Egg Nutrition Center

ENC

Protein Research

Ratliff J, Leite JO, de Ogburn R, Puglisi MJ, VanHeest J, Fernandez ML. Consuming eggs for breakfast influences plasma glucose and ghrelin, while reducing energy intake during the next 24 hours in adult men. *Nutrition Research* 2010;30:96-103.

We hypothesized that consuming eggs for breakfast would significantly lower postprandial satiety and energy intake throughout the day. Using a crossover design, 21 men, 20 to 70 years old, consumed 2 isoenergetic test breakfasts, in a random order separated by 1 week. The macronutrient composition of the test breakfasts were as follows: (EGG, % CHO/fat/protein = 22:55:23) and (BAGEL, % CHO/fat/protein = 72:12:16). Fasting blood samples were drawn at baseline before the test breakfast and at 30, 60, 120, and 180 minutes after breakfast. After 180 minutes, subjects were given a buffet lunch and asked to eat until satisfied. Subjects filled out Visual Analog Scales (VAS) during each blood draw and recorded food intake the days before and after the test breakfasts. Plasma glucose, insulin, and appetite hormones were analyzed at each time point. Subjects consumed fewer kilocalories after the EGG breakfast compared with the BAGEL breakfast ($P < .01$). In addition, subjects consumed more kilocalories in the 24-hour period after the BAGEL compared with the EGG breakfast ($P < .05$). Based on VAS, subjects were hungrier and less satisfied 3 hours after the BAGEL breakfast compared with the EGG breakfast ($P < .01$). Participants had higher plasma glucose area under the curve ($P < .05$) as well as an increased ghrelin and insulin area under the curve with BAGEL ($P < .05$). These findings suggest that consumption of eggs for breakfast results in less variation of plasma glucose and insulin, a suppressed ghrelin response, and reduced energy intake.