correctly) that can be best treated with cognitive(–behavioural) treatments [C(B)T] (in combination with citalopram or fluvoxamin). Moreover, it might be reasoned that intense habitual anxiety and rigidity (in self-esteem) of individuals suffering from OCPD as well as a dysfunctional therapeutic relationship might decrease treatment outcome. However, findings also indicate that a special focus on the therapeutic alliance as well as the distress level and (self-esteem) variability might improve treatment outcome in C(B)T.

However, we must conclude that overall research on OCPD is still scant. Moreover, findings on epidemiology, course and co-occurring disorders are partly inconsistent. Given that the heterogeneity of the concept of OCPD might have had some impact on these diverging results, we emphasize the need of further identifying elements belonging specifically to OCPD (especially when opposed to OCD) and of verifying the recently suggested alternative set of criteria of the DSM-5 in order to reach a unified diagnostic set that can be applied both in clinical practice and research and might lead to more conclusive findings regarding epidemiology, course and co-occurrences of OCPD. Standardized (semi-)structured interviews should be used as well as longitudinal designs to further elucidate the relationship between OCPD and OCD. Finally, research involving large randomized controlled trials should continue evaluating the suggested etiological models of OCPD as well as treatments such as metacognitive interpersonal therapy and schema therapy.

Compliance with Ethics Guidelines

Conflict of Interest Alice Diedrich and Ulrich Voderholzer declare that they have no conflict of interest.

Human and Animal Rights and Informed Consent This article does not contain any studies with human or animal subjects performed by any of the authors.

References

Papers of particular interest, published recently, have been highlighted as:
- • Of importance
- •• Of major importance

1. Freud S. Character and anal eroticism. In: Strachey J, editor. The standard edition of the complete psychological works of Sigmund Freud, vol. 9. London: Hogarth; 1908. p. 169–75.
2. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. Washington, DC: American Psychiatric Association; 1952.

3. Costa P, Samuels J, Bagby M, Daffin L, Norton H. Obsessive-compulsive personality disorder: a review. In: Mai M, Akiskal HS, Mezzich JE, Okasha A, editors. Personality disorders (pp. 405–478). West Sussex, England: John Wiley; 2005.
4. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders (4th ed., text revision). Washington, DC: American Psychiatric Association; 2000.
5.• de Reus RJM, Emmelkamp PMG. Obsessive–compulsive personality disorder: a review of current empirical findings. Personal Ment Health. 2012;6:1–21. doi:10.1002/pmh. *This review provides the reader with an overview of current empirical findings on epidemiology, course, comorbidities, construct validity, theoretical models, costs and treatment of OCPD.*
6.•• Grant JE, Mooney ME, Kushner MG. Prevalence, correlates, and comorbidity of DMS-IV obsessive-compulsive personality disorder: results from the National Epidemiologic Survey on Alcohol and Related Conditions. J Psychiatr Res. 2012;46:469–75. doi:10.1016/j.jpsychires.2012.01.009. *This paper provides an excellent current report on prevalence, epidemiology, correlates and comorbidities of OCPD.*
7. Mancebo MC, Eisen JL, Grant JE, Rasmussen SA. Obsessive compulsive personality disorder and obsessive compulsive disorder: clinical characteristics, diagnostic difficulties, and treatment. Ann Clin Psychiatry. 2005;17:197–204. doi:10.1080/10401230500295305.
8.• Pinto A, Steinglass JE, Greene AL, Weber EU, Simpson HB. Capacity to delay reward differentiates obsessive-compulsive disorder and obsessive-compulsive personality disorder. Biol Psychiatry. 2014;75:653–9. doi:10.1016/j.biopsych.2013.09.007. *This is a very interesting paper demonstrating important empirical differences between OCPD and OCD.*
9. Skodol AE, Gunderson JG, McGlashan TH, Dyck IR, Stout RL, Bender DS. Functional impairment in patients with schizotypal, borderline, avoidant, or obsessive–compulsive personality disorder. Am J Psychiatr. 2002;159:276–83. doi:10.1176/appi.ajp.159.2.276.
