Impulse-control disorders in children and adolescents with obsessive-compulsive disorder

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A B S T R A C T

The aim of this study was to examine current prevalences, clinical correlates and patterns of co-occurrence of impulse-control disorders (ICDs) in children and adolescents with obsessive-compulsive disorder (OCD). We examined rates and clinical correlates of comorbid ICDs in 70 consecutive child and adolescent subjects with lifetime DSM-IV OCD (32.9% females; mean age = 13.8 ± 2.9 years). Comorbidity data were obtained with structured clinical interviews using DSM-IV criteria. OCD severity was assessed with the Child Yale-Brown Obsessive-Compulsive Scale. All variables were compared in OCD subjects with and without current ICDs. 12 (17.1%) subjects met criteria for a current ICD. Pathological skin picking and compulsive nail biting were the most common ICDs with current rates of 12.8% and 10.0%, respectively. OCD subjects with current ICDs were significantly more likely to have a co-occurring tic disorder (66.7% vs. 20.7%). Although having an ICD was associated with greater numerical scores of OCD symptomatology, these differences were not statistically significant.

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1. Introduction

Impulse-control disorders (ICDs) include pathological skin picking, trichotillomania, pathological gambling, and pyromania, among others, and have been grouped together based on perceived similarities in clinical presentation and hypothesized similarities in pathophysiology. The ICDs share common core qualities: 1) repetitive or compulsive engagement in a behavior despite adverse consequences; 2) diminished control over the problematic behavior; 3) an appetitive urge or craving state prior to engagement in the problematic behavior; and 4) a hedonic quality during the performance of the problematic behavior (Kuzma and Black, 2005).

Although they are grouped together, there exists some controversy regarding the most precise categorization of the ICDs. Do the ICDs reflect a separate diagnostic category based on a unique pathophysiology, or are they more accurately seen as a subtype of obsessive-compulsive disorder (OCD)? One related question is also whether all of the ICDs belong in the same category? The irresistible and uncontrollable behaviors characteristic of ICDs suggest a possible similarity to the frequently excessive, unnecessary and unwanted rituals of OCD (Blanco et al., 2001). There are, however, clear differences between ICDs and OCD. For example, unlike people with OCD, people with ICDs may report an urge or craving state prior to engaging in the problematic behavior and a hedonic quality during the performance of the behavior (Grant and Potenza, 2004). Whereas individuals with ICDs score high on measures of risk-taking and sensation-seeking (Moreya et al., 2004), individuals with OCD are generally harm avoidant with a compulsive risk-aversive endpoint to their behaviors (Kim and Grant, 2001).

As most large-scale studies to date of psychiatric disorders have excluded measures for ICDs, the precise prevalence of most ICDs is currently unclear. Arguably the best data on the prevalence of ICDs exist for pathological gambling. A meta-analysis of 120 published studies and a national prevalence study estimate that the lifetime prevalence of pathological gambling among adults ranges from 0.4% to 1.6% (Shaffer et al., 1999; Petry et al., 2005). Basic epidemiological data on other ICDs are currently lacking.

Studies of ICD prevalence among adults with OCD have reported rates ranging from 16.4% to 35.5% (Fontenelle et al., 2005; Matsunaga et al., 2005; Grant et al., 2006). ICDs in adults with OCD have been associated with significantly worse OCD symptoms and poorer functioning and quality of life (Grant et al., 2006). Both ICDs and OCD generally begin during adolescence, and early onset of ICDs and OCD are associated with poor health and functioning measures during adolescence and later in life (Wilber and Potenza, 2006). No studies, however, have examined the co-occurrence of these disorders in this age group.

Among children and adolescents, ICDs frequently co-occur with other psychiatric disorders, particularly mood and drug use disorders.

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(Grant et al., 2007). Existing data also indicate that co-occurring ICDs in adolescents are associated with more severe psychiatric symptomatology in non-ICD domains (Grant et al., 2007). For example, co-occurring ICDs have been associated with more frequent hospitalizations for psychiatric stabilization (Grant et al., 2007). Untreated symptoms of ICDs have also been associated with poorer treatment outcomes in non-ICD mental health and substance use domains among patients with co-occurring disorders (Potenza, 2007). As such, it is important for psychiatrists and other mental health practitioners to identify and treat co-occurring ICDs among adolescents. While data suggest co-occurrence of psychiatric disorders with specific ICD behaviors (e.g., gambling) among youths (Kessler et al., 2005; Wilber and Potenza, 2006), the patterns of psychiatric disorder co-occurrence with a broad range of formal ICDs have not been systematically examined in adolescent populations, particularly those with OCD.

