Chapter 1

Introduction to obsessive-compulsive disorder

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History and diagnosis

There is probably no other psychiatric illness that has gone through a more fascinating evolution in its conceptualization during contemporary times than obsessive-compulsive disorder (OCD). Just in the last 30 years the change in the perception and treatment of OCD has been dramatic. In fact, this process is still ongoing as psychiatry increasingly moves towards a multidimensional model of OCD. This work-in-progress will be interesting to follow. At the turn of the twentieth century, Freud wrote about obsessions as defensive psychological responses to unconscious impulses. He also talked about the underlying role of childhood sexual experiences. Pierre Janet first provided clinical descriptions of OCD in 1903 in *Les Obsessions et la Psychasthenie*. As a result, through most of the following decades, OCD was thought to result from unresolved unconscious conflicts. For years, parents were thought to be the root cause of this disorder through "excessively harsh toilet training" (Adams 1973). It is important to note, however, that a disease model should not simply present a theory that on the surface appears to explain an illness but should also predict a related treatment. Significantly, no treatment based on the resolution of unconscious impulses was ever shown to work for OCD.

With psychoanalytic models clearly not valid in explaining the pathology of OCD, cognitive models were then explored. The cognitive models postulated that individuals with OCD may possess dysfunctional beliefs including over-inflated personal responsibility, overestimation of threat, the need to control thoughts, and perfectionism (Freeston *et al.* 1996; Boucard *et al.* 1999). Interestingly, it was not until the latter part of the twentieth century that a model for OCD based on biological underpinnings became widely accepted. Because of the heterogeneous nature of the symptoms of OCD, it is unlikely that a single factor will be identified as the biological origin for OCD. Consequently, multiple avenues of research are being explored. Genetic, neuroanatomical, and infectious causes for OCD are the focus of current research and the underlying cause of OCD is likely multifactorial.

As defined by the *Diagnostic and Statistical Manual of Mental Disorders,* 4th edition (DSM-IV; American Psychiatric Association 1994), OCD has fairly straightforward criteria. The DSM simply asks that a person has either obsessions (Box 1.1) or compulsions (Box 1.2), that at some point during the disorder the person has recognized that the symptoms were excessive or unreasonable, and that they cause marked distress, are time consuming, or significantly interfere with the patients functioning. The DSM-IV does allow that the person can have poor insight (i.e., not recognize that the symptoms are unreasonable or excessive). Because of the intrusive nature of an obsession, a person may describe it as an alien thought, or as a feeling as if the thought is not their thought. However, the person will state that they know that the thought is coming from their own mind: just that it feels as if it is not. Careful interviewing by the practitioner should easily distinguish this from thought insertion, a symptom of schizophrenia that is not seen in OCD.

The differential diagnosis of OCD can be difficult enough that the illness has been termed chameleon-like (Attiullah *et al.* 2000). A contributing factor in this difficulty is that obsessions can focus on virtually any thought content. While OCD is sometimes portrayed as the illness in which people have a fear of germs or a need to check things, the content of obsessions can include virtually anything. It is the nature of the

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Box 1.1 Required diagnostic criteria of obsessions

1. Recurrent and persistent thoughts, impulses, or images that are experienced, at some time during the disturbance, as intrusive and inappropriate and caused marked anxiety or distress.
2. The thoughts, impulses, or images are not simply excessive worries about real-life problems.
3. The person attempts to ignore or suppress such thoughts, impulses, or images, or to neutralize them with some other thought or action.
4. The person recognizes that the obsessional thoughts, impulses, or images are a product of his or her own mind (not imposed from without as in thought insertion).

Box 1.2 Required diagnostic criteria of compulsions

1. Repetitive behaviors (e.g., hand washing, ordering, checking) or mental acts (e.g., praying, counting, repeating words silently) that the person feels driven to perform in response to an obsession, or according to rules that must be applied rigidly.
2. The behaviors or mental acts are aimed at preventing or reducing distress or preventing some dreaded event or situation; however, these behaviors or mental acts either are not connected in a realistic way with what they are designed to neutralize or prevent or are clearly excessive.

Table 1.1 Content of the primary obsession

Content	Percentage
Contamination	38
Fear of harming self or others	24
Symmetry concerns	10
Somatic	7
Religious	6
Sexual	6
Hoarding	5
Unacceptable urges	4
Miscellaneous	1

thought (i.e., its intrusive nature) that determines the obsession, not the content of the thought. People may also describe experiences in which their thoughts are "sticky" and seem to repeat or skip like a record album that has a scratch. Some obsessions occur more commonly than others. Table 1.1 contains a list of the most common obsessions as reported by the DSM-IV Field Trial, which examined the primary presenting symptom (Foa *et al.* 1995).