10. Soeteman DI, Hakkaart-van Roijen L, Verheul R, Busschbach JJ. The economic burden of personality disorders in mental health care. J Clin Psychiatry. 2008;69:259–65. doi:10.4088/JCP.v69n0212.
11.•• Starcevic V, Brakoulias V. New diagnostic perspectives on obsessive-compulsive personality disorder and its links with other conditions. Curr Opin Psychiatry. 2014;27:62–7. doi:10.1097/YCO.0000000000000030. *This excellent review provides an overview of new diagnostic perspectives of OCPD, of its epidemiology as well as of co-occurrences with other mental disorders including OCD.*
12. American Psychiatric Association. Diagnostic and Statistical Manual of Mental Disorders. 4th ed. Washington, DC: American Psychiatric Association; 1994.
13.• Hertler, S. C. (2013). Understanding obsessive-compulsive personality disorder. SAGE Open, 3. doi:10.1177/2158244013500675. *This is a comprehensive review on problems of specificity and sensitivity of DSM-IV diagnostic criteria.*
14. Crego C, Samuel DB, Widinger TA. The FFOCI and other measures and models of OCPD. Assessment. 2014;23:1–17. doi:10.1177/1073191114539382.
15. Fossati A, Beauchaine TP, Grazioli F, Borroni S, Carretta I, De Vecchi C. Confirmatory factor analyses of DSM-IV Cluster C personality disorder criteria. J Personal Disord. 2006;20:186–203. doi:10.1521/pedi.2006.20.2.186.
16. Hummelen B, Wilberg T, Pedersen G, Karterud S. The quality of the DSM-IV obsessive-compulsive personality disorder construct as a prototype category. J Nerv Ment Dis. 2008;196:446–55. doi:10.1097/NMD.0b013e3181775a4e.
17. Popa CO, Buicu G, Ardelean M. The obsessive-compulsive personality disorder, approached by cognitive-behavioural therapy. Acta Med Transilvanica. 2012;2:251–2.
18. Samuel DB, Widiger TA. Conscientiousness and obsessive-compulsive personality disorder. Personal Disord Theory Res Treat. 2011;2:161–74. doi:10.1037/a0021216.
19. American Psychiatric Association. Diagnostic and statistical manual of mental disorders. 5th ed. Arlington, VA: American Psychiatric Publishing; 2013.
20. Lenzenweger MF, Lane MC, Loranger AW, Kessler RC. DSM-IV personality disorders in the National Comorbidity Survey Replication. Biol Psychiatry. 2007;62:553–64. doi:10.1016/j.biopsych.2006.09.019.
21. Albert U, Maina G, Forner F, Bogetto F. DSM-IV obsessive–compulsive personality disorder: prevalence in patients with anxiety disorders and in healthy comparison subjects. Compr Psychiatry. 2004;45:325–32. doi:10.1016/j.comppsych.2004.06.005.
22. Samuels J, Nestadt G, Bienvenu OJ, Costa Jr PT, Riddle MA, Liang K-Y, et al. Personality disorders and normal personality dimensions in obsessive-compulsive disorder. Br J Psychiatry. 2000;177:457–62. doi:10.1192/bjp.177.5.457.
23. Zimmerman M, Rothschild L, Chemlinski I. The prevalence of DSM-IV personality disorders in psychiatric outpatients. Am J Psychiatr. 2005;162:1911–8. doi:10.1176/appi.ajp.162.10.1911.
24. Rossi A, Marinangeli MG, Butti G, Kalyvoka A, Petruzzi C. Pattern of comorbidity among anxious and odd personality disorders: the case of obsessive–compulsive personality disorder. CNS Spectrums. 2000;5:23–6.
25. Coid J, Yang M, Tyrer P, Roberts A, Ullrich S. Prevalence and correlates of personality disorder in Great Britain. Br J Psychiatry. 2006;188:423–31. doi:10.1192/bjp.188.5.423.
