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A Cognitive-Behavioral Mindfulness Group Therapy Intervention for the Treatment of Binge Eating in Bariatric Surgery Patients

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Binge eating is a negative indicator of post-surgical weight loss and health outcome in bariatric surgery patients (Hsu, Bentancourt, Sullivan, 1996). Cognitive-behavioral techniques and mindfulness-based practices have been shown to successfully treat binge eating (Agras, Telch, Arnow, Eldredge, & Marnell, 1997; Kristeller & Hallett, 1999). This report describes the development and implementation of a 10-week cognitive-behavioral mindfulness-based group intervention designed to reduce binge eating and address the specific needs of bariatric surgery patients. Posttreatment data showed improvement in binge eating symptoms, depressive symptomatology, and emotion regulation skills and increased motivation to change maladaptive eating behavior.

The prevalence of obesity in America has increased 110% in the past two decades. It is estimated that one third of American adults are obese (Flegal, Carroll, Ogden, & Johnson, 2002; Flegal, Carroll, Kuczmarski, & Johnson, 1998; Stein & Colditz, 2004). The increased rates of obesity in America may cause the first decline in life expectancy in 100 years (Flegal, Graubard, Williamson, & Gail, 2005; Olshansky et al., 2005), largely due to the many negative health consequences of obesity, including cardiovascular disease, Type 2 diabetes, sleep apnea, and cancer (Bray, 2004; O'Brien, Dixon, & Brown, 2004).

Treatments for obesity, such as behavior therapy, low-calorie diets, exercise programs, and psychopharmacology, often produce only moderate, temporary effects (Mann et al., 2007; Wadden, 1993). For example, although participants in behavioral weight loss programs lose approximately 10% of their initial body weight (Wing, 1998), most patients are unable to maintain the weight loss longer than 1 year (Wilson, 1994), and many return to their baseline weights after 5 years (Wadden & Butryn, 2003). In contrast, bariatric surgery techniques, including Roux-en-Y gastric bypass surgery and gastric laparoscopic adjustable banding, are associated with clinically significant levels of weight loss and improvement in many comorbid medical conditions (Angrisani et al., 2004; Buchwald, 2005; Maggard et al., 2005; Pories et al., 1995; Schauer, Ikramuddin, Gourash, Ramanathan, & Luketich, 2000), with average postoperative weight losses of 43.5kg at 1 year and 41.5kg at 3 or more years for gastric bypass patients and 30.2kg at 1 year and 34.8kg at 3 or more years for adjustable banding patients (Maggard et al., 2005). As such, in 1992, the National Institutes of Health (NIH) recommended surgical interventions for the treatment of obesity for individuals with severe obesity (Body Mass Index [BMI] $\geq$ 40) or with moderate obesity (BMI = 35–39) and serious health comorbidities (e.g., diabetes mellitus, sleep apnea, cardiovascular disease). The number of bariatric surgeries has increased in the United States from approximately 16,000 in 1992 to about 103,000 in 2003 (Steinbrook, 2004).

Although weight reduction surgery appears effective for those with morbid obesity and/or serious health comorbidities, binge eating has been identified as a negative indicator of postsurgical weight loss (Kalarchian et al., 2002; Hsu, Bentancourt, Sullivan, 1996; Hsu, Sullivan, Benotti, 1997; Kral, 1995). Binge eating, characterized by the uncontrollable consumption of a large amount of food in a discrete period of time accompanied by marked distress over recurrent bingeing (American Psychiatric Association [APA], 1994), is prevalent among obese individuals in weight control programs (30%; Fairburn, Hay, & Welch, 1993; Spitzer et al., 1992) and bariatric surgery populations (50%; Powers, Perez, Boyd, & Rosemurgy, 1999; Hsu et al., 1996; Hsu et al. 1997; Adami, Gandolfo, Bauer, & Scopinaro, 1995). Overweight and obese individuals with and without binge eating disorder also report emotional eating (Larsen, van Strien, Eisinga, & Engels, 2006) or increased food intake in response to emotional arousal that may not meet criteria for objective binge eating but functions as a way of coping

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with psychological distress (Hooker & Convisser, 1983; Johnson & Larson, 1982; Lehman & Rodin, 1989; Shatford & Evans, 1986). Although gastric bypass patients experience short-term improvement in eating disturbances postsurgery, the subsequent recurrence of eating disturbances is associated with weight regain (Hsu et al., 1996, 1997). Because of the high prevalence rates of binge eating in bariatric surgery patients and its negative association with postsurgical weight loss (Hsu et al., 1996, 1997), the effective treatment of binge eating in bariatric surgery patients is imperative to promote postsurgical weight loss and weight maintenance and psychological and physical well-being (Kalarchian & Marcus, 2003).

