

## Concurrent Session 9: Epidemiology

### Change in nutrient intake with aging: a seven-year cohort study in elderly women

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**Background** – With age, there is a trend of decreased energy intake, but an increased demand for some nutrients due to reduced nutrient absorption and increased losses. Hence meeting specific nutrient requirements may be difficult in a lowered energy environment.

**Objective** – The aims of this study is to investigate the changes in dietary intakes that occurs with aging in a seven-year longitudinal study of elderly Australian women and to evaluate the adequacy of their dietary intakes.

**Design** – Study subjects were 949 elderly women with average age of  $74.9 \pm 2.6$  years at baseline from a cohort of 1500 elderly community-dwelling women, participants of a ten-year population based study on health with ageing. At baseline, 60 and 84 months self-reported FFQ and demographics were collected and anthropometry measured.

**Outcomes** – During the 84 month subjects lost height (1.8 cm) and body weight (1.9 kg) significantly. Intakes of energy declined significantly over the 84 month and 68-78% of the population did not meet 100% of their estimated energy requirement. However, there was an increase in energy derived from fat, saturated fat, monounsaturated fat and protein at 60 and 84 months compared with baseline. Energy from carbohydrate reduced at 60 months but increased at 84 months compared with baseline. Energy from saturated fat was above recommendations in 80% of the subjects, whereas energy from carbohydrate was below recommended levels of intake in >62% of subjects at all time points. Intakes of fibre, vitamins and minerals reduced significantly over the 84 months and >65% of subjects had suboptimal intakes of fibre, folate, vitamin E and calcium at all time points.

**Conclusion** – Energy and micronutrient intakes declined with age. Elderly Australian women have a high saturated fat intake and suboptimal intakes of fibre, folate, vitamin E and calcium which may have negative effects on health.

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### Alternative methods for assessing the link between diet and coronary heart disease

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**Background** – Analysis of the effects of overall dietary patterns offers an alternative approach to the investigation of the role of diet in coronary heart disease (CHD).

**Objectives** – The aim of this study was to identify blood lipid-related dietary patterns using a new method of dietary pattern assessment and to assess the prospective association of the identified pattern with incident CHD.

**Design** – Analysis was based on 7314 participants of the Whitehall II study. Diet was measured using a 127-item food frequency questionnaire. Reduced rank regression was used to derive dietary pattern scores using baseline serum total and HDL cholesterol, and triglyceride levels as dependent variables. Cox proportional hazard regression was used to confirm the association between dietary patterns and incident CHD (n=243) over 15 years of follow-up.

**Outcomes** – Increased CHD risk (hazard ratio for top quartile: 2.01, 95% CI 1.41 - 2.85, adjusted for age, sex and ethnicity) was observed with a diet characterised by high consumption of white bread, fried potatoes, sugar in tea and coffee, burgers & sausages, soft drinks, and low consumption of salad dressing and vegetables. The relationship was attenuated, but remained significant, after adjustment for employment grade, smoking, alcohol and physical activity (HR: 1.81, 95% CI 1.26 - 2.62), and blood pressure and BMI (HR: 1.57, 95% CI 1.08 - 2.27).

**Conclusion** – Certain dietary patterns are associated with blood lipids and risk of CHD. This method of identifying dietary patterns uses prior knowledge and focuses on the pathways through which diet may influence disease. This study adds to the evidence that dietary patterns are an important risk factor for CHD.