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Integrating Mindfulness Into Eating Behaviors

Abstract: *Food choices and eating behaviors are influenced by a wide variety of factors. However, traditional dietary advice primarily addresses health-related reasons for eating. Lifestyle medicine outcomes may be improved by helping individuals become more aware of why they eat and support individuals to increase their skills in reconciling eating for health and nonhealth purposes. Intuitive eating aims to increase individuals' awareness of why, what, and how much they eat through mindfulness. This framework and concepts such as flexible restraint can be used to teach individuals skills that may help them improve psychological well-being and manage their weight.*

Keywords: intuitive eating; food choice; flexible restraint; mindfulness

People have been encouraged to consider their health when making eating decisions for centuries. The ubiquitous saying “you are what you eat” has been traced back to as early as 1826. This phrase was first used to imply that one’s diet revealed the character of individuals. In the early 1900s, the book *You Are What You Eat* shifted the meaning of this phrase to



associate inexpensive food with disease.¹ Today, similar phrases such as “food is fuel” and “food is medicine” are used to encourage individuals to make eating decisions that promote health. Although this messaging has helpful intentions, it may oversimplify the human relationship with food and likely has limited effects on actual food choice.

As discussed by Mantzios and Giannou² in this issue, mindfulness has emerged as a novel lifestyle medicine technique to help individuals manage weight. The underlying concept of mindfulness is to have individuals be more intentional about food choices because many food

skills to increase awareness are implemented.

Factors Associated With Food Choice

Much of the messaging provided in lifestyle medicine about food focuses on health, making it easy to assume that people primarily eat for health reasons. However, several other factors drive dietary decisions. The most important factors that influence food choice include taste and cost.^{3,4} Other motives include affect regulation (eg, minimizing stress, increasing positive feelings), convenience

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choices are reactionary to the environment rather than internal cues for hunger and satiety. Conceptually, drawing awareness to the intricacies associated with eating can improve eating experiences and health simultaneously. It is likely that more healthful eating choices will be made if

(eg, proximity to home, time required to prepare food), and weight control.^{4,5} Eating to make a good impression or to be sociable also greatly influence a person’s decision to eat.⁵ The importance of these motives vary depending on individual characteristics such as age and gender.^{6,7} For example, young adults

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tend to prioritize palatable food, hunger, pleasure, convenience, visual appeal, and affect regulation, whereas older adults are more likely to make eating choices based on health.⁶

In addition, dietary choices are influenced by environmental triggers. Hunger to combat energy deprivation is the most fundamental biological trigger to eat. However, external forces can influence and alter physiological responses, making individuals want to eat in the absence of hunger, a concept known as hedonic hunger (ie, eating for pleasure, psychological hunger).⁸ Numerous environmental pressures lead individuals to eat in the absence of hunger.^{8,9} For example, irrespective of hunger levels, individuals watching food advertising consume greater amounts of food than those watching nonfood advertising.¹⁰ Perhaps most troubling is that few individuals report being consciously aware of such triggers.^{5,10} Clinicians are in a unique position to help individuals recognize the various factors influencing their eating choices and help them use this information to make healthier choices.

Intuitive Eating

Intuitive eating is an eating framework that may be of particular importance in the field of lifestyle medicine because it can influence an individual's awareness of why they make specific food choices. Intuitive eating has been shown to be negatively related to disordered eating, body mass index, weight cycling, serum cholesterol, blood pressure, and several inflammation markers, and it is positively associated with psychological health, weight stability, and body satisfaction.^{11,12} Interventions that emphasize eating intuitively have improved body esteem and psychological health and have stabilized weight.^{12,13} Intuitive eating consists of 10 core principles that revolve around physical and emotional awareness, as well as making peace with food and the body.¹⁴ The concepts of intuitive eating were initially developed to treat chronic dieters. Intuitive eating posits that weight cycling and a

preoccupation with food arises when individuals rely on dietary rules and conditions rather than their biological cues for hunger and satiety to inform what, when, and how much to eat. When individuals give themselves unconditional permission to eat in response to hunger and satiety, body weight and eating can stabilize. A goal of intuitive eating is also to disentangle weight preoccupation from behavioral changes, with a focus on overall well-being and creating positive relationships with food.¹⁴ When this occurs, it is hypothesized that weight loss maintenance can be achieved.^{11,15} However, long-term research on intuitive eating and weight loss is lacking.

