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BRIEF REPORT

Controlling binge eating and weight: a treatment for binge eating disorder worth researching?

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Abstract

Purpose The majority of those who seek treatment for binge eating disorder also have accompanying obesity or overweight. The best available psychological treatments for binge eating disorder produce good and lasting outcomes with regard to control over eating but virtually no weight loss, yet control over eating and weight loss are both important and valued goals of those who seek treatment.

Methods We have devised a model of the processes maintaining both the binge eating and the overweight or obesity that occurs in many patients with binge eating disorder who seek treatment. The model draws on previous research findings to highlight and integrate the factors maintaining both the disordered eating and the accompanying overweight or obesity.

Results We outline a new treatment based on the proposed model that explicitly addresses the twin goals of cessation of binge eating and weight loss in an integrated fashion. The proposed treatment incorporates and integrates elements from two previously tested evidence-based interventions, enhanced cognitive behavioural therapy for eating disorders shown to reduce binge eating and cognitive behaviour therapy of obesity, which produces weight loss.

Conclusion To meet a major challenge for the treatment of binge eating disorder (BED), we have proposed that an integrated treatment with the goals of addressing both binge eating and overweight or obesity is worth researching further. Should this treatment be successful, the goals of many patients who seek treatment for BED are more likely to be met.

Level of evidence This brief report proposes a new approach to clinical practice to be researched further. The evidence on the basis of which the case is made is derived from Level 1: evidence obtained from at least one properly designed randomized controlled trial; systematic reviews and meta-analyses; and experimental studies.

Keywords Binge eating disorder · Obesity · Overweight · Cognitive behavioural therapy · Weight loss · Binge eating

Introduction

The new version of the diagnostic and statistical manual of mental disorders (DSM-5) has comparatively recently recognized the significance of binge eating disorder (BED) by classifying it as a specific and distinct eating disorder. BED is the most prevalent of the specific eating disorders, occurring across ethnic and racial groups, among both men and women and in adults of all ages. It is accompanied by high levels of distress, psychiatric morbidity, psychosocial impairment and components of the metabolic syndrome, but it is also heterogeneous in some aspects of its presentation. While obesity is not a diagnostic requirement for BED, the disorder is strongly associated with severity of obesity and the majority of those who seek treatment for BED have overweight or obesity. Similarly, the over-evaluation of shape and weight required for a diagnosis of the other DSM-5-specific eating disorders, anorexia nervosa and bulimia nervosa, is not required for BED, but it does occur in approximately 50% of those with the disorder.

Treatments for BED evolved and were adapted from treatments for bulimia nervosa and obesity. However, perhaps because of the heterogeneity in the clinical presentation of BED, a major challenge remains. Systematic reviews and meta-analyses have been consistent in their support for a specialist psychological treatment, cognitive behaviour therapy (CBT), for the treatment of BED [1] and the National

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Institute of Health and Care Excellence (NICE) has endorsed CBT as the treatment of choice [2]. There is also research support for a number of other specialist psychological treatments for BED, primarily interpersonal psychotherapy (IPT), a form of guided self-help based on CBT (CBTgsh) and behavioural weight loss (BWL) [1]. In addition, certain medications may be efficacious in the short term [1]. Psychological interventions are effective in achieving a cessation of binge eating in approximately 50–55% of patients and in producing improvements in associated eating disorder and depressive psychopathology [1]. These benefits are well maintained at 24 months and 48 months [3]. The major disadvantage of these treatments is that they do not generally produce significant weight loss [1].

The challenge of achieving weight loss has been tackled in a number of ways. BWL has been investigated as an alternative to CBT as it produces a reduction in binge eating as well as modest weight loss and it has been investigated in a sequential treatment with CBT followed by BWL The effects of BWL in terms of cessation of binge eating are not as well maintained as in CBT and the weight lost is generally regained. Sequential treatment has not been shown to be superior to CBT [1]. Other approaches have involved combining CBT with weight loss medications [1] and combining CBT with a separate simultaneous dietary intervention [4] or an exercise intervention [5]. These have not, as yet, produced robust results demonstrating superiority to CBT alone and long-term follow-up data are not available. There is a pressing need for a treatment that achieves clinically significant, albeit modest, weight loss as well as addressing the binge eating in a sustainable way. This is especially important given the consistent finding that those who remain abstinent from binge eating maintain their end-of-treatment weight, including any modest weight loss that may have been achieved during treatment [3].

A novel treatment approach worth researching

A fully integrated treatment that explicitly addresses the twin goals of cessation of binge eating and weight loss would be a novel solution and an idea worth researching further. We have developed a model of the factors that maintain both binge eating and the associated obesity/overweight (see Fig. 1) that outlines the treatment targets for a new integrated treatment. It provides a guide to the development of a novel treatment by highlighting the key maintaining factors and their interactions. Using this model, treatment can be individualized to target the most salient processes for particular patients thus making it particularly suitable for a variety of different clinical presentations such as frequently seen in BED.

