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Associations in the longitudinal course of body dysmorphic disorder with major depression, obsessive–compulsive disorder, and social phobia

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Abstract

Body dysmorphic disorder (BDD) is an impairing and relatively common disorder that has high comorbidity with certain Axis I disorders. However, the longitudinal associations between BDD and comorbid disorders have not previously been examined. Such information may shed light on the nature of BDD's relationship to putative "near-neighbor" disorders, such as major depression, obsessive–compulsive disorder (OCD), and social phobia. This study examined time-varying associations between BDD and these comorbid disorders in 161 participants over 1–3 years of follow-up in the first prospective longitudinal study of the course of BDD. We found that BDD had significant longitudinal associations with major depression – that is, change in the status of BDD and major depression was closely linked in time, with improvement in major depression predicting BDD remission, and, conversely, improvement in BDD predicting depression remission. We also found that improvement in OCD predicted BDD remission, but that BDD improvement did not predict OCD remission. No significant longitudinal associations were found for BDD and social phobia (although the results for analyses of OCD and social phobia were less numerically stable). These findings suggest (but do not prove) that BDD may be etiologically linked to major depression and OCD, i.e., that BDD may be a member of both the putative OCD spectrum and the affective spectrum. However, BDD does not appear to simply be a symptom of these comorbid disorders, as BDD symptoms persisted in a sizable proportion of subjects who remitted from these comorbid disorders. Additional studies are needed to elucidate the nature of BDD's relationship to commonly co-occurring disorders, as this issue has important theoretical and clinical implications.

Keywords: Body dysmorphic disorder; Dysmorphophobia; Course; Obsessive–compulsive disorder; Depression; Social phobia

1. Introduction

Body dysmorphic disorder is a relatively common somatoform disorder, affecting an estimated 0.7–1.1% of the United States population (Bienvenu et al., 2000; Otto et al., 2001). BDD is also a severe disorder, with studies finding high rates of suicidal ideation and suicide attempts, marked impairment in social and academic/occupational functioning, and very poor quality of life (Phillips, 2001). However, BDD has been systematically studied for little more than a decade, and little is known about the nature of its relationship to putative "near-neighbor" disorders, such as major depression, obsessive–compulsive disorder (OCD), and social phobia.

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Cross-sectional studies have generally found high comorbidity between BDD and these disorders, although findings have varied somewhat across studies. Most studies have found that major depression is the most common comorbid disorder in patients with BDD, with lifetime prevalence ranging from 36% of 50 subjects (Veale et al., 1996) to 76% of 293 subjects (Gunstad and Phillips, 2003). In the largest study ($n = 293$), major depression was more than twice as common as any other Axis I disorder (Gunstad and Phillips, 2003). Conversely, although findings have varied, some studies have found a high prevalence of BDD among patients with major depression, especially the atypical subtype. Two studies both found that 14% of patients with atypical major depression had comorbid BDD (Nierenberg et al., 2002; Phillips et al., 1996), and another study found a rate of 42% (Perugi et al., 1998). Based on BDD's high comorbidity with depression, and its response to antidepressants (SRIs specifically), BDD has been hypothesized to be related to affective disorders (Phillips et al., 1995). However, BDD and depression have also been noted to have important differences, suggesting that BDD is not simply a symptom of depression (Phillips, 1999). For example, BDD is characterized by prominent obsessions and compulsive behaviors, and it appears to respond to SRIs but not to non-SRI antidepressants (Hollander et al., 1999; Hollander et al., 1994; Phillips, 2001). In addition, clinical observations suggest that depressive symptoms in BDD patients often appear to be "secondary" to the distress and demoralization that BDD often causes. However, BDD's relationship to depression has not been investigated and remains unclear.

BDD is also often comorbid with OCD, and BDD is widely conceptualized as an OCD-spectrum disorder (Cohen and Hollander, 1997; Phillips et al., 1995). Indeed, BDD and OCD have many similarities (Frare et al., 2004; Phillips et al., 1998), including prominent obsessions and compulsions, and similarities in treatment response. In addition, BDD occurs with increased frequency in first-degree relatives of OCD probands, suggesting that these disorders may be related (Bienvenu et al., 2000). However, differences have also been found (Buhlmann et al., 2002; Eisen et al., 2004; Frare et al., 2004; Phillips et al., 1998), including poorer insight and higher rates of suicidality and comorbid depression in BDD, suggesting that they are not identical.

Although the relationship between BDD and social phobia has received less attention, social phobia is also highly comorbid with BDD, with the largest BDD study ($n = 293$) finding a lifetime prevalence of 37% (Gunstad and Phillips, 2003). BDD and social phobia have many shared clinical features, including social avoidance and anxiety, introversion, and a negative interpretive bias for social scenarios (Buhlmann et al., 2002; Phillips and McElroy, 2000; Veale et al., 1996). In Eastern cultures, BDD is conceptualized as a form of social phobia (Kleinknecht et al., 1997).

Despite BDD's high comorbidity and shared clinical features with these disorders, their relationship has received little investigation. Examination of comorbidity is limited to cross-sectional studies, and the meaning of their co-occurrence is unclear. A number of models may potentially explain comorbidity (Lyons et al., 1997). One possible explanation is that comorbid disorders are independent in terms of etiology and that comorbidity may be due to chance or high base rates of each disorder, especially in treatment-seeking individuals. Alternatively, two comorbid disorders may be etiologically distinct but produce non-specific overlapping symptoms, such as obsessions. Yet another model, the "predisposing", or vulnerability, model, posits that comorbid disorders have a distinct etiology but that one disorder increases the likelihood of developing the second disorder. In contrast, comorbidity may reflect shared causality. For example, the hypothesis that BDD is a member of the OCD spectrum or the affective spectrum implies that these disorders have shared etiologic factors, i.e., shared genetic or environmental risk factors. In another sense, shared etiology could reflect an interaction between the disorders, with one occurring "secondary" to the other (for example, BDD causing demoralization and depressed mood which meets criteria for major depression). It is possible – perhaps likely – that more than one of these models explains comorbidity in BDD. For example, it is possible that BDD and social phobia have a shared etiology (in the sense of shared genetic or environmental risk factors) and that social phobia also increases vulnerability to the subsequent development of BDD, perhaps by increasing sensitivity to perceived rejection by others. Furthermore, different models may potentially explain BDD's comorbidity with different disorders.

One approach to determining whether two comorbid disorders are etiologically related is to examine changes in their course over time. If the disorders are related, then change in one disorder should be correlated with change in the other, and the changes should occur closely in time (Shea et al., 2004). (This would not necessarily be true for the predisposing model, as the disorder that increases the likelihood of developing the second disorder might precede onset of the second disorder for any length of time, and improvement in these disorders would not necessarily be closely temporally linked.) Longitudinal studies, unlike cross-sectional studies, have the advantage of enabling investigation of changes in comorbid disorders over time. In the present study, which is to our knowledge the only longitudinal study of BDD's course, we examined longitudinal associations between the course of BDD and the course of comorbid major depression, OCD, and social phobia over 1–3 years of prospective follow-up using proportional hazard