

Uncovering anorexia nervosa in a biofeedback clinic for bowel dysfunction

By Sonya Chelvanayagam, Julie Duncan, Brigitte Collins and Lorraine O'Brien

Abstract

Biofeedback is a conservative treatment based on behavioural techniques, which can be used in the management of bowel dysfunction. This article reports the results of a retrospective review of the clinical notes of 87 female patients attending a biofeedback service at St Mark's Hospital, Harrow. The initial review was conducted to examine the incidence of polycystic ovary syndrome (PCOS) in patients attending this service. Seven percent were found to have PCOS, which is within the normal range. However, a significant proportion of patients (11.5%) had a current history of anorexia nervosa, a higher rate than in the general population, which prompted further investigation. In this article, Sonya Chelvanayagam, Julie Duncan, Brigitte Collins and Lorraine O'Brien report on the results of this review and discuss the significance of its findings

Introduction

Biofeedback is a conservative treatment based on behavioural techniques (Myung, 2010), which is used to alleviate a variety of conditions and symptoms including hypertension, anxiety and bowel conditions (Chiarioni and Whitehead, 2008). During biofeedback therapy, the patient is provided with visual or auditory information regarding their subconscious physiological processes, which they observe in real time. The biofeedback therapist instructs the patient on how to improve their physiological status, and by responding appropriately to these instructions, the patient is able to improve symptom control.

Bowel dysfunction can be treated using biofeedback techniques, which may include the use of a transanal probe connected to a computer. The patient is placed in a suitable position to view the computer screen and observe the functioning of their anal sphincters as they respond to the therapist's instructions. This provides immediate feedback, enables the patient to see and learn about their bowel function and provides an opportunity for the patient to learn suitable exercises to alleviate their symptoms (Norton et al, 2009).

Assessment of bowel dysfunction and biofeedback therapy

At St Mark's Hospital, biofeedback therapy for bowel dysfunction is led by a nurse or physiotherapist, who is known as a 'biofeedback therapist'. Following a comprehensive and individualised assessment, patients with faecal incontinence, chronic constipation or evacuation disorders are offered a course of treatment, which usually involves four appointments over a six-month period. The therapist provides education of bowel function, diet and lifestyle, and a range of

interventions are offered to help manage symptoms. These include sphincter exercises for patients with faecal incontinence, and bowel and muscle retraining for evacuation disorders, including constipation (Collins and Burch, 2009). For those with faecal incontinence, practical advice regarding the use of continence products, barrier creams and anal plugs is also provided (Norton and Chelvanayagam, 2004). Bowel irrigation may also be an option for some patients.

The biofeedback therapist will also ask the patient whether they have been diagnosed with a mental disorder or experienced any mental health problems. Stress affects bowel function by increasing colonic activity and it can cause relapse of functional bowel disorders such as irritable bowel syndrome (IBS) and organic disorders, such as inflammatory bowel disease (IBD) (Bennett et al, 1998; Mayer, 2000).

Previous or current psychological distress or psychiatric illness can impact on bowel function (Mayer, 2000; Emmanuel et al, 2001, Oudenhove et al, 2004; Jones et al, 2006) and can have a detrimental effect on, or cause, functional and organic bowel conditions (Brook, 1991; Drossman et al, 1995; Stern, 2003; Locke et al, 2004). The biofeedback therapist will also ask about traumatic childhood events. A literature review by Drossman et al (1995) found a high incidence (up to 56% in one centre) of sexual and physical abuse reported by patients attending gastrointestinal (GI) services in the USA and Europe.

If the patient reports a history of psychological or psychiatric disorders, they will be asked if there is a correlation with the development of their bowel symptoms. Adverse life events (such as divorce or bereavement) may precipitate a functional gut disorder (Creed et al, 1988; Locke et al, 2004). Therefore, it is important to ask if there were any adverse life events prior to the onset of symptoms, or if symptoms have worsened with the occurrence of life events. If psychological issues are uncovered, the therapist discusses whether or not the patient would like to address them. St Mark's Hospital has a specialist psychological medicine unit consisting of psychiatrists, psychologists and a counsellor, and provides assessment and treatment of both in- and outpatients with GI disorders and psychological problems.

The consultant psychiatrist provides weekly supervision for all the specialist nurses and therapists working with people with GI disorders. At these sessions, they discuss the patients with psychological issues/mental disorders, how they can best support them during their treatment at St Mark's Hospital and if they require referral to the psychological medicine unit (Stern, 2011).

As bowel function remains a taboo topic, many patients are reluctant to reveal their symptoms. They may have experienced these symptoms for many years before disclosing them, which can have an impact on their psychosocial functioning (Norton and Chelvanayagam, 2004). Patients report that discussing bowel symptoms with an experienced health care practitioner is therapeutic. The opportunity to ask questions within a supportive environment has proved beneficial and plays a key role in the reduction of symptoms (Norton et al, 2003; Chiarioni and Whitehead, 2008). More than two thirds of patients who have biofeedback treatment for evacuation disorders or faecal incontinence have successful outcomes (Whitehead and Barucha, 2010).