The model integrates already recognized mechanisms maintaining binge eating that have been incorporated into a previous transdiagnostic model and treatment for eating disorders [6]. It is suggested that over-evaluation of shape and weight, extreme and inflexible forms of restraint (when present) and the effects of events and moods (shown in light grey shading) maintain BED much as they operate in other eating disorders, although not all maintaining factors apply in all cases. The model also includes an emphasis on those factors that contribute to maintaining obesity (shown in dark grey shading). The key innovation in the new approach is

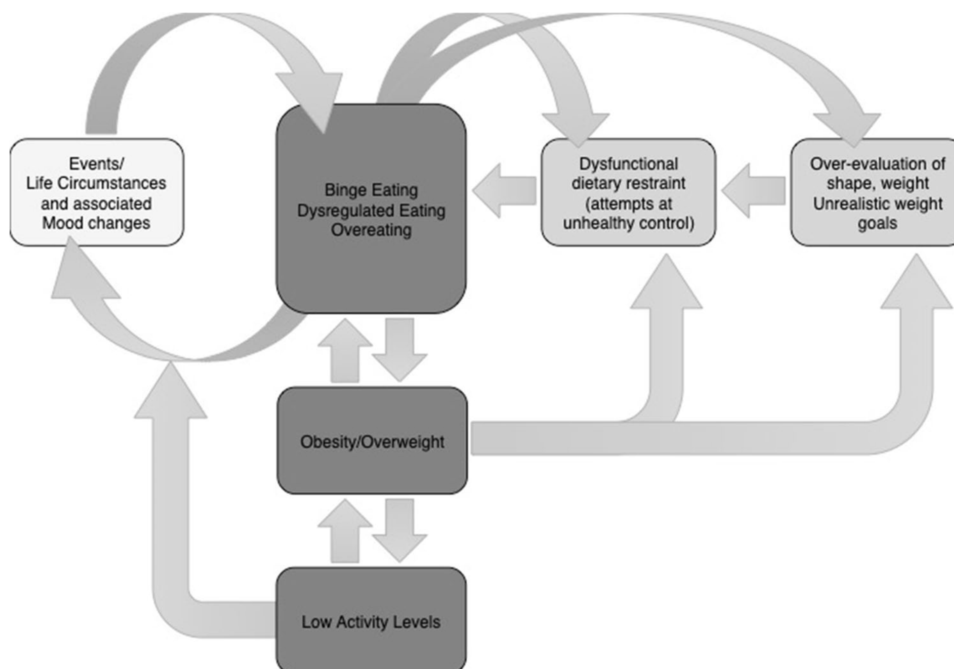

Fig. 1 Maintenance of binge eating disorder and obesity/overweight

the recognition that there is a need to address patients dysregulated overeating [7] outside of their binge eating episodes as well as their markedly high levels of inactivity [8] in addition to their previously described unrealistic weight expectations and related goals [9]. The dysregulated eating, or lack of flexible functional forms of dietary restraint, is a particular feature of those with binge eating and obesity and includes the pattern of eating, the amounts eaten and the macronutrient choice. CBT for eating disorders hypothesizes that the dietary restriction and/or dietary restraint, defined as the cognitive state involved in trying to adhere to strict and inflexible rules, that results from the over-evaluation of shape and weight are key factors in maintaining binge eating [6]. In most of the DSM eating disorders involving binge eating, the overeating occurs against a background of unhealthy and inflexible dietary restraint and restriction and generally the balance of restriction and binge eating results in healthy or slight overweight. Treatment for these disorders aims to reduce this dysfunctional extreme restraint and restriction replacing it with a regular pattern of eating incorporating a wide range of foods. While promoting the reduction of this form of extreme dietary restraint and regular eating as necessary, it is neutral with regard to recommendations on the overall quantity eaten and on nutrient composition as well as on increasing activity. Importantly within this model, inflexible restriction and restraint are regarded as maintaining binge eating and treatment aims to reduce this form of restraint in order to reduce binge eating [10]. Weight loss is explicitly not a goal of this form of treatment. The recent NICE guidelines reinforce this view advising that patients should be told that currently recommended treatment for BED will have a limited effect on weight and that weight loss is not a target of treatment. These guidelines also note that treatment of co-existing overweight/obesity awaits further research and specific interventions for this purpose [1].

If weight loss is to become a target of treatment for those with BED then treatment needs to actively promote some form of dietary restriction without incurring the risk of increasing binge eating; and it also needs to encourage an active lifestyle. The aim would be to achieve and maintain a modest clinically significant weight loss that produces meaningful health benefits, usually accepted as ≥ 5% of baseline weight [11]. Recent work has suggested that dietary restraint it is not a unitary concept and there is preliminary evidence to suggest that flexible, as opposed to rigid dietary restraint is not inconsistent with controlling binge eating. Indeed, it is associated with both the cessation of binge eating and better weight loss [12, 13].

It is proposed that the two goals of addressing the binge eating and the weight loss are best done consistently in an integrated single treatment. Prior research suggests that maximum change will be achieved if these targets are addressed early. Importantly, by potentially achieving the two therapeutic targets of control over eating and weight loss, the treatment would match the goals of those seeking treatment for BED.

