

Anorexia nervosa with excessive exercise: A phenotype with close links to obsessive-compulsive disorder

Caroline Davis^{*}, Simone Kaptein

Department of Kinesiology and Health Sciences, York University, Toronto, Ontario, Canada

Received 20 July 2005; received in revised form 7 November 2005; accepted 11 November 2005

Abstract

Anorexia nervosa (AN) and obsessive–compulsive disorder (OCD) are highly comorbid, and appear to share a common neurophysiological dysfunction that contributes to the obsessional thoughts and compulsive behaviours seen in both disorders. Obsessive–compulsive personality (OCP) traits are also important risk factors for AN. Since *excessive exercise* has also been associated with greater obsessiveness, we hypothesised that AN patients with a hyperactive behavioural profile represent a phenotype more closely linked to OCD than their non-exercising counterparts. We examined prospectively 50 female AN-Restrictor patients whom we classified as “excessive” or “non-excessive” based on their exercise status i) at admission and ii) over the lifetime of their illness. Validated measures of OCD symptoms and OCP traits were obtained at admission and after refeeding at discharge. On both classification methods, excessive exercisers had greater OCD symptoms and OCP traits than the non-excessive group, but did not differ on body mass index. OCD symptoms, but not OCP traits, decreased between admission and discharge. Findings support our prediction that AN patients with excessive physical activity constitute a subtype of the disorder with strong links to OCD. Indeed, this phenotype may be a culture-bound variant of OCD.

© 2005 Elsevier Ireland Ltd. All rights reserved.

Keywords: Obsessionality; Physical activity; Anorexia nervosa

1. Introduction

For decades, clinicians have noted the striking parallels between anorexia nervosa (AN) and obsessive–compulsive disorder (OCD) (e.g., Palmer and Jones, 1939). Indeed, some have boldly proposed that AN is largely a “modern variant” of OCD (e.g., Rothenberg, 1986; Holden, 1990), suggesting that the socio-cultural context of the past 30–40 years has simply altered the form of certain OCD symptoms in a susceptible cohort

of the population. The high co-morbidity between the two disorders (see Jordan et al., 2003; O’Brien and Vincent, 2003; Jacobi et al., 2004) and the substantial lifetime prevalence of obsessional symptoms in AN patients (Halmi et al., 2003) have added weight to this viewpoint. There are also many clinical similarities between the two disorders such as involuntary ruminations and uncontrollable behaviours. AN patients are, for instance, preoccupied with maintaining or achieving a certain body weight, and they engage in ritualistic and compulsive behaviours such as dieting, weight-checking, and exercise routines. It is noteworthy, therefore, that symmetry and contamination obsessions, and checking, cleaning, and counting compulsions, are the most commonly observed OCD symptoms in AN

^{*} Corresponding author. 343 Bethune College, York University, 4700 Keele Street, Toronto, Ontario, Canada M3J 1P3. Tel.: +1 416 736 2100x77327.

E-mail address: cdavis@yorku.ca (C. Davis).

patients (Bastiani et al., 1996; Matsunaga et al., 1999; Hasler et al., 2005).

In societies where obesity is now a major health concern, educational prevention has turned to harsh warnings about the evils of over-consumption and lack of exercise. For those with obsessional tendencies, especially in young women, dietary fat may become the egregious equivalent of intrusive thoughts about dirt and germs, thereby forming the basis for a modern version of contamination obsessions. Expending calories through exercise activities may be analogous to compulsive washing and cleaning rituals. An excessive need for order and exactness can also take a food-related focus in a culture focussed on a fear of fatness. Many patients spend a considerable amount of time counting the calories in the food they eat and obsessively balancing these against the number of calories they waste in daily exercise.

A salient question is whether *obsessionality* is a core feature of the AN personality or whether it is mainly a consequence of starvation. Some evidence supports the view that obsessive–compulsive features contribute to one's ability to self-starve and exercise excessively, and they thereby play a causal role in the development of AN. For example, when OCD is co-morbid with AN, many patients report that its onset occurred in childhood and before the emergence of their eating problems (e.g., Bulik et al., 1997; Kaye et al., 2004). Other studies have found a higher than expected prevalence of obsessive–compulsive symptoms in weight-restored and long-term recovered patients with AN (O'Dwyer et al., 1996; Pollice et al., 1997; Wentz et al., 2001; Holtkamp et al., 2005).

Although obsessive–compulsive personality disorder (OCPD) and OCD are separate clinical syndromes, it is generally assumed they share significant overlap in the risk profile for AN (Gibbs and Oltmanns, 1995; Jacobi et al., 2004). The hallmark characteristics of OCPD are dimensionally continuous with personality traits such as perfectionism, a preoccupation with orderliness, and excessive persistence, and they are frequently seen in the pre-morbid profile of patients with AN, especially those of the Restrictor subtype (AN-R). A recent study also found that AN patients who reported such traits in childhood had significantly higher rates of OCPD and OCD compared with their counterparts who did not report these early symptoms (Anderluh et al., 2003).

In addition to the clinical parallels, AN and OCD appear to share common neurophysiological dysfunctions. For instance, studies have shown hyperactivation in the prefrontal areas and basal ganglia structures in

both OCD and AN—features that likely contribute to the obsessions and the ritualistic behaviours seen in both disorders (Delvenne et al., 1996, 1999; Saxena et al., 1998). In addition, hypometabolism has been found in the posterior cingulate cortex—an area involved in emotional information processing and memory—in women with AN (Miller et al., 2004). Dysfunction in this area also plays a role in the pathophysiology of anxiety disorders like OCD. Other neuropsychological data also indicate an excessive awareness of stimuli signalling punishment or non-reward in both OCD and AN patients (Murphy et al., 2004).

Excessive exercising is one of the most obvious compulsions in AN, with a lifetime occurrence in about 80% of patients (see Davis, 1997), and it seems to occupy a central role in the pathogenesis and progression of the disorder. Not only is it one of the first symptoms to appear (Davis et al., 2005), but AN patients who exercise excessively have poorer recovery rates, higher rates of relapse, and longer periods of hospitalization (Casper and Jabine, 1996; Carter et al., 2004; Strober et al., 1997). We and others have also found that excessively exercising AN patients display higher levels of psychopathology on a broad range of measures, including a greater frequency of OCD symptoms and more pronounced obsessive–compulsive personality traits (Davis et al., 1998, 1999; Penas-Lledo et al., 2002).

It is quite probable that some of the psychological and behavioural symptoms of AN are either caused—or at least exacerbated—by malnutrition and the concomitant reduction in essential dietary precursors of relevant brain neurotransmitters such as serotonin and dopamine (Siegfried et al., 2003; Holtkamp et al., 2004). It is difficult, therefore, to establish from the study of acutely ill patients whether the psychopathological differences between excessively exercising patients and their more sedentary counterparts are antecedent factors that precipitate a more severe clinical profile and outcome, or whether, in combination with drastic dieting, exercise causes greater psychological impairment and poorer prognosis than food restriction on its own.

The present study sought to answer some of these questions using a longitudinal research design. We predicted that excessive exercisers would have greater obsessive–compulsive personality characteristics than their non-excessive counterparts. Given the relative stability of biologically based personality traits, we did not expect this group difference to change between admission and discharge. We also expected that OCD symptoms would be more pronounced in the exercising

متن کامل مقاله

دریافت فوری ←

ISIArticles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات