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Higher intakes of calcium are associated with lower BMI and waist circumference in Australian adults: an examination of the 1995 National Nutrition Survey

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Background – Recent evidence suggests a role for dietary calcium in the control of body composition.¹

Objective – To determine whether high calcium intakes were associated with reduced indices of adiposity in the Australian population.

Design – The Australian National Nutrition Survey Confidential Unit Record File (1995) was reanalyzed to explore relationships between dietary calcium and obesity. The inclusion criteria were adult men and women aged ≥18 yr, body mass index (BMI) ≥ 18.5, not on vitamin or calcium supplements and valid dietary records. Data on men and women were analyzed separately, and divided into 3 groups based on low (<600 mg), moderate (600-1000 mg) and high (>1000mg) calcium intakes. Between-group differences were assessed by one-way ANOVA after controlling for confounders.

Outcomes – Men in the high calcium category had significantly lower BMI as well as waist circumference compared to moderate and low calcium categories. These results were obtained after controlling for age, energy intake (EI), fat & protein intake, reporting bias (EI/predicted BMR), and socio-economic status. The results in women were identical to men, with significantly lower BMI and waist circumference in the high calcium group. Overall, calcium intakes made a small but significant contribution to both BMI and waist circumference.

Conclusions - Calcium intake is inversely related to total as well as abdominal adiposity in adult Australians.

1. Zemel M. Regulation of adiposity and obesity risk by dietary calcium: mechanisms and implications. *J Am Coll Nutr* 2002; 21(2): 146S-151S.

Prevalence of low serum folate, red cell folate, serum vitamin B12 and elevated homocysteine

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Background - Recent data indicate that higher risk of cardiovascular disease may result from mild elevation of serum homocysteine, which has been linked to low blood levels of folate and vitamin B12. Folate fortification of food may increase the risk of masking B12 deficiency in older people. Thus, it is important to have population-based prevalence estimates of low levels of folate and vitamin B12 and elevated homocysteine amongst older people.

Objective - To provide prevalence estimates of serum folate, vitamin B12 and homocysteine using a representative group of older Australians.

Design - During 1997-2000, 3508 persons aged 50 years or older were examined in a population-based cohort study conducted in two postcode areas, west of Sydney. Of these, 2963 participants (84%) provided fasting blood for estimates of serum folate, vitamin B12 and total homocysteine.

Outcome - Low serum B12 (<185pmol/L) was found in 22.9% of participants and low serum folate (<6.8nmol/L) in 2.3% of participants. Elevated serum homocysteine (>15µmol/L) was found in 20.8% of men and 13.7% of women.

Conclusions - Low serum levels of vitamin B12 are relatively frequent in older Australians and a substantial proportion have elevated serum homocysteine levels, which are of public health concern.