26. Light KJ, Joyce PR, Luty SE, Mulder RT, Frampton CM, Joyce LR. Preliminary evidence for an association between a dopamine D3 receptor gene variant and obsessive-compulsive personality disorder in patients with major depression. Am J Med Genet B Neuropsychiatr Genet. 2006;141B:409–13. doi:10.1002/ajmg.b.30308.
27. Shea MT, Stout R, Gunderson J, Morey LC, Grilo C, McGlashan T. Short-term diagnostic stability of schizotypical, borderline, avoidant, and obsessive–compulsive personality disorders. Am J Psychiatr. 2002;159:2036–41. doi:10.1176/appi.ajp.159.12.2036.
28. Grilo CM, Sanislow CA, Gunderson JG, Pagano ME, Yen S, Zanarini MC. Two-year stability and change of schizotypal, borderline, avoidant, and obsessive-compulsive personality disorders. J Consult Clin Psychol. 2004;72:767–75. doi:10.1037/0022-006X.72.5.767.
29. Devanand DP, Turret N, Moody BJ, Fitzsimons L, Peyser S, Mickle K. Personality disorders in elderly patients with dysthymic disorder. Am J Geriatr Psychiatry. 2000;8:188–95. doi:10.1097/00019442-200008000-00002.
30. Rinsma ES, Colon EJ. De prevalentie van persoonlijkheidsstoornissen bij ouderen kritisch bekeken. Tijdschr Psychiatr. 1997;39:866–74.
31. Ullrich S, Coid J. The age distributions of self-reported personality disorder traits in a household population. J Personal Disord. 2009;23:187–200. doi:10.1521/pedi.2009.23.2.187.
32. Grilo CM, Skodol AE, Gunderson JG, Sanislow CA, Stout RL, Shea MT. Longitudinal diagnostic efficiency of DSM-IV criteria for obsessive–compulsive personality disorder: a 2-year prospective study. Acta Psychiatr Scand. 2004;110:64–8. doi:10.1111/j.1600-0447.2004.00311.x.
33. McGlashan TH, Grilo CM, Sanislow CA, Ralevski E, Morey LC, Gunderson JG, et al. Two-year prevalence and stability of individual DSM-IV criteria for schizotypal, borderline, avoidant, and obsessive-compulsive personality disorders: toward a hybrid model of axis II disorders. Am J Psychiatr. 2005;162:883–9. doi:10.1176/appi.ajp.162.5.883.
34. Zanni G. The graying of personality disorders: persistent but different. Consult Pharm. 2007;22:995–1003. doi:10.4140/TCP.n.2007.995.

35. Grant BF, Hasin DS, Stinson FS, Dawson DA, Chou SP, Ruan WJ, et al. Co-occurrence of 12-month mood and anxiety disorders and personality disorders in the US: results from the National Epidemiologic Survey on Alcohol and Related Conditions. J Psychiatr Res. 2005;39:1–9. doi:10.1016/j.jpsychires.2004.05.004.
36. Grant BF, Stinson FS, Dawson DA, Chou SP, Ruan WJ, Pickering RP. Co-occurrence of 12-month alcohol and drug use disorders and personality disorders in the United States: results from the National Epidemiologic Survey on Alcohol and Related Conditions. Arch Gen Psychiatry. 2004;61:361–8. doi:10.1001/archpsyc.61.4.361.
37. Preuss UW, Johann M, Fehr MJ, Koller G, Wodarz N, Hesselbrock V. Personality disorders in alcohol-dependent individuals: relationship with alcohol dependence severity. Eur Addict Res. 2009;15:188–95. doi:10.1159/000228929.
38. Fallon BA, Harper KM, Landa A, Pavlicova M, Schneier FR, Carson A. Personality disorders in hypochondriasis: prevalence and comparison with two anxiety disorders. Psychosomatics. 2012;53:566–74. doi:10.1016/j.psym.2012.02.002.