It should be noted that obsessions are defined as thoughts, impulses, or images; some clinicians forget that obsessions can present in forms other than thoughts. This can be a factor in the misdiagnosis of OCD. A patient with an obsessional image may describe their symptoms in such a way that it can be confused with a visual hallucination. For example, obsessions of aggression towards their children are recognized phenomena of OCD in the postpartum period (Abramowitz *et al.* 2003). Obsessional images can coexist as well. One woman presented to our clinic with an obsessional image that involved her ripping out her baby's cornea and seeing the baby covered in blood. Such a vivid obsessional image is often described as a hallucination by the patient. Careful questioning should help in distinguishing between the two. It is important to note that the mothers with postpartum obsessions find these thoughts morally repugnant and they represent no increase in the risk of harm to the child.

Many patients report that their primary obsession is not a well-defined thought, such as "I wonder if I really locked the door." Instead, they report a difficulty performing a certain task until it feels "just right." They may be unable to stop an action such as hand washing not because they are worried about germs but because they get a feeling that it has not yet been done correctly. They may have a difficult time making decisions or initiating actions until they feel that it is the "correct" or "proper" time to do so. In some patients, the inability to

Table 1.2 Content of the primary compulsion

Content	Percentage
Checking	28
Cleaning/washing	27
Miscellaneous	12
Repeating	11
Mental rituals	11
Ordering	6
Hoarding	4
Counting	2

make decisions can be so severe that it is termed obsessional slowness.

Table 1.2 contains the most common compulsions as reported by the DSM-IV Field Trial, which examined the primary presenting symptom (Foa *et al.* 1995). The authors found that up to 80% of OCD patients had mental compulsions, a significant fact because mental compulsions were not recognized by DSM-III. Among the potential negative outcomes by DSM-III would be that designing behavioral therapy targeting rituals could suffer as a result. Many patients also incorrectly identified themselves as being in a "pure obsessional" subcategory as a result of this diagnostic neglect. The current criteria state much more clearly that compulsions may exist as mental and not just as physical acts. Compulsive rituals such as counting, praying, and mental reviewing are now considered compulsions under the criteria. DSM-IV trials suggested that approximately 10% of OCD patients have mental rituals as their primary compulsion.

Other studies have noted that most people have multiple obsessions and compulsions (Rasmussen and Tsuang 1986; Pinto *et al.* 2006). Various OCD symptoms can occur simultaneously in individual patients. For example, at the same time as a person is engaging in a hand washing ritual, they may also be performing a counting ritual. An examination of the most common obsessions and compulsions show that the rates of obsessions and their expected compulsions are not always identical. For example, the rate of contamination obsessions in the study was 38% while the rate of cleaning as a ritual was only 27%. This disparity can be explained by the fact that obsessions and compulsions do not necessarily follow what a non-OCD sufferer may believe is a realistic or logical correlate. For example, the person who believes their hands are contaminated may not compulsively wash their hands in response but instead respond to that obsession by repeating phrases (e.g., "I am clean, I am clean, I am clean"). Since the compulsion is not inherently goal-directed or rewarding, it is not necessarily recognized as any more logical than the obsession (Cameron 2007).

Another significant category in the DSM-IV is the qualifier for "poor insight." Prior editions stated that the person must have recognized the absurdity of their symptoms at least during one point in the course of their illness. The DSM-IV Field trials showed that 8% of current OCD patients did not recognize their obsessions as being unreasonable, and that 5% never did (Foa *et al.* 1995).

The diagnosis of OCD is essentially the same whether the patient is a child or adult, and clinically the disease appears the same in both groups (Swedo *et al.* 1989), with the possible exception of a higher rate of poor insight in children (Goodman 1999). Interestingly, this makes OCD fairly unusual compared with other psychiatric disorders, where symptoms usually appear differently in children as opposed to adults.

Epidemiology

At one time, OCD was thought to be a rare condition. While the illness has been written about for more than 100 years, it was believed to be a uncommon disorder that would be seldom seen or diagnosed. This changed with the publication of the Epidemiological Catchment Area (ECA) study (Karno *et al.* 1988). This study was based on a large household sample of US residents and it determined that the lifetime prevalence of OCD was between 1.9% and 3.3% (Goodman 1999). This was initially a surprise because these numbers were much higher than expected. However, data from other studies subsequently performed at multiple sites worldwide generally agree with the ECA, the data being fairly consistent in most nations; the sole exception being Taiwan, which tends to have rates differing from other countries for all psychiatric disorders studied (Horwath and Weissman 2000). These studies, therefore, indicate that OCD is the fourth most common psychiatric disorder behind specific phobias, substance disorders, and major depression (Rasmussen and Eisen 1994).