Audit of biofeedback service for polycystic ovary syndrome

Therapists within the biofeedback clinic observed that a number of female patients of reproductive age who were being seen at the clinic had been diagnosed with or appeared to have symptoms of polycystic ovary syndrome (PCOS). The features of PCOS are listed in Table 1. These patients appeared to have less successful results with biofeedback therapy, and a literature review was undertaken to see if there was any relevant evidence identifying a correlation between PCOS and bowel dysfunction.

PCOS is the most common endocrine disorder affecting women during childbearing years (Teede et al, 2010); it affects 4–18% of women of reproductive age (Moran et al, 2011) and 5–10% of all women (Homburg, 2008). Its cause is unknown, although there appears to be a genetic link (McCurtis, 2008). Essentially, the ovaries of affected women produce excessive amounts of androgens, which causes hyperandrogenism and chronic anovulation. The syndrome was defined by the Rotterdam ESHRE/ASRM-Sponsored PCOS consensus workshop group (2003). Any two of the three features presented in Table 1 confirm the diagnosis (Homburg, 2008).

Whilst the literature search revealed a number of articles relating to the syndrome's prevalence, diagnosis, effects on lifestyle and fertility, none were found that were relevant to bowel function. However, a more recent search identified one paper that examines whether or not women with PCOS are more likely to have symptoms of IBS compared with control (Mather et al, 2010). This study was questionnaire-based and the authors reported that 41.7% of women diagnosed with PCOS had symptoms of IBS, compared with 10.3% of the control group.

Following the literature review, the authors reviewed the clinical notes of patients currently attending for biofeedback therapy. Because a comprehensive assessment is undertaken at the initial visit, information about pre-existing medical conditions, mental health, height, weight, menstrual cycle and pregnancies could be collected.

We examined 87 sets of clinical notes of female patients of reproductive age, who attended the biofeedback clinic over a one-month period. We discovered that 8% (7) had been diagnosed with PCOS, which is within its prevalence range. All these patients were receiving biofeedback therapy for chronic constipation. Thus, contrary to our hypothesis, our patient group did not have an increased incidence of PCOS. Surprisingly, when examining these patients' notes it became evident that 11.5% (10) were currently experiencing symptoms of anorexia nervosa. This had either been recorded in the clinical notes or detailed by the referring clinician. Those identified were aged 19–30 years and their BMI scores ranged 16.5–19kg/m². Eight were receiving biofeedback treatment for constipation and two for faecal incontinence. These patients had already been referred to the psychological medicine unit for assessment and treatment.

Eating disorders and anorexia nervosa

An eating disorder is defined as a severe disturbance of eating habits, preoccupation with food and associated weight control behaviour. There is a significant impairment in both physical and psychological functioning. Individuals are usually severely dissatisfied with their appearance and have low self-esteem (Institute of Psychiatry, 2012).

Eating disorders are classified into 4 groups (Royal College of Psychiatrists [RCP], 2005):

- Anorexia nervosa

- Bulimia nervosa
- Atypical eating disorders; eating disorders not otherwise specified (EDNOS)
- Binge eating disorder.

Within the general population, anorexia nervosa affects 0.5–1% of women, bulimia nervosa affects 1–4% of women and EDNOS, including binge eating disorder, affects 2% of the population (Keaschuk and Newton, 2009).

Anorexia nervosa is a psychological condition in which the person has overvalued ideas regarding weight and shape, and starves in order to lose weight. They continue a regime of severe dieting and exercise, even when they are very emaciated, as they have an altered body image and still believe they are overweight, despite their appearance. Table 2 lists the diagnostic criteria and features of anorexia nervosa (American Psychiatric Association, 2000).

This disorder usually begins during adolescence—a period of physical and psychological transition which can be perceived as frightening and uncontrollable. Anorexia nervosa often develops after starting a diet (Fairburn and Harrison, 2003), possibly with a group of friends. However, while friends may stop dieting, the person with anorexia nervosa continues to diet, eating fewer and fewer calories and use a range of techniques to continue to lose weight, and to conceal their weight loss. They can present as very emaciated—as low in weight as 30kg. However, they may conceal their body shape with layers of clothes or baggy, oversized clothes, which can delay detection of weight loss (Jenkins, 2005). The person does not lose their appetite as the term ‘anorexia’ suggests but severely controls and restricts their food intake in relation to their overvalued ideas regarding body image and what thinness represents—possibly in an attempt to halt their physical development into adulthood. People with anorexia nervosa frequently have low self-esteem, perfectionist traits and a need to maintain stringent control in their lives. They may also be depressed (RCP, 2009). As the condition persists, the desire to continue to lose weight increases, as does the secrecy and shame associated with it. The person may become increasingly withdrawn and isolated (Institute of Psychiatry, 2012).