39. Garyfallos G, Adamopoulou A, Karastergiou A, Voikli M, Ikonomidis N, Donias S. Somatoform disorders: comorbidity with other DSM-III-R psychiatric diagnosis in Greece. Compr Psychiatry. 1999;40:299–307. doi:10.1016/S0010-440X(99)90131-1.
40. Halmi K, Tozzi F, Thornton LM, Crow S, Fichter MM, Kaplan AS. The relation among perfectionism, obsessive–compulsive personality disorder and obsessive–compulsive disorder in individuals with eating disorders. J Eat Disord. 2005;38:371–4. doi:10.1002/eat.20190.
41. Schiavone P, Dorz S, Conforti D, Scarso C, Borgherini G. Comorbidity of DSM-IV personality disorders in unipolar and bipolar affective disorders: a comparative study. Psychol Rep. 2004;95:121–8. doi:10.2466/pr0.95.1.121-128.
42. Stuart S, Pfohl B, Battaglia M, Bellodi L, Grove W, Cadoret R. The cooccurrence of DSM-III-R personality disorders. J Personal Disord. 1998;12:302–15. doi:10.1521/pedi.1998.12.4.302.
43. Pasquini M, Celletti C, Berardelli I, Roselli V, Mastroeni S, Castori M. Unexpected association between joint hypermobility syndrome/Ehlers-Danlos syndrome hypermobility type and obsessive-compulsive personality disorder. Rheumatol Int. 2013;34:631–6. doi:10.1007/s00296-013-2901-2.
44. Nicoletti A, Luca A, Raciti L, Contrafatto D, Bruno E, Dibilio V. Obsessive compulsive personality disorder and Parkinson's disease. PLoS ONE [PLoS One]. 2013;8:e54822. doi:10.1371/journal.pone.0054822.
45. McGlashan TH, Grilo CM, Skodol AE, Gunderson JG, Shea MT, Morey LC. The collaborative longitudinal personality disorders study: baseline axis I/II and II/II diagnostic co-occurrence. Acta Psychiatr Scand. 2000;102:256–64. doi:10.1034/j.1600-0447.2000.102004256.x.
46. Wu KD, Clark LA, Watson D. Relations between obsessive–compulsive disorder and personality: beyond axis i-axis II comorbidity. Anxiety Disord. 2006;20:695–717. doi:10.1016/j.janxdis.2005.11.001.
47. Pinto A, Eisen JL. Personality features of OCD and spectrum conditions. In: Steketee G, editor. The Oxford Handbook of Obsessive Compulsive and Spectrum Disorders. New York, USA: Oxford University Press; 2011. p. 189–208. doi:10.1093/oxfordhb/9780195376210.013.0038.
48. Baer L. Factor analysis of symptom subtypes of obsessive compulsive disorder and their relation to personality and tic disorders. J Clin Psychiatry. 1994;55:18–23.
49. Coles ME, Pinto A, Mancebo MC, Rasmussen SA, Eisen JL. OCD with comorbid OCPD: a subtype of OCD? J Psychiatr Res. 2008;42:289–96. doi:10.1016/j.jpsychires.2006.12.009.
50. Garyfallos G, Katsigiannopoulos K, Adamopoulou A, Papazisis G, Karastergiou A, Bozikas VP. Comorbidity of obsessive–compulsive disorder with obsessive–compulsive personality disorder: does it imply a specific subtype of obsessive–compulsive disorder? Psychiatry Res. 2010;177(1–2):156–60. doi:10.1037/t18597-000.
51. Lochner C, Serebro P, van der Merwe L, Hemmings S, Kinnear C, Seedat S, et al. Comorbid obsessive-compulsive personality disorder in obsessive-compulsive (OCD): a marker of severity. Prog Neuro-Psychopharmacol Biol Psychiatry. 2011;35:1087–92. doi:10.1016/j.pnpbp.2011.03.006.