Because of the potential for severe impairment, the World Health Organization has listed OCD among the 10 medical and psychiatric conditions most likely to cause disability (Murray *et al.* 1996). The ECA study further showed that approximately 36% of patients with OCD had occupational difficulties. One estimate showed that someone with OCD may lose three years of wages because of the illness during the course of their lives. Approximately one quarter of OCD patients experience problems with marital relationships, and patients with OCD are less likely to marry than people without OCD (Goodman 1999).

The age of onset has been examined in epidemiological studies. There are some difficulties with comparing numbers from these studies because of the disparity of the definition of age of onset. Authors have looked at the age when symptoms first began, when the symptoms first caused distress, or when the person first met DSM criteria. This is not an insignificant concern, as many patients with OCD will report the presence of subclinical symptoms for many years before they became severe enough to cause distress or to seek treatment. According to the ECA study, the age of onset of OCD is in the mid-20s for people in the USA. In the other countries studied, the range of age of onset can vary from early to mid-20s to early 30s. Data indicates an average age of onset of 21, with an earlier average age of onset for men at 19 years compared with women at 22 years of age (Rasmussen and Eisen 1994). It is not at all unusual for OCD to present earlier than these ages: 21% of patients report symptoms before puberty. A positive family history of OCD, as well as a personal or family history of tics was also associated with an earlier age of onset (Attiullah *et al.* 2000). A person with comorbid obsessive-compulsive personality disorder (OCPD) may have a somewhat earlier age of onset when compared with OCD patients without OCPD (Coles *et al.* 2008).

There is also a phenomenon of late-onset OCD. It has been reported that 11% of OCD patients will have onset of symptoms after the age of 30 years (Grant 2007). As is often the case, many of these patients also reported the presence of minor or subclinical obsessions prior to the onset of OCD. This group of patients is more likely to be married than OCD patients with a younger age of onset, but no further difference demographically has been noted between the groups. The late-onset group was less likely to have checking as a primary symptom (checkers tend to have an earlier age of onset) and are less likely to have comorbid personality disorders. Significantly, these individuals tend to have a lower severity of symptoms and a corresponding improved response to cognitive-behavioral therapy. One should note some studies have not shown a difference in severity level between early- and late-onset OCD, and no difference in level of insight or functional impairment. People with late-onset OCD did have a lower rate of psychiatric comorbidity (Pinto *et al.* 2006). The phenomenon of late-onset OCD is an ongoing area of study.

Case example 1

Ms. L is a 31-year-old white woman who presented to an OCD intensive treatment program precisely one year and three days after the onset of her OCD. She is able to specify the exact day and minute her symptoms started, as she was typing an e-mail at the time. She started having severe hand tremors that she described as "hand-flapping" and became quite concerned that she had multiple sclerosis or Lyme disease. She had a complete neurological work-up that failed to identify any abnormalities, yet she continued to have intrusive thoughts about being ill and compulsions involving body scans to ensure she was not sick. At her initial evaluation, she stated that she had intrusive thoughts her entire life. These included concerns about getting AIDS from mosquitoes or fears that she might be gay. She did not consider these thoughts to be troublesome; since they did not interfere with her life she did not seek treatment.

Ms. L illustrates some of the difficulties in performing epidemiological studies. While her clear recollection of the specific day of onset of symptoms is not typical, it is not a unique clinical experience either. Her onset can be defined at age 30 when she first had obsessions severe enough to seek treatment. Alternatively, her onset can be said to have started with her early life history of intrusive thoughts. Like many people with such as history, Ms. L was not able to say exactly when those started, except to say it was her "entire life." Because OCD has been known to have its onset as early as the first two or three years of life (do Rosario-Campos *et al.* 2005), these subclinical obsessions may not be considered unusual by the person as they have always been present. It should also be noted that many OCD patients will give a clear history that some of their earliest memories consist of obsessions. These factors can make determining the age of onset problematic.