Adaptations to intuitive eating are likely needed when addressing obesity if the goal is weight loss. For example, under intuitive eating, individuals are granted unconditional permission to eat. This could be problematic because unconditional permission to eat is not associated with lower energy intake or improved diet quality.^{16,17} However, teaching people flexible restraint, an idea consistent with intuitive eating principles, holds considerable promise in addressing how individuals respond to their hunger or desires to eat.¹⁸

Flexible restraint has been associated with reduced binge eating and weight loss.^{19,20} Individuals with flexible restraint are more concerned with the overall quality of their diet rather than rigid adherence to dietary rules and conditions at every eating occasion. Flexible restraint allows for less healthy food choices by compensating at subsequent meals over time.²¹ This can help reduce feelings of guilt experienced by those with rigid restraint when they make less healthy choices. Recent research has increased the understanding of flexible restraint on body image and disordered eating, noting that flexible restraint is only predictive of body image and disordered eating outcomes when rigid restraint is accounted for in the model.^{22,23} In contrast, intuitive eating directly predicts body image and disordered eating outcomes, possibly because intuitive eating promotes simultaneous increases

in flexible restraint and decreases in flexible rigidity.^{22,23} These findings provide support for the use of intuitive eating as an overall framework to increase individuals' awareness of why they are eating and skills to balance eating for health with all the many nonhealth reasons people eat.

Conclusion

Americans spend more than an hour each day consuming food and drink.²⁴ Eating can be both enjoyable and health promoting. Clinicians can help individuals learn to balance eating for health with the hedonic, social, and environmental reasons they eat. The intuitive eating framework is one potential way clinicians can help individuals reconnect with their hunger and satiety signals while still appreciating and accepting the many factors that influence eating behaviors. As a clinician, it is easy to discuss eating behaviors in relation to health. However, messages that imply that the only reason people eat is for health may be unrelatable and unintentionally promote unsustainable restrictive eating practices. Conversely, inclusive messages (eg, "every food fits") are unlikely to result in improved health unless coupled with guidance on how to make every food fit. Although not a catchy phrase, the most meaningful health message a clinician can offer in lifestyle medicine is likely one that nonjudgmentally acknowledges that many factors influence eating decisions and conveys clinician support in prioritizing these factors without sacrificing health.

