

The acute effect of resistant starch on postprandial satiety in an overweight population

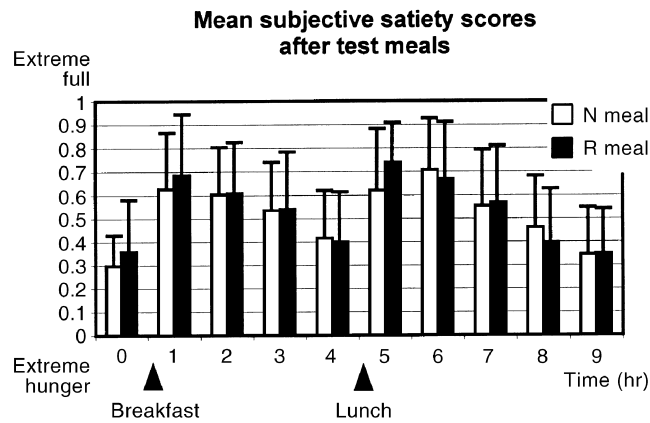
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Introduction: Obesity and overweight are now common health problems all over the world. Successful maintenance of long-term weight loss is of considerable benefit in this group as it lowers the risk of certain chronic diseases. Diets high in resistant starch may be a suitable strategy for weight loss, since foods high in resistant starch have a reduced digestibility in the small intestine. This slower rate of starch digestion and gastric emptying may have a positive effect on satiety sensation. The aim of this study was to compare in an overweight population the postprandial satiety ratings in response to meals containing high or minimal levels of resistant starch.

Method: Nine males and 10 females aged 42.4 ± 13.2 y with a mean body mass index (BMI, in kg/m^2) of 29.5 ± 3.39 were recruited. Subjects consumed two main meals (breakfast and lunch) containing either high-amylose resistant starch (R) or non-resistant starch (N) on two separate days in a crossover design in a comfortable laboratory setting. The N meal challenge day contained a negligible amount of resistant starch, while the R meals contained 9.53 g and 15.21 g of high-amylose resistant starch in breakfast and lunch respectively. Subjective satiety ratings were obtained by using visual analogue scales. Measurements were taken at 60-minute intervals for 10 consecutive measures on each day. Results were expressed as mean \pm SD. Comparison of means was performed by Student's t test and statistical significance was set as $P < 0.05$.

Results and Discussion: The satiety ratings from both meal-types showed an early increase after the two test meals followed by a subsequent gradual decrease and remained above the basal values 4-h postprandially. Minor differences in satiety ratings were found after the two test meals, with a significant difference occurring immediately following the lunch meal ($P < 0.05$). Mean satiety scores were slightly higher for subjects fed the R meal compared with those fed the N meal but these were not statistically significant. Higher intakes of resistant starch may be needed to show any effects. In addition, overweight individuals may be relatively insensitive to the satiety response (1), suggesting the need for further research in this area.



1. Friedman MI. Control of energy intake by energy metabolism. *Am J Clin Nutr* 1995; 62: 1096S–1100S.