Mindfulness-Based Approaches to Eating and Weight Loss

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68.5% of U.S. adults are overweight or obese

Ogden, CL et al. 2014 JAMA  311: 806-14
Existing interventions yield modest results ...

... and most weight is regained
Stress eating

“This is going to be a two-cupcake Friday.”
“What do you eat for anxiety?”

Emotional eating
Brainstem

Hypothalamus

Homeostatic

Peripheral signals
Leptin
Insulin
Ghrelin

Hunger Palatability

Food intake

Hedonic

PFC
VTA
Amygdala

Emotional Distress

Peripheral signals
Leptin
Insulin
Ghrelin

Hunger Palatability

Food intake
Many adults report engaging in unhealthy eating as a result of stress.
Lifetime stressful events and chronic stressors are associated with higher BMI

Community sample (N= 588)

Sinha and Jastreboff 2013 Biol Psychiatry 73: 827-835
Obese subjects show increased reactivity to food cues and stress cues.
Emotional eating

• Associated with chronic exposure to high levels of stress ¹

• Better predictor of weight gain than lifestyle factors and other eating behaviors ²

• Predicts less weight loss and less weight loss maintenance in weight loss studies ³

1. Tomiyama AJ 2011 Psychoneuroendocrinology 36:1513-1519
Comfort food activates brain reward center in emotional eaters during negative mood state.
Individual and social factors

Stressors

- Challenge

Coping Action

Distress

- Physiological dysregulation
  - Physical Health

- Negative emotions
  - Unhealthy behaviors
  - Unhealthy habits
  - Mental Health
Mindfulness
A definition of Mindfulness

The awareness that emerges from paying attention on purpose and non-judgmentally to things as they are

Williams, Teasdale, Segal and Kabat-Zinn 2007
Mindfulness – based interventions
Components of Mindfulness-Based Interventions

- Daily practice 30-45 min.
- Informal practices
Mindfulness is effective for emotional distress

- Anxiety \( (d = 0.38) \)
- Depression \( (d = 0.30) \)
- Chronic pain \( (d = 0.33) \)
- Stress reactivity\(^1\)
- Anxiety and depression\(^2\)
- Depression\(^3\) and substance abuse\(^4\) relapse


JAMA Intern Med 174:357-368
Mindfulness training reduces emotional reactivity

Farb N. et al. 2010 Emotion 10:25-33
8-week MBSR training reduces amygdala volume\textsuperscript{1}...

... and increases hippocampus volume\textsuperscript{2}

A role for mindfulness in health behaviors

• Mindfulness helps us to accept things as they are, including difficult emotions

• By becoming more aware we can be less reactive and better able to make healthy choices in line with our goals and values

• We become more aware of thoughts and emotions, habits of mind we’ve developed in relation to food, and how they trigger unhealthy behaviors

• Prevention of relapse to unhealthy behaviors
Interventions for eating and weight loss

Mindfulness-based

- Mindfulness-Based Stress Reduction (MBSR)
- Adaptations of MBSR and MBCT that incorporate behavioral and psychoeducational components
- Mindful eating

Incorporate brief mindfulness skills training

- Traditional behavioral interventions
- Acceptance-based interventions
MBSR reduces emotional eating

N = 333 consecutive participants in UMass MBSR program

Emotional eating questions:
- When I feel anxious I find myself eating
- When I feel blue I often overeat
- When I feel lonely I console myself by eating

![Graph showing Emotional Eating Score comparison between Pre and Post, with P < .001]  

![Graph showing Emotional Eating Pre-Post Change comparison by BMI category, with BMI > 25 and BMI < 25, both with P < .001]
Adaptations of MBSR/MBCT

• Focus on mindfulness training in each session
• Incorporate elements of mindful eating
• Additional educational components:
  • Nutrition or energy balance education
  • Exercise
  • Behavioral goal setting and problem-solving
Mindful eating
Mindful eating

- Eating slowly
- Fullness
- Gratitude
- Awareness of thoughts and feelings
- Savoring
- Hunger
- Self-acceptance

Kristeller, JL 2011 Eating Disorders, 19:49–61
Systematic reviews – mindfulness-based interventions for eating behaviors

- MBI’s are effective for emotional eating and binge eating
- Largest effect size for binge eating
- Not superior to cognitive-behavioral interventions in short term

Systematic reviews – mindfulness interventions for weight loss

- MBSR alone has not been shown to be effective*
- Mindfulness appears to be effective when nutrition and energy balance and/or behavioral components are included

Summary

- Mindfulness-based interventions are effective for emotional eating and binge eating.
- For weight loss, combining mindfulness training with behavioral strategies holds most promise.
- Directions for future research:
  - Longer follow-up
  - Effectiveness compared to cognitive-behavioral approaches
  - Diverse populations
  - Weight loss maintenance?
Thank You!

Questions?