Psychiatric Comorbidity in Eating Disorders

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Eating disorders are associated with one of the highest risks of premature death of all mental illnesses.[1] One of the reasons for this high mortality rate, relative to other mental illnesses, may be the high rate of comorbid psychiatric conditions, as the presence of comorbidity may decrease treatment success. Recognition of comorbidity is important in providing an understanding of the context in which the eating disorder develops and perpetuates, and in guiding treatment. Although comorbid psychiatric disorders appear to be common in eating disorders, the current literature is rather preliminary.

How common are comorbid mood disorders?

As described in a comprehensive review by O'Brien and Vincent[2], major depressive disorder appears to be the most common comorbid psychiatric condition for both anorexia nervosa (AN) and bulimia nervosa (BN). In a Canadian study, 45% of 120 adolescents with a range of eating disorder diagnoses had a concurrent diagnosis of major depression.[3] In those diagnosed with BN alone, 63% had a comorbid diagnosis of major depression.[4] Within community samples, 36% of women meeting criteria for BN had a lifetime prevalence of major depression.[5]

Rates of comorbid depression are also high in individuals diagnosed with AN. In a group of 51 adolescents with AN, 86% had depressed affects, whereas only 14% of an age, sex, and school-matched control sample was noted to have this symptom.[6] In a 10-year followup study of 62 women with a history of AN, Halmi et al[7] found a 68% lifetime prevalence of major depression. This rate was significantly higher than an age, gender, and socioeconomic status-matched comparison group. Upon further examination of AN subtypes, Herzog et al[8] found that women with the binge/purge subtype of AN had significantly more mood disorders (primarily major depression) compared to those with the restricting type of AN or those with BN.

To explain the high comorbidity between eating disorders and major depressive disorder, some authors propose that eating disorders are an "unusual" variant of mood disorder.[9] This would imply that mood disturbance precedes the onset of the eating disorder, which is not always the case. This idea is supported by evidence that there is a higher prevalence of depression in relatives of individuals with AN.[10] Other researchers believe that depression may be a result of starvation, which causes neuroendocrine imbalances, including elevations in corticotropin-releasing hormone and a lowering of serotonin functioning.[11,12] Prolonged starvation in AN, and intermittent starvation in BN, could account for these changes. Another view is that starvation could exacerbate an underlying predisposition to depression in vulnerable individuals.

What about anxiety disorders?

The overlap in symptomatology between eating disorders and anxiety disorders has drawn the attention of researchers. Even though obsessions about food are insufficient to warrant a comorbid diagnosis of obsessive compulsive disorder (OCD), many patients with eating disorders have obsessions in other areas, satisfying the criteria for a diagnosis of OCD. In a Canadian study of 120 adolescents with a variety of eating disorders, 37% were diagnosed with a comorbid anxiety disorder.[3] These disorders included overanxious disorder, simple phobia, avoidant disorder, separation anxiety disorder, posttraumatic stress disorder (PTSD), and OCD. In a study by Milos et al, OCD was diagnosed in 30% of the sample of individuals with a variety of eating disorders.[13]

In a comprehensive study of comorbid anxiety problems in eating disorders, Godart et al[14] found a lifetime prevalence of at least one anxiety disorder in 71% of patients with BN. This rate was significantly higher than a control sample. In individuals with BN, when current comorbid anxiety disorders were examined, social phobia was the most common diagnosis (Table 1).

Table 1
Comorbid anxiety problems in BN

- Social phobia (29% in purging type, and 37% in nonpurging type)
- GAD (33% in purging type, and 26% in nonpurging type)
- Panic disorder (13% in purging type, and 16% in nonpurging type)

BN: Bulimia nervosa
GAD: Generalized anxiety disorder

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Rates for these three anxiety disorders were significantly different from the control group within the purging subgroup only. The nonpurging subgroup was not significantly different (likely due to a very small control group). Rates of PTSD and OCD were not significantly different from controls. Although Godart et al[14] did not find elevated rates of OCD in their sample of patients with BN, Rubenstein et al[15] found that 32% of 25 outpatients with BN met criteria for a lifetime prevalence of OCD.

In those with AN, Godart et al[14] found a lifetime prevalence of 71% for one anxiety disorder (significantly higher than that in controls). The most common current comorbid conditions included generalized anxiety disorder (GAD) (45% in binge/purge type, and 49% in restricting type), social phobia (33% in binge/purge type, and 31% in restricting type), and OCD (22% in binge/purge type, and 17% in restricting type). These rates in both the binge/purge type and restricting type groups were all significantly higher than in the control group. Rates of PTSD and panic disorder were not significantly different. In support of these findings, Halmi et al[7] found a higher lifetime prevalence of OCD in 62 subjects compared to matched controls. In contrast, Herzog et al[8] found a low rate of 5% of individuals with AN meeting criteria for OCD.

About half of those individuals with eating disorders report that an anxiety disorder preceded the onset of their eating disorder.[14] While social phobia is more likely to precede the onset of the eating disorder, panic disorder is more likely to co-occur or begin after the eating disorder. In addition, comorbidity with OCD has been associated with a longer duration of eating disorder.[13] In a study by Thornton

and Russell,[16] onset of OCD preceded the eating disorder by a mean of 5.4 years. The researchers have suggested that starvation may emphasize pre-existing obsessive features. Other researchers have stated that eating disorders may be a variant of OCD, and that there are similarities in the neurochemical profiles with lowered levels of serotonin.[17] As in depression and eating disorders, starvation may exacerbate an underlying genetic predisposition to obsessionality and anxiety.

