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The Impact of Lifetime PTSD on the Seven-Year Course and Clinical Characteristics of OCD

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Abstract

Research has suggested that the co-occurrence of PTSD in individuals with OCD is associated with more severe symptoms and less responsivity to empirically supported treatment as compared to individuals with OCD and no history of PTSD. However, much of this work has been limited by non-empirical case report design, cross-sectional and retrospective analyses, or small sample sizes. The current study extended this research by comparing the clinical characteristics of individuals with OCD with and without a lifetime PTSD diagnosis in a large, naturalistic, longitudinal sample over the course of seven years. At baseline, individuals with comorbid lifetime PTSD reported significantly more severe symptoms of OCD (including symptom levels and insight), lower quality of life, and higher rates of comorbid lifetime mood and substance use disorders than participants without lifetime PTSD. Further, individuals with comorbid OCD and lifetime PTSD reported significantly more severe OCD symptoms over the course of seven years than those without lifetime PTSD. These results are largely consistent with the existing literature and support the need to consider PTSD symptoms in the assessment and treatment of OCD.

Keywords

obsessive-compulsive disorder; posttraumatic stress disorder; trauma

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1. Introduction

Obsessive-compulsive disorder (OCD) and posttraumatic stress disorder (PTSD) are each characterized by distressing, intrusive mental events and avoidance behaviors. These disorders frequently co-occur. One study observed lifetime PTSD in up to 19% of individuals with OCD (Fontenelle et al., 2012), and other work has reported lifetime OCD in 31–41% of samples with PTSD (Brown et al., 2001; Nacasch et al., 2011). Comorbid OCD and PTSD presentations have primarily been described in published case series, in which both sets of symptoms emerge in the context of traumatic events, including sexual and physical assault, childhood abuse, combat, and accidents (De Silva and Marks, 2001; Fostick et al., 2012; Gershuny et al., 2003; Sasson et al., 2005). Mechanisms of co-occurrence between OCD and PTSD remain poorly understood. Some have hypothesized that traumatic events play an etiological role in the development of OCD symptoms for a subgroup of individuals (Fontenelle et al., 2012), while others have argued that depression or other shared symptoms may best account for the overlap between these two disorders (Huppert et al., 2005; Merrill et al., 2011). Regardless of the specific mechanisms of comorbidity, clinical and epidemiological observations suggest that lifetime PTSD may be an important consideration in the research and treatment of OCD. However, few studies aside from case reports, including cross-sectional and retrospective investigations, have characterized the effects of PTSD on OCD symptoms and course.

To our knowledge, only two studies have empirically examined the clinical characteristics of OCD with versus without comorbid lifetime PTSD diagnosis. One investigation by Fontenelle et al. (2012) showed that, of OCD patients recruited from both outpatient and inpatient clinics, those with comorbid lifetime PTSD endorsed more severe and frequent OCD symptoms, higher levels of depression and anxiety, and more frequent suicidal ideation than those without the diagnosis. In addition, this study found that individuals with comorbid OCD and PTSD reported higher incidences of lifetime major depressive disorder, dysthymic disorder, panic disorder with agoraphobia, and social anxiety disorder than individuals with OCD and no lifetime PTSD diagnosis. The other known study that compared the clinical characteristics of OCD with and without comorbid PTSD in an outpatient sample also showed significantly higher OCD symptom severity for the comorbid group when severity was measured using the six OCD symptom dimensions as reference points rather than one principal symptom type (Shavitt et al., 2010). Thus, preliminary evidence suggests that individuals with comorbid OCD and PTSD have more severe symptoms of OCD and related psychopathology than those without a lifetime history of PTSD.

Further, the literature has suggested that co-occurring OCD and PTSD are more difficult to treat than OCD presenting without PTSD symptoms. One study showed that patients with a comorbid PTSD diagnosis at a residential exposure-based OCD treatment program experienced less improvement in OCD symptoms and depression as compared to those without a comorbid PTSD diagnosis (Gershuny et al., 2002). In addition, a chart review study found that 82% of over 100 individuals with “treatment resistant OCD” reported a lifetime history of trauma, and 39% met criteria for PTSD (Gershuny et al., 2008). Moreover, numerous case reports on individuals with comorbid OCD and PTSD have

described limited responsiveness to a range of interventions, including exposure-based cognitive behavioral therapy (CBT), unspecified psychotherapy, and pharmacotherapy (Gershuny et al., 2003; Pitman, 1993; Sasson et al., 2005). However, one study has contradicted this literature, finding that individuals with comorbid OCD and PTSD had a favorable response to treatment with group CBT and selective serotonin reuptake inhibitors as compared to those with OCD and no PTSD diagnosis (Shavitt et al., 2010). Thus, further work is needed to explore the phenomenology and treatment of comorbid PTSD and OCD.

