

Treating binge-eating disorder in type 2 diabetes

Elaine Jennings

There are now 2.6 million people in the UK with diabetes, most of whom have type 2 diabetes (Diabetes UK, 2010). Lifestyle management is an important aspect of treatment for type 2 diabetes and many people with this condition have disordered eating. A study by Herpetz et al (1998) found that in those with type 2 diabetes and disordered eating, 60% had binge-eating disorder (BED). The treatment of BED with cognitive behavioural therapy may delay the prescribing of newer, more expensive drugs for obese and overweight people with diabetes and potentially reduce prescribing costs. It is important to identify and treat BED as part of holistic care and lifestyle management for overweight or obese people with type 2 diabetes.

By 2025, the number of people with diabetes is estimated to have risen to 4 million, due to the ageing population and rapidly rising numbers of overweight and obese people, with 90% of cases being type 2 diabetes (Diabetes UK, 2010).

The financial cost of prescribing for diabetes represented 7.7% of the total cost of prescribing in primary care in England in 2009/10, increasing from 5.3% in 2004/5 (NHS Information Centre and Prescribing Support and Primary Care Services, 2010). The total cost of diabetes care in the UK is estimated to be around £9 billion each year (Diabetes UK, 2010).

Integrated diabetes care services need to be able to provide care pathways for the increasing number of people with type 2 diabetes. Addressing their lifestyle in a consistent and coordinated manner may delay the initiation of more expensive pharmaceutical options for people with this chronic condition and thus result in potential cost savings.

For lifestyle management, key recommendations are that adults with type 2 diabetes should have access to structured education programmes based on adult learning theories (SIGN, 2010a) at, or around, the time of diagnosis and with annual update and ongoing reinforcement (NICE, 2008). Furthermore, obese adults with type 2 diabetes should be offered individual lifestyle interventions to encourage weight reduction (including lifestyle interventions – pharmacological or surgical), in order to improve metabolic control (SIGN, 2010a).

In the author's locality, a community-based, 2-hour structured education group programme has been developed based on national guidelines (Department of Health and Diabetes UK, 2005) and is delivered by dietitians for people newly diagnosed with type 2 diabetes. The diabetes service aims to offer people a place at a group session, within a month of a referral being received by the dietetic department from

Article points

1. Addressing the lifestyle of people with type 2 diabetes in a consistent and coordinated manner may delay the initiation of more expensive pharmaceutical options and thus result in potential cost savings.
2. Binge eating should be assessed throughout treatment rather than just on entry into weight loss programmes.
3. There is a need for training among primary care health professionals including practice nurses, GPs and dietitians, to identify individuals with disordered eating and to offer appropriate support.

Key words

- Binge-eating disorder
- Counselling
- Lifestyle
- Type 2 diabetes

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Page points

1. The prevalence of BED seems to be higher among people with type 2 diabetes than in the general population, but there has not been a great deal of research into this specific group.
2. Studies report the incidence of BED to be between 2.5% and 25% in people with type 2 diabetes.
3. Kenardy et al (1994; 2001) found that binge eating behaviour in type 2 diabetes is associated with poorer wellbeing, earlier age of diagnosis, poorer diet self-management and exercise self-management, and a higher BMI compared with those with type 2 diabetes who did not binge eat.

colleagues in primary care. These people are then encouraged to attend the 6-week X-PERT education programme, which is delivered by practice nurses or community-based nurses and a specialist diabetes dietitian.

As a specialist diabetes dietitian, the author runs a clinic for people with type 2 diabetes, referred for dietary assessment and advice, usually when they are being considered for initiation of insulin or a glucagon-like peptide-1 (GLP-1) receptor agonist therapy. Despite having attended group education programmes, they often express more complex eating behaviours.

Binge-eating disorder

The prevalence of binge-eating disorder (BED) is 3% in the general population according to DSM-IV (American Psychiatric Association, 2000), but up to 30% in people seeking weight management services (SIGN, 2010b). The prevalence of BED seems to be higher among people with type 2 diabetes than in the general population, but there has not been a great deal of research into this specific group. Studies report the incidence of BED to be between 2.5% and 25% in people with type 2 diabetes (Herpetz et al, 1998; Crow et al, 2001; Mannucci et al, 2002; Papelbaum et al, 2005; Allison et al, 2007; Gorin et al, 2008).

