

of antibacterial mouthwash on oral nitrate to nitrite reduction, salivary and plasma nitrate and nitrite, and blood pressure were compared to control (water).

Results: Relative to control, 3-day antibacterial mouthwash use resulted in decreased oral nitrate to nitrite reduction ($p = 0.02$), decreased salivary nitrite ($p = 0.01$) and increased salivary nitrate ($p < 0.001$). Plasma nitrate concentrations were not significantly reduced ($p = 0.09$). Use of antibacterial mouthwash over 3 days also resulted in higher systolic (2.3 mmHg; 95%CI: 0.5, 4.0; $p = 0.01$) but not diastolic blood pressure ($p = 0.4$), relative to control.

Conclusions: Use of antibacterial mouthwash interrupts the reduction of nitrate to nitrite by oral bacteria. This has the potential to detrimentally impact on blood pressure in treated hypertensive individuals, who are already at increased risk of cardiovascular disease.

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DAIRY FOOD CONSUMPTION AND BLOOD PRESSURE AMONG ADOLESCENTS

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Background/Aims: The association between dairy food consumption and blood pressure (BP) remains unclear. This study investigated dairy consumption and BP among adolescents.

Methods: The Sydney Childhood Eye Study included 2,352 participants in 2004–05, and 1216 participants in 2009–11, aged 12 and 17 year respectively. Longitudinal analyses included 888 adolescents who had complete diet and BP data at both time points. Diet was assessed using 121-item food frequency questionnaire, and BP was measured. Linear regression models were used to estimate slopes between dairy consumption and BP, after adjusting for multiple confounding variables, including age, sex, ethnicity, change in energy intake between 12 and 17 years, parental qualifications, parental history of hypertension, baseline height and BP, change in BMI, time spent in physical activity and screen viewing. Interactions existed between sex and change in total dairy and BP, and analyses were subsequently stratified by sex.

Results: At baseline, girls were consuming an average of 1.5 serves of dairy, including 0.3 serves of cheese per day. In girls, after multivariate adjustment, for each serve/day increase in total dairy intake there was a concurrent decrease in diastolic and arterial BP (1.04 mmHg, $p = 0.033$ and 1.10 mmHg, $p = 0.02$, respectively). In girls, for each increase serve/day of cheese over the 5 years, there was a concurrent decrease in systolic, diastolic and arterial BP (7.18 mmHg, $p = 0.001$; 5.28 mmHg, $p = 0.002$; 5.79 mmHg, $p = 0.001$). No association was observed in boys.

Conclusions: Consumption of dairy products, particularly cheese, could have beneficial effects on BP among girls.

Funding source(s): Dairy Australia & NHMRC.

ASSOCIATION BETWEEN 24 H URINARY SODIUM EXCRETION AND WEIGHT STATUS IN SCHOOLCHILDREN