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Research review

Disordered eating practices in gastrointestinal disorders

R. Satherley *, R. Howards, S. Higgs

University of Birmingham, Birmingham, UK

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ABSTRACT

Purpose: To systematically review evidence concerning disordered eating practices in dietary-controlled gastrointestinal conditions. Three key questions were examined: a) are disordered eating practices a feature of GI disorders?; b) what abnormal eating practices are present in those with GI disorders?; and c) what factors are associated with the presence of disordered eating in those with GI disorders? By exploring these questions, we aim to develop a conceptual model of disordered eating development in GI disease. *Methods:* Five key databases, Web of Science with Conference Proceedings (1900–2014) and MEDLINE (1950–2014), PubMed, PsycINFO (1967–2014) and Google Scholar, were searched for papers relating to disordered eating practices in those with GI disorders. All papers were quality assessed before being included in the review. *Results:* Nine papers were included in the review. The majority of papers reported that the prevalence of disordered eating behaviours is greater in populations with GI disorders than in populations of healthy controls. Disordered eating patterns in dietary-controlled GI disorders may be associated with both anxiety and GI symptoms. Evidence concerning the correlates of disordered eating was limited. *Conclusions:* The presence of disordered eating behaviours is greater in populations with GI disorders than in populations of healthy controls, but the direction of the relationship is not clear. Implications for further research are discussed.

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* Corresponding author.
E-mail address: RXS027@bham.ac.uk (R. Satherley).

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Introduction

Disruptions to the gastrointestinal (GI) tract result in GI disorders including coeliac disease (CD), irritable bowel syndrome (IBS) and inflammatory bowel disease (IBD). The symptoms associated with these disorders include nausea, bloating, constipation, diarrhoea, changes in weight and abdominal pain. CD, IBS and IBD can all be managed via a life-long modification of the daily diet to avoid GI symptoms (Gibson & Shepherd, 2010). Dietary plans and foods that trigger symptoms vary across GI conditions. In those with CD, it is necessary to follow a strict, life-long gluten-free diet, whereas individuals with IBD and IBS have a less structured dietary regimen that involves trial and error to identify trigger foods (NICE, 2009; Yamamoto, Nakahigashi, & Saniabadi, 2009).

Dietary-controlled GI disorders may place individuals at risk for the development of disordered eating (DE) patterns. DE describes abnormal eating behaviours that may include skipping meals, binge eating, restricting certain food types or fasting (Grilo, 2006). These eating patterns are deviations from the cultural standard of three meals a day, which is often found in Western cultures (Fjellstrom, 2004). In this article, we use the term "Disordered Eating (DE)" to indicate any deviation from these cultural norms, including food restriction, skipping meals and over-eating. These deviations from cultural norms may be related to later development of an eating disorder but they do not necessarily indicate that an eating disorder is present. Dietary restraint, GI symptoms, food awareness and the non-specific burden of chronic illness may act as triggers for the development of DE patterns in those with CD, IBS and IBD.

Before diagnosis, individuals with dietary-controlled GI disorders will often experience uncomfortable, embarrassing and distressing symptoms when consuming offending food items (Bohn, Storsrud, Tornblom, Bengtsson, & Simren, 2013; NICE, 2009). These symptoms may become associated with certain types of food or with food in general, creating the potential for a conditioned food aversion to develop (Garcia, Kimeldorf, & Koelling, 1955). This may be similar to the development of food aversions in chemotherapy patients (Berteretche et al., 2004). A fear of being contaminated by unknown food sources has repeatedly been reported in the literature across the dietary-controlled GI disorders (Sverker, Hensing, & Hallert, 2005; Teufel et al., 2007). This may feed into the development of DE patterns when individuals become too afraid to consume a variety of foods and subsequently begin to restrict their intake.

All dietary-controlled GI disorders require some form of prescribed dietary restriction as part of their management. Food restriction, whether it is done as part of a medical regimen or to promote health, is associated with altered eating patterns (Herman & Polivy, 1980; Johnson, Pratt, & Wardle, 2012). The prescribed dietary restraint in IBS, IBD and CD may place these individuals at risk for abnormal eating patterns (Keller, 2008). Prescribed dietary regimens may result in the development of harmful thoughts and attitudes towards food and body weight, which may in turn, lead to inappropriate eating practices (Nicholas et al., 2007). This phenomenon has been demonstrated in those with dietary-controlled chronic health conditions including Diabetes and Cystic Fibrosis (Quick, Byrd-Bredbenner, & Neumark-Sztainer, 2013).

Visible signs of illness in GI disorders are accompanied by embarrassing symptoms (Creed, Levy, & Bradley, 2006). Subsequently, individuals with GI disorders may become the target of bullying, which may contribute to a lower self-confidence and create a heightened awareness of one's body (Quick, McWilliams, & Byred-Bredbenner, 2014). In combination with essential dietary modifications and subsequent food awareness, these factors may result in those with dietary-controlled GI conditions being at greater risk for DE patterns (De Rosa, Troncone, Vacca, & Ciacci, 2004).

Numerous case studies have described the co-occurrence of GI disorders and DE behaviours. The incidence of Bulimia Nervosa (BN), pica, obesity, Anorexia Nervosa (AN) and Eating Disorder Not Otherwise Specified (ENDOS) have been reported (Bayle & Bouvard, 2003; Leffler, Dennis, Edwards-George, & Kelly, 2007; Mallert & Murch, 1990; Nied, Gillespie, & Riedel, 2011; Oso & Fraser, 2005). In addition, the deliberate consumption of trigger foods to avoid weight gain has been indicated (Leffler et al., 2007). However, to our knowledge there has been no systematic review of the prevalence and aetiology of these difficulties in representative samples. The present work aimed to answer three questions: a) are DE practices a feature of GI disorders?; b) what abnormal eating practices are present in those with GI disorders?; and c) what factors are associated with the presence of DE in those with GI disorders?

Methods

Search strategy

Articles were obtained from the two databases that form Web of Knowledge: Web of Science with Conference Proceedings (1900–2014) and MEDLINE (1950–2014), as well as PubMed, PsycINFO (1967–2014) and Google Scholar. The search criteria were composed of two categories: (i) GI disorder and (ii) terms relating to DE (see Appendix). Retrieved articles were scrutinised for relevant citations.

Eligibility criteria

To be included in the review, the articles had to meet stringent criteria. Only studies published during or after 1990 were included as this was a period of change for the diagnosis of GI conditions (ESPGHAN, 1990). In addition, articles had to be written in the English language and include participants between 10 and 80 years with a physician validated diagnosis of CD, IBS or IBD. Those articles that had not been peer reviewed were excluded, as well as case studies and case series. For a summary of the selection process refer to Fig. 1.

Participants

Studies included youths and working-age adults (10–80 years) with a physician provided diagnosis of CD, IBS or IBD. Those reports focusing on other GI food-related allergies were excluded. Any articles looking at the presence of GI disorders in populations already diagnosed with an eating disorder were excluded. The relationship between eating disorder onset and subsequent GI symptoms has been well documented (Abraham & Kellow, 2013; Peat et al., 2013; Perkins, Keville, Schmidt, & Chalder, 2005); this review concerns the presence of DE in those with diagnosed GI conditions.

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