Herpetz et al (1998) studied the prevalence of eating disorders in both type 1 and type 2 diabetes, and found that the overall prevalence was similar across both groups, 5.9–8.0% (10–14% lifetime prevalence). However, in the type 2 diabetes group, BED was most common, in nearly 60% of people with an eating disorder, compared with only 25% in type 1 diabetes.

In the type 2 diabetes cohort ($n=322$), 18.8% had bulimia nervosa and 21.9% had eating disorders not otherwise specified, with no cases of anorexia nervosa. Almost 90% of the type 2 diabetes cohort had developed their eating disorder prior to the onset of diabetes, compared with 30% of the people with type 1 diabetes. This is probably related to the earlier age of onset of type 1 diabetes. However, this study only included people with type 2 diabetes who were in the care of specialist diabetes teams, so these may be the more

complex cases referred from primary care, and so may bias the results.

Gorin et al (2008) and Kenardy et al (1994; 2001) found that 11.7–20.9% of people with type 2 diabetes reported binge eating behaviour, although the first two studies showed no increase in the clinical diagnosis of BED.

Meneghini et al (2006) found a prevalence of 40% of “abnormal eating” in their study of people with type 2 diabetes ($n=140$). Like Gorin et al (2008), they suggest that the use of quick screening tools (for example, the Questionnaire of Eating and Weight Patterns) by healthcare professionals to identify those who require further assessment and appropriate interventions. SIGN (2010b) recommends a four-item questionnaire to screen for binge eating in primary care among the overweight population, although this is not specific to type 2 diabetes.

Kenardy et al (1994; 2001) found that binge eating behaviour in type 2 diabetes is associated with poorer wellbeing, earlier age of diagnosis, poorer diet self-management and exercise self-management, and a higher BMI compared with those with type 2 diabetes who did not binge eat. There is discrepancy from these studies regarding the effect of binge eating on glycaemic control. Kenardy et al (2001) and Mannucci et al (2002) found worsened glycaemic control whereas Herpetz et al (1998), Crow et al (2001) and Gorin et al (2008) did not.

People who binge eat should not be discouraged from entering into weight management programmes (SIGN, 2010b). However, Sherwood et al (1999), recognise the complexity of the association between treatment outcome with weight management and binge status, and suggest that future research should look at developing alternative methods for identifying and treating bingeing in the context of weight loss. Similarly, Gorin et al (2008) reported that people with type 2 diabetes who continued to or started to binge eat during an intensive lifestyle intervention programme were less successful at weight loss than those who abstained from binge eating. Therefore, binge eating should be assessed throughout treatment rather than just on entry into programmes.

Treatment of BED

A systematic review of seven randomised controlled trials (Brownley et al, 2007) found that group cognitive behavioural therapy (CBT) proved to be an evidenced-based treatment for BED in terms of reducing episodes of binge eating for a period of up to 4 months. Weight loss was not an outcome with CBT. However, the authors suggest that it is possible that the CBT in this group of people is associated with less weight gain over time. This in itself would be beneficial to some of the overweight and obese individuals with type 2 diabetes, given the propensity for weight gain from some oral antidiabetes agents and insulin therapy.

There has been only one randomised controlled trial examining the use of group CBT for women with type 2 diabetes (Kenardy et al, 2002). The study and a control group who received non-prescriptive therapy met for 1.5 hours per week for 10 weeks. The CBT stages included diabetes specific cognitions and issues. Overall, although a small sample size, the results showed reduction in binge eating behaviour, and treatment gains maintained at 3 months, compared with the control group. Furthermore, across treatments, reduction in binge eating was associated with reduction in HbA_{1c}, independent of weight loss.

An approach suggested by de Zwann (2001) would be to address the disordered eating and then to consider additional weight reduction methods to treat the remaining obesity. This would be pertinent within the model of self-management, and local structured group education programmes should be aiming to offer a range of self-management group programmes that people can move between depending on their current eating behaviour. Such programmes, including existing structured group education and group CBT for disordered eating, could offer consistent messages to help consolidate any positive changes in cognition gained as a result of psychological interventions to address binge eating.

Pharmacological options for people with type 2 diabetes include newer therapies, such as GLP-1 receptor agonists and dipeptidyl peptidase-4 (DPP-4) inhibitors. These therapies can be used in people who are

overweight or obese because they are associated with weight loss (Vilsbøll et al, 2007; Klonoff et al, 2008) or are weight neutral (Kendall et al, 2007), respectively.