The information on gender distribution in OCD has also changed over the years. What was once considered to be conventional wisdom has changed somewhat. This is because the ECA study engendered a dramatic change in how OCD was regarded by the mental health community. It had been believed that OCD had an equal gender distribution: that men and women suffered from the disorder in equal proportions. The ECA studies were carried out at cross-national sites (which included the USA, Edmonton Canada, Puerto Rico, Munich, Taiwan, Korea, and New Zealand) and showed a picture that did not necessarily agree with this earlier hypothesis. Most of the studies showed that women seem to have a slight increase in the rate of OCD, except for the Munich site, which showed a small preponderance of men. The ratio of women to men in all of the studies was less than 2 to 1. So, if indeed OCD does tend to occur more often in women, the difference is not as great as in disorders such as major depression, which women suffer in rates twice that of men.

Evolution towards a multidimensional model

In DSM-IV, OCD is classified as an anxiety disorder, although strictly speaking it is not a disorder of anxiety. While obsessions may indeed provoke anxiety in the affected individual, the anxiety is a consequence of the intrusive thought itself. In the instance of an obsession that involved spreading contamination to others, it would be natural for someone to experience anxiety and fear for the safety of others, even though the thought itself is recognized as irrational. The anxiety is a result of the overestimation of threat that can occur in OCD (Rachman 1993) and is not the underlying cause of the obsession itself. Additionally, obsessions do not always provoke anxiety in the patient.

Disgust is also a common emotional response to obsessional content, particularly when related to contamination or religious obsessions (Husted *et al.* 2006; Olatunji *et al.* 2007). There are suggestions of neuroanatomical differences between people who experience disgust instead of anxiety-related obsessions (Berle and Phillips 2006). Other OCD patients may experience a feeling of incompleteness or of things "just not feeling right" (Ecker and Gonner 2008). Sometimes, the obsessions can provoke guilt, irritability, shame, or just a general feeling of discomfort.

Because of these facts, it has been proposed that an Obsessive-Compulsive Spectrum Disorders category should be created (Castle and Phillips 2006; Stein and Lochner 2006; Matsunaga and Seedat 2007). Such a classification would likely necessitate the removal of OCD from the Anxiety Disorders category. Some authors have argued that OCD is better served by being placed in a category of Obsessive-Compulsive Spectrum Disorders, as greater overlap exists with illnesses such as body dysmorphic disorder, hypochondriasis, trichotillomania, pathological excoriations or skin picking, and Tourette's syndrome, among others, than is seen between OCD and other illnesses listed under Anxiety Disorders (Hollander *et al.* 2007; Pallanti and Hollander 2008). This question may ultimately be resolved as the consideration of OCD evolves towards the multidimensional model.

Symptom dimensions

From the time of the earliest descriptions of OCD, authors have tried to divide OCD into different subcategories, including Falret's "*folie du doute*" (madness of doubt) and "*delire du toucher*" (delusion of touch) in 1869 (de Mathis *et al.* 2006). In more recent times, authors have divided symptoms into various categories, including washers, checkers, symmetry, aggressive thoughts, and hoarders. An additional classification proposes OCD symptoms be segregated based on the origin of the obsessions. They would either be classified as autogenous, where obsessions tend to come into conscious thought spontaneously, or as reactive, such as where obsessions are evoked by external stimuli (Lee *et al.* 2005). In 1980, the DSM-III simply defined OCD without addressing specific symptoms or subtypes. As more research has been carried out – including observational studies, factor and cluster analytical studies, and various biologic investigations including genetic and neuroimaging studies – newer multidimensional models for OCD are being developed. The different dimensions of OCD (which regard OCD as comprising different sets of OCD symptoms) may indicate different treatment responses and different comorbidities depending upon the specific obsessional dimension. Research in the fields of the genetics, neurobiology, and treatment of OCD may find these dimensional phenotypes of value in more clearly defining parameters of subject selection for studies as well as determining more

Table 1.3 The association between obsessive-compulsive disorder factors and comorbid diagnosis

Disorder	Factor			
	I	II	III	IV
Tic disorders	+		–	
Depressive disorders	+			
Bipolar disorder		+		
Generalized anxiety disorder	+			
Social phobia	+			
Panic disorder agoraphobia and alcohol/substance abuse	+	+		
Eating disorders			+	

closely related correlates of their findings (Leckman *et al.* 2007; Stein *et al.* 2010).

As the dimensional approach has been studied more extensively, various dimensions appear to be associated with their own distinctive traits. Using factor analytic methods, many studies have shown that OCD can be viewed as having four factors (Hasler *et al.* 2005; Mataix-Cols *et al.* 2005). The studies have been fairly consistent but occasionally show anywhere between three and six factors (Leckman *et al.* 2007). Some of the disparity occurs because some studies differ on whether or not aggressive–sexual–religious symptoms form a unique factor. Additionally, somatic obsessions have occasionally been loaded on to differing factors. Nonetheless, the most common factors identified are as follows.

