P43

Dietary copper and zinc intake estimates of a cohort of Northern Tasmanian adults

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Background – Marginal intakes of copper and zinc may be a problem in many countries worldwide. There is very little reported data relating to Australian intakes.

Objectives – The aim of this study was to estimate the copper and zinc intake of a sample of northern Tasmanian adults; to determine the major contributing food groups and investigate age and gender effects.

Design – A sample of 124 adults aged 20 – 78 yrs were recruited from the Northern Tasmania region. Responses from a 121 item semi-quantitative FFQ, standard serving size and food content data were used to determine dietary copper and zinc intake estimates.

Outcomes – There were significant gender differences in intakes of copper and zinc. Mean (sd) copper intakes for men (n = 53) were 1.55 (0.64) mg/day, while women (n = 71) consumed 1.27 (0.50) mg/day (P = 0.008). Mean zinc intakes of men were 12.93 (5.00) mg/day; higher than that of women, who consumed 10.27 (3.45) mg/day (P = 0.001). Contributing food groups were similar for both genders; vegetables (31.2%), cereal based foods (26.4%) and fruit (16.7%) were major contributors to copper intake; for zinc, major contributing food groups were meat & fish (29.9%), dairy (19.6%), cereal based foods (18.1%) and vegetables (16.2%). Intakes of copper and zinc were lowest in subjects between 45-64 years of age.

Conclusion – Mean copper intakes were below Australian adequate intake (AI) values for men but not for women. Mean zinc intakes were higher than Australian EAR values for both men and women, however >50% of men consumed less than the EAR value of 12 mg/day. Overall, dietary intakes of copper and zinc were lower than previous Australian estimates and lowest intakes were seen in middle aged adults.

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P44

Iron status and dietary intakes of young non vegetarian women living in New Zealand

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Background – Nutrient Reference Values for Australia and New Zealand were published in May 2006 which included an increased Recommended Dietary Intake for calcium, folate and iron in young women. The 1997 National Nutrition Survey found that young women were most likely to be affected by iron deficiency. However, the estimated prevalence of iron deficiency was lower than the number of women estimated to have an inadequate intake of dietary iron.

Objectives – To assess dietary intakes, iron status and determinants of iron status in non vegetarian women.

Design – A cross-sectional study of 94 New Zealand women aged 18-40 years. Exclusion criteria included vegetarianism, pregnancy or breastfeeding in the past 12 months, smoking, excess alcohol consumption and recent blood donation. Dietary intakes were estimated using a 24 hour recall and a non validated food frequency questionnaire. Dietary intakes were analysed using FoodWorks Professional Edition Version 4.00. Iron status was determined for 86 women using serum ferritin and haemoglobin.

Outcomes – Nearly one quarter of women consumed less than the Estimated Average Requirement for iron while 85.1% of women consumed less than the Recommended Dietary Intake for iron. Two women (2.4%) had iron deficiency anaemia (serum ferritin <20µg/L and haemoglobin <120g/L) and 9 women (10.6%) had depleted iron stores (serum ferritin <20µg/L). All other women had a serum ferritin >20µg/L. Serum ferritin was positively associated with total dietary iron intake and age. Over 50% of women consumed less than the Estimated Average Requirement for folate (320µg/day) and calcium (840mg/day). More than 75% of women consumed less than the Estimated Average Requirement for selenium (50µg/day).

Conclusions – Most women did not meet the Recommended Dietary Intake for iron. However, only 13% of women had depleted iron stores or iron deficiency anaemia. In addition, young non vegetarian women appear to be at risk of consuming inadequate intakes of folate, calcium and selenium.