The effects of consuming protein at breakfast on energy metabolism, food intake and glycemic regulation

Issue

Over 17 million young people in the United States are overweight or obese. In 2011, 59.9% of women (age 18 and over) in the state of Arkansas were classified as either overweight or obese. In 2013, Arkansas was the only state in the US to show an increase in obesity rates, which now makes Arkansas the third most obese state in the United States. Early adulthood is a vulnerable life stage for weight gain, especially among women. The average weight gain for women between the ages of 20 and 30 is 12-25 pounds. Weight gain during early adulthood increases the risk of a number of chronic health conditions such as type 2 diabetes, depression, polycystic ovary syndrome, and infertility. For example, after the age of 18 years, women are 1.9 times more likely to develop type 2 diabetes if they gained 10-16 pounds and 2.7 times more likely if they gained 16-22 pounds. A primary contributor to obesity is an increase in unhealthy eating habits, such as skipping breakfast, which has been strongly associated with overeating, weight gain and obesity. Over the last 20 years there has been a dramatic decline in breakfast consumption, which parallels the dramatic increase in obesity.

Action

Interventions capable of preventing or reversing weight gain in young women have the potential to have a considerable effect on improving health and well-being at a population level. Therefore, this research is designed to determine if breakfast consumption and breakfast composition improve energy metabolism and metabolic health and induce weight loss in young women who habitually skip breakfast.

Impact

The student population at the University of Arkansas is 49% female. In addition, overweight and obesity are epidemics that affect nearly 60% of women in Arkansas. This places the female population at risk for development of chronic diseases such as diabetes, cancer, and cardiovascular disease. Development of a breakfast intervention program is a cost-effective method that can help reduce the incidence of overweight and obesity and enrich the life of women at the University of Arkansas and throughout the state allowing them to lead longer, healthier lives.

Data from our laboratory shows that overweight/obese children who consume protein at breakfast burn more calories from fat compared to a carbohydrate-based breakfast. Additionally, overweight/obese women who skip breakfast burn more calories following the meal compared to women who continue to skip breakfast and those consuming a carbohydrate-breakfast. Consuming a protein-based breakfast also reduces hunger and sweet cravings following the meal.

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