Factor I. Associated with aggressive, sexual, religious obsessions and related checking compulsions. Somatic obsessions generally fall into the factor I group as well.
Factor II. Associated with obsessions of symmetry and compulsions of repeating, counting, ordering, and arranging.
Factor III. Associated with contamination obsessions and cleaning compulsions.
Factor IV. Associated with hoarding and collecting.

The various studies from Leckman (2007) and Mataix-Cols and colleagues (Mataix-Cols *et al.* 2005, Mataix-Cols 2006) have demonstrated that comorbidities can be associated with these factors. Table 1.3 outlines some of the pertinent information from these studies. Analyses have shown that tic disorders, including Tourette's syndrome, are positively associated with factor I and negatively associated with factor III. Depressive disorders are found to be associated with factor I while bipolar disorder is more strongly associated with factor II. Generalized anxiety and social phobia are associated with factor I, while symptoms of panic, agoraphobia, and alcohol and substance abuse are associated with both factors I and II. Interestingly, there does not appear to be an association between other anxiety disorders, or substance abuse, and factor III. One can hypothesize that this may be because of the fact that people with contamination obsessions are more likely to experience disgust in response to their obsessions (as opposed to anxiety) and, therefore, may not feel an increased need to self-medicate with alcohol. Factor III is associated with eating disorders. There are some epidemiological associations with these factors as well. Men are more likely to have factor I obsessions while women are more likely to fall into factor III. Factors I and II are associated with an earlier age of onset than the other factors.

While OCD symptoms are known to fluctuate during the course of someone's life, preliminary longitudinal studies seem to indicate that patients maintain symptoms within their respective dimension (Mataix-Cols 2002). Further studies are needed to confirm this finding. When symptoms are classified by the autogenous and reactive model, a preliminary study has also shown that those patients do not fluctuate between subtypes (Besiroglu *et al.* 2006). Reviewing the above information, it does appear that a dimensional approach to OCD can help to integrate prior studies and classifications based on age of onset, gender, or presence of comorbid and obsessive compulsive spectrum conditions. This will likely have an influence on the development of the DSM-V (Leckman *et al.* 2007) and contribute towards a better understanding of the phenomenology of OCD (Mataix-Cols 2006).

Potential genetic and autoimmune causative factors

Research to elucidate the potential genetic origins of OCD is extensive and ongoing (Pauls 2008). Analyses of the incidence of OCD in twins show that monozygotic twins have a higher rate of OCD than dizygotic twins, serving as a good indication of the genetic nature of the illness. While case studies were published

as early as 1929, it was with the advent of the DSM-III in the 1980s that such studies recruited enough subjects to have adequate authority. Subsequent family studies helped to confirm that the transmission of OCD did indeed occur on a familial basis.

Current research has been focused on determining if a genetic linkage of certain loci and the expression of OCD can be identified. Recent additional work is investigating the correlation between specific symptoms such as compulsive hoarding and an association with a specific susceptibility locus. Future work is likely to focus on genome-wide association studies in an attempt to help to identify potentially problematic genes (Hemmings and Stein 2006). Since OCD likely has a multifactoral etiology, it is improbable that a single gene will be found to be the cause of the illness. However, as further genetic studies are carried out containing large enough sample sizes, people with a common genetic etiology are more likely to be identified as dimensional subgroups within the larger sample (Kim and Kim 2006). Such a large study would of course necessitate a significant funding commitment.

Another potential causative factor for OCD under investigation is a fascinating area involving sequelae from group A beta-hemolytic streptococcal (GAS) infection (Snider and Swedo 2004). It has long been recognized that a neurological disorder called Sydenham's chorea could follow such an infection, and that obsessive compulsive symptoms can be associated with the chorea. In the late 1980s and early 1990s, it was discovered that some children would develop OCD and/or tic disorders following a GAS infection and in the absence of Sydenham's chorea. This syndrome is known as PANDAS (pediatric autoimmune neuropsychiatric disorders associated with streptococcal infections). While a controversy still exists as to whether PANDAS is a true causative factor of OCD, the hypothesis that cross-reactive antineuronal antibodies may play a role in the etiology of OCD in these children is gaining evidence (Murphy *et al.* 2006). These anti-GAS antibodies appear to react in the neurons in the caudate, putamen, and globus pallidus. Antibiotic prophylaxis as well as intravenous immunoglobulin and plasma exchange have been shown to improve OCD symptoms in preliminary studies, but currently there are no formal recommendations for general treatment.