52. Gordon OM, Salkovskis PM, Oldfield VB, Carter N. The association between obsessive compulsive disorder and obsessive compulsive personality disorder: prevalence and clinical presentation. Br J Clin Psychol. 2013;52:300–15. doi:10.1111/bjc.12016.
53. Pinto A, Liebowitz MR, Foa EB, Simpson HB. Obsessive compulsive personality disorder as a predictor of exposure and ritual prevention outcome for obsessive compulsive disorder. Behav Res Ther. 2011;49:453–8. doi:10.1016/j.brat.2011.04.004.
54. Pinto A, Mancebo MC, Eisen JL, Pagano ME, Rasmussen SA. The Brown Longitudinal Obsessive Compulsive Study: clinical features and symptoms of the sample at intake. J Clin Psychiatry. 2006;67:703–11. doi:10.4088/JCP.v67n0503.
55. Black DW, Noyes R. Obsessive-compulsive disorder and axis II. Int Rev Psychiatr. 1997;9:111–8. doi:10.1080/09540269775637.
56. Konermann J, von Hammerstein A, Zaudig M, Tritt K. Prävalenz und Komorbidität von Persönlichkeitsstörungen in psychosomatischen /psychotherapeutischen Kliniken. Persönlichkeitsstörungen Theorie und Therapie. 2006;10:3–17.
57. Zaudig M. Heterogenität und Komorbidität der Zwangsstörung. Nervenarzt. 2011;82:290–8. doi:10.1007/s00115-010-2966-z.
58. Diaferia G, Bianchi I, Bianchi ML, Cavedini P, Erzegovesi S, Bellodi L. Relationship between obsessive–compulsive personality disorder and obsessive–compulsive disorder. Compr Psychiatry. 1997;38:38–42. doi:10.1016/S0010-440X(97)90051-1.
59. Eisen JL, Coles ME, Shea MT, Pagano ME, Stout RL, Yen S, et al. Clarifying the convergence between obsessive–compulsive personality disorder criteria and obsessive compulsive disorder. J Personal Disord. 2006;20:294–305. doi:10.1521/pedi.2006.20.3.294.
60. Crino RD, Andrews G. Personality disorder in obsessive–compulsive disorder: a controlled study. J Psychiatr Res. 1996;30:29–38. doi:10.1016/0022-3956(95)00043-7.
61. Starcevic V, Berle D, Brakoulias V, Sammut P, Mosses K, Milicevic D, et al. Obsessive-compulsive personality disorder co-occurring with obsessive-compulsive disorder: conceptual and clinical implications. Aust N Z J Psychiatry. 2013;47:65–73. doi:10.1177/0004867412450645.
62. Cavedini P, Erzegovesi S, Ronchi P, Bellodi L. Predictive value of obsessive-compulsive personality disorder in antiobsessional pharmacological treatment. Eur Neuropsychopharmacol. 1997;7:45–9. doi:10.1016/S0924-977X(96)00382-3.
63.• Hertler SC. A review and critique of obsessive-compulsive personality disorder etiologies. Eur J Psychol. 2014;10:168–84. doi:10.5964/ejop.v10i1.679. *This review provides a comprehensive overview on psychological and biological aetiological models of OCPD.*
64. Pollak JM. Obsessive-compulsive personality: a review. Psychol Bull. 1979;86:225–41. doi:10.1037/0033-2909.86.2.225.
65. Nordahl HM, Stiles TC. Perceptions of parental bonding in patients with various personality disorders, lifetime depressive disorders, and healthy controls. J Personal Disord. 1997;11:391–402. doi:10.1521/pedi.1997.11.4.391.
66. Perry JC, Bond M, Roy C. Predictors of treatment duration and retention in a study of long-term dynamic psychotherapy: childhood adversity, adult personality, and diagnoses. J Psychiatr Pract. 2007;13:221–32. doi:10.1097/01.pra.0000281482.11946.fc.
67. Reichborn-Kjennerud T, Czajkowski N, Neale MC, Orstavik RE, Torgersen S, Tambs K, et al. Genetic and environmental influences

on dimensional representations of DSM-IV cluster C personality disorders: a population-based multivariate twin study. Psychol Med. 2007;37:645–53. doi:10.1017/S0033291706009548.
