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Psychotherapy for transdiagnostic binge eating: A randomized controlled trial of cognitive-behavioural therapy, appetite-focused cognitive-behavioural therapy, and schema therapy

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ABSTRACT

Cognitive-behavioural therapy (CBT) is the recommended treatment for binge eating, yet many individuals do not recover, and innovative new treatments have been called for. The current study compares traditional CBT with two augmented versions of CBT; schema therapy, which focuses on early life experiences as pivotal in the history of the eating disorder; and appetite-focused CBT, which emphasises the role of recognising and responding to appetite in binge eating. 112 women with transdiagnostic DSM-IV binge eating were randomized to the three therapies. Therapy consisted of weekly sessions for six months, followed by monthly sessions for six months. Primary outcome was the frequency of binge eating. Secondary and tertiary outcomes were other behavioural and psychological aspects of the eating disorder, and other areas of functioning. No differences among the three therapy groups were found on primary or other outcomes. Across groups, large effect sizes were found for improvement in binge eating, other eating disorder symptoms and overall functioning. Schema therapy and appetite-focused CBT are likely to be suitable alternative treatments to traditional CBT for binge eating.

1. Introduction

Cognitive-behavioural therapy (CBT) is the treatment of choice for adults with binge eating, including both bulimia nervosa (BN) and binge eating disorder (BED), yet many individuals do not recover with CBT (Smink et al., 2013), or relapse following successful treatment, and novel and more effective treatments have been called for (Hay, 2013). Continued research is needed to examine ways to augment and improve upon CBT. This could be achieved by increasing the therapeutic focus on specific domains of psychopathology in individuals with BN and BED, by addressing domains of therapy that are not currently addressed, or by importing elements of treatments that have demonstrated efficacy for other related disorders (for example, schema therapy for mood disorders (Carter et al., 2013). It has been suggested that additive designs, in which an additional element or focus is added to an existing evidence-based treatment to test whether outcome is improved, maximize the amount of basic knowledge and specific conclusions generated from randomized controlled trials (RCTs) (Borkovec and Sibrava, 2005). Study designs comparing an existing effective treatment with augmented or novel elements can yield useful conclusions either if outcomes improve relative to the original treatment or if alternative versions of treatments perform comparably, giving additional treatment options to clinicians and patients.

Two promising directions for the augmentation of CBT, one targeting appetite, and the other targeting underlying schema, were used in the current study. Appetite-focused CBT (CBT-A), developed for the present study, was based on an etiological model in which diminished hunger recognition and insensitivity to satiety cues are instrumental in initiating and perpetuating binge eating (Hetherington and Rolls, 1989). Neuroendocrine and metabolic systems involved in the regulation of appetite, satiety, and weight can be disturbed in individuals who binge (Jimerson et al., 2000; Tanaka et al., 2003; Yanovski, 1995). Appetite-focused CBT emphasises how disregarding appetite is important in the

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development and maintenance of disordered eating, and focuses on recognising and responding to hunger and satiety in eliminating binge eating. Evidence exists that focusing on appetite in treatment can be efficacious in reducing binge eating, and that patients may prefer monitoring appetite over traditional monitoring of food and fluid intake (Dicker and Craighead, 2004). Appetite-focused CBT has not been the subject of clinical trials, although a small trial of appetite-focused dialectical behaviour therapy has shown some promise for bulimia nervosa (Hill et al., 2011).

Schema therapy was adapted for eating disorders based on the observed link between early life experiences and the development and maintenance of eating problems (Waller et al., 2007). The association between childhood experiences and psychological disorders, including eating disorders (Steiger et al., 2010), has been shown to be mediated by the development of maladaptive schemas (Wright et al., 2009). It has been suggested that improved treatment efficacy may be obtained with models that better incorporate past experiences in the etiology of these disorders (Waller et al., 2007). Schema therapy is efficacious in treating psychological disturbances, including borderline personality disorder (Farrell et al., 2009; Giesen-Bloo et al., 2006), depression (Carter et al., 2013), substance abuse (Ball, 1998), agoraphobia (Bamber, 2004), and posttraumatic stress disorder (Young, 2005). There is evidence of an association between schemas and eating disorder behaviours (Waller, 2003); and clinical improvement has been reported in single case studies using video therapy schema therapy (Simpson and Slowey, 2011) and imagery rescripting (Ohanian, 2002) for eating disorders, and in a case series of group schema modes therapy (Simpson et al., 2010). Therapy aims first to increase awareness of maladaptive schemas or schema modes and the early experiences from which they developed, and then to treat the maladaptive schemas, thereby reducing the current drive for eating disordered behaviours.

The present study reports a randomized controlled trial of traditional CBT for transdiagnostic DSM-IV binge eating, and two versions of CBT, one that augments the appetite-focus, CBT-A, and one that augments the cognitive component, schema therapy. It was hypothesized that schema therapy and appetite-focused CBT would result in better eating disorder and general outcome, as measured by the frequency of binge eating and purging, the severity of eating disorder attitudes, and overall functioning, as measured by the Global Assessment of Functioning, Axis V of DSM-IV.