GLP-1 receptor agonists are recommended as an option for third-line therapy in obese people (BMI ≥ 35 kg/m²) with type 2 diabetes (NICE, 2009). Recent guidance for liraglutide states that the drug may be used second-line, irrespective of BMI, if the individual is intolerant to other second- or third-line treatment options, or they are contraindicated (NICE, 2010). Although these drugs are relatively expensive, they can be cost-effective if targeted appropriately (NICE, 2008).

Given the prevalence of disturbed eating behaviour within this population – particularly binge eating – and the associated weight cycling that can present, it is reasonable to suggest that a comprehensive dietary and eating behaviour assessment should be undertaken to support these individuals. For example, if a person is on a rapid weight gain trajectory when they start the medication, it is more difficult to assess how successful the treatment has been, as weight maintenance could be a successful outcome initially. Furthermore, if there is significant binge eating behaviour evident, then some of the studies (Kenardy et al, 2001; Mannucci et al, 2002) have suggested that reducing this behaviour would have a positive effect on HbA_{1c} anyway.

When individuals with binge eating problems are having their GLP-1 receptor agonist medication reviewed at 6 months, it is important that a clear assessment of weight and eating behaviour is undertaken to prevent people thinking that they have “failed again” if the recommended weight and HbA_{1c} level have not been achieved (NICE, 2009; 2010). Furthermore, if insulin is the next therapy option, then this can further compound the weight management issues. It seems that the most sensible option is to fully assess the person’s eating behaviour at the earliest possible stage.

Specialist diabetes dietitians, particularly with additional competencies in motivational interviewing or experience working within specialist eating disorder services, have the skills to undertake detailed dietary assessment for this

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- American Psychiatric Association (2000) *Diagnostic and Statistical Manual of Mental Disorders*. 4th edn. American Psychiatric Association, Washington DC
- Allison KC, Crow SJ, Reeves RR et al (2007) *Obesity (Silver Spring)* **15**: 1287–93
- Brownley KA, Berkman ND, Sedway JA et al (2007) *Int J Eat Disord* **40**: 337–48
- Crow S, Kendall D, Praus B, Thuras P (2001) *Int J Eat Disord* **30**: 222–6
- de Zwaan M (2001) *Int J Obes Relat Metab Disord* **25**(Suppl 1): S51–5
- Department of Health and Diabetes UK (2005) *Structured Patient Education in Diabetes: Report from the Patient Education Working Group*. DH, London
- Diabetes UK (2008) *Minding the Gap. The Provision of Psychological Support and Care for People with Diabetes in the UK. A Report from Diabetes UK*. Diabetes UK London
- Diabetes UK (2010) *Diabetes in the UK 2010: Key Statistics on Diabetes*. Diabetes UK, London
- Fairburn CG (1995) *Overcoming Binge Eating*. The Guildford Press, New York
- Gorin AA, Niemeier HM, Hogan P et al (2008) *Arch Gen Psychiatry* **65**: 1447–55
- Herpertz S, Albus C, Wagener R et al (1998) *Diabetes Care* **21**: 1110–16
- Kenardy J, Mensch M, Bowen K, Pearson SA (1994) *Diabetes Care* **17**: 1197–9
- Kenardy J, Mensch M, Bowen K et al (2001) *Eat Behav* **2**: 183–92
- Kenardy J, Mensch M, Bowen K et al (2002) *Diabet Med* **19**: 234–9
- Kendall DM, Cuddihy RM, Bergenstal RM et al (2009) *Am J Med* **122**(6 Suppl): S37–50
- Klonoff DC, Buse JB, Nielsen LL et al (2008) *Curr Med Res Opin* **24**: 275–86
- Mannucci E, Tesi F, Ricca V et al (2002) *Int J Obes Relat Metab Disord* **26**: 848–53
- Meneghini LF, Spadola J, Florez H et al (2006) *Diabetes Care* **29**: 2760
- NHS Diabetes, Diabetes UK (2010) *Emotional and Psychological Support and Care in Diabetes. Report from the Emotional and Psychological Support Working Group of NHS Diabetes and Diabetes UK*. NHS Diabetes, Leicester
- NHS Information Centre, Prescribing Support and Primary Care Services (2010) *Prescribing for Diabetes in England: 2004/5 to 2009/10*. NHS Information Centre for Health and Social Care, London
- NICE (2008) *Type 2 Diabetes: National Clinical Guideline for Management in Primary and Secondary Care (Update)*. NICE, London
- NICE (2009) *Type 2 Diabetes: Newer Agents Type 2 Diabetes: Newer Agents for Blood Glucose Control in Type 2 Diabetes. Clinical Guideline 87*. NICE, London
- NICE (2010) *Liraglutide for the Treatment of Type 2 Diabetes Mellitus Diabetes (Type 2). NICE Technology Appraisal Guidance 203*. NICE, London
- Papelbaum M, Appolinário JC, Moreira Rde O et al (2005) *Rev Bras Psiquiatr* **27**: 135–8
- Sherwood NE, Jeffery RW, Wing RR (1999) *Int J Obes Relat Metab Disord* **23**: 485–93
- SIGN (2010a) 116. *Management of Diabetes: A National Clinical Guideline*. SIGN, Edinburgh
- SIGN (2010b) 115. *Management of Obesity: A National Clinical Guideline*. SIGN, Edinburgh
- Vilsboll T, Zdravkovic M, Le-Thi T et al (2007) *Diabetes Care* **30**: 1608–10