68. Torgersen S, Lygren S, Øien PA, Skre I, Onstad S, Edvardsen J, et al. A twin study of personality disorders. Compr Psychiatry. 2000;41:416–25. doi:10.1053/comp.2000.16560.
69. Karch S, Pogarell O. Neurobiologie der Zwangsstörungen. Nervenarzt. 2011;82:299–307. doi:10.1007/s00115-010-2964-1.
70. Pauls DL, Abramovitch A, Rauch SL, Geller DA. Obsessive–compulsive disorder: an integrative genetic and neurobiological perspective. Nat Rev Neurosci. 2014;15:410–24. doi:10.1038/nrn3746.
71. Joyce PR, Rogers GR, Miller AL, Mulder RT, Luty SE, Kennedy MA. Polymorphisms of DRD4 and DRD3 and risk of avoidant and obsessive personality traits and disorders. Psychiatry Res. 2003;119:1–10. doi:10.1016/S0165-1781(03)00124-0.
72. Blom RM, Samuels JF, Riddle MA, Bienvenu OJ, Grados MA, Reti IM. Association between a serotonin transporter promoter polymorphism (5HTTLPR) and personality disorder traits in a community sample. J Psychiatr Res. 2011;45:1153–9. doi:10.1016/j.jpsychires.2011.03.003.
73. Stein DJ, Trestman RL, Mitropoulou V, Coccaro EF, Hollander E, Siever LJ. Impulsivity and serotonergic function in compulsive personality disorder. J Neuropsychiatr Clin Neurosci. 1996;8:393–8.
74. Perez M, Brown JS, Vrshek-Schallhorn S, Johnson F, Joiner Jr TE. Differentiation of obsessive-compulsive-, panic-, obsessive-compulsive personality-, and non-disordered individuals by variation in the promoter region of the serotonin transporter gene. Anxiety Disord. 2006;20:794–806. doi:10.1016/j.janxdis.2005.09.001.
75. Millon T, Davis RD. Disorders of personality DSM-IV and beyond. New York, NY: John Wiley & Sons; 1996.
76. Reetz K, Lencer R, Steinlechner S, Gaser C, Hagenah J, Büchel C. Limbic and frontal cortical degeneration is associated with psychiatric symptoms in PINK1 mutation carriers. Biol Psychiatry. 2008;64:241–7. doi:10.1016/j.biopsych.2007.12.010.
77. Aycicegi-Dinn A, Dinn WM, Caldwell-Harris CL. Obsessive-compulsive personality traits: compensatory response to executive function deficit? Int J Neurosci. 2009;119:600–8. doi:10.1080/00207450802543783.
78. Bender DS, Dolan RT, Skodol AE, Sanislow CA, Dyck IR, McGlashan TH, et al. Treatment utilization by patients with personality disorders. Am J Psychiatr. 2001;158:295–302. doi:10.1176/appi.ajp.158.2.295.
79. Bender DS, Skodol AE, Pagano ME, Dyck IR, Grilo CM, Shea MT. Brief reports: prospective assessment of treatment use by patients with personality disorders. Psychiatr Serv. 2006;57:254–7. doi:10.1176/appi.ps.57.2.254.
80. Chessick R. OCD, OCPD: acronyms do not make a disease. Psychoanal Inq. 2001;21:183–208. doi:10.1080/07351692109348931.
81. Cullen B, Samuels JF, Pinto A, Fyer AJ, McCracken JT, Rauch SL, et al. Demographic and clinical characteristics associated with treatment status in family members with obsessive-compulsive disorder. Depression Anxiety. 2008;25:218–24. doi:10.1002/da.20293.
82. Ansseau M, Troisfontaines B, Papart P, Von Frenckell R. Compulsive personality as predictor of response to serotoninergic antidepressants. Br Med J. 1991;303:760–1.