2. Method

2.1. Participants

Participants were recruited by referrals from general practitioners or other health professionals and by advertisements. Inclusion criteria were female gender, age 16–65, and a primary DSM-IV binge eating diagnosis, with objective binge episodes, the consumption of an abnormally large quantity of food within a discrete time period, the subjective experience of dyscontrol, and not currently underweight. Exclusion criteria were other conditions requiring treatment – severe major depression or serious suicidal intent, severe psychoactive substance dependence, bipolar I disorder, schizophrenia, severe physical illness including severe medical complications of the eating disorder, cognitive impairment, psychotropic medication, and an adequate trial of CBT or schema therapy in the past year.

2.2. Procedure

The trial received ethical approval from the Upper South A Regional Ethics Committee, and was conducted in Christchurch, New Zealand, recruiting between May 2005 and October 2010.[1] Initial telephone screening included describing the research nature of the programme, determining the likely presence of binge eating, and likely absence of exclusion criteria. A clinical assessment with a clinical psychologist was scheduled for potentially eligible and interested individuals. At this assessment, eligibility was determined, and after complete description of the study to participants, written informed consent was obtained. Baseline assessments confirmed study inclusion and exclusion criteria, including structured clinical interviews (SCID-I and II, EDE-12) and completion of self-report questionnaires. The study had a three-arm parallel group design with participants randomized in a 1:1:1 ratio based on a randomization sequence of permuted blocks of 30. The randomization sequence and allocation to treatment were performed by someone independent of the study and blind to baseline assessment information. Treatment allocation was made available to the therapist and patient in sealed envelopes after baseline assessments.

2.3. Therapy

Therapy consisted of six months of weekly individual psychotherapy sessions, followed by six months of approximately monthly sessions. Four clinical psychologists, experienced in all therapies, and in treating eating disorders, were trained in the delivery of the three therapy conditions. Prior to the commencement of the clinical trial, therapists treated training cases in each modality. This involved close review of audio-recorded therapy sessions by the clinical supervisor, a clinical psychologist with experience in supervising the therapies, manual-based eating disorders treatment, and rating treatment competence (Carter et al., 2013). Therapists received weekly clinical supervision from the above clinical psychologist, including close attention to adherence to the three models of therapy, therapy manuals, and the quality of treatment. Training and trial cases were rated for competence using the Cognitive Therapy Rating Scale for CBT (Dobson et al., 1985), and modified forms of the Cognitive Therapy Rating Scale for schema therapy and appetite-focused CBT. Adequate competency on the Cognitive Therapy Rating Scale is defined as a score of 40 or more. Mean ratings over the course of the study were 52.0 (8.2) for CBT, 51.1 (5.7) for schema therapy, and 45.9 (5.7) for appetite-focused CBT for randomly selected sessions, which were not significantly different for the three therapies ($F(2)=2.94$, $p=0.07$).

2.3.1. Cognitive-behavioural therapy

Cognitive-behavioural therapy for binge eating is based on the premise that dysfunctional thinking about food, eating, body shape and weight is central to the onset and maintenance of disordered eating behaviour. CBT for binge eating aims to correct the disturbed pattern of eating by identifying and evaluating unhelpful thinking, understanding and managing cues for binge eating, and through education and advice about resuming normal eating. CBT was manual-based, adapted from previous CBT manuals for bulimia nervosa and anorexia nervosa, based on traditional CBT (Fairburn et al., 1993), and supported in prior randomized controlled trials (Bulik et al., 1998; McIntosh et al., 2005). Therapy was divided into three overlapping phases. Phase one introduces CBT and its rationale, and the core techniques of self-monitoring and homework. Motivation to change is recognized and addressed. Increased regularity and variety of eating is prescribed, and appropriate portion sizes are successively approximated. Patients are coached to use strategies to resist the urge to binge. In phase two further CBT skills are taught – challenging dysfunctional thoughts, thought restructuring, techniques for avoiding binge eating, and identifying cue-behaviour-consequence sequences. Written psychoeducational materials are provided. Phase three prepares the patient for termination, providing information on the relapse and recovery process, and teaching strategies to reduce risk of relapse.

2.3.2. Appetite-focused CBT

Appetite-focused CBT augments standard CBT with strategies to assist individuals to recognize and respond to hunger and satiety cues in the return to normal eating (McIntosh et al., 2007). All aspects of self-monitoring, including forms, instructions and the rationale of self-monitoring emphasize awareness of hunger and satiety, encouraging eating in response to moderate hunger, and cessation of eating in response to moderate satiety. Education and advice about food choices are informed by principles of eating for satiety (Latner et al., 2009; Ludwig, 2000), choosing foods with greater volume and lower energy density, greater satiating potential, such as the inclusion of protein throughout the day, and choosing longer lasting carbohydrates with lower glycemic indices. Individuals learn to identify non-appetite-related emotional or situational cues for eating, and are encouraged to use appropriate non-food responses in these situations.

2.3.3. Schema therapy

Schema therapy is a development of CBT that focuses on modifying maladaptive schemas in order to enable core psychological needs to be met (Young et al., 2003), and to bring about change in the eating disorder. Schema therapy relies heavily on imagery and other experiential techniques to bring about cognitive, emotional and behaviour change. Imagery rescripting aims to modify unhealthy core beliefs by allowing the patient's healthy adult self to bring a more mature perspective, including a greater capacity for rational thought and emotional

[1] The trial protocol is available from the corresponding author on request.