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Research report

Dealing with problematic eating behaviour. The effects of a mindfulness-based intervention on eating behaviour, food cravings, dichotomous thinking and body image concern

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ABSTRACT

This study explored the efficacy of a mindfulness-based intervention for problematic eating behavior. A non-clinical sample of 26 women with disordered eating behavior was randomly assigned to an 8-week MBCT-based eating intervention or a waiting list control group. Data were collected at baseline and after 8 weeks. Compared to controls, participants in the mindfulness intervention showed significantly greater decreases in food cravings, dichotomous thinking, body image concern, emotional eating and external eating. These findings suggest that mindfulness practice can be an effective way to reduce factors that are associated with problematic eating behaviour.

Introduction

Mindfulness is the practice of focusing attention on the experience in the present moment in an accepting manner, without judgment or attachment to the way this experience should or should not be (Kabat-Zinn, 1990). Today, only a relatively small number of studies have addressed the effectiveness of mindfulness in the domain of eating behavior. So far, the findings are promising and suggest an inverse relationship between mindfulness and disordered eating behavior. Mindfulness practice has been found to reduce BMI in overweight individuals (Tapper et al., 2009), decrease food cravings (Alberts, Mulkens, Smeets, & Thewissen, 2010) and reduce binge eating (Kristeller & Hallett, 1999). Moreover, high levels of mindfulness have been found to be negatively associated with disordered eating-related cognitions (Masuda & Wendell, 2010). The goal of the present study was to extend this line of research and address the efficacy of a mindfulness-based intervention on different important correlates of disordered eating behavior. More specifically, we explored the impact of an 8 week mindfulness-based intervention on BMI, eating behavior, food cravings, dichotomous thinking and body image concern.

Eating behaviour

Three dissimilar styles of eating behavior have been identified: restrained, emotional and external eating (Van Strien, Frijters, Bergers, & Defares, 1986). Restrained eating involves restriction of food intake or dieting. Dieting has been found to play a role in the development of eating disorders (Stice, 1998) and promotes unhealthy cycles of weight loss and gain (Lissner, Andres, Muller, & Shimokata, 1990). Restrained eating can be driven by appearance related evaluative processes and cognitions, such as judgment of the self in terms of shape and weight (Spangler, 2002). Mindfulness cultivates acceptance and aims to reduce the impact of (self-related) judgmental processes by enhancing dis-identification from these judgments. Consequently, mindfulness is likely to reduce restrained eating that is driven by negative self-evaluative processes.

External eating is eating in response to external cues, not considering internal states of hunger and satiety. Individuals who often engage in external eating are more likely to snack in stressful situations (Conner, Fitter, & Fletcher, 1999) and have feelings of low self-worth (Braet & Van Strien, 1997). To a large extent, mindfulness based practice includes exercises, such as the bodyscan, that direct attention inward, to the experience of thoughts, feelings and body related sensations (Kristeller & Hallett, 1999). In this way, attention for internal cues is strengthened, which may attenuate guidance of (eating) behaviour by external cues and thus reduce external eating.

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Emotional eating has been defined as eating in response to negative emotions (Van Strien et al., 1986) and has been identified as an essential aspect of binge eating (e.g., Arnow, Kenardy, & Agras, 1995). Whereas emotional eating can be perceived as an escape from experiencing negative emotions (avoidance coping; Cochrane, Brewerton, Wilson, & Hodges, 1992), mindfulness promotes willingness to approach and experience emotions, and is therefore likely to reduce avoidance based coping, such as emotional eating.

Body image concern

A negative perception of one's physical appearance (body image; Fisher, 1990) has been identified as an important factor contributing to vulnerability to, and maintenance of disordered eating behaviour (Cooley & Toray, 2001). Factors that have been suggested to contribute to the development and maintenance of body dissatisfaction include appearance ideals (Thompson, Heinberg, Altabe, & Tantleff Dunn, 1999), body checking and body avoidance (Shafran, Fairburn, Robinson, & Lask, 2004). Placing high value on appearance ideals, such as the thin body ideal, can raise body dissatisfaction by increasing the awareness of the discrepancy between one's current and ideal body. Body avoidance involves behavior that aims to prevent or avoid situations that trigger concern about one's physical appearance. Examples are wearing baggy clothes, not weighing or avoiding mirrors. Body avoidance may prevent disconfirmation of irrational ideas about one's body (Rosen, Srebnik, Saltzberg, & Wendt, 1991). In contrast, body checking refers to a critical examination of one's body, like for instance checking oneself repeatedly in the mirror or negatively comparing oneself to others.