Little empirical work has characterized the impact of a comorbid PTSD diagnosis on the clinical presentation of OCD, and no studies to our knowledge have examined the effects of lifetime PTSD on OCD course. Additional data in these areas would inform assessment and intervention for this severe and difficult to treat population. Thus, this study examined the clinical characteristics of individuals with OCD and lifetime PTSD (abbreviated as “OCD +PTSD group” throughout this paper) compared to those without lifetime PTSD (labeled as “OCD group”) in a large, naturalistic, seven-year longitudinal investigation. Of note, these were secondary analyses from a larger study, which was not designed to test this specific research question.

2. Method

2.1. Participants

Participants were adults (age 19 and older) enrolled in the Brown Longitudinal Obsessive-Compulsive Disorder Study (BLOCS), a prospective study of OCD course. A detailed description of recruitment, sample characteristics, and study procedures is reported elsewhere (Pinto et al., 2006). Briefly, inclusion criteria were: a primary *DSM-IV* diagnosis of OCD (identified as the most problematic set of symptoms over the course of a participant’s lifetime), seeking treatment for these symptoms in the last five years, and ability to provide written informed consent. The only exclusion criterion was the presence of an organic mental disorder. Participants were recruited from: one outpatient OCD specialty clinic, three private practices with expertise in CBT for OCD, two general outpatient psychiatry clinics, community mental health centers, and inpatient units at a private psychiatric hospital. The study was approved by the Institutional Review Boards at Butler Hospital and Brown University.

Analyses in this paper included 266 individuals (81.8% of the full adult sample) who met *DSM-IV* criteria for OCD at intake. Of these individuals, 7.9% ($n = 21$) reported a lifetime comorbid PTSD diagnosis. Participants reported a mean age of 39.16 years, ($SD = 12.50$), were 56.0% female ($n = 149$), and were 97.7% Caucasian ($n = 260$) and 96.6% Non-Hispanic ($n = 257$). In this sample, 39.8% of participants were married ($n = 106$), and 94.0% ($n = 250$) completed high school/GED or greater levels of education. Analyses revealed no significant differences in demographic characteristics between individuals with and without comorbid PTSD in this sample. Those with PTSD reported the following index traumas during a semi-structured diagnostic interview: 61.9% ($n = 13$) sexual trauma (during childhood or adulthood), 9.5% ($n = 2$) car accident, 9.5% ($n = 2$) combat-related trauma, 4.8% ($n = 1$) physical assault, 4.8% ($n = 1$) witnessed trauma to loved one, 4.8% ($n = 1$) home invasion, and 4.8% ($n = 1$) missing. Data included in this manuscript reports on the

first seven years of follow-up of these participants within the BLOCS ($n = 241$ individuals with at least one year of follow-up data were included in the mixed model analysis of OCD course).

2.2. Assessments

The following interviewer-administered assessments were conducted at intake: The Structured Clinical Interview for *DSM-IV* Axis I Disorders-Patient Edition (SCID-I; First et al., 1996) was administered to establish current (past month) and lifetime Axis I diagnoses. Current (past week) OCD symptoms and severity were measured using the Yale-Brown Obsessive Compulsive Scale (Y-BOCS; Goodman et al., 1989), the gold-standard instrument for OCD symptom assessment. The Y-BOCS generates a total score, as well as separate scores for Obsession and Compulsion subscales, with higher scores indicating more severe OCD symptoms. The Brown Assessment of Beliefs Scale (BABS) was administered to assess participants' insight into their OCD-related beliefs (Eisen et al., 1998), with higher scores indicating poorer levels of insight. The Modified Hamilton Rating Scale for Depression (HAM-D; Miller et al., 1985), a widely-accepted tool for measuring depression symptom severity, was also administered at baseline. In addition to these rater-administered assessments, participants completed the Quality of Life Enjoyment and Satisfaction Questionnaire (Q-LES-Q; Endicott et al., 1993), the general subscale of which measured overall quality of life in this study, with lower scores indicating poorer quality of life.

