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Symptom Subtype and Quality of Life in Obsessive-Compulsive Disorder

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1. Introduction

Previous studies have demonstrated significant quality of life (QoL) impairment in obsessive-compulsive disorder (OCD) (Eisen et al., 2006; Hou et al., 2010; Kugler et al., 2013; Norberg et al., 2008; Stengler-Wenzke et al., 2006). This impairment spans several domains, including social, occupational, and family functioning, sense of well-being, and ability to enjoy leisure activities (Kugler et al., 2013; Quilty et al., 2003; Rodriguez-Salgado et al., 2006). Additionally, OCD patients consistently exhibit lower QoL in contrast to healthy and community populations, and equivalent or worse QoL compared to other psychiatric populations (Bobes et al., 2001; Bysritsky et al., 2001; Didie et al., 2007; Eisen et al., 2006; Huppert et al., 2009; Stengler-Wenzke et al., 2006).

Although research consistently highlights poor QoL in individuals with OCD, only a few studies have examined the relationship between specific OC symptom dimensions and domains of QoL. For example, Albert et al. (2010) examined health-related QoL in OCD patients and found that only 2 of the 5 symptom dimensions identified—contamination/washing, and symmetry/repeating/ordering and arranging—significantly correlated with physical and mental health components of QoL respectively on the Medical Outcomes Study 36-Item Short-Form Health Survey (SF-36; Ware and Sherbourne, 1992). Contamination/washing was the only symptom dimension that predicted health-related QoL when factors like depression and OCD severity were also considered (Albert et al., 2010). Huppert and colleagues (2009) found significant associations between some OCD subtypes (e.g.,

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washing, hoarding, and obsessing), and QoL but not others (e.g., checking, ordering, and neutralizing) with depression accounting for much of the relationship between specific symptom domains and functioning. Similarly, Fontenelle and colleagues (2010) found that although hoarding and washing symptoms adversely impacted social functioning and physical health limitation domains, depression severity was a more robust predictor of QoL impairment on the SF-36 than OC symptom dimensions.

Although prior investigations suggest that the relationship between OC symptom dimensions and QoL domains may be largely accounted for by depression or OCD severity, they are limited by small sample sizes and have largely focused on one measure of QoL (e.g., SF-36). Therefore, the aim of the present study was to further investigate the relationship between 5 OCD symptom subtypes—contamination (contamination obsessions and cleaning compulsions), symmetry (obsessions of symmetry and repeating, counting, and ordering/arranging compulsions), hoarding (hoarding obsessions and compulsions), overresponsibility for harm (pathological doubt, somatic obsessions, and checking compulsions), and taboo (aggressive, sexual, and religious obsessions)—and 8 domains of QoL, above and beyond OCD and depression severity, in a large, clinical sample of treatment-seeking individuals with OCD.

2. Method

2.1. Participants

Participants were 325 treatment-seeking patients with primary OCD enrolled in the Brown Longitudinal Obsessive Compulsive Study (BLOCS; see Pinto et al., 2006) for a detailed description of study procedures). Briefly, individuals were included if they were age 19 or older, had a primary *DSM-IV* (American Psychiatric Association, 2000) diagnosis of OCD (defined as the disorder participants considered their biggest problem overall across their lifetime), and were treatment-seeking for OCD within the past 5 years. The only exclusion criterion was evidence of an organic mental disorder or other condition that would prevent participants from providing informed consent. Recruitment was from several psychiatric treatment settings in the Rhode Island/Southeastern Massachusetts area. The local Institutional Review Boards approved the study. Mean age at intake was 40.12 ($SD = 12.79$). The sample was 98% white and 55% female.

2.2. Measures

Yale-Brown Obsessive Compulsive Scale and Symptom Checklist (Y-BOCS; Goodman et al., 1989b)—Yale-Brown Obsessive Compulsive Scale and Symptom Checklist (Y-BOCS; Goodman et al., 1989b) were administered to assess severity of OCD symptoms and presence of specific obsessions and compulsions, respectively. The Y-BOCS has well-established reliability and validity (Goodman et al., 1989a; Goodman et al., 1989b).

Modified Hamilton Rating Scale for Depression (MHRSD; Hamilton, 1960)—Modified Hamilton Rating Scale for Depression (MHRSD; Hamilton, 1960) was administered as a measurement of depressive symptoms and severity. The MHRSD has

specific probes and anchors and has been shown to have good validity in comparison to the original HRSD and the Beck Depression Inventory (Miller et al., 1985).

Quality of Life Enjoyment and Satisfaction Questionnaire (QLESQ; Endicott et al., 1993)—The QLESQ is a 91-item self-report instrument with demonstrated reliability and validity, and provides a General Activities score of overall satisfaction, as well 7 domain scores: Physical Health, Emotional Well-being, Household Duties, Leisure Time Activities, Social Relations, Work, and School. Higher scores indicate greater QoL.

