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Obsessive Compulsive Symptoms in Individuals at Clinical Risk for Psychosis: Association with Depressive Symptoms and Suicidal Ideation

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Abstract

Obsessive-compulsive symptoms, particularly aggressive obsessions, are prevalent in schizophrenia patients and associated with other symptom severity, suicidal ideation and functional impairment. In a psychosis-risk cohort, obsessive-compulsive diagnosis and symptoms were assessed in terms of prevalence and content, and for associations with clinical measures. Obsessive-compulsive symptoms were prevalent in the CHR cohort, as was suicidal ideation. The presence and severity of aggressive obsessions was associated with depression, suicidal ideation and social impairment. The high prevalence of aggressive obsessions and associated suicidal ideation in a clinical high risk cohort, and their relationship to depression, is relevant for risk assessment and treatment strategies.

Keywords

clinical high risk; schizophrenia; OCD; suicidal ideation; psychosis; obsessions

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Contributors: Jordan DeVylder developed the hypotheses and statistical analyses to evaluate the prevalence of OCS in CHR patients, and its clinical correlates, conducted some of the literature reviews, and wrote a series of drafts, which were reviewed and edited by the other authors. Amy Oh had the original idea to evaluate OCS in CHR patients, and conducted early literature reviews. Shelly Ben-David collected and cleaned the data, and managed the dataset. Neyra Azimov conducted the chart review and contributed to the literature reviews. Jill Harkavy-Friedman led the consensus on diagnostic interviews, and contributed to successive drafts in terms of expertise on diagnosis, research design, and statistics, with particular expertise on suicidality and psychotic disorders. Cheryl Corcoran is the director of the cohort study and designed the research methods; she oversaw the ascertainment and characterization of CHR patients, leading consensus on SIPS/SOPS ratings, and did primary editing of successive drafts.

Introduction

Obsessive compulsive disorder (OCD) is more prevalent among schizophrenia patients (23%, Buckley et al., 2009) than in the general population, i.e. 1.0% (Kessler et al., 2005), and is associated with a greater incidence of past suicide attempts (Sevincok et al., 2007). Meta-analysis shows that obsessive and compulsive symptoms (OCS) in schizophrenia are related to positive symptoms, depression, and functional impairment (Cunill et al., 2009; Fenton & McGlashan, 1986). The prevalence of OCD (3.5 to 14%) and OCS (20%) in patients at clinical high risk (CHR) for schizophrenia likewise exceed those in the general population (Fontenelle et al., 2011; Niendam et al., 2009; Sterk et al., 2011) and are associated with positive symptoms and depressive symptoms, and with suicidal ideation at a trend level (Niendam et al., 2009).

Specifically *aggressive* obsessions, associated with suicidal ideation in OCD, (Balci & Sevincok, 2010), are prevalent in patients with OCD ((17-22%); Abramowitz et al., 2003; Calamari et al., 1999; Calamari et al., 2004), especially in the presence of co-morbid schizophrenia ((28-44%); Faragian et al., 2009; Kruger et al., 2000; Ohta et al., 2003). Suicidal ideation is prevalent in psychotic disorders, including first-episode psychosis (31-52% over one month; Melle et al., 2006) and in CHR youths (59% over two weeks, 90% over six months; Adlard et al., 1997; Hutton et al., 2011). As suicide attempts in early psychosis are related to intrusive and disturbing psychotic symptoms (Harkavy-Friedman et al., 1999), aggressive obsessions may be associated with suicidal ideation in CHR youth, as they are likewise intrusive (Besiroglu et al., 2007) and disturbing (Rowa, 2005).

Herein, we build on prior studies by examining the content of obsessions and compulsions endorsed by CHR patients, and their clinical correlates. We expected a high prevalence of OCD and OCS, specifically aggressive obsessions, which would be associated with positive and depressive symptoms, suicidal ideation and social impairment.

2. Methods

2.1 Participants

This study was conducted at the Center of Prevention and Evaluation (COPE), a psychosis-risk clinical research program at New York State Psychiatric Institute. Patients were referred from school administrators and clinicians, or self-referred from the program website (www.copeclinic.org). There were 20 consecutive help-seeking youth ascertained as at clinical high risk for psychosis (Miller et al., 2003). Exclusion criteria included serious risk of harm to self or others. All adults provided written informed consent, whereas minors provided assent, with parental written informed consent. This study was approved by the Institutional Review Board of the New York State Psychiatric Institute at Columbia University.

