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Diet Self-Monitoring and Body Weight: A Review of the Evidence

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BACKGROUND

Maintaining a healthy body weight is vital for good health. However, many Americans are overweight or obese, indicating that they consume more calories from foods and beverages than they expend through physical activity and normal bodily functions.

A growing body of research has investigated the impact of various dietary behaviors, such as self-monitoring of dietary intake, on body weight. Dietary self-monitoring is the process of recording food and beverage intake, including a description of the type and amount of foods and beverages that are consumed. Occasionally, self-monitoring may include information related to context of eating situations such as the time, location, emotional state, or hunger status. Self-monitoring of food intake is a common component of many weight loss interventions, particularly cognitive-behavioral weight loss programs, since it promotes self-awareness and helps tailor behavior change initiatives.

This *Nutrition Insight* provides an overview of the systematic review on the relationship between diet self-monitoring and body weight conducted by the 2010 Dietary Guidelines Advisory Committee (DGAC) and the USDA Nutrition Evidence Library (NEL) to support the development of the *Dietary Guidelines for Americans, 2010*.

REVIEW OF THE EVIDENCE

The 2010 DGAC conducted a systematic review examining the relationship between diet self-monitoring and body weight in adults using a rigorous, transparent, and reproducible methodology (Spahn, J.M., Lyon, J.M.G., Altman, J.M., et al., 2011). The 2010 DGAC report can be accessed at www.dietaryguidelines.gov, and information on search terms, databases queried, evidence abstraction and analysis, and criteria for study quality can be accessed at www.NEL.gov.

The systematic review included seven studies published between 2000 and 2009. Six were randomized controlled trials (RCTs) and one was a non-randomized controlled trial. Four studies were rated positive quality, and three studies

USDA NUTRITION EVIDENCE LIBRARY

The USDA Nutrition Evidence Library (NEL) specializes in conducting systematic reviews to inform Federal nutrition policy and programs. The Library is a key resource for making food and nutrition research accessible to all Americans.

www.NEL.gov

were rated neutral quality. The studies were conducted in the United States and Japan. Studies ranged in size from 42 to 588 subjects, and all 7 studies included both men and women.

Six out of the seven studies reviewed found that diet self-monitoring was associated with greater weight loss. One study found no relationship between diet self-monitoring and weight loss.

All seven studies examined a weight loss or weight loss maintenance program in overweight or obese adults with a diet self-monitoring component. The self-monitoring piece consisted of keeping a daily record of food consumed, with a focus on monitoring calorie intake. Also, in most studies, participants self-monitored intake using a simple paper food diary, though a few studies used a form of technology for monitoring (computer or handheld device).

CONCLUSIONS AND FUTURE RESEARCH

The 2010 DGAC concluded, "Strong evidence shows that for adults who need or desire to lose weight, or who are maintaining body weight following weight loss, self-monitoring of food intake improves outcomes."

In addition, the 2010 DGAC indicated that additional research is needed to better understand how dietary intake-related behaviors, such as self-monitoring of food intake and physical activity, impact eating practices and body weight.

FROM RESEARCH TO RECOMMENDATIONS

The conclusions from the 2010 DGAC report, including that on the relationship between diet self-monitoring and body weight, formed the basis for the recommendations made in *The Dietary Guidelines for Americans (DGA), 2010* (U.S. Department of Agriculture and U.S. Department of Health and Human Services, 2010).

The 2010 DGA encourage individuals to select a healthy eating pattern that meets nutrient needs at an appropriate calorie level over time in order to achieve these goals. The following are the key recommendations from the 2010 DGA related to balancing calories to manage weight:

- Prevent and/or reduce overweight and obesity through improved eating and physical activity behaviors.
- Control total calorie intake to manage body weight. For people who are overweight or obese, this will mean consuming fewer calories from foods and beverages.
- Increase physical activity and reduce time spent in sedentary behaviors.
- Maintain appropriate calorie balance during each stage of life—childhood, adolescence, adulthood, pregnancy and breastfeeding, and older age.

In order to achieve energy balance and maintain a healthy weight, the 2010 DGA highlights several behaviors, including diet self-monitoring, that have been shown to promote weight management. The 2010 DGA includes the following guidance related to self-monitoring of food intake:

- **Monitor food intake.** Monitoring food intake has been shown to help individuals become more aware of what and how much they eat and drink. The Nutrition Facts label found on food packaging provides calorie information for each serving of food or beverage and can assist consumers in monitoring their intake. Also, monitoring body weight and physical activity can help prevent weight gain and improve outcomes when actively losing weight or maintaining body weight following weight loss.

Additional information about using the Nutrition Facts label is available in Appendix 4 of the 2010 DGA, which can be accessed at www.dietaryguidelines.gov.

To help promote healthy eating, increased physical activity, and weight management, USDA has developed SuperTracker.

SuperTracker was designed to allow individuals to:

- Get a personalized nutrition and physical activity plan.
- Track foods and physical activities to see how they compare to recommendations.
- Get tips and support to help make healthier choices and plan ahead.

Individual features of SuperTracker include: Food Tracker, Physical Activity Tracker, and My Weight Manager in addition to several others. Individuals can create a personalized profile and save their dietary intake over time or use a general plan. Users can also choose up to five personal goals, sign up for tips and support from a virtual coach, create reports, and view trends over time.

In Food Tracker, users can easily search a database of foods and beverages and identify what and how much they have consumed. Users can create a favorite foods list, copy meals, and note if items were eaten at breakfast, lunch, dinner, or as a snack. Feedback provided from SuperTracker includes calorie intake and how intake compares to daily food group targets.

SuperTracker is a free tool that allows users to monitor their intake, which may help them become more aware of what and how much they eat and drink, improve eating patterns, and manage body weight.

SuperTracker

REFERENCES

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