

IN SEARCH OF MORE LOW GLYCAEMIC INDEX FOODS

J. BRAND MILLER, L. BELL, K. DENNING and D. BROWNE

The glycaemic index (GI) of foods is a ranking of foods based on their postprandial glycaemic response. Blood glucose changes after different foods containing equivalent amounts of carbohydrate are compared with the response to a reference food (usually white bread or glucose) and expressed on a scale where the GI of the reference food = 100. The GI approach has been shown to be useful in the dietary treatment of diabetes and obesity, research on appetite and in sports performance (Brand Miller et al. 1994). To date over 500 foods have been tested to determine their GI (Foster-Powell and Brand Miller 1995). There is still a need, however, to expand the list of foods with a known GI value. The aim of the present study was to determine the GI values of some commonly consumed 'brand-name' Australian foods, some of which we believed would have a low GI.

Eight healthy volunteers with normal glucose tolerance consumed 50 g carbohydrate portions of 16 foods. White bread was the reference food but the final result was multiplied by 0.7 in order to use a GI scale where glucose = 100. Capillary blood was sampled at 0, 15, 30, 45, 60, 90 and 120 minutes, centrifuged and the plasma glucose concentration analysed by the glucose hexokinase method (Brand Miller et al. 1995). The incremental area under the curve was calculated using Simpson's rule with the fasting level as baseline.

On the basis of our findings, the following foods were classified as low GI foods, based on values less than or equal to 50 (mean \pm SE): Burgen Oat Bran and Honey Loaf (31 ± 3), Maggi 2-Minute Noodles (46 ± 5), Fielder's Ploughman's loaf (47 ± 3). Seven foods were classed as intermediate GI foods (ie GI between 51 and 69 inclusive): Kelloggs Special K (54 ± 4), Kelloggs Miniwheats (58 ± 8), Vogel's Honey and Oats Bread (55 ± 5), Vogel's Roggenbrot (59 ± 5), Riga Sunflower and Barley Bread (57 ± 6), Latina Gnocchi (68 ± 9), Green's Microwave Popcorn (55 ± 7). The following foods were considered high GI foods (GI > 70): Parker's Kavli (Norwegian crispbread) (71 ± 7), Parker's Pretzels (83 ± 9), Uncle Toby's Breakfast Bars Fibreplus (78 ± 9), Uncle Toby's Wheatbites (72 ± 11), Buttercup Wonderwhite™ Bread (80 ± 8).

The findings indicate that very few modern starchy foods have a low glycaemic index. Products with a low GI have achieved this by incorporation of high levels of whole kernels or providing a consistency similar to that of pasta. The food industry can play an important role in providing more low GI starchy foods by modifications to product formulation. Lowering the GI of the overall diet may reduce a population's risk of developing non-insulin-dependent diabetes and coronary heart disease.

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