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Effects of daily ingestion of chilli on serum oxidation in adult men and women
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Background – Laboratory studies have shown that the resistance of isolated low density lipoprotein (LDL) cholesterol or linoleic acid to oxidation is increased in incubations with chilli extracts or capsaicin - the active ingredient of chilli. It is unknown if these in vitro antioxidative effects also occur in serum of people eating chilli regularly.

Objective – To investigate the effect of daily ingestion of chilli on serum oxidation in adult men and women

Design – This study investigated the effects of regular consumption of chilli on in vitro serum lipoprotein oxidation and total antioxidant status, in healthy adult men and women. In a randomized cross over study, twenty seven participants (13 men and 14 women) ate 30g/day of ‘Freshly chopped chilli’ blend (55% cayenne chilli) and no chilli (bland) diets, for four weeks each. Use of other spices such as cinnamon, ginger, garlic, mustard was restricted to minimum amounts. At the end of each dietary period serum samples were analysed for lipids, lipoproteins, total antioxidant status (TAS) and copper-induced lipoprotein oxidation. Lag time (before initiation of oxidation), and rate of oxidation (slope of propagation phase) were calculated.

Outcomes – There was no difference in the serum lipids, lipoproteins and TAS at the end of the two dietary periods. In the whole group, the rate of oxidation was significantly lower (mean difference MD -0.23 A*10^-3/min; p = 0.04) after the chilli diet, compared to the bland diet. In women, lag time was higher (MD 9.61min; p < 0.001) after the chilli diet, compared to the bland diet.

Conclusions – Regular consumption of chilli for four weeks increases the resistance of serum lipoproteins to oxidation.

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Change in mean Glycemic Index of Australian diets over a 10 year period
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Background – In Australia, the concept of the Glycemic Index (GI) was introduced to the general public through dietitians, other health professionals and the popular press in the mid 1990s, with the recommendation to consume more low-GI foods.

Objective – To determine whether general advice to consume more low GI foods has impacted the mean dietary GI of a representative sample of older Australians over the last 10 years.

Design – Prospective cohort study of 3,654 people aged 49 years or older in the Blue Mountains region of NSW. A total of 2,868 people completed a 145-item semi-quantitative food frequency questionnaire satisfactorily in 1992-94 (BMES 1), and were followed up in 1997-1999 (BMES 2), and 2002-4 (BMES 3). This data analysis includes those people who satisfactorily completed the FFQ on all three occasions (n=1166). Nutrient intake data were analysed in a custom-built database using the NUTTAB (1-2) databases and Australian GI values (3). One-way analysis of variance was used to determine differences between mean dietary GI.

Outcomes – Mean dietary GI was 56.5±4.2 in BMES 1, 56.4±4.3 in BMES 2 and 56.2±4.3 in BMES 3 (P=0.037). Post-hoc comparisons using the Tukey HSD test indicated that mean dietary GI for BMES 3 was significantly lower than BMES 1, but BMES 2 did not differ significantly from either BMES 1 or 3.

Conclusion – Mean dietary GI values of older Australians have dropped by a small but significant amount since the mid 1990’s. Recommendations to consume more low-GI foods may be having a positive effect on older Australians’ diets.

References