2.3. Data analysis

Five symptom subtypes (symmetry/ordering, hoarding, overresponsibility for harm, contamination, taboo) were derived using a principal components analysis, reported elsewhere (see Pinto et al., 2007). Relations between the predictor variables were examined using Pearson correlations (see Supplemental Table). Hierarchical linear regressions were used to compare the extent to which the OCD symptom subtypes predicted QoL domains after controlling for OCD and depression severity. OCD and depression severity were entered into the first step, with symptom subtypes added into the second step. All assumptions underlying regression were met.

3. Results

Participants reported a moderate level of OCD symptoms ($M = 20.3$, $SD = 8.43$) and a mild level of depression ($M = 10.42$, $SD = 9.06$). Mean ratings of QoL on the QLESQ were as follows: General Activities ($M = 60.90$, $SD = 18.05$), Physical Health ($M = 55.78$, $SD = 20.16$), Emotional Well-being ($M = 58.52$, $SD = 20.10$), Household Duties ($M = 60.65$, $SD = 23.14$), Leisure Activities ($M = 60.36$, $SD = 19.48$), Social Relations ($M = 62.45$, $SD = 19.46$), School ($M = 38.76$, $SD = 35.36$), and Work ($M = 53.74$, $SD = 34.61$). A series of hierarchical multiple linear regressions were conducted to investigate the association between symptom subtypes and QoL after controlling for OCD and depression severity. Hoarding ($\beta = -.24$, $p < .001$) was the only symptom subtype significantly associated with household-related QoL above and beyond OCD and depression severity, $F(7, 271) = 9.34$, $p < .001$. Contamination ($\beta = -.21$, $p < .001$) was the only symptom subtype significantly associated with enjoyment and satisfaction in leisure activities, $F(7, 280) = 12.85$, $p < .001$. Symmetry ($\beta = -.16$, $p = .004$) and contamination ($\beta = -.12$, $p < .05$) were significantly associated with social QoL, $F(7, 283) = 15.49$, $p < .001$, whereas overresponsibility for harm ($\beta = -.11$, $p < .05$), and contamination ($\beta = -.18$, $p < .001$) were significantly associated with health-related QoL, $F(7, 282) = 18.57$, $p < .001$. Symptom subtypes were not significantly associated with work, school, or well-being QoL domains above and beyond OCD or depression severity. Table 1 presents the results from QLESQ subscales for which there were significant associations.

4. Discussion

There is substantial evidence supporting the heterogeneity of OCD symptom presentation, including course of illness and patterns of neurological activity, as well as differential treatment outcome (Ball et al., 1996; Denys et al., 2004; Gilbert et al., 2008; Mataix-Cols et

al., 1999). This investigation provides evidence that this heterogeneity may also have important consequences for the differential QoL correlates of these symptom subtypes. Beyond previous, non-symptom-specific findings of QoL impairment in OCD overall (Rapaport et al., 2005), the current study demonstrates that specific subtypes of OCD also differentially impact specific domains of functioning, even when general OC and depression symptom severity is taken into account.

In this study, the presence of hoarding symptoms was significantly associated with household-related QoL, consistent with extant literature highlighting the profound impact clutter can have on the ability to engage in routine household activities (Saxena et al., 2011). Excessive clutter is often associated with unsanitary, disorganized living spaces, which may contribute to dissatisfaction with living arrangements (Kim et al., 2001; Saxena et al., 2011). Contamination and symmetry-related symptoms were significantly associated with satisfaction in social relationships. Previous research has demonstrated that contamination obsessions negatively impact intimacy and relationship satisfaction (Abbey et al., 2007). Contamination fears can interfere with sexual functioning (Aksaray et al., 2001) as well as the ability to engage in other social activities. Individuals with these fears may also decline or avoid social opportunities, possibly for fear of shame or embarrassment. Indeed, there is evidence supporting the link between contamination-related OCD symptoms and shame. Cogle et al. (2008) found that shame and obsession severity were positively correlated, and participants with high obsessive severity ratings were significantly more likely to indicate that subjective feelings of contamination were concomitant with the subjective experience of shame (e.g., endorsing items such as “for me, feeling dirty inside and feeling shame go together”), thus negatively impacting social satisfaction. Additionally, the strong association between symmetry and comorbid obsessive compulsive personality disorder (OCPD) (Coles et al., 2008) may provide a useful clue for understanding the association found in the current study between symmetry and social concerns, as OCPD is often characterized by interpersonal problems (Cain et al., 2015).

Additionally, overresponsibility for harm and contamination subtypes were significantly associated with health-related QoL. Individuals with these symptoms engage in excessive and time consuming hand-washing, cleaning, and checking behaviors that often reflect health-related fears, and may inadvertently cause negative health consequences like dermatologic problems and irritations, dental complications, and other hygiene problems (Albert et al., 2010). Contamination symptoms were also associated with enjoyment and satisfaction in leisure activities. Individuals with contamination-related fears may feel anxious engaging in activities outside the home if they require getting dirty (i.e., playing sports, hiking), being around large crowds of people (i.e., concerts, movies), or being in a context of perceived uncleanliness (i.e., restaurants, public bathrooms). These concerns may lead to individuals enduring intense anxiety while trying to enjoy a leisure activity, or an avoidance of the activities altogether. Finally, the taboo symptom subtype was not associated with QoL impairment in any specific area. These aggressive, blasphemous and sexual obsessions are often varied and situation-specific, and therefore impairment may not be consistent across individuals presenting with this subtype.

