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Dietary folate: Mandatory fortification and supplementation for the prevention of NTDs
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Background – Since mandatory fortification of folic acid of flour has contributed to the reduction of neural tube defects (NTDs) in the U.S., Canada and Chile (1), mandatory folic acid fortification in bread-making flour has been proposed for Australia and New Zealand (2).

Objectives – To determine patterns of eating behaviour of women of childbearing age, and evaluate the appropriateness of bread-making flour as the selected food vehicle of folic acid fortification.

Design – A population sample of 197 women aged 19-45 years were recruited to complete a food frequency questionnaire (FFQ). Data on women’s dietary preferences and intakes were collected and analysed.

Outcomes – For all subgroups, average intakes of bread and cereal products did not meet recommendations set in the Dietary Guidelines for Australian Adults (3). Bread consumption averaged three to four slices per day. With fortification of bread, dietary folate intake would increase by 117-156 µg/day, achieving the proposed target. However, the survey revealed that one third of women did not eat sufficient bread to benefit from fortification.

Conclusion – Although potentially beneficial, folic acid fortification warrants an educational campaign, particularly for women with low bread consumption.

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Evaluation of a self administered glycemic load questionnaire
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Background – The majority of epidemiological studies examining associations between glycemic load (GL) and risk of chronic diseases have used validated food frequency questionnaires with carbohydrate correlation coefficients ranging from 0.4 to 0.8. Few have reported the degree of agreement between the questionnaire and reference intake.

Objectives – To test the validity of a GL questionnaire (GLQ) by comparison with a detailed diet history.

Design – 54 women aged 42 to 82 years were recruited from a cohort of 511 participants in the Longitudinal Assessment of Ageing in Women (LAW). Carbohydrate intake was assessed by a specially-designed GLQ; GL [carbohydrate (g) x glycemic index (%)] values were summed to provide the average daily GL. Data were validated against a diet history.

Outcomes – Mean ± SEM intakes from the diet history were 6% higher than those from the GLQ for carbohydrate (216 ± 6 versus 203 ± 8 g/day, P<0.05) and the GL (110 ± 4 versus 103 ± 4, P=0.1), respectively. There were significant correlations between methods for carbohydrate (r=0.54, P<0.01) and GL (r=0.57, P<0.01). 95% limits of agreement determined by Bland Altman plots ranged from -111 to 83.7 g for carbohydrate, with almost half the subjects recording a difference of ±40 g; and -60.0 to 46.6 for GL, with a third of subjects recording a difference of ±25 units or more.

Conclusion – Our GLQ had acceptable validity in terms of correlation with the dietary history. From a clinical perspective however, substantial error existed in estimation of individual carbohydrate and GL intakes. We suggest that studies using food frequency questionnaires to estimate GL state limits of agreement instead of or as well as correlations when discussing validity. Failure to accurately assess carbohydrate intake could explain some of the discrepancies in results of dietary studies investigating associations between GL and the development of chronic diseases in individuals.