Jennie Brand-Miller, PhD

Prof. Brand-Miller has a BSc (Food Science and Technology), PhD, AM, Fellow of Nutrition Society of Australia, Fellow of Australian Institute of Food Science and Technology, Personal Chair in Human Nutrition in the School of Molecular Bioscience and Charles Perkins Centre at the University of Sydney.

Brand-Miller is an academic and researcher with 30 years' experience in a variety of research techniques including dietary intervention studies in pregnancy and animal models, observational cohorts, randomised controlled trials, systematic reviews and meta-analysis. Her research has focused on all aspects of carbohydrates—diet and diabetes, diet and pregnancy, insulin resistance, lactose intolerance and oligosaccharides in infant nutrition, with more than 250 scientific publications. She currently leads the Australian arm of the world's largest diabetes prevention study (the PREVIEW study) with responsibility for its dissemination and exploitation. She plays a major role health promotion in Australia as President of the Glycemic Index Symbol Program (www.gisymbol.com). Her popular books have translated research to practice and made the GI a household word, with over 3.5 million copies sold worldwide in 12 languages. She Chairs the University of Sydney's Disability Action Plan Committee, the Shepherd Centre's Research Advisory Committee, and is a past-President of the Nutrition Society of Australia and immediate-past Chair of the National Committee for Nutrition of the Australian Academy of Science.

GI as a marker of carbohydrate quality

Changes in the quality and quantity of carbohydrate foods may compromise nutrient intake. We hypothesized that glycemic index (GI), glycemic load (GL), carbohydrate intake, grains and cereal products would be associated with nutrient adequacy in pregnancy. Healthy women (n = 566), and women with gestational diabetes (n = 82) completed three-day food records in the third trimester. Nutrient intakes were compared to the national recommendations, and energy-adjusted tertiles of GI, GL, were correlated against nutrient intake. After adjustment for age, ethnicity, pre-pregnancy BMI, and intervention group, energy intake in healthy women was positively related to intake of all micronutrients. GI, GL and starch intake were *inversely* related to micronutrient intake, while higher total sugars predicted improved intake. The majority of women with GDM did not meet recommendations for fiber, folate, sodium, vitamin D, iodine and iron, and exceeded guidelines for saturated fat and sodium. High dietary glycemic load and grain intake predict greater risk of poor nutrition in pregnancy.

Learning objectives:

1. To understand relationship between average GI and glycemic load of whole diets and intake of micronutrients
2. To understand relationship between total sugars & starch content and intake of micronutrients