Follow-up interviews were conducted annually using the Longitudinal Interval Follow-up Evaluation (LIFE; Keller et al., 1987), a semi-structured interview designed to assess the course of Axis I psychiatric disorders. Using information obtained during interviews, weekly Psychiatric Status Ratings (PSRs) are assigned to determine whether participants meet *DSM-IV* criteria for Axis I disorders. For OCD, the 6-point PSR scale indicates whether participants meet full criteria for OCD at moderate (PSR4), severe (PSR5), or extreme (PSR6) levels of impairment and distress, or report symptoms in partial (PSR3) or full remission (PSR2, PSR1). Psychiatric status ratings provide valid and reliable global assessment of ongoing disorder severity and have been used in numerous longitudinal investigations (e.g., Bjornsson et al., 2011; Skodol et al., 2005; Warshaw et al., 1994; Yonkers et al., 2003). Inter-rater reliability and test-retest reliability for OCD PSR ratings in this sample is excellent and has been reported elsewhere (Eisen et al., 2013).

Detailed descriptions of training and inter-rater reliability for interviewer-administered assessments are reported in Pinto et al. (2006). New interviewers completed a sequence of didactic, observational, and participatory training activities culminating in conducting assessments with feedback from experienced interviewers and audiotaping for inter-rater reliability calculations. New interviewers were required to achieve excellent inter-rater reliability with trainers and senior raters (intraclass correlation coefficient > 0.85) for the SCID, YBOCS total score, and LIFE. Fidelity to training was monitored throughout the study via weekly meetings to review ratings and periodic, random calculation of inter-rater reliability statistics.

2.3. Analyses

SPSS version 22.0 was used for statistical analyses. Chi-squared tests, Fisher's exact tests, and independent samples *t*-tests were used to evaluate baseline differences in demographic and clinical characteristics between OCD and OCD+PTSD groups. Cohen's *d* was calculated for *t*-test comparisons using pooled standard deviation. Following descriptive examination of the OCD course data, mixed model analysis examined the impact of the presence/absence of comorbid lifetime PTSD on weekly OCD symptom severity ratings (PSR) over seven years. The mixed model analysis allowed us to maximize power in comparing the OCD+PTSD and OCD groups' OCD courses over time by utilizing all individuals with at least one year of follow-up data within the seven-year period, rather than excluding individuals with some missing data.

3. Results

3.1. OCD and related symptoms at baseline

At the baseline assessment, OCD+PTSD individuals reported higher scores on the Y-BOCS Obsessions subscale ($t(264) = -2.92$; $p = 0.004$), Compulsions subscale ($t(264) = -3.01$; $p = 0.003$), and total score ($t(264) = -3.29$; $p = 0.001$) than the OCD group. Additionally, the OCD+PTSD group reported poorer insight into their OCD symptoms on the BABS ($t(246) = -2.88$; $p = 0.004$), and lower quality of life as measured by the General subscale of the Q-LES-Q ($t(231) = 2.01$; $p = 0.046$) than the OCD group. These differences evidenced medium effect sizes (see Table 1). There were no significant differences in age of OCD onset, OCD PSR, or depression severity between the two groups at baseline (see Table 1).

3.2. Comorbidity at baseline

At baseline, OCD+PTSD individuals reported significantly more comorbid diagnoses than the OCD group in the following areas: lifetime mood disorders ($X^2(1) = 4.91$; $p = 0.027$) and lifetime substance use disorders ($X^2(1) = 6.85$; $p = 0.009$). Contrary to expectations, no differences were found between groups for lifetime or current anxiety disorders or eating disorders (see Table 2).

3.3. OCD symptom course

Of the OCD+PTSD group, 47.6% ($n = 10$) reported that PTSD onset before or at the same age as OCD, while 52.4% ($n = 11$) reported that OCD onset first. Descriptively, for those with complete PSR data through year seven ($n = 172$), the OCD+PTSD group reported more mean weeks per year meeting clinical criteria for OCD (PSR ≥ 4) than the OCD group across the seven-year follow-up period (see Figure 1). This descriptive pattern was also observed, to a larger degree, for severe OCD (PSR ≥ 5 ; see Figure 2). Mixed model analysis using weekly PSR data demonstrated that the OCD+PTSD group reported significantly more severe symptoms of OCD over the course of seven years than the OCD group (lifetime PTSD diagnosis: $b = -0.46$, $SE b = 0.23$; intercept: $b = 4.48$, $SE b = 0.22$; $t(241.17) = -2.01$, $p = 0.046$).

