Ethnic variation in dietary sodium intakes within an Australian population sample

SL O'Reilly[1], M Brinkman[2] , GG Giles[2], D English[2], CA Nowson[1].
[1]Centre for Physical Activity and Nutrition, Deakin University, VIC 3125, [2]Cancer Epidemiology Centre, The Cancer Council Victoria, VIC 3053

Background - One of the leading causes of cardiovascular disease is hypertension. Diet has been shown to influence blood pressure, especially salt or sodium. Excess salt consumed throughout life causes blood pressure to rise with age. There is no recent data on the sodium intake of Australians that includes 24hr urinary sodium, the sole method for accurately determining sodium intake, and the extent to which ethnicity will effect intakes.
Objective - To characterise the variation in dietary sodium intakes in an Australian population sample, using the gold standard measurement of 24 hr urinary excretion and dietary analysis (food frequency questionnaire and 24hr recalls).
Design - A cross-sectional analysis of participants who provided 24hr urine samples (2007/08) and complete dietary data that were enrolled in the Melbourne Collaborative Cohort study.
Outcomes - From 790 participants, mean urinary sodium for males was 178.3 (66.7) mmol/day and 133.7(51.0) mmol/day for females. only 10.9% of men and 30.9% of women had intakes less than 100mmol sodium (6g salt)/day. Salt added to cooking resulted in sodium excretion being 19% higher than those who did not,158.8(64.3) mmol/day versus 129.4(48.8) mmol/day ($P < 0.001$), however no difference was seen with salt usage at the table. Those with a Greek/Macedonian background (30% sample) and an Italian backgrounds (32% sample) reported using salt in cooking more than those with Australian/New Zealander ones (37% sample) 97% and 98% versus 62% respectively ($P < 0.001$).
Conclusions - The majority of individuals within this sample exceed the recommended upper levels of 6 grams salt and ethnic variations in discretionary salt intakes were seen. To achieve population wide reductions in salt intakes, a reduction in the sodium content of processed foods is needed alongside educational campaigns targeting ethnic variations in discretionary salt use.