

# A brief mindfulness-based intervention reduces eating disorder symptoms and improves eating self-efficacy and emotion regulation

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## Abstract

Up to 50% of bariatric (weight-loss) surgery-seeking adults report eating disorder (ED) symptoms (i.e., binge eating, emotional eating, addictive-like eating, and grazing) that can interfere with surgery outcomes. Well-designed pre-surgical interventions targeting eating behaviours may reduce ED symptoms and protect against suboptimal surgery outcomes. This study aimed to (1) provide a proof-of-concept data to inform the design and optimization of a pre-surgical mindfulness-based intervention (MBI) for ED symptoms, and (2) to evaluate whether the MBI produces meaningful improvements in ED symptoms and clarify the mechanisms-of-action by which the MBI impacts ED symptoms. Twenty one pre-surgical patients with obesity and ED symptoms referred to the MBI completed self-report measures of addictive-like eating, binge eating, emotional eating, grazing, mindful eating, eating self-efficacy, and emotion regulation pre-(T1) and post-(T2) MBI. Repeated-measure ANOVAs revealed improvements in binge eating symptoms ( $F(1,20) = 30.38$ ,  $\eta^2 = .60$ ,  $p < .001$ ) and grazing ( $F(1,20) = 7.57$ ,  $\eta^2 = .28$ ,  $p = .012$ ), pre- to post-MBI. Adjusting for multiple comparisons, no significant improvements were found for addictive-like eating or emotional eating. Eating self-efficacy ( $F(1,20) = 29.70$ ,  $\eta^2 = .60$ ,  $p < .001$ ) and emotion regulation ( $F(1,20) = 7.18$ ,  $\eta^2 = .26$ ,  $p = .014$ ) improved, while mindful eating decreased ( $F(1,20) = 16.25$ ,  $\eta^2 = .45$ ,  $p = .001$ ), following the MBI. Bivariate correlations found associations between improvements in the mechanism of eating self-efficacy and improvements in the ED symptom of grazing pre- to post-MBI ( $r = 0.46$ ,  $p < .05$ ). As well, improvements in emotion regulation were associated with positive changes in binge and emotional eating and grazing ( $r = 0.55$ ,  $p < .001$ ,  $r = 0.66$ ,  $p < .001$ ,  $r = 0.61$ ,  $p < .05$ , respectively). After participating in the MBI binge eating, grazing, eating self-efficacy, and emotion regulation abilities improved. Further work is needed to understand and mitigate deterioration in mindful eating. Moreover, acceptability and feasibility of the MBI should be assessed prior to testing the MBI in a large-scale efficacy trial. Future research should assess the impact of this intervention on post-surgery weight-loss, weight-loss maintenance, and maintenance of improvements in ED symptoms.

## Key words

mindfulness-based intervention, disordered eating, self-efficacy, emotion regulation, bariatric surgery

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