Taken together, these findings highlight the importance of considering QoL deficits when assessing and treating individuals with OCD, regardless of their OCD and/or depression symptom severity. Treatment providers should carefully assess functioning with a focus on QoL subscales rather than overall scores, and incorporate specific intervention modules tailored to bolster functioning in the domains that demonstrate poor functioning for the individual. The assumption that a reduction in impairment across life domains will eventually follow from improvement in symptoms is common, but inadequate. A potentially more effective, more comprehensive, and more efficient approach would entail the simultaneous treatment of symptoms along with interventions focused on enhancing functioning in specifically impacted life domains. For example, in acceptance and commitment therapy (ACT)- based exposure approaches, the goal of the exposure is to help the patient live a more meaningful life by engaging in activities he/she values, but are currently disrupted. Thus, enhancing QoL, provides the rationale for engaging in difficult exposure tasks and resisting rituals (Towhig et al., 2015). Addressing both the symptoms and their consequences together may facilitate a synergistic effect that can speed recovery.

This study has several strengths, including a large, well-characterized clinical sample and the use of well-validated assessment measures. However, limitations also warrant consideration. The participants in our sample were predominantly Caucasian and treatment-seeking. Therefore, it is unclear how our results generalize to more diverse or non-treatment-seeking individuals in the community. Additionally, there are limitations in the use of subtyping OCD into various symptom dimensions, in that individuals may present with symptoms in one area topographically (e.g., washing and cleaning compulsions) that functionally are better characterized in another dimension (e.g., washing hands to clean oneself of aggressive or sexually-related intrusive thoughts/images). Individuals with OCD also often endorse symptoms in multiple dimensions, indicating that subtypes may not represent entirely distinct populations. Moreover, other facets such as incompleteness that cut across OCD symptom dimensions often with devastating impact on QoL (Sibrava et al., 2016) warrant further attention. Future research incorporating more diverse samples should investigate the stability of these QoL deficits over time and their relationship to symptom severity, as well as explore the potential for greater efficacy when standard treatments are augmented with domain specific interventions guided by careful assessment of QoL.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

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Table 1
Hierarchical regression analyses predicting QoL domains after controlling for OCD and depression severity

<i>QoL: Social</i>					
Variable	B	SEB	β	R ²	R ²
Step 1				.238	
OCD Severity	-.446	.135	-.193***		
Depression Severity	-.787	.126	-.336***		
Step 2				.277	.039*
OCD Severity	-.157	.153	-.068		
Depression Severity	-.724	.127	-.336***		
Symmetry	-2.434	.851	-.164**		
Hoarding	-1.287	1.183	-.058		
Doubt	-.473	1.847	-.014		
Contamination	-4.413	2.086	-.120*		
Taboo	-.313	1.964	-.008		
<i>QoL: Leisure</i>					
Variable	B	SEB	β	R ²	R ²
Step 1				.201	
OCD Severity	-.400	.137	-.176**		
Depression Severity	-.724	.129	-.337***		
Step 2				.243	.043**
OCD Severity	-.157	.156	-.069		
Depression Severity	-.753	.130	-.350***		
Symmetry	-1.348	.870	-.091		
Hoarding	.381	1.204	.017		
Doubt	1.966	1.889	.060		
Contamination	-7.590	2.107	-.210***		
Taboo	1.380	1.992	.038		

<i>QoL: Social</i>					
Variable	B	SEB	β	R ²	R ²
<i>QoL: Household</i>					
Step 1					.127
OCD Severity	-.605	.173	-.224**		
Depression Severity	-.491	.166	-.189**		
Step 2				.194	.068**
OCD Severity	-.382	.193	-.141*		
Depression Severity	-.382	.166	-.147*		
Symmetry	-.431	1.089	-.024		
Hoarding	-6.146	1.503	-.238***		
Doubt	3.327	2.358	.085		
Contamination	-4.345	2.628	-.101		
Taboo	-3.298	2.505	-.075		
<i>QoL Physical Health</i>					
Variable	B	SEB	β	R ²	R ²
Step 1					.256
OCD Severity	-.297	.137	-.126*		
Depression Severity	-.964	.129	-.433***		
Step 2				.316	.060***
OCD Severity	.026	.154	.011		
Depression Severity	-.908	.129	-.408***		
Symmetry	-.916	.854	-.060		
Hoarding	-2.243	1.184	-.099		
Doubt	-3.762	1.862	-.109*		
Contamination	-6.826	2.088	-.181**		
Taboo	1.658	1.974	.043		

Note: QoL = Quality of Life

100' < d

10' < d
**

50' < d
*

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