83. Greve KW, Adams D. Treatment of features of obsessive-compulsive personality disorder using carbamazepine. Psychiatry Clin Neurosci. 2002;56:207–8. doi:10.1046/j.1440-1819.2002.00946.x.
84. Ekselius L, von Knorring L. Personality disorder comorbidity with major depression and response to treatment with sertraline or citalopram. Int Clin Psychopharmacol. 1998;13:205–11. doi:10.1097/00004850-199809000-00003.
85.•• Cummings JA, Hayes AH, Cardaciotto L, Newman CF. The dynamics of self-esteem in cognitive therapy for avoidant and obsessive-compulsive personality disorders: an adaptive role of self-esteem variability? Cogn Ther Res. 2012;36:272–81. doi:10.1007/s10608-011-9375-x. *This important study demonstrates the impact of self-esteem variability on the efficacy of cognitive therapy in individuals with avoidant and obsessive-compulsive personality disorder.*
86. Ng RMK. Cognitive therapy for obsessive-compulsive personality disorder—a pilot study in Hong Kong Chinese patients. Hong Kong J Psychiatry. 2005;15:50–3.
87. Strauss JL, Hayes AM, Johnson SL, Newman CF, Brown GK, Barber JP. Early alliance, alliance ruptures, and symptom change in a nonrandomized trial of cognitive therapy for avoidant and obsessive-compulsive personality disorders. J Consult Clin Psychol. 2006;74:337–45. doi:10.1037/0022-006X.74.2.337.
88. Popa CO, Nireştean A, Ardelean M, Buicu G, Ile L. Dimensional personality change after combined therapeutic intervention in the obsessive-compulsive personality disorders. Acta Med Transilvanica. 2013;2:290–2.
89.•• Enero C, Soler A, Ramos I, Cardona S, Guillamat R, Valles V. 2783—distress level and treatment outcome in obsessive-compulsive personality disorder (OCPD). Eur Psychiatry. 2013;28:1. doi:10.1016/S0924-9338(13)77373-5. *This is a large study investigating the efficacy of group CBT as well as the predictive impact of distress level on treatment outcome in individuals suffering from OCPD without any comorbid disorder.*
90. Barber JP, Muenz LR. The role of avoidance and obsessiveness in matching patients to cognitive and interpersonal psychotherapy: empirical findings from the treatment for depression collaborative research program. J Consult Clin Psychol. 1996;64:951–8. doi:10.1037/0022-006X.64.5.951.
91. Bamelis LL, Evers SM, Spinhoven P, Arntz A. Results of a multicenter randomized controlled trial of the clinical effectiveness of schema therapy for personality disorders. Am J Psychiatr. 2014;171:305–22.
92. Montazeri MS, Neshatdoost HT, Abedi MR, Abedi A. Effectiveness of schema therapy on symptoms intensity reduction and anxiety in a special case with obsessive compulsive personality disorder. Zahedan J Res Med Sci. 2014;16:92–4.
93. Dimaggio G, Carcione A, Salvatore G, Nicolò G, Sisto A, Semerari A. Progressively promoting metacognition in a case of obsessive-compulsive personality disorder treated with metacognitive interpersonal therapy. Psychol Psychother Theory Res Pract. 2011;84:70–83. doi:10.1348/147608310X527240.
94. Fiore D, Dimaggio G, Nicolo G, Semerari A, Carcione A. Metacognitive interpersonal therapy in a case of obsessive–compulsive and avoidant personality disorders. J Clin Psychol. 2008;64:168–80. doi:10.1002/jclp.20450.
95. Lynch TR, Cheavens JS. Dialectical behavior therapy for comorbid personality disorders. J Clin Psychol. 2008;64:154–67. doi:10.1002/jclp.20449.
96. Barber JP, Morse JQ, Krakauer ID, Chittams J, Crits-Christoph K. Change in obsessive-compulsive and avoidant personality disorders following time-limited supportive-expressive therapy. Psychotherapy. 1997;34:133–43. doi:10.1037/h0087774.