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References

- Lindlahr VH. *You Are What You Eat*. San Bernardino, CA: Borgo Press; 1991.
- Mantzios M, Giannou K. A real-world application of short mindfulness-based practices: a review and reflection of the literature and a practical proposition for an effortless mindful lifestyle [published online April 27, 2018]. *Am J Lifestyle Med*. doi:10.1177/1559827618772036
- Glanz K, Basil M, Maibach E, Goldberg J, Snyder D. Why Americans eat what they do: taste, nutrition, cost, convenience, and weight control concerns as influences on food consumption. *J Am Diet Assoc*. 1998;98:1118-1126. doi:10.1016/s0002-8223(98)00260-0
- Aggarwal A, Rehm CD, Monsivais P, Drewnowski A. Importance of taste, nutrition, cost and convenience in relation to diet quality: evidence of nutrition resilience among US adults using National Health and Nutrition Examination Survey (NHANES) 2007-2010. *Prev Med*. 2016;90:184-192. doi:10.1016/j.ypmed.2016.06.030
- Sproesser G, Klusmann V, Schupp HT, Renner B. Self-other differences in perceiving why people eat what they eat. *Front Psychol*. 2017;8:209. doi:10.3389/fpsyg.2017.00209
- Renner B, Sproesser G, Strohbach S, Schupp HT. Why we eat what we eat. The Eating Motivation Survey (TEMS). *Appetite*. 2012;59:117-128. doi:10.1016/j.appet.2012.04.004
- Tapper K, Pothos EM. Development and validation of a food preoccupation questionnaire. *Eat Behav*. 2010;11:45-53. doi:10.1016/j.eatbeh.2009.09.003
- Elliston KG, Ferguson SG, Schüz N, Schüz B. Situational cues and momentary food environment predict everyday eating behavior in adults with overweight and obesity. *Health Psychol*. 2017;36:337-345. doi:10.1037/hea0000439
- Lowe MR, Butryn ML. Hedonic hunger: a new dimension of appetite? *Physiol Behav*. 2007;91:432-439. doi:10.1016/j.physbeh.2007.04.006
- Harris JL, Bargh JA, Brownell KD. Priming effects of television food advertising on eating behavior. *Health Psychol*. 2009;28:404-413. doi:10.1037/a0014399
- Tylka TL, Calogero RM, Daniélsdóttir S. Intuitive eating is connected to self-reported weight stability in community women and men [published online May 1, 2019]. *Eat Disord*. doi:10.1080/10640266.2019.1580126
- Van Dyke N, Drinkwater EJ. Relationships between intuitive eating and health indicators: literature review. *Public Health Nutr*. 2014;17:1757-1766. doi:10.1017/s1368980013002139
- Guest E, Costa B, Williamson H, Meyrick J, Halliwell E, Harcourt D. The effectiveness of interventions aiming to promote positive body image in adults: a systematic review. *Body Image*. 2019;30:10-25. doi:10.1016/j.bodyim.2019.04.002
- Tribole E, Resch E. *Intuitive Eating: A Recovery Book for the Chronic Dieter*. New York, NY: St Martin's Press; 1995.
- Ruzanska UA, Warschburger P. Intuitive eating mediates the relationship between self-regulation and BMI—results from a cross-sectional study in a community sample. *Eat Behav*. 2019;33:23-29. doi:10.1016/j.eatbeh.2019.02.004
- Camilleri GM, Méjean C, Bellisle F, et al. Intuitive eating dimensions were differently associated with food intake in the general population-based NutriNet-Sante study. *J Nutr*. 2017;147:61-69. doi:10.3945/jn.116.234088
- Barad A, Cartledge A, Gemmill K, et al. Associations between intuitive eating behaviors and fruit and vegetable intake among college students. *J Nutr Educ Behav*. 2019;51:758-762. doi:10.1016/j.jneb.2019.03.010
- Stewart TM, Williamson DA, White MA. Rigid vs flexible dieting: association with eating disorder symptoms in nonobese women. *Appetite*. 2002;38:39-44. doi:10.1006/appe.2001.0445
- Westenhoefer J, Engel D, Holst C, et al. Cognitive and weight-related correlates of flexible and rigid restrained eating behaviour. *Eat Behav*. 2013;14:69-72. doi:10.1016/j.eatbeh.2012.10.015
- Teixeira PJ, Carraça EV, Marques MM, et al. Successful behavior change in obesity interventions in adults: a systematic review of self-regulation mediators. *BMC Med*. 2015;13:84. doi:10.1186/s12916-015-0323-6
- Westenhoefer J, Stunkard AJ, Pudel V. Validation of the flexible and rigid control dimensions of dietary restraint. *Int J Eat Disord*. 1999;26:53-64.
- Linardon J, Mitchell S. Rigid dietary control, flexible dietary control, and intuitive eating: evidence for their differential relationship to disordered eating and body image concerns. *Eat Behav*. 2017;26:16-22. doi:10.1016/j.eatbeh.2017.01.008
- Tylka TL, Calogero RM, Daniélsdóttir S. Is intuitive eating the same as flexible dietary control? Their links to each other and well-being could provide an answer. *Appetite*. 2015;95:166-175. doi:10.1016/j.appet.2015.07.004
- Hamrick KS, Andrews M, Guthrie J, Hopkins D, McClelland K. *How Much Time Do Americans Spend on Food?* Washington, DC: US Department of Agriculture, Economic Research Service; 2011.