While PANDAS is likely to be responsible for only a minority of OCD cases, the criteria set up by Snider and Swedo (2004) and currently used to recognize this subgroup are:

- the presence of a tic disorder and/or OCD
- prepubertal age at onset, usually between 3 and 12 years of age
- abrupt symptom onset and/or episodic course of symptom severity: often parents can pinpoint the date of onset, which is unusual in OCD, and the OCD symptoms may completely remit between episodes in PANDAS but are unlikely to do so in OCD in the absence of PANDAS
- temporal association between symptom exacerbations and streptococcal infections, with the OCD symptoms usually occurring after the infection
- presence of neurological abnormalities during periods of symptom exacerbation, including tics and choreiform movements.

Further research is being carried out to help to elucidate epidemiological issues such as symptoms and course, and potential treatment of PANDAS in addition to the specific cellular basis of the illness.

Comorbidity of psychiatric disorders in OCD

It is well known that patients with OCD will commonly have other psychiatric disorders. The ECA study reported that two thirds of OCD patients met the criteria for another psychiatric disorder at some point in their lives (Karno *et al.* 1988). Other studies have tended to show similar incidences (Tükel *et al.* 2002). In a study performed in an OCD specialty treatment center, it was found that 31% of OCD patients met the criteria for major depressive disorder (MDD) during the period of their treatment at the center, as well as 67% of the study participants indicating a lifetime history of MDD. Additionally, incidence of patients meeting a clinical criteria at some point in their lives was reported as 18% for social phobia, 17% for eating disorders, 14% for alcohol dependence, and 12% for panic disorder; the incidence of these diagnoses presenting at the time of the study were 11%, 8%, 8%, and 6%, respectively (Attiullah *et al.* 2000).

Depression may be secondary and reactive to the OCD symptoms or a primary diagnosis; distinguishing between the two can be difficult. Regardless, the finding that MDD occurs in approximately two thirds

of OCD patients is an important consideration for the clinician. Since MDD is an illness that is associated with suicidality, it follows that the potential for suicide exists in patients with OCD. Unfortunately, suicide in OCD has only had limited research. One study reported that up to 70% of people with OCD had thoughts that life was not worth living, about half of their sample had either suicidal thoughts or passive death wishes, and 10% of their sample reported a history of suicide attempts (Torres *et al.* 2007). Another study found that the rate of suicide attempts in patients with OCD was as high as 27% (Kamath *et al.* 2007). While it appears that suicidality is a potential area of concern for clinicians who treat OCD, any risk factors for suicide unique to OCD are not well delineated at this time. Whether there is a relationship between the severity of OCD symptoms and suicidality is not clear because of some conflicting data. Larger studies will need to be carried out to clarify this point. The type of OCD symptoms from which a person suffers has been suggested as a risk factor but has not been well studied. The presence of depression and hopelessness are correlated to a higher degree with suicidal ideation (Kamath *et al.* 2007), although insight into obsessional symptoms has a less clear association with suicidal thoughts. It is clear that there is an under-recognized potential for suicide in OCD; this should be screened for and addressed in a rigorous manner.

Bipolar disorder and OCD are known to occur together. Various authors have stated that up to a third of patients with bipolar disorder also meet the criteria for OCD. Interestingly, it has been noted that obsessive and compulsive symptoms rarely occur during a manic episode (Attiullah *et al.* 2000). Most patients with bipolar disorder and OCD will report that their OCD symptoms get better as they become manic. In a case study reported by Gordon and Rasmussen (1988), a patient's OCD became worse in direct proportion to his depression and remitted during manic episodes. This is a fairly typical pattern clinically, and it is not unusual for bipolar patients to report this phenomenon as a motivating factor for their decision to discontinue use of mood stabilizers. In addition to the euphoria associated with mania, they enjoy the absence of their OCD.

Other anxiety disorders commonly occur with OCD as indicated above, and it is becoming increasingly recognized that generalized anxiety disorder (GAD) is found frequently in OCD patients. As many as 20% of OCD patients have comorbid GAD (Abramowitz and Foa 1998). It can be difficult clinically to distinguish obsessions and the worries displayed in GAD in individuals presenting with both disorders as they have shared clinical characteristics. The intense preoccupation with worry over occurrences of potentially low probability is often seen in both illnesses and, therefore, this high comorbidity is not entirely unexpected.