2.2 Measures

Demographics (age, sex, ethnicity) and medications (antipsychotics, antidepressants) were reported by participants. Positive symptoms were rated using the Structured Interview for Prodromal Syndromes/ Scale of Prodromal Symptoms (SIPS/SOPS; Miller et al., 2003) by consensus among the program director (C. Corcoran) and clinicians trained and certified in its administration.

Obsessive and compulsive symptoms (one week prior to assessment) were assessed using the Yale-Brown Obsessive Compulsive Scale (Y-BOCS), a clinician-rated scale with high internal consistency ($\alpha=.89$) and validity for measuring OCS severity but not depression

or anxiety (Goodman et al., 1989). OCD diagnosis was determined by consensus using the Diagnostic Interview for Genetic Studies (Nurnberger et al., 1994).

Depressive symptoms were assessed using the Beck Depression Inventory (Beck et al., 1961). Social impairment was measured using the overall mean score of the Social Adjustment Scale-Self-Report (SAS-SR; Weissman & Bothwell, 1976). Past suicidal ideation (ever) was determined through chart review, and recorded as “present” if there was specific description of ideation or thoughts about dying or wishing to be dead.

Current suicidal ideation (past week) was assessed using an item from the Beck Depression Inventory (Beck et al., 1961), and recorded as present or absent.

Data for all clinical measures were collected by raters unaware of the study hypothesis.

2.3 Statistics

Patients with and without OCS symptoms were compared using t-tests and chisquare tests as to demographics, positive and depressive symptoms, suicidal ideation, social impairment, and medications.. Summary scores for obsessions and compulsions were evaluated for associations with age, positive and depressive symptoms and social impairment using Spearman’s rank order correlation, and for associations with gender, ethnicity, and suicidal ideation (past and current) using t-tests. Content of obsessions and compulsions were recorded. Alpha was set at .05 for hypothesized associations of OCS with positive and depressive symptoms, suicidal ideation and social impairment.

3. Results

Of the twenty patients, eighteen met criteria for the attenuated positive symptom syndrome, one for genetic risk and deterioration syndrome, and one for brief intermittent psychotic syndrome. Participants were primarily male and non-white, with a mean age of 21 (range 14-27) and low rate (15%) of medication use (Table 1).

3.1 Prevalence and content of obsessions and compulsions

Six of the twenty patients (30%) met criteria for OCD and twelve (60%) endorsed at least one OCS using the Y-BOCS. All patients who endorsed any OCS also endorsed obsessions with “aggressive” content, (Table 2), with ten (83%) reporting themes of self-harm or harming others (n=7 each theme). Obsessions of horrific images (n=8) and impulsive behavior (n=7) were also common.

3.2 Suicidal ideation

55% of patients had a history of suicidal ideation, and 30% endorsed current suicidal ideation (in the prior week). OCS were greater among patients with both past (mean(SD)=12.9(10.2) vs. mean(SD)=4.6(7.3); $t_{18}=2.06$, $p=.05$) and current suicidal ideation (mean(SD)=16.3(11.7) vs. mean(SD)=6.1(7.3); $t_{18}=2.41$, $p=.03$) (Figure 1). Suicidal ideation was unrelated to medication use.

3.3 Associations of OCS with symptoms and function

As hypothesized, patients with OCS had more depression, higher rates of past suicidal ideation, and more social impairment (Table 1). Only patients with OCS were on medications, although rates of use were low (Table 1). As hypothesized, severity of OC symptoms (Y-BOCS summary score) was associated with depressive symptoms ($s(r)=-.49$, $p=.03$) and social impairment ($s(r)=-.58$, $p=.01$). Although hypothesized, neither OCS presence (Table 1; $t_{18}=-.46$, $p=.65$) nor severity ($s(r)=-.06$, $p=.82$) was associated with

positive symptoms. Rates of transition to psychosis (25%) over two years or greater (mean(SD)=41.3(18.1) months) was equivalent for patients with and without OCS.

4. Discussion

4.1 Prevalence of OCS and suicidal ideation

In this CHR cohort, there was a high prevalence of obsessive-compulsive diagnosis (30%) and symptoms (60%), and suicidal ideation (55% past, 30% current). The 30% prevalence of OCD exceeds the low prevalence (3.4% and 8.1%) found previously (Sterk et al., 2011; Fontenelle et al., 2011), likely due to the use of different measures and variance related to modest sample sizes across studies. High rates of current and past suicidal ideation are commensurate with those previously reported (Hutton et al., 2011; Adlard et al., 1997).