4. Discussion

The aim of this study was to describe differences in the clinical characteristics and course of individuals with OCD with and without comorbid lifetime PTSD in a naturalistic, seven-year longitudinal OCD study. Individuals in the OCD+PTSD group reported more severe and impairing OCD symptoms (measured via Y-BOCS), poorer insight into their OCD symptoms, lower quality of life, and greater incidences of lifetime mood and substance use disorders at the baseline assessment as compared to those without lifetime PTSD. Additionally, the OCD+PTSD group reported significantly more severe OCD symptoms over the course of seven years as compared to the OCD group. This study is the first to offer seven-year longitudinal data on the impact of comorbid lifetime PTSD on OCD symptoms, a group that the case literature and limited empirical work has suggested to be clinically severe (Fontenelle et al., 2012; Shavitt et al., 2010) and difficult to treat (Gershuny et al., 2003, 2002).

These results suggest that adults with OCD and lifetime PTSD experience chronically higher levels of OCD symptoms (particularly for severe OCD) and greater lifetime prevalence of mood and substance use disorders than individuals without this comorbidity. While the absence of significant between-group differences in anxiety disorder prevalence in this sample is a departure from past findings, these results are largely consistent with the literature suggesting that individuals with OCD plus a lifetime PTSD diagnosis display more severe clinical correlates than individuals without PTSD (Fontenelle et al., 2012; Shavitt et al., 2010). These findings that comorbid OCD and PTSD are associated with severe OCD symptoms with poor insight and are complicated by mood and substance use problems may explain why this population has been described as “treatment resistant” in past work (Gershuny et al., 2008, 2003). This paper also extends these previously reported cross-sectional findings to longitudinal data, implicating lifetime PTSD in a more severe OCD course. Clinically, these results support recommendations that mental healthcare providers assess for current/past PTSD symptoms in individuals presenting for OCD treatment (Gershuny et al., 2003).

Nevertheless, mechanisms of the development and maintenance of this clinical picture remain unclear. Due to the naturalistic study design, we are unable to draw causal interpretations of whether PTSD/trauma directly contributes to OCD symptom severity. Thus, it is possible that the OCD+PTSD individuals simply represent a group with more severe psychopathology rather than demonstrating the specific impact of lifetime PTSD on OCD symptoms and course. However, the literature detailing a distinct comorbid presentation of OCD and PTSD (De Silva and Marks, 2001; Fontenelle et al., 2012; Fostick et al., 2012; Gershuny et al., 2003; Sasson et al., 2005) supports the consideration of these results in that context. The absence of significant differences in dimensional depression symptoms between the OCD+PTSD and OCD groups at baseline provides contrary evidence to prior work proposing that depression may account for this comorbidity (Huppert et al., 2005; Merrill et al., 2011). Instead, these results suggest that comorbid OCD and PTSD may be a unique presentation warranting empirical attention. However, given that lifetime mood disorders were more common in the PTSD+OCD group than the OCD group, definitive

conclusions cannot be drawn, and the role of depression in comorbid OCD and PTSD is an important topic for future study.

Thus, support for a “posttraumatic” subtype of OCD (Fontenelle et al., 2012) remains equivocal. Findings that comorbid PTSD diagnosis did not temporally precede OCD in about half of the individuals in this study suggest that, at minimum, this conceptualization accounts only for a subset of individuals with comorbid OCD+PTSD. Sample size precluded our ability to compare those whose OCD onset before versus after PTSD. Thus, future research investigating mechanisms of the OCD+PTSD comorbidity is warranted, including comparing different presentations of this heterogeneous group based on the timeline of disorder onset. Examining clinical distinctions over time in those whose OCD onset before versus after PTSD would be an important direction for future work, now supported by the novel longitudinal perspective offered by this paper.

This study has several important limitations. Chiefly, the small sample size of the OCD +PTSD group limited the power of our analyses, particularly those comparing OCD symptom severity between groups over time. Next, the results presented here are secondary analyses from a larger, naturalistic study. Therefore, only the diagnostic status of PTSD and other non-OCD diagnoses (rather than dimensional symptom ratings) were assessed. Treatment was also uncontrolled, so we are not able to draw conclusions about its effect within our analyses. Finally, the demographic characteristics of the sample may limit generalization of these results to non-treatment-seeking samples and racial/ethnic minorities.

Yet these limitations also lay the groundwork for further research. For instance, future work should measure PTSD dimensionally in order to capture more nuanced changes in these symptoms over time. Additional research examining the clinical correlates of comorbid OCD+PTSD amongst individuals within diverse demographic backgrounds and settings, as well as considering the impact of treatment on these symptoms, is also warranted. Finally, future work illuminating mechanisms of comorbidity between OCD and PTSD, including the comparison of those whose OCD onset before versus after PTSD, may guide improvements for the assessment and treatment of this clinically complex group.