As noted above, eating disorders can occur in approximately 17% of patients with OCD. When patients with eating disorder are properly screened, it has been found that 41% of them may also suffer from OCD (Kaye *et al.* 2004). It has long been recognized that the two disorders share some clinical characteristics. Patients with eating disorders can display perfectionism; rigidity, especially in matters concerning their dietary habits; and harm avoidance (Attiullah *et al.* 2000). These symptoms can be heightened in someone suffering from both illnesses. It should be noted that a common obsession involves a fear of food being contaminated; people with this symptom will often experience weight loss. Such pathology would not warrant the diagnosis of an eating disorder. Because eating disorders are potentially lethal, screening for this condition is highly warranted while examining patients with OCD.

The association between tic disorders and OCD has long been recognized. It has been found that between 5 and 10% of patients with OCD will have met the criteria for Tourette's syndrome at some point in their lifetime, and up to 20% will have had multiple tics at some point (Swedo *et al.* 1989). Patients with Tourette's syndrome are more likely to have OCD symptoms related to symmetry and ordering, and compulsions of touching and counting (Hasler *et al.* 2005). Among patients with tics disorders, approximately one quarter are diagnosed with comorbid OCD, and as many as half report obsessional-like symptoms. Because of the high rate of comorbidity, this has led to speculation that these disorders may share a genetic relationship.

The comorbidity of OCD and schizophrenia is an area that is receiving much interest in the literature but is still in flux because of significant differences in findings from different studies. Most clinicians and researchers agree that OCD occurs at a higher rate in people with schizophrenia than it does in the general population, but the exact rate varies greatly between studies. The rates of OCD in schizophrenia have been

reported to be anywhere from 7.8% to 41% (Attiullah *et al.* 2000). Discrepancies may be attributed to differing methods of screening for obsessive compulsive symptoms as well as inconsistent criteria in defining OCD or obsessive compulsive symptoms. See Ch. 6 for more details.

Obsessive-compulsive personality disorder

A controversy still exists concerning any potential relationship between OCPD and OCD. It is common in day-to-day practice to hear a clinician mention the relationship between OCPD and OCD, or to hear talk about OCD and OCPD being on a continuum. There is little evidence to support these notions. The concept of OCPD is based in psychoanalytic theory and was written about in the early 1900s. Freud talked about anal character types who were preoccupied with notions of orderliness, parsimony, and obstinacy (Fineberg *et al.* 2007). While early writings suggested that OCPD traits sometimes preceded the development of OCD, it was noted as early as the 1930s that OCPD traits also occurred without subsequent development of OCD. Modern studies have also not shown any definitive relationship between the two disorders (Attiullah *et al.* 2000). The fact that both disorders share very similar sounding names has likely contributed to the confusion. The first edition of the DSM mentioned a "compulsive personality," and in the DSM-II, the name was changed to "obsessive compulsive personality." In the same edition, an alternative name was also introduced – "anankastic personality"– to help to decrease confusion with OCD. However, the term anankastic was dropped from DSM-III and OCPD is the only official designation at present. Interestingly, the anankastic term was kept in the *International Statistical Classification of Diseases and Related Health Problems* (ICD) classification, and is still in use in ICD-10 (World Health Organization 1994) coding and terminology.

The DSM-IV describes OCPD as a disorder characterized by "a preoccupation with orderliness, perfectionism, and mental and interpersonal control, at the expense of flexibility, openness, and efficiency." In other words, people with OCPD are very rigid individuals with a low tolerance for changes and spontaneity. The full criteria appear in Box 1.3.

Studies have shown that criteria 1, 2, 6, and 8 to be the most consistent and useful criteria in the diagnosis of OCPD whereas 3 and 7 have little predictive value (Grillo *et al.* 2001). Criterion 5 deals with hoarding and can easily be confused with the hoarding subtype of OCD. The diagnostic criterion of OCPD is, therefore, in flux, likely to change over time, and gives pause to the hypothesis of connecting it to OCD.

