

# JOURNAL OF THE ACADEMY OF NUTRITION AND DIETETICS



## NEWS RELEASE

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### **Partial Sleep Deprivation Linked to Obesity**

**Ghrelin and leptin levels affected during sleep deprivation consistent with increases in appetite,  
*Journal of the Academy of Nutrition and Dietetics Reports***

Philadelphia, PA, October 24, 2012 – Evidence linking partial sleep deprivation to energy imbalance is relevant to weight gain prevention and weight loss promotion. A new study published today in the *Journal of the Academy of Nutrition and Dietetics* bases this finding on an extensive review of literature published over a fifteen-year period.

More than 35 percent of American adults are obese and more than 28 percent sleep less than six hours a night. While weight-loss strategies incorporate lifestyle changes focusing on diet and exercise, modifications in an individual's daily routine, including sleep behaviors, can help manage weight.

“Various investigations, although diverse, indicate an effect of partial sleep deprivation on body weight management,” says lead investigator Sharon M. Nickols-Richardson, PhD, MD, professor, Department of Nutritional Sciences, The Pennsylvania State University, University Park. “The intriguing relationship between partial sleep deprivation and excess adiposity makes partial sleep deprivation a factor of interest in body weight regulation, particularly in weight loss.”

The research team evaluated articles published between 1996 and 2011 to determine the role of partial sleep deprivation on energy balance and weight regulation. As part of its methodology, the team constructed a series of comparative tables detailing individual study populations, study designs, energy intake, energy expenditure,

and measurements of the hormones ghrelin, leptin, insulin, glucose, and cortisol. Analysis of these characteristics identified a set of patterns, including reduced insulin sensitivity, increases in ghrelin, and decreases in leptin among partially sleep-deprived individuals. Changes in ghrelin and leptin influenced energy intake among the study populations.

“Changes in these hormones coinciding with an energy-reduced diet paired with changes in response to partial sleep deprivation may be expected to increase ghrelin and decrease leptin concentrations even further to promote hunger,” says Dr. Nickols-Richardson.

The paper calls for further research to determine the effects of sleep deprivation on body composition and substrate use and suggests evaluation of an individual’s sleep patterns combined with regular, sufficient sleep may benefit healthy weight management.

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#### **NOTES FOR EDITORS**

“Partial Sleep Deprivation and Energy Balance in Adults: An Emerging Issue for Consideration by Dietetics Practitioners,” Julie D. Shlisky, PhD; Terry J. Hartman, PhD, MPH, RD; Penny M. Kris-Etherton, PhD, RD; Connie J. Rogers, PhD, MPH; Neil A. Sharkey, PhD; Sharon M. Nickols-Richardson, PhD, RD. *Journal of the Academy of Nutrition and Dietetics*, Volume 112/Issue 11 (November 2012), DOI: 10.1016/j.jand.2012.07.032, published by Elsevier.

Full text of this article is available to credentialed journalists upon request. Contact Eileen Leahy at 732-238-3628 or [andjrnmedia@elsevier.com](mailto:andjrnmedia@elsevier.com) to obtain copies. Journalists wishing to set up interviews with the authors should contact Sharon M. Nickols-Richardson at 814-863-2920 or [smn13@psu.edu](mailto:smn13@psu.edu).

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The official journal of the Academy of Nutrition and Dietetics ([www.eatright.org](http://www.eatright.org)), the *Journal of the Academy of Nutrition and Dietetics* ([www.andjrn.org](http://www.andjrn.org)) is the premier source for the practice and science of food, nutrition and dietetics. The monthly, peer-reviewed journal presents original articles prepared by scholars and practitioners and is the most widely read professional publication in the field. The *Journal* focuses on advancing professional knowledge across the range of research and practice issues such as: nutritional science, medical nutrition therapy, public health nutrition, food science and biotechnology, food service systems, leadership and management and dietetics education.

The *Journal* has a current Impact Factor of 3.586 in the Nutrition and Dietetics category of the *2011 Journal Citation Reports*<sup>®</sup>, published by Thomson Reuters. It was previously published as the *Journal of the American Dietetic Association*.

#### **ABOUT THE ACADEMY OF NUTRITION AND DIETETICS**

The Academy of Nutrition and Dietetics ([www.eatright.org](http://www.eatright.org)), formerly the American Dietetic Association, is the world’s largest organization of food and nutrition professionals. The Academy is committed to improving the nation’s health and advancing the profession of dietetics through research, education and advocacy.

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