Essentials of Health

In a recent study of normal weight adults, a meal consisting of low-glycemic carbohydrates improved cognitive function after meals better than a high-glycemic meal.

Low-glycemic food has a positive effect on brain function after a meal

Glucose is an important sugar for proper brain function, and the rate of glucose delivered to the brain after a meal may influence cognitive performance. In a study published in the *European Journal of Clinical Nutrition*, researchers evaluated the effects of glucose absorption directly after a meal, and how the rate of absorption affects cognitive performance. Individual responses to glucose and insulin (glucoregulation) were also evaluated for potential differences in cognitive function.

The study participants included 40 healthy adults of healthy weight (BMI > 30) aged 49-71 years. Test meals included white wheat bread (WWB) as the standard high glycemic food, and a WWB enriched with guar gum (G-WWB) as a low-glycemic food as a comparison. In a cross-over design, subjects were evaluated for cognitive function (working memory and selective attention) after consuming one of the test meals and during the hours after the meal (postprandial period).

The G-WWB meal improved the outcome in the cognitive tests in the later postprandial period (75–225 min) in comparison with the WWB. Subjects with better glucoregulation performed better in cognitive tests compared with subjects with worse glucoregulation.

Researchers suggested that the superior cognitive performance in the group eating the lower GI meal may be due to improved insulin sensitivity, and possibly in combination with an improved neural energy supply. The results of this study support the idea that carbohydrate foods that induce a slow and sustained blood glucose profile may support improved brain function after a meal in comparison to high glycemic foods.

A Nilsson et al. Effects on cognitive performance of modulating the postprandial blood glucose profile at breakfast European Journal of Clinical Nutrition (2012) 66, 1039–1043.