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Development and preliminary effectiveness of an innovative treatment for binge eating in racially diverse adolescent girls

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ABSTRACT

Introduction: Binge and loss of control (LOC) eating are significant concerns among many adolescents and are associated with poor physical, social, and psychological functioning. Black girls appear to be particularly vulnerable to binge and LOC eating. Yet, empirically validated, culturally sensitive treatments for these disordered eating behaviors are not well established. This investigation examined satisfaction, feasibility, and preliminary outcomes of a binge eating intervention for ethnically diverse adolescent girls.
Methods: Participants were 45 girls (age 13–17 years; 44.4% white, 42.2% black) randomized into a dialectical behavior therapy (DBT)-based intervention (**L**inking **I**ndividuals **B**eing **E**motionally **R**eal, LIBER8) or a weight management group (2BFit). Following each meeting, participants completed satisfaction measures, and therapists assessed intervention feasibility. Participants also completed assessments of eating behavior and related psychological constructs at baseline, immediately following the intervention, and at 3-month follow-up.
Results: Descriptive statistics indicated that LIBER8 was feasible, and participants were highly satisfied with this intervention. Significant reductions in eating disorder cognitions, dietary restraint, and eating in response to negative affect were observed for participants in both groups, with no differences between LIBER8 and 2BFit.
Discussion: The acceptability and feasibility of LIBER8 and associated reductions in emotional eating show promise in ameliorating binge eating and provide insight into multiple options for treating this challenging eating concern.

1. Introduction

1.1. Binge eating disorder

Binge-eating disorder (BED) is characterized by the consumption of an objectively large amount of food in the absence of compensatory behaviors (American Psychiatric Association, 2013). BED is the most common clinical eating disorder, and is associated with numerous comorbidities, including depression, anxiety, low self-esteem, and weight and shape concerns (Reichborn-Kjennerud, Bulik, Sullivan, Tambs, & Harris, 2004; Kessler, Berglund, Chiu, et al., 2013; Wilfley, Wilson, & Agras, 2003; Grucza, Przybeck, & Cloninger, 2007). These psychological correlates of BED are evident regardless of body weight, suggesting that binge eating and associated distress, not body weight (or Body Mass Index, BMI), are most relevant to the clinical impairment related to this disorder (Grucza et al., 2007). In addition, binge eating (BE) behaviors are often chronic, and many adults with this condition report that their symptoms began in childhood (Abbott et al., 1998). Many adolescents seeking obesity treatment report engaging in BE behavior, yet few treatments for this condition are designed for pediatric populations (Decaluwe & Braet, 2003; Glasofer et al., 2007).

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1.2. Binge eating diagnosis and treatment in adolescents

Adolescents who engage in BE appear particularly vulnerable to psychological distress, including anxiety and depressive symptomatology, and these negative mental health outcomes are not accounted for by weight status (Glasofer et al., 2007; Goldschmidt, Lavendar, Hipwell, SD, & K., 2016). BE can be challenging to treat in adolescents, because individuals in this age group are still developing their abilities to self-regulate emotions (Eisenberg, Spinrad, & Morris, 2002). Consequently, adolescents might be particularly vulnerable to maladaptive coping strategies, such as BE. In the formative work conducted for the development of the intervention evaluated in this study, (**L**inking **I**ndividuals **B**eing **E**motionally **R**eal, LIBER8), adolescents also noted that autonomy issues sometimes influenced their BE behavior (Palmberg, Stern, Kelly, et al., 2014). For example, many described bingeing on "junk" foods as a way to "rebel" against their mothers (Palmberg et al., 2014). Other qualitative research has identified links between LOC eating and a range of negative and positive emotions (Cassidy, Sbrocco, Vannucci, et al., 2013). Thus, for developmental reasons, adolescents might be especially susceptible to BE.

Experts have recognized the unique presentation of BED in adolescents and have developed diagnostic criteria reflecting these developmental issues (Marcus & Kalarchian, 2003; Tanofsky-Kraff, Marcus, Yanovski, & Yanovski, 2008a). These criteria assert that it is not the amount of food that is consumed during a binge, but rather loss of control (LOC) regarding eating that best indexes BED in adolescents (Marcus & Kalarchian, 2003; Tanofsky-Kraff et al., 2008a). Within this age group, LOC regarding eating was the specific BED criterion most strongly associated with higher BMI, increased adiposity, and greater anxiety, depressive symptoms, disordered eating thoughts, weight and shape concerns, and behavior problems (Goldschmidt, Jones, Manwaring, et al., 2008). LOC eating also appears to be a more appropriate indicator of BE than the amount of food consumed within this age group, as the ability to self-monitor is decreased during BE episodes (Marcus & Kalarchian, 2003; Tanofsky-Kraff et al., 2008a). Further, adolescents who are growing rapidly require higher calorie consumption, making it difficult to quantify an "excessive amount of food" (Marcus & Kalarchian, 2003; Tanofsky-Kraff et al., 2008a). Therefore, LOC is considered a better indicator of BE in adolescents than the amount of food involved (Decaluwe & Braet, 2003; Marcus & Kalarchian, 2003; Tanofsky-Kraff et al., 2008a; Goldschmidt et al., 2008).