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Highlights

- Patients with OCD and PTSD had more severe OCD symptoms than those without PTSD.
- The group with PTSD had more mood and substance use disorders than without PTSD.
- The comorbid group had a more severe 7-year OCD course than those without PTSD.

Figure 1. Mean Weeks Meeting Criteria for OCD Over a Seven-Year Period

On average, individuals with obsessive-compulsive disorder (OCD) and a lifetime history of posttraumatic stress disorder (PTSD) evidenced more weeks meeting clinical criteria for OCD per year (Psychiatric Status Rating [PSR] ≥ 4) than those without a lifetime history of PTSD over seven years.

Figure 2. Mean Weeks Meeting Criteria for Severe OCD Over a Seven-Year Period

On average, individuals with obsessive-compulsive disorder (OCD) and a lifetime history of posttraumatic stress disorder (PTSD) evidenced more weeks ill per year with severe OCD (Psychiatric Status Rating [PSR] ≥ 5) than those without a lifetime history of PTSD over seven years.

Table 1

Descriptive Statistics and Between-Group Differences in Clinical/Symptom Measures at Baseline

Measure	Current OCD with Lifetime PTSD (<i>n</i> = 21)			Current OCD without Lifetime PTSD (<i>n</i> = 245)		
	Mean (<i>SD</i>)	<i>n</i>		Mean (<i>SD</i>)	<i>n</i>	<i>t</i> (<i>df</i>)
Age of OCD Onset	16.76 (8.19)	21		18.21 (9.59)	244	0.67 (263)
Y-BOCS Obsessions	13.33 (2.96)	21		11.29 (3.08)	245	-2.92 (264)
Y-BOCS Compulsions	14.14 (2.52)	21		11.94 (3.27)	245	-3.01 (264)
Y-BOCS Total	27.48 (5.18)	21		23.23 (5.71)	245	-3.29 (264)
OCD PSR	4.76 (0.63)	21		4.51 (0.58)	245	-1.88 (264)
BABS	10.30 (5.56)	20		6.96 (4.92)	228	-2.88 (246)
HAM-D	15.71 (11.65)	21		11.83 (9.20)	239	-1.49 (22.25)
Q-LES-Q General	49.57 (19.61)	18		58.29 (17.52)	215	2.01 (231)
	%	<i>n</i>	%		<i>n</i>	Fisher's Exact Test <i>p</i> (2-sided)
Disability Related to OCD	19.0	4	17.6		43	0.772
Disability Not Related to OCD	14.3	3	4.1		10	0.073

* $p < 0.05$ ** $p < 0.01$ ^aEqual variances not assumed (equal variances assumed for all other comparisons according to Levene's Test)

Note. OCD = obsessive-compulsive disorder; PTSD = posttraumatic stress disorder; Y-BOCS = Yale-Brown Obsessive Compulsive Scale; PSR = Psychiatric Status Rating; BABS = Brown Assessment of Beliefs Scale; HAM-D = Modified Hamilton Rating Scale for Depression; Q-LES-Q = Quality of Life Enjoyment and Satisfaction Questionnaire

Table 2

Between-Group Differences in Comorbidity at Baseline

Current OCD with Lifetime PTSD (<i>n</i> = 21)		Current OCD without Lifetime PTSD (<i>n</i> = 245)		
<i>n</i> (%)		<i>n</i> (%)	<i>X</i> ² (<i>df</i>)	<i>p</i>
Anxiety Disorders				
Lifetime	13 (61.9)	135 (55.1)	0.36 (1)	0.547
Past Month	13 (61.9)	103 (42.0)	3.10 (1)	0.078
Mood Disorders				
Lifetime	20 (95.2)	180 (73.5)	4.91 (1)	0.027 [*]
Past Month	8 (38.1)	50 (20.4)	<i>—<i>a</i></i>	0.093
Substance Use Disorders				
Lifetime	11 (52.4)	63 (25.7)	6.85 (1)	0.009 [*]
Past Month	2 (9.5)	13 (5.3)	<i>—<i>a</i></i>	0.335
Eating Disorders				
Lifetime	3 (14.3)	26 (10.6)	<i>—<i>a</i></i>	0.712
Past Month	1 (4.8)	5 (2.0)	<i>—<i>a</i></i>	0.392

^{*}
p < 0.05

^a Fisher's exact test (2-sided)

Note. OCD = obsessive-compulsive disorder; PTSD = posttraumatic stress disorder