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Concurrent Session 7: Cardiovascular Disease

Working with the food industry to reduce health inequalities: A case study on sodium reduction in bread

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Background – New Zealanders consume excessive amounts of sodium in their diet. Given the strong association between high sodium intake and high blood pressure, the Heart Foundation in partnership with the food industry, has begun a campaign to reduce sodium levels in bread. The target nutrient and food category is the result of a literature review and gap analysis which considered foods consumed by New Zealanders, nutrients implicated in cardiovascular disease and global food formulation interventions focusing on improving the nutrient profile of commercially prepared foods. This initiative is part of a wider project funded by the Ministry of Health.

Objective – To work with bread manufacturers to reduce sodium levels to at least 450mg/100g of bread.

Design – The Heart Foundation has presented a compelling proposition to bread manufacturers and enlisted other key stakeholders who can support the intervention. The proposition included the public health problem, the basis for targeting specific branded foods, nutrient reduction targets, success stories from other parts of the globe, impact on the food supply and the alignment of the sodium reduction initiative with calls of action from key public health organisations. Literature reviews, market audits, Nielsen scan data and an analysis of global food formulation interventions formed the basis of the case presented to key stakeholders.

Outcomes – Since May 2007 several major bread brands have been successfully reformulated and introduced to the market. The target was set at a level that meets technological, food safety and sensory requirements and helps achieve high sector uptake. This target is also in line with other successful international salt reduction initiatives focusing on bread. 60 tonnes of salt will be removed from the food supply by reformulating just 12 chosen bread lines in the first phase of the campaign. Major bread manufacturers are committed to drive this change across most of their breads.

Conclusions – To date bread companies have responded to calls of action from the public health sector to voluntarily reduce salt levels despite the absence of commercial gains. A compelling proposition, a framework for a staged nutrient reduction programme and proposing viable targets have been key success factors.

Effect of a low sodium, DASH diet, including red meat on blood pressure in post-menopausal women

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Background – The DASH type dietary pattern which consists of high fruit, vegetable and dairy products and low saturated fat, is “base-producing” but restricts red meat with no clear justification.

Objective – To compare the BP-lowering effect of Vitality diet (VD), a moderately low sodium, “base” producing modified DASH diet, containing 6 serves/week of lean red meat to a “high carbohydrate, low fat diet (HCLF diet), with a higher dietary acid load in post-menopausal women.

Design – Ninety-five hypertensive post-menopausal women (46 VD and 49 HCLF) completed a 14-wk randomised parallel study. Home BP was measured daily. Repeat 24-h dietary records and 24-h urine samples were collected fortnightly. Dietary acid load, expressed as potential renal acid load (PRAL), was calculated from nutrient intakes.

Outcomes – During the intervention, the VD group had an average daily consumption of 85 g cooked red meat. They had a mean (\pm SEM) reduction of 38 ± 7 mmol/d in urinary sodium excretion ($P < 0.0001$), and a 7 ± 4 mmol/d increase in urinary potassium ($P = 0.0681$), with an estimated 23.1 ± 2.3 mEq/d lower PRAL than the HCLF group ($P < 0.0001$). The fall in systolic pressure in the VD group tended to be greater by 3 ± 2 mmHg ($P = 0.08$) than the fall in systolic pressure seen with the HCLF diet. A greater BP-lowering effect of VD was observed among those taking anti-hypertensive medication ($n = 17$) with a greater 5.5 ± 2.7 mm Hg ($P = 0.0518$) reduction of systolic BP and greater reduction in diastolic BP by 3.6 ± 1.7 mm Hg ($P = 0.0388$) compared to the HCLF diet. However, no relationship between BP and PRAL was observed.

Conclusions – A low sodium DASH type dietary pattern with the inclusion of lean red meat was effective in reducing BP in post-menopausal women, particularly in those taking anti-hypertensive medication. This dietary pattern could be recommended for this group who are at increased risk of cardiovascular disease.

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