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The difficulty in defining binge eating in obese women: How it affects prevalence levels in presurgical bariatric patients

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ABSTRACT

Objective: We aim to determine how increasing the specificity of binge eating criteria affects the prevalence of self-reported binge eating among presurgical bariatric patients.
Method: 197 women ages 20 to 65 being assessed for bariatric surgery with a BMI greater than 30 kg/m^2 were interviewed and completed the Eating and Exercise Examination.
Results: The prevalence of self-reported binge eating was 55% (n = 109). The addition of the criterion 'more than a little loss of control/distress' reduced the rate to 23% (n = 45), a minimum of six servings of food reduced the rate to 34% (n = 67). The addition of a minimum frequency of twice per week for six months (DSM-VI) reduced the rate to 22% (n = 43), or once per week for three months (DSM-5) reduced the rate to 53% (n = 104).
Discussion: More precise definitions and diagnostic criteria for binge eating may result in more consistent reports of prevalence levels of BED.

1. Introduction

Binge eating (BE) has since been defined as 'discrete episodes of eating where the amount consumed is unusually large and there is a sense of loss of control over eating at the time' (Fairburn, Wilson & Schleimer, 1993). Binge Eating Disorder (BED) was initially introduced in the DSM-IV as a research category, but is now a formal eating disorder diagnosis in the DSM-IV (American Psychiatric Association, 2000; American Psychiatric Association, 2013). The DSM-5 suggests criteria relating to the frequency of episodes (more than once per week for three months), the speed of eating, the motivations for eating, the presence of distress, disgust, depression and guilt post, and the absence of compensatory behaviours. The DSM-5 frequency criterion of more than once per week for three months is a reduction from the DSM-IV frequency criteria of more than twice per week for six months. Since the introduction of BED criterion, there have been challenges in assessing this disorder and differentiating binge eating from other forms of overeating.

There has been a difficulty with determining accurately the presence of BE and BED within populations. Binge Eating Disorder is the most common eating disorder among bariatric surgery candidates (Niego, Kofman, Weiss, & Geliebter, 2007). De Zwann et al. (2003) reviewed 15 studies that examined the prevalence of BE in bariatric surgery candidates. The prevalence rates of patients across the studies meeting full DSM-IV BED frequency criteria ranged from 11% to 49%, while the rates for BE ranged from 10% to 69% (De Zwann et al., 2003). More recent studies in similar populations continue to show wide variations in prevalence of 4.2% to 50% (Mitchell, Devlin, de Zwann, Crow, & Peterson, 2008; Niego et al., 2007). This variance is assumed to be a result of different assessment methods, varying sample sizes (Sarwer, Wadden, & Fabricatore, 2005), differences in the types of surgical procedure sought, the complexity and variability of the definition of BE (Beglin & Fairburn, 1992; Pratt, Niego, & Agras, 1998), and continual changes in criteria for BED. Binge eating is often secretive and solitary (Grilo, Shiffman, & Carter-Campbell, 1994), has no biological markers, (Wilson, 1993) and relies on retrospective self-reporting.

More specifically, the difficulty with diagnosis has been related to the ability to determine the duration and frequency of binge episodes (Franko, Wonderlich, Little, & Herzog, 2004), delineating 'unusually large' amounts of foods, and identifying distress and loss of control (Ackard, Fulkerson, & Neumark-Sztainer, 2007) through self-report. The criteria outlining 'objective binge eating' may not be the same criteria that women use to identify their own binge eating episodes (subjective binge eating). Binge eaters may not use a large-size criterion to classify their own binges. It has been suggested that women may consider relatively small amount of food (less than 1000 kcal currently considered a binge episode) as binges (Mitchell, Crow, Peterson, Wonderlich, & Crosby, 1998; Rosen, Leitenberg, Fisher, & Khazam, 1998), particularly if these episodes are associated with negative

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mood and loss of control (Telch & Agras, 1996). Studies suggest that these episodes of subjective binge eating (SBE) may be as clinically significant as objective binge eating (OBE) (Latner & Clyne, 2008; Pratt et al., 1998; Vallance, Latner, & Gleaves, 2011). Loss of control may be the primary criterion by which binge eaters define their binge episodes, however it may be susceptible to mood state and retrospective self-reporting (Striegel-Moore, Wilson, Wilfley, Elder, & Brownell, 1998; Telch & Agras, 1996). Lastly, the association of binge episodes and psychopathology are not as reliant on the frequency or duration of binge episodes as previously thought (Crow, Agras, Halmi, Mitchell, & Kraemer, 2002; Striegel-Moore et al., 2000). The changes in BED for the DSM-5 reflect these findings.

It is important that researchers and clinicians are able to accurately and reproducibly determine the prevalence of binge eating disorder. The presence of BE preoperatively indicates increased psychosocial needs (De Zwann, 2001; Wilfley et al., 2000) and poorer surgical outcomes (Bocchieri, Meana, & Fisher, 2002; Hsu, Sullivan, & Benotti, 1997), which if recognised may respond to treatment, support and monitoring both pre- and postoperatively (De Zwann, 2001).