Cognitive-behavioral therapy (CBT) has been widely and effectively used for the treatment of binge eating (Smith, Marcus, & Kaye, 1992; Telch, Agras, Rossiter, Wilfley, & Kenardy, 1990), including binge eating among obese populations (Agras, Telch, Arnow, Eldredge, & Marnell, 1997). The initial phases of CBT for binge eating incorporate many techniques often seen in behavioral weight loss treatments, including goal setting, self-monitoring food intake, implementing stimulus control procedures, engaging in self-reinforcement, and establishing a pattern of regular eating. Later phases focus on cognitive restructuring and problem solving. Specifically, individuals are encouraged to identify and challenge thinking patterns that maintain problematic eating behavior (e.g., dichotomous thinking; catastrophizing) and learn problem-solving skills to help cope with life stressors that may otherwise trigger binge eating behavior. The final phase of CBT emphasizes maintaining change and preventing relapse; individuals are encouraged to discuss high-risk situations that may trigger binge eating and develop coping strategies to minimize the likelihood of relapse.

Although the majority of individuals treated with CBT experience a significant reduction in binge eating and half report abstinence from binge eating at posttreatment (Smith et al., 1992; Telch et al., 1990), it has been suggested that mindfulness-based practices may be a useful alternative for those who are less responsive to CBT (Wilson, 1996). Mindfulness approaches encourage individuals to focus on emotions and physical sensations with nonjudgmental awareness and an attitude of self-acceptance (Kabat-Zinn, 1982, 1990). By encouraging attention to physiological cues, mindfulness meditation may increase individuals' awareness of satiety and promote appropriate eating cessation. By encouraging acceptance of emotions, reducing reactive behavioral responses, and improving adaptive coping strategies, mindfulness practices may decrease the likelihood of binge eating as an emotional escape mechanism (Heatherton & Baumeister, 1991). Mindfulness-based interventions are a relatively novel treatment for binge eating; however, results suggest that such interventions reduce binge eating (Baer, Fischer, & Huss, 2005, 2006; Kristeller & Hallett, 1999; Smith, Shelley, Leahigh, Vanleit, 2006).

Mindfulness and the Unique Needs of Bariatric Surgery Patients

The addition of mindfulness interventions to traditional cognitive-behavioral treatment may address some of the unique needs of bariatric surgery patients, particularly since these patients must follow strict dietary guidelines following surgery even though many have failed to lose weight via traditional weight-loss programs and may have had significant difficulty modifying their eating patterns prior to surgery (Stunkard, Stinnett, & Smoller, 1986; Wadden, 1993; Wadden, Sarwer, & Berkowitz, 1999). Principle components of mindfulness that encourage nonjudgmental acceptance, awareness, and the promotion of adaptive emotion regulation strategies may be especially useful.

Nonjudgmental Acceptance

Bariatric surgery patients frequently have specific weight loss goals and expect that weight reduction surgery will alleviate their long-standing struggles with weight, food, and dieting. Weight reduction surgery does not guarantee the achievement of a particular goal weight, nor is it without dietary and eating challenges. As such, difficulty accepting postsurgical results and unmet expectations can lead to distress and frustration for patients who have undergone weight reduction surgery. Mindfulness-based practices that encourage nonjudgmental acceptance of one's current position, particularly postsurgical lifestyle and weight status, may alleviate distress and assist patients in adjusting to their postsurgical status.

Awareness and Emotion Regulation Strategies

Increasing bariatric surgery patients' awareness of physical and emotional sensations is an important component for postsurgical adjustment. Patients' postsurgical dietary regimens include eating at prescribed times, chewing food thoroughly, consuming food slowly, and responding appropriately to satiety cues. Because morbidly obese binge-eaters frequently have difficulty with such recommendations before surgery, making these changes after surgery can be challenging. Mindfulness-based practices that encourage awareness of environment, the mindful consumption of food, and awareness of physical sensation may promote bariatric surgery patients' adherence to postsurgical eating regimens and maximize the benefits of weight reduction surgical techniques.

Eating in response to stress and negative emotions are commonly recognized components of binge eating (Davis, Freeman, & Garner, 1988; Johnson & Larson, 1982; Wilson, Rossiter, Kleifield, & Lindholm, 1986).