How does substance abuse tie in?

There appears to be a relationship between bulimic behaviours and substance abuse. Those with BN and the binge/purge type of AN seem to be different from those with the restricting type of AN. In a sample of 107 women with eating disorders, 5% reported abusing substances, however, none had a diagnosis of AN.[18] In a sample of patients with BN, 28% reported heavy alcohol use (more than 36 units of alcohol a week), and 28% reported a history of regular drug use (particularly amphetamines, marijuana, and non-prescribed tranquilizers).[19] There appeared to be no difference whether the sample of patients had BN plus a personality disorder (66.7% with substance abuse) or BN alone (61.1% with substance abuse).[20] Although there is little information on substance use in AN, Keel et al[21] found that one of the most consistent predictors of fatal outcome in AN was severity of comorbid alcohol use disorder.

An association between food deprivation and increased consumption of substances has been suggested. In the Keys study,[22] in which a group of men voluntarily restricted their food intake, consumption of tobacco and caffeine increased. Since the onset of the eating disorder usually precedes the onset of the substance use, it may take the form of self-medication for emotional distress.[23] The "multi-impulsive" syndrome of BN has been implied as a general predisposition to substance use and BN.[19]

What about personality disorders?

There appears to be a strong relationship between BN and comorbid axis II conditions, particularly borderline personality disorder (BPD). Sixty-one per cent of women with BN met criteria for an axis II personality disorder in contrast to 13% of binge eaters, and 4% of controls.[24] In the group with BN, BPD comprised 35%, followed by self-defeating (22%), and schizotypal (4.3%) personality disorders. Herzog et al[25] used psychometric evaluation, and found that 27% of 210 outpatients with eating disorders met criteria for a personality disorder. The most common type was BPD (9%). No subjects in the AN group received a diagnosis of BPD, while 8% of the BN group, and 12% of the "mixed" eating pathology group, received a diagnosis of BPD. Using regression models, other authors have found that borderline and narcissistic personality traits appear to predict weight preoccupation.[26]

Cluster C personality disorders (avoidant, dependent, obsessive compulsive) are more commonly observed in AN. Thirty-five per cent of a sample with AN met criteria for OCPD, compared to 5% with BN.[16] Another study by Wonderlich et al[27] indicated a 60% prevalence of OCPD in 46 women with AN restricting type. Women with binge/purge type of AN were more likely to be diagnosed with avoidant personality disorder (60%), and 31% of the women with BN were diagnosed with histrionic personality disorder.

High rates of comorbid personality disorder may be

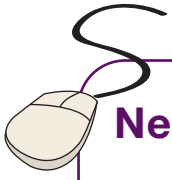
explained by common factors in their genetics. For example, sexual abuse has been proposed as a non-specific risk factor for borderline personality disorder and a nonspecific one for eating disorders. The "multi-impulsive" syndrome proposed by Lacey[19] might also explain a predisposition to BPD, which would encompass substance abuse and BN. Some have suggested that personality disorder symptoms may be a result of starvation. However, symptoms appear to remain stable even after treatment for the eating disorder, suggesting that these symptoms are personality traits rather than states associated with starvation.

Does self-injury play a role?

In a study by Paul et al[28] of 376 in-patients with a variety of eating disorders, 34.6% reported having injured themselves. A total of 21.3% of patients had injured themselves within the past six months. Self-injury was defined as a self-inflicted direct injury of the body without conscious suicidal intent. There were no significant differences in these rates in subgroups (bulimia versus anorexia), and BPD was excluded. In approximately 50% of patients, onset of self-injurious behaviour occurred after the onset of the eating disorder. Most patients injured themselves by cutting, hitting, or scratching. Patients reported that the main functions of this behaviour were to reduce anger, to punish themselves, to reduce tension, to feel bodily pain instead of emotional pain, and to end uncomfortable feelings. Self-injurious behaviour appears to be a common comorbid condition associated with eating disorders that requires further investigation.

In closing ...

Although a temporal relationship has not been clearly delineated between eating disorders and comorbid conditions, there appears to be evidence that anxiety disorders often precede the onset of eating disorders. This is particularly the case with social phobia. In terms of the effect of comorbidity on outcome, OCD appears to be associated with a longer duration of eating disorder. There is some convincing evidence that the severity of alcohol use is a predictor of mortality in AN. It is important, therefore, for clinicians to inquire about comorbid psychiatric conditions, particularly substance abuse, when treating patients with eating disorders. CME



Net Reading

American Psychiatric Association:
www.psych.org/public_info/eatingdisorders52201.cfm

Take-home message

- Major depressive disorder is the most common comorbid axis I psychiatric diagnosis for anorexia and bulimia nervosa.
- Social phobia and generalized anxiety disorder are the most common comorbid anxiety disorders for anorexia and bulimia nervosa.
- Severe alcohol use is a predictor of mortality in anorexia nervosa.
- Cluster B personality disorders appear to be related to bulimia nervosa.
- Cluster C personality disorders are associated with anorexia nervosa.
- Self-injurious behaviour is a common comorbidity in eating disorders.

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