Here we examined the current prevalences of co-occurring ICDs in children and adolescents with primary OCD. Based on data in adults, we hypothesized that 1) ICDs would be common in children and adolescents with OCD; 2) ICD co-occurrence would be associated with higher rates of psychiatric hospitalization and poorer social functioning; and 3) ICDs would co-occur with greater rates of co-occurring psychiatric diagnoses.

2. Methods

2.1. Subjects

Children and adolescents who met lifetime DSM-IV criteria for OCD agreed to participate in an ongoing prospective study of the course of OCD. This was a cross-sectional study with a clinical sample of children and adolescents from specialized services and hospitals. Study inclusion criteria were: 1) primary diagnosis of DSM-IV OCD lifetime; 2) ages 6 to 18; 3) treatment-seeking; and 4) the subject and parent (or legal guardian) were willing and able to sign written consent/assent. Exclusion criteria included the presence of an organic mental disorder or mental retardation. The investigation was carried out in accordance with the latest version of the Declaration of Helsinki. The Institutional Review Boards of Brown University and Butler Hospital approved the study and the consent/assent statements. All study participants’ parents or guardians provided voluntary written informed consent with the adolescent providing informed assent. Subjects were recruited from several clinical settings located in Rhode Island and Southeastern Massachusetts, including consecutive admissions to an outpatient OCD specialty clinic, inpatient admissions to a private psychiatric hospital and several large outpatient sites that were identified as the main treatment sites for individuals with anxiety disorders.

2.2. Assessments

Participants were interviewed by trained research assistants and completed a semi-structured clinical interview, rater-administered assessments, and self-report questionnaires. Narrative summaries of psychiatric symptoms were prepared for all participants, and DSM-IV diagnoses were assigned. Interview data were rigorously edited and reviewed by senior staff members for clinical and clerical accuracy.

Structured diagnostic interviews, conducted by a PhD. level interviewer with expertise in child/adolescent assessments, were used to obtain Axis I diagnoses. The Schedule for Affective Disorders and Schizophrenia for School-Age (K-SADS-PL; Kaufman et al., 1997) for children ages 6–12 and the Structured Clinical Interview for DSM-IV Axis I Disorders (SCID-P; First et al., 1995) was used to assess adolescents ages 13–18. All other assessments were conducted by interviewers who had at least a bachelor’s degree and completed a rigorous training protocol including didactic seminars (on DSM-IV diagnoses and each of the study instruments), viewing and rating sample tapes, rating several live mock participants, observing and coding actual interviews conducted by a senior rater. More detailed information regarding interviewer training and interrater reliability procedures can be found elsewhere (Pinto et al., 2006; Manecho et al., 2009).

ICDs are characterized by an impaired ability to resist impulses to engage in ultimately self-destructive behaviors (or ones with deleterious long-term consequences) (Grant and Potenza, 2004). There has been an increase in the use of ICDs, however, on which disorders should be grouped in this category. Because several ICDs have been hypothesized to have similarities to OCD (Hollander, 1993), we chose to examine a broad range of ICDs to better understand which disorders may have some commonality with OCD. Toward that end, we examined both behaviors characterized by reward-seeking and impulse dysregulation (pathological gambling, pyromania, kleptomania, and binge eating) and behaviors characterized largely as compulsive habit disorders (trichotillomania, skin picking, and nail biting).

Detailed information on demographic characteristics, clinical features, and treatments received were ascertained using the Butler Hospital OCD Database, a semi-structured rater administered questionnaire. This instrument has been used in previous phenomenological studies (Rasmussen and Eisen, 1992). Current medications were verified using chart records or consultation with treatment providers.