Mindfulness is in sharp contrast with the above described processes and behavior that are proposed to increase and maintain body image concern. First, mindfulness is not primarily focused on reaching a goal or ideal state, but fosters willingness to accept the present state. In other words, instead of attempting to reach an appearance ideal, mindfulness promotes acceptance of the current appearance, despite social pressures to do otherwise. Second, mindfulness draws on the ability to stay in contact with an experience. Thus, in contrast to body avoidance, mindfulness requires willingness to expose oneself to whatever arises. Importantly, mindfulness cultivates compassion and attention without judgment. This is opposite to the principle of body checking, which is a strongly judgmental and self-critical evaluative process. Following this line of reasoning, increased levels of mindfulness are expected to be associated with less body image concern.

Dichotomous thinking

Dichotomous thinking entails a type of cognitive rigidity in which reality is perceived in terms of polarities (e.g. food is either "good" or "bad"). This thinking style has been identified as an important factor contributing to the maintenance of eating disorders (Fairburn, Cooper, & Shafran, 2003). Dichotomous thinking enhances obsessive processing by stimulating feelings of guilt after consumption of "forbidden" food (Dewberry & Ussher, 2001) and by increasing the attractiveness of forbidden food (Mann & Ward, 2001).

A core component of mindfulness is non-judgmental observation of internal and external stimuli. Instead of labeling reality in dichotomous terms such as "good" or "bad", mindfulness promotes willingness to accept and let things be just as they are the moment we become aware of them. Mindfulness practice can help to increase awareness of critical and judgmental thoughts, without getting involved in these thoughts. This process of dis-identification allows one to gain distance from evaluative thoughts and is therefore likely to decrease dichotomous thinking.

Food cravings

Food cravings are defined as an intense desire or urge to eat specific food (Weingarten & Elston, 1991). Positive correlations have been observed between food cravings and the development of obesity (Schlundt, Virts, Sbrocco, & Pope-Cordle, 1993) and eating disorders (Mitchell, Hatsukami, Eckert, & Pyle, 1985). Recent findings suggest that mindfulness-based coping is effective in reducing cravings. In a study by Alberts et al. (2010) it was found that overweight and obese participants who received a 7-week mindfulness-based intervention reported significant reductions in food cravings compared to control participants. Although preliminary, these findings imply that mindfulness can help to reduce craving for food.

Method

Participants

Patients were recruited through a newspaper advertisement and flyers soliciting for individuals with problematic eating behavior. The inclusion criterions were that participants were (1) between 18 and 65 years and (2) experienced one or more of the following types of problematic eating: emotional eating, stress related eating, eating without awareness and/or overeating. Exclusion criteria were: (1) eating disorder (bulimia nervosa or anorexia nervosa), (2) suicidality, (3) substance abuse and/or dependence, (4) severe mental disorder, and (5) other concurrent treatment. A total of 26 women (mean age = 48.5 years, SD = 7.90), participated in this study. The mean weight of the participants was 94.6 kg (SD = 16.41; range 68.0–123.0) and the mean body mass index (BMI) was 32.7 (SD = 6.1; range 23.5–45.8).

Design

After diagnostic evaluation and intake assessment, participants were randomly assigned to the treatment group ($n = 12$) or waiting-list control group ($n = 14$). The waiting-list period lasted for the duration of the treatment period (8 weeks), and the control group entered active treatment after 10 weeks. Measures for both groups were collected at baseline and at post-treatment.

Measures

Weight

Weight (kg) was recorded at pre- and post-test. Participants were weighed in street clothes, without shoes.

Kentucky Inventory Mindfulness Skills Extended (KIMS-E)

In order to test whether the current intervention successfully increased levels of mindfulness, the KIMS-E (Baer, Smith, & Allen, 2004) was administered. This is a 46-item scale that measures mindfulness skills or sub skills. The scale consists of five subscales; observe, describe, act with awareness, act without judgement and non-reactivity to inner experience (Crohnbach's alpha = .94).

Dutch Eating Behaviour Questionnaire (DEB-Q)

The DEB-Q (Van Strien et al., 1986) consists of 33 items and assesses external, restraint and emotional eating (Cronbach's alpha = .85).

Body Shape Questionnaire (BSQ)

The BSQ was originally developed by Cooper, Taylor, Cooper, and Fairburn (1987) to measure concern about body weight and shape experienced by individuals with eating disorders or related