The new integrated treatment

The proposed new integrated treatment is modular and thus may be personalized to focus on individual maintaining mechanisms that operate in any individual case rather than being based on a uniform "one size fits all" model. It incorporates elements from two previously tested evidence-based interventions, CBT-E for eating disorders, shown to be effective in reducing binge eating [14] and CBT for obesity producing weight losses of 6.8% of initial body weight at the end of treatment with 71% of patients achieving a weight loss of ≥ 5% as well as significant improvements in eating disorder psychopathology [9]. Consistent results have recently been reported with similar interventions in clinical practice [15].

After an initial assessment appointment it is proposed that active treatment will consist of 24 sessions over 24 weeks followed by an extended maintenance phase with at least monthly "maintenance check ins" over the year following the end of treatment. These sessions would be designed to reinforce and encourage the changes made during the active treatment phase to help to ensure that they persist over time. Previous research indicates that most weight is lost in the first 24 weeks of treatment and, given the well-documented difficulty in maintaining the weight lost [9], guidelines for the treatment of obesity recommend following patients for an extended period [11, 16]. The proposed treatment is outlined briefly in Table 1. It has four distinct phases. The first two stages are relatively uniform for all patients, although even at this stage the start of formal weight loss procedures is individualized depending on initial progress, with formal weight loss being introduced earlier for those whose binge eating reduces rapidly. While the main body of treatment (stage three) will always include a weight loss component, its content will be individualized to include modules relevant to the patients personal formulation and its re-assessment in stage two. Stage four focuses on maintaining changes made in treatment in the long term and is also individualized to concentrate on maintaining patients progress. The relatively large number of sessions is required to achieve two major treatment goals, control of binge eating and weight loss, in an integrated way. To achieve maximum early change, consistently associated with better outcome, it is proposed that the first stage of treatment should involve twice weekly sessions for 4 weeks, followed by weekly sessions for the main body of treatment and sessions every 2 weeks during the last stage of treatment focusing on maintaining changes in the long term. The subsequent maintenance phase would be

Table 1 Treatment content

Stage	Week	Sessions	Content
Stage one	1–4	1–8	Individual formulation, education, self-monitoring; weight monitoring and then three step process: Address binge eating: regular eating to reduce binge eating Address dysregulated eating: focus on quantity and food choice and replace with healthy control to achieve weight loss. Following AHA/ACC/TOS recommendations a deficit of approximately 500 kcal is recommended [11] to be individualized as necessary [9, 16] Address inactivity: introduce increasing steps and working towards moderate goals using pedometer/pedometer apps following recommended guidelines [11] After the first four sessions assess progress with regular eating and reducing binge eating and if there is a reduction initiate next two steps. Repeat assessments and introduce next steps once progress achieved
Stage two	5	9	Review progress; identify barriers; re-formulate and plan next stage of treatment
Stage three	6–16	10–20	Continue or initiate weight loss interventions as described in Stage one Individualized as appropriate—determined in Stage two Address over-evaluation: behavioural and cognitive aspects of body image Address unrealistic weight goals and other deferred life goals Address eating for affect regulation: mood-driven eating Address unhealthy inflexible dietary restraint and reinforce strategies for healthy weight control
Stage four	17–24	21–24	Future focus and planning for long-term control of binge eating, healthy weight control and moderate activity
Maintenance stage	24–76	25–37/40	Approximately monthly maintenance check-in sessions to reinforce changes and ensure that they persist

over 12 months, but could perhaps be done by telephone or other remote means.

Key research questions

A key clinical question arising from this proposal is whether the treatment derived from it does indeed outperform the current best available treatments for those with BED and accompanying overweight and obesity. This would require it to achieve similar outcomes with regard to the control of binge eating as those achieved by current best practice while also achieving moderate and clinically significant weight loss that is maintained over time. Cognizant of the fact that robust research indicates that weight tends to be regained and that successful treatment needs to result in weight loss that is maintained [9], we have proposed a relatively extended maintenance period rather than a continuous care model, which has generally been associated with high drop out rates [17]. Should these two outcomes be achieved, there would be indirect support for the proposed model. More direct support would be provided by an exploration of the relative effectiveness of the new integrated treatment on the proposed treatment targets of increasing physical activity and the replacing of dysregulated eating with flexible dietary restraint, as would further work to understand the moderators and mediators of successful outcomes.

Conclusion

The majority of those who seek treatment for BED also have accompanying obesity or overweight. The best available treatments for BED produce good and lasting outcomes with regard to control over eating but virtually no weight loss, yet control over eating and weight loss are both important goals of those who seek treatment. To meet this major challenge we have proposed that an integrated treatment, based on a model of the processes maintaining both the binge eating and overweight or obesity, is worth researching. Should this treatment be successful, the goals of patients who seek treatment for BED are more likely to be met.

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Compliance with ethical standards

Conflict of interest Zafra Cooper declares that she has no conflict of interest.Simona Calugi declares that she has no conflict of interest.Riccardo Dalle Grave declares that he has no conflict of interest.

Ethical approval All studies referred to and previously published by the authors involving human participants were in accordance with the ethical standards of the relevant institutional committees and with the 1964 Helsinki Declaration and its later amendments.

Informed consent Informed consent was obtained from all participants.

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