Various studies have shown different rates of comorbidity of OCD and OCPD. While the numbers differ depending on which study is read, most data show that OCD is more likely to occur in the absence of OCPD than with it (Torres and Del Porto 1995; Attiullah *et al.* 2000; Crino and Andrews 1996). Recent data have suggested that only approximately 25% of OCD patients have comorbid OCPD (Pinto *et al.* 2006). Personality disorders are considered to be stable disorders, yet in an OCD specialty treatment center,

Box 1.3 Diagnostic criteria for obsessive-compulsive personality disorder

1. Is preoccupied with details, lists, order, organization, or schedules to the extent that the major point of the activity is lost.
2. Shows perfectionism that interferes with task completion (e.g., is unable to complete a project because his or her own overly strict standards are not met).
3. Is excessively devoted to work and productivity to the exclusion of leisure activities and friendships (not accounted for by obvious economic necessity).
4. Is overconscientious, scrupulous, and inflexible about matters of morality, ethics, or values (not accounted for by cultural or religious identification).
5. Is unable to discard worn-out or worthless objects even when they have no sentimental value.
6. Is reluctant to delegate tasks or to work with others unless they submit to exactly his or her way of doing things.
7. Adopts a miserly spending style toward both self and others; money is viewed as something to be hoarded for future catastrophes.
8. Shows rigidity and stubbornness.

approximately 80% of patients who had a diagnosis of a personality disorder upon admission for OCD treatment failed to meet the criteria for the personality disorder after appropriate OCD treatment (Baer and Jenike 1992). This finding further supports the hypothesis that a significant relationship between OCD and OCPD is unlikely to exist.

The driving force behind the respective pathologies of OCD and OCPD is different. The person with OCPD has no obsessions: no intrusive thoughts exist which trouble the individual. Rather than being compelled to perform what an OCD sufferer usually recognizes as silly, repetitive, and useless tasks, the individual with OCPD feels that their actions are correct and necessary. The person with OCPD shows little discomfort with their symptoms while the person with OCD will show anxiety or anguish over their illness. Some of the confusion may result because the symptoms can look similar on the surface. For example, a person with obsessions regarding order and symmetry may appear to have OCPD-like perfectionism. However, that is only a superficial similarity; confusion would only occur if the clinician focuses on the behavior (i.e., arranging and ordering) that the person was exhibiting and not assessing whether it is ego-syntonic or not (Grant and Odlaug 2008). The underlying reason for the behaviors is very different, and with careful questioning the clinician can usually determine the nature of the behavior.

Another potential area for confusion of OCD and OCPD may occur through ritual avoidance in OCD. When OCD symptoms are more severe, the resultant elaborate and time-consuming rituals can be very exhausting to perform. As a result, their compulsions can take the form of avoidance; in other words, rather than performing a ritual, they will avoid the situation that will trigger the obsession. They may develop rigid rules to follow in order to avoid a feared situation. As an example, a person with contamination obsessions may require that family or visitors remove shoes or clothing worn outside, or even insist that people shower and change before entering the house. These rules are the result of their desire not to have to perform extensive cleaning rituals. While this person would be considered rigid and orderly, these problems are not stemming from an underlying OCPD diagnosis but are a result of the OCD. Understanding that the OCD precedes the rigidity is an important determination in clarifying the diagnosis (Baer and Jenike 1992). If the rigidity responds to OCD treatment, resulting in a lessening or elimination of this trait, a diagnosis of OCPD would not be warranted.

Course of OCD

The course of OCD is chronic and lifelong. Symptoms will fluctuate over the lifetime of the individual, exhibiting a waxing and waning in severity of symptoms (DSM-IV). The likelihood of full remission among adult sufferers is low (Eisen *et al.* 1999). However, differing definitions of the following categories has tended to obfuscate the data. The course of OCD has classically been divided into three categories (Goodwin *et al.* 1969):

1. Episodic course with periods of incomplete remission
2. Phasic course with periods of complete remission between exacerbations
3. Continuous and unremitting course but most patients experiencing fluctuations in the level of symptoms, and a minority experiencing a chronic and deteriorative course.

Studies showed differing rates of the categories, with estimates of the continuous course at approximately 50–80%, with a minority (approximately 10%) experiencing a deteriorating course (Attiullah *et al.* 2000). One potential problem with the categories can be how to differentiate the episodic course from the continuous course owing to the typical waxing and waning of symptoms. The definition between an incomplete remission and someone with continuous OCD experiencing a good period may not always be clear, and it may differ depending on the criteria set for a particular study.

For the most part, these studies were carried out before the advent of serotonin reuptake inhibitors (SRIs) and exposure with response prevention therapy (ERP). Modern treatments may change the way the course of the illness is viewed (Steketee *et al.* 1999). With treatment, one third of patients have been known to experience a 75% reduction in symptoms (Orloff *et al.* 1994). While many patients will report improvement in OCD after treatment, the majority will still be sick enough to meet full criteria for OCD. However, these patients can report significant improvement in the reduction of the strength of the obsessions and in their degree of impairment. Only a minority of patients, approximately 12%, will experience complete remission (Eisen *et al.* 1999).