group of people, and to liaise with the primary and secondary diabetes care team regarding the timely introduction and monitoring of GLP-1 receptor agonist therapy.

However, all healthcare professionals should be mindful of the disturbed eating behaviours prevalent in this group of people, and treatment options that are available, for example self-help for binge eating (Fairburn, 1995), or group treatment, which can be offered prior to, or concomitantly with, pharmacological therapy for type 2 diabetes.

Meeting psychological need through integrated care

Emotional and Psychological Support and Care in Diabetes (NHS Diabetes and Diabetes UK, 2010) describes the range of emotional and psychological needs of people with diabetes as a pyramid model; milder at level 1 to more severe at level 5. Level 3 is defined as emotional and psychological conditions that are diagnosable, and can generally be treated through psychological intervention alone. The report gives an example of this as disordered attitudes to eating or eating behaviours.

The diabetes team in primary and secondary care needs the skills, as appropriate, to address the five levels of this pyramid model. People in the UK with diabetes should not have to rely on the best efforts of people who are not adequately trained or supported for the provision of this psychological help and treatment.

Competencies of knowledge and skills have been outlined in the NHS Diabetes and Diabetes UK (2010) document, and are assumed to be cumulative, again at each of the five levels. By level two, for example, basic intervention skills could be counselling skills with some supervision, such as the ability to provide alternative perspectives, and experience of delivering structured education or dietary advice. At level three, skills such as advanced counselling or established competencies delivering intermediate psychological intervention, for example motivational interviewing or CBT skills, are detailed. Such skills would be appropriate for professionals dealing with the eating difficulties experienced by this group of people.

These competencies recognise a range of psychological and emotional distress associated with diabetes, but the area of disordered eating in particular is pertinent to all healthcare professionals when working in a positive way to treat this population.

Competencies are invaluable for embedding psychological support in all care pathways and for clarifying the boundaries of every professional's role. The report states that it is compelling from a clinical and financial aspect that these needs are addressed. Besides the psychological benefits to the individual, there is a possible delay in prescribing as a result of non-pharmacological treatment options for disturbed eating behaviours in type 2 diabetes. Given the vast costs now associated with diabetes prescribing, and for the chronic progression of type 2 diabetes, if there can be a delay in escalating pharmacological treatment in a significant minority of people with type 2 diabetes, this may be beneficial.

Unfortunately, access to psychological therapy training to support and develop these skills within diabetes teams is in short supply. *Minding the Gap*, a report by Diabetes UK (2008), found that 85% of people with diabetes in the UK had no defined access to psychological support and care or, at best, only local generic services. The results of this survey show that healthcare professionals working within diabetes felt that specialist, integrated psychological support should be available. As well as direct intervention, this support could provide the training and supervision to the multidisciplinary team, and should be flexible to diabetes care when provided in the community setting.

Conclusion

There is need for training among primary care health professionals including practice nurses, GPs and dietitians, to identify individuals with disordered eating, and to offer appropriate support and consistent messages to support individual treatment goals. The advantage to the individual's wellbeing and longer term weight management is evident, as well as the potential cost savings to prescribers, if more expensive therapies can be delayed. ■