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A new study provides evidence that the glycemic load of a meal is a better predictor of blood glucose and insulin response than simply accounting for total carbohydrates.

GLYCEMIC LOAD IS A BETTER PREDICTOR OF GLYCEMIC RESPONSE THAN CARBOHYDRATE CONTENT ALONE

The glycemic load (GL) is a ranking system for carbohydrate content in food portions based on their glycemic index (GI) and the portion size. Glycemic load for a single serving of a food can be calculated as the quantity (in grams) of its carbohydrate content, multiplied by its GI, and divided by 100. While GL is increasingly used in nutritional research, its ability to predict postprandial (after meal) blood glucose and insulin response for a wide range of foods or mixed meals has been unclear.

In a recent issue of the *American Journal of Clinical Nutrition*, researchers sought to assess the degree of correlation between calculated GL and observed glucose and insulin responses in healthy subjects consuming calorically identical portions of single foods and mixed meals.

In study 1, healthy subjects consumed 240 calorie portions of 121 single foods in 10 food categories. In study 2, healthy subjects consumed 480 calorie servings of 13 mixed meals. Foods and meals varied widely in macronutrient content, fiber, and GL. Blood glucose and insulin responses were measured and compared to a reference food (= 100).

Among the single foods, GL was a more powerful predictor of postprandial glucose and insulin response than was the available carbohydrate content itself. Similarly, for mixed meals, GL was also the strongest predictor of postprandial glucose and insulin responses. Carbohydrate content alone was predictive of the glucose and insulin responses to single foods, but not to mixed meals.

The results of this study are the first to provide large-scale evidence of the superiority of using dietary GL over carbohydrate content alone to estimate postprandial glucose and insulin response in healthy individuals.

Jiansong Bao et al. Prediction of postprandial glycemia and insulinemia in lean, young, healthy adults: glycemic load compared with carbohydrate content alone. Am J Clin Nutr May 2011 vol. 93 no. 5 984-996.