Often the individual will view their low weight as an accomplishment, not an affliction, and have a limited motivation to change (Casasnovas et al, 2007). They may feel they have increasing control over their bodies, especially when they experience symptoms such as amenorrhoea. It is usually a parent or partner that takes the person (often reluctantly) to see a healthcare practitioner (Jackman, 2009).

Eating disorders in GI services

By nature, eating disorders have direct effects on the GI system. They involve abnormal eating patterns, calorie intake, purging of food, self-induced vomiting and abuse of laxatives (Winstead and Willard, 2006), so it is not surprising that some individuals with an eating disorder will attend, or be referred to, GI services. People with eating disorders may seek treatment for GI symptoms such as constipation, rather than accessing services to address their psychological needs (Andersen, 2004; Emmanuel et al, 2004; Winstead and Willard, 2006). Winstead and Willard (2006) interviewed 13 inpatients at an eating disorder unit and discovered that eight had previously seen a gastroenterologist or general practitioner for GI symptoms, and six of these had sought treatment for these symptoms before seeking treatment for their eating disorder.

Functional GI disorders such as irritable bowel syndrome and functional constipation are common in people with eating disorders (Porcelli et al, 1998; Boyd et al, 2005) and persist after the person is fully recovered from their eating disorder (Porcelli et al, 1998). Some people with eating disorders may prefer to address the physical symptoms, rather than accessing mental health services, due to the stigma and negative attitudes towards eating disorders (Crisp et al, 2000; Mond et al, 2006).

Recommendations and implications for practice

Members of the biofeedback team were not surprised to find a high prevalence of anorexia nervosa within the clinic, as they had previously considered that significant numbers of patients with, not just anorexia nervosa, but other eating disorders, were being managed by the service. The review of clinical notes confirmed that this was a significant issue, and management of this patient group requires appropriate knowledge, skills and supervision (Swatton, 2011).

Delaying access to appropriate treatment for people with eating disorders can be fatal. Anorexia nervosa, if untreated, has the highest mortality rate of all mental disorders—up to 20% die prematurely from medical complications or suicide (Beat, 2010). However, the patients highlighted in this paper had already been referred to our psychological medicine unit. Of greater concern is patients who are not receiving treatment for their eating disorder, and only addressing GI symptoms. Due to a lack of recognition and secrecy surrounding eating disorders, these people may not disclose details of their eating behaviours and may undergo a range of inappropriate examinations and investigations. Delays accessing necessary assessment and treatment may lead to a detrimental effect on health.

Our finding highlighted the need for further investigation, and a cross-sectional survey has just been completed to examine the incidence of eating disorders in patients with functional and organic GI disorders at St Mark's Hospital. It is hoped that recognition of the increased risk of people with eating disorders attending GI services will lead to greater awareness and ensure that patients receive appropriate assessment and treatment as soon as possible.

Conclusion

This paper highlights three issues. Firstly, that to examine the evidence to answer one question can sometimes uncover other questions and concerns which need to be addressed. In this instance, investigating the incidence of PCOS in patients attending the biofeedback clinic at St Mark's Hospital led to the discovery of an increased incidence of anorexia nervosa. Secondly, this discovery meant that further investigation was required regarding the incidence of eating disorders within GI services at St Mark's Hospital. A literature review supported this finding and a cross-sectional study was performed to examine the incidence of eating disorders within GI services. The results of this study will be reported in due course. Thirdly, this paper highlights that patients attending GI services are more likely to have experienced psychological distress and/or mental illness, which may be precipitated or perpetuated by their GI disorder. The stigma surrounding bowel dysfunction can cause additional suffering. The assessment of patients attending GI services needs to address physical, psychological and social functioning. To ensure that the patient feels able to voice their concerns and therefore receive appropriate and effective care, the development of a therapeutic relationship is crucial.

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Table 1. Features of polycystic ovary syndrome (PCOS)	
Oligo- or anovulation infertility	Decreased, irregular or no menstrual cycle, causing
Hyperandrogenism	Symptoms include excessive hair growth on face, breasts, back, abdomen and legs, and acne
Polycystic ovaries on ultrasound examination	

Table 2. Diagnostic criteria and features of anorexia nervosa
Refusal to maintain normal body weight; the body mass index (BMI) may be 17.5kg/m ² or less, 15% or more lower than expected
Fear of weight gain or becoming fat (although underweight)
Body image distortion; there is fear of fatness, overvalued ideas regarding weight and shape and an imposed low weight threshold
Amenorrhoea, for at least three consecutive menstrual cycles. Men may report loss of libido and loss of early morning erections
Two subtypes of anorexia nervosa: <ul style="list-style-type: none"> • Restricting subtype—food restriction and starvation • Binge/purge subtype—food restriction, excessive exercise and purging behaviours (such as use of laxatives and self-induced vomiting); may use appetite suppressants