4.2 Content of OCS and associations with clinical features

Aggressive obsessions were endorsed by all patients who endorsed any obsessive or compulsive symptoms, consistent with high rates (40%) of aggressive obsessions in patients comorbid for both schizophrenia and OCD (Ohta et al., 2003; Faragian et al., 2009). Aggressive obsessions in OCD are described as more intrusive (Besiroglu et al., 2007), difficult to dismiss (Besiroglu & Agargun, 2006), and disturbing (Rowa, 2005) than other OC symptoms. As hypothesized, clinical high-risk patients with OCS had more depressive symptoms, a greater prevalence of past suicidal ideation, and greater social impairment. This extends prior research by Niendam and colleagues (2009), who found an association of OCS with depressive symptoms and suicidal ideation (trend) in a similarly ascertained CHR cohort. These findings are also consistent with studies which show that OCS severity is associated with both depression and suicidal ideation in OCD (Balci & Sevincok, 2010; Karnath et al., 1997).

4.3 Implications for evaluation and treatment

This study shows that aggressive obsessions and suicidal ideation are prevalent and interrelated in CHR patients, which indicates that CHR patients should be routinely assessed for depression, aggressive thoughts and suicidal ideation. These can be targeted in high risk patients through medications other than antipsychotics (Cornblatt et al., 2007), and with psychosocial treatments such as cognitive-behavioral therapy (Addington et al., 2010; Morrison et al., 2004) and suicide prevention (Stanley et al., 2009). Early detection of psychotic symptoms through community outreach may reduce suicidal ideation by facilitating early access to treatment (Melle et al., 2006).

4.4 Limitations and future directions

The major limitation of this study is its small sample size, which increased risk for Type 2 error and precluded replication of an association between OCS and positive symptoms (Niendam et al., 2009). Also, chart review and reliance on a single item on the Beck Depression Inventory are not ideal for the assessment of past and current suicidal ideation, respectively, although these methods likely lead to underreporting. Finally, the association between suicidal ideation and aggressive obsessions may partially reflect content overlap between the items, although this is unlikely given the varied content of aggressive obsessions, which were exclusively focused on self harm in only a single patient. Now, we are employing the Columbia Suicide Severity Rating Scale (Posner et al., 2011) to fully characterize suicidal ideation at baseline and prospectively in the CHR cohort, including in clinical trials. Improved understanding of suicidal ideation in CHR patients can inform treatment strategies to reduce morbidity and risk behavior.

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Figure 1.
Difference in OCS severity by presence of past and current suicidal ideation.

Table 1

Demographics and clinical features in CHR patients with and without OCS

	Total (N = 20)	OCS (N = 12)	No OCS (N = 8)
	N/%	N/%	N/%
Male	12 (60)	7 (58.3)	5 (62.5)
Caucasian	8 (40)	3 (25)	5 (62.5)
Antidepressants	3 (15)	3 (15)	0 (0)
Antipsychotics	3 (15)	3 (15)	0 (0)
Past Suicidal Ideation *	11 (55.0%)	9 (75.0%)	2 (25.0%)
Current Suicidal Ideation	6 (30.0%)	5 (41.5%)	1 (12.5%)
	Mean (SD)	Mean (SD)	Mean (SD)
Age in years	20.7 (3.8)	21.2 (3.1)	20.1 (4.8)
Y-BOCS summary score *	9.2 (9.8)	15.3 (7.9)	0.0 (0.0)
Total positive (SIPS)	14.2 (4.1)	14.5 (3.6)	13.6 (5.0)
Beck Depression *	12.0 (8.8)	15.2 (9.7)	7.3 (4.4)
Social Adjustment Self-Report *	2.3 (0.4)	2.6 (0.3)	2.0 (0.4)

*
p < .05

Table 2

Frequency of Y-BOCS obsessions and compulsions by content

N = 20	Present	Absent
Any obsessions or compulsions	12	8
Obsessions		
Aggressive	12	8
Contamination	8	12
Sexual	7	13
Symmetry or Exactness	6	14
Hoarding	4	16
Religious	4	16
Compulsions		
Somatic	7	13
Checking	7	13
Repeating	6	14
Counting	5	15
Ordering/Arranging	5	15
Cleaning/Washing	3	17
Hoarding	3	17