OCD symptom severity was assessed by the Children’s Yale-Brown Obsessive Compulsive Scale (CY-BOCS) (Scahill et al., 1997). The CY-BOCS is a reliable and valid, clinician-administered 10-item scale that assesses severity of obsessions and compulsions. Higher scores on the CY-BOCS indicate greater severity, with total scores ranging from 0 to 40 and scores for the obsessions and compulsions subscales each ranging from 0 to 20. Overall severity of psychopathology and psychosocial functioning of participants was quantified using the Child Version of the Global Assessment of Symptoms (CGAS; Shaffer et al., 1983). The CGAS is a global rating of 0 to 100 with lower scores reflecting greater levels of psychopathology and impairment.

2.3. Data analysis

The percentages of OCD youth with current and lifetime ICDs, and 95% confidence intervals, were determined. Because OCD severity measures were based on current symptoms, and because there was little difference between rates of current and lifetime ICDs, we compared subjects with current ICDs to those without ICDs. Between-group differences (those with current ICDs compared to those without) were tested using the Pearson chi-square and Fisher exact test for categorical variables and independent samples t-tests for continuous variables. All missing data were excluded on a pairwise basis for analysis. Because we performed multiple comparisons, we used an adjusted alpha level of P=0.01; we did not adjust the alpha level to reflect all statistical comparisons because this is the first study of this topic and is therefore exploratory; in addition, the Bonferroni correction tends to be overly conservative (Rosen, 1995).

3. Results

Seventy children and adolescents (23 [32.9%] females; mean age = 13.8 ± 2.9 [range 6–18] years) with DSM-IV OCD participated in the study. The majority of subjects were white, non-Hispanic (n = 64; 91.4%).

The mean duration of OCD at time of assessment was 4.47 ± 3.0 years (range 6 months to 13 years), 79% (n = 55) of the sample currently met full DSM-IV criteria for OCD. The remaining 21% had met full OCD criteria in the past; 18% (n = 13) were currently in partial remission, and 3% (n = 1) were currently in full remission. At the time of the intake interview, 89% of the sample was participating in outpatient treatment, 7% were inpatient, and 4% were not in treatment.

Most subjects (80%, n = 56) were currently receiving psychotropic medications. The most common types of medications were serotonin-reuptake inhibitor (SRI) antidepressants (75%, n = 53), neuroleptics (16%, n = 11), benzodiazepines (14%, n = 10), and psychostimulants (8%, n = 6). 44% (n = 31) of subjects had received cognitive-behavioral therapy (CBT) during the previous year, and 37% (n = 26) of subjects reported receiving more than 12 sessions of CBT lifetime.

Twelve (17.1%) subjects with OCD were diagnosed with at least one current co-occurring ICD, and 5 (7.0%) had two or more current ICDs. Frequencies of individual ICDs are presented (Table 1). Pathological skin picking was the most common ICD (n = 9; 12.8%). No subject had pathological gambling, pyromania, or binge eating disorder.

For those 12 subjects who had OCD and an ICD, 25% (n = 3) had ICD onset before OCD, 25% (n = 3) had onset of ICD simultaneously with OCD; and 50% (n = 6) reported OCD onset before ICD symptoms.

The groups with and without ICDs did not differ significantly on sociodemographic variables or OCD symptom severity measures.

Table 1

<table>
<thead>
<tr>
<th>ICD</th>
<th>Current N (%) [95% CI]</th>
<th>Lifetime N (%) [95% CI]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pathological skin picking</td>
<td>9 [12.8] [6.5–22.1]</td>
<td>10 [14.3] [7.59–23.86]</td>
</tr>
<tr>
<td>Compulsive nail biting</td>
<td>7 [10.0] [4.5–18.6]</td>
<td>7 [10.0] [4.59–18.63]</td>
</tr>
<tr>
<td>Trichotillomania</td>
<td>1 (1.4) [0.15–6.4]</td>
<td>3 (4.3) [1.22–11.00]</td>
</tr>
<tr>
<td>Binge eating disorder</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Pathological gambling</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
</tr>
<tr>
<td>Kleptomania</td>
<td>1 (1.4) [0.15–6.4]</td>
<td>1 (1.4) [0.15–6.4]</td>
</tr>
<tr>
<td>Pyromania</td>
<td>0 (0.0)</td>
<td>0 (0.0)</td>
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