

Concurrent Session 13: Salt and Cardiovascular Disease

Effects of a reduction in salt intake on flow mediated dilatation

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Background – The effect of salt restriction on vascular function as assessed by brachial artery flow-mediated-dilatation (FMD) is unknown.

Objective – Our aim was to determine whether a low salt (50mmol Na/day) compared with a normal salt diet (150mmol Na/day) improved FMD. Our hypothesis was that a low salt diet would improve vascular function to a greater extent than might be expected by the small blood pressure reduction and that the changes in vascular function would be unrelated to the changes in blood pressure.

Design – In a randomised cross-over design 29 normotensive men and women followed a low salt (LS) and an isocaloric normal salt diet (NS) for two weeks. Both diets were similar in potassium and saturated fat content and were designed to ensure weight stability. After each intervention, FMD, pulse wave velocity (PWV), augmentation index (AI) and blood pressure (BP) were measured.

Outcomes – 24hr sodium excretion was significantly different between treatments with 2.5 fold difference in 24-hour Na excretion (LS 64.1±41.3 vs. NS 156.3±56.7mmol; $P<0.001$). The LS diet improved FMD (LS 4.89±2.42% vs. NS 3.37±2.10%; $P=0.001$) and reduced systolic blood pressure (SBP) by 5mm Hg ($P=0.02$). There was no correlation between change in FMD and change in 24-hour sodium excretion or change in BP. Change in AI was inversely related to change in FMD. PWV did not change.

Conclusion – Salt restriction improved endothelium-dependant-vasodilation in normotensive subjects independently of the changes in blood pressure. This finding suggests additional cardioprotective effects of salt restriction beyond blood pressure reduction. These results have implications for the dietary management of individuals at risk of cardiovascular disease.

Consumer knowledge and attitudes to salt intake and labelled salt information

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Background – Daily salt consumption of Australian adults is above dietary recommendations. A clear and concise nutrition labelling system on food products has the potential to assist consumers in selecting low salt food choices.

Objective – To investigate consumers' knowledge of health risks of high salt intake and frequency of use and understanding of labelled salt information.

Design – A cross sectional survey conducted in shopping centres within Metropolitan Melbourne. Subjects completed a questionnaire assessing salt related shopping behaviours, awareness and attitudes to salt intake and health and their ability to interpret labelled sodium information.

Outcomes – Four hundred and seventy four valid surveys were collected (65% female, 35% male, 64% being the main shopper in the household). Most participants knew of the relationship between salt intake and high blood pressure (88%). Sixty nine percent reported reading the salt content of food products when shopping and 70% had previously purchased a product labelled reduced salt. Salt label usage was significantly related to shoppers concern about the amount of salt in their diet ($\chi^2=38.45$, $P<0.001$) and the belief that their health could improve by lowering salt intake ($\chi^2=8.87$, $P<0.05$). Approximately half of the sample was unable to accurately use labelled sodium information to pick low salt options.

Conclusion – Raising consumer awareness of the health risks associated with high salt consumption may increase salt label usage and purchases of low salt foods. However, for food labels to be effective in helping consumers select low salt foods a more 'user friendly' labelling format and/or labelling education strategies are needed.