Individuals report SBE in episodes that do not fit the criteria for an OBE episode. The criteria for BE and BED were formed relatively recently and may require adjustments to optimize specificity and sensitivity of the diagnostic criteria. A recent decrease in the frequency of episodes from DSM-IV to DSM-5 now allows more individuals to qualify for this disorder. How does increasing the specificity of criteria affect the rates of self-reported BE in obese women being assessed for bariatric surgery? We will determine how the prevalence of self-reported BE changes with the addition of criteria for 'loss of control/distress', 'frequency of episodes' and the 'amount of food consumed'. We will examine how women being assessed for bariatric surgery describe BE and if they use the criteria when self-reporting episodes. We hypothesise that the addition of criteria for 'loss of control/distress', 'frequency', and the 'amount of food consumed' will decreased the prevalence of BE in this group. Being able to accurately determine levels of BE and BED within populations is essential for both researchers and clinicians.

2. Methods

The study was approved by the University of Sydney Human Ethics Committee and the Northside Clinic Ethics Committee.

2.1. Participants

The participants included consecutive obese women (BMI > 30 kg/m^2) (World Health Organization, 2006) aged 20 to 65 years being assessed for bariatric surgery at the Life Weight Loss Centre, a private clinic in outer Sydney. Bariatric surgery is recommended for women with a BMI greater than 35 kg/m^2 (National Health and Medical Research Council, 2013b). Some women were less than this measure likely due to weight loss in the period post referral and prior to assessment at the surgical clinic. Women using extreme methods of weight control were omitted from the analysis. None were exercising excessively (days and intensity) and none abusing laxatives, although one was eating cabbage daily for laxative purposes. One patient reported previously having and being treated for bulimia nervosa more than 10 years ago; currently she reports OE but no BE or loss of control over eating or body image issues, albeit wanting to weigh less.

2.2. Measures

The women were interviewed (A vonL) and completed the Eating and Exercise Examination (EEE). The EEE is a questionnaire which contains the eating disorder related QOL (QOL ED) which is a validated tool used to assess the physical and psychological impact of eating disorders (Abraham, Brown, Boyd, Luscombe, & Russell, 2006; Abraham & Lovell, 1999). The QOL ED was used as a part of the assessment of each woman. Each QOL ED question refers to the frequency of thoughts, feelings and behaviour during the previous three months. The Global QOL ED score is derived from 21 questions scored on a scale from 0 to 4 (e.g. 0 = 0 days, 4 = 21 to 28 days; or 0 = not at all, 4 = most of the time) (Abraham et al., 2006). This questionnaire also contains questions on disordered eating behaviours including frequency of limiting food intake, self-induced vomiting, laxative use, excessive exercise, BE, and amount eating during episodes of BE. The QOL ED asks 'Did you feel you had any episodes of binge eating? If so, how often?' They are then asks 'Did you feel distressed and unhappy about your binge eating?' Women are also asked 'Do you overeat?', but does not ask specifically about distress and unhappiness relating to OE. We have used the questions 'did you feel uneasy when other people observed you eating?' and 'did you eat in secret?' as indicators of distress related to episodes of OE. We have defined BE in this paper as BE reported to be out of control or episodes of OE felt to be out of control.

The amount of food consumed during binge episodes was measured using the NHMRC Australian Dietary Guidelines recommended serving sizes (see Table 1) (National Health and Medical Research Council, 2013a). Women were asked about the total number of servings of food they ate during the last typical episode of OE or BE. They were provided with a checklist of various foods and their serving sizes (see Table 1) and asked to indicate how many servings of each food they had consumed in a binge episode. Eating more than six or more servings was considered to fulfil the BED criterion for a 'large amounts of food'. The amount is not dependant on energy content. Height and weight were measured during their clinic visit.

2.3. Statistical analysis

SPSS version 21 (SPSS IBM, New York, U.S.A.) was used to perform statistical analyses. Simple descriptive statistics were used for most of the data. Linear regression was used to examine the predictors of self-reported BE. The first examined age, current BMI, highest BMI ever and desired BMI were tested. The second included the following questions related to BE or OE cited in Table 2.

3. Results

3.1. Demographic details

The 197 women with a BMI greater than 30 kg/m^2 who were not using extreme methods of weight control were mean age 39.8 (SD 11.2) kg/m^2, current BMI 43.0 (SD 6.7) kg/m^2, highest ever BMI 44.9 (SD 7.1) kg/m^2 and desired BMI 27.1 (SD 3.2) kg/m^2. Furthermore 58% (N = 114) were married, 72% (N = 143) had at least one child, 41% (n = 81) completed tertiary education, 54% (N = 106) were working full-time, 50% (N = 99) had Caucasian maternity and 49% (N = 97) had Caucasian paternity.

Table 1
Dietary guidelines for Australia recommended serving sizes used to measure the amount of food eaten during a typical binge.

One serving equals any of the following		
2–3 slices of bread	1 bowl of cereal with or without milk	2–3 biscuits
1 chocolate bar (30–60 g)	1 slice of cake	1 packet of chips (50 g)
1–2 muesli bars	1 packet of nuts (50 g)	1 bowl of ice cream
2–3 slices of cheese	1 tub yoghurt (250 g)	1 flavoured milk drink
1 bowl of pasta or rice	1 slice of lasagne or quiche	1 piece of fish or meat
1 hamburger	2–3 slices of pizza	1–2 pieces of fruit
1 avocado	1 cup of vegetables	

Reference: National Health and Medical Research Council (2013a,b) Australian Dietary Guidelines. Canberra: National Health and Medical Research Council.