Adolescent girls report engaging in more BE behavior than their male peers (Decaluwe & Braet, 2003; Ackard, Neumark-Sztainer, Story, & Perry, 2003; Pasold, McCracken, & Ward-Begnoche, 2014). BE also appears to have a greater negative impact on girls' quality of life, compared with that of their male peers (Pasold et al., 2014). These sex differences in BE rates, and the distress associated with this behavior, suggest that it might be especially important to address in treatment for adolescent girls.

1.3. Binge eating in diverse groups

In addition to the sex differences in BE noted above, some studies have identified racial and ethnic disparities in BED. In particular, BED appears to be at least as prevalent among black adolescent girls and women compared with other racial/ethnic groups (Shaw, Ramirez, Trost, Randall, & Stice, 2004; Striegel-Moore et al., 2005). There are many cultural factors that might contribute to the higher prevalence of BED in black girls, including historical connections to food availability and selection, and differential body image pressures (Kittler & K., 2001). For example, within the black community, a fuller, curvier body type is generally preferable to the extremely thin ideal portrayed in media targeting primarily white women (Kittler & K., 2001). However, black women are less likely than their white peers to seek or receive appropriate referrals to eating disorder treatment (Becker, Franko, Speck, & Herzog, 2003; Cachelin, Veisel, Barzengarnazari, & Striegel-Moore, 2000). Moreover, when black women do pursue eating disorder treatment, they are more likely to drop out (Becker et al., 2003; Cachelin et al., 2000). These issues are likely to be exacerbated among adolescents with BE, as this age group is notoriously difficult to engage in treatment (Smith & Schuchman, 2005).

Thus, in the formative work for this study (Palmberg et al., 2014; Mazzeo, Kelly, Stern, et al., 2013), we conducted focus groups with the targeted population, to enhance this intervention's (LIBER8's) relevance and acceptability for this specific age group. We included both black and white girls in this formative work, as this intervention was designed to be culturally sensitive, so that no group would be excluded, but sensitivity to the intersection of diversity issues and relevant topics including food selection and body ideals, would be optimized. See previous papers (Palmberg et al., 2014; Mazzeo et al., 2013) for further details regarding the LIBER8 intervention.

1.4. Binge eating treatment

The LIBER8 intervention is based on the affect regulation model of BE, which proposes that this behavior functions as a coping strategy to manage distress (Kjelsas, Borsting, & Gudde, 2004). Research supports this model, identifying associations among interpersonal problems, negative affect, and LOC eating (Goldschmidt et al., 2016; Ranzenhofer, Engel, Crosby, et al., 2014). Moreover, BE is associated with deficits in emotion regulation skills (Goldschmidt et al., 2016; Whiteside et al., 2007), suggesting that interventions emphasizing coping strategies might prove especially effective in treating this problematic eating behavior (Goldschmidt et al., 2016; Wiser & Telch, 1999).

Three specific psychotherapeutic approaches are most often used to treat BE: cognitive behavioral therapy (CBT) (Fairburn, Marcus, & Wilson, 1993), interpersonal psychotherapy (IPT) (Tanofsky-Kraff, Shomaker, Wilfley, et al., 2014), and dialectical behavior therapy (DBT) (Wiser & Telch, 1999; Klein, Skinner, & Hawley, 2013). CBT and IPT do not emphasize the emotional dysregulation and coping skill deficits common in individuals with BED. DBT, in contrast, directly targets these issues by teaching individuals to recognize, tolerate, and regulate their affective states (Wiser & Telch, 1999). DBT does not directly focus on BE, but rather, on the emotional states preceding and following a binge episode. This approach is generally effective in reducing BE (Wiser & Telch, 1999). However, DBT trials for BE have included older (typically middle-age), mostly white adults; samples are small, and little follow-up data are available (Wiser & Telch, 1999; Klein et al., 2013). Thus, research is needed to determine if this approach can be used effectively to treat adolescents with BE.

1.5. Current trial

Given the relative paucity of BE treatments for adolescent girls, this study examined the feasibility and preliminary effectiveness of LIBER8, a developmentally and culturally sensitive intervention (Mazzeo et al., 2013). We hypothesized that this intervention would be feasible and yield significant decreases in LOC eating and BE, eating disorder cognitions, and eating in the response to factors other than hunger. These exploratory analyses were intended to inform the design of a subsequent large-scale RCT.

2. Methods

Methods and recruitment strategy are described in detail elsewhere (Mazzeo et al., 2013) and briefly reviewed here.

2.1. Recruitment

2.1.1. Inclusion criteria

Eligible participants were females (ages 13–18 years), who met criteria for LOC-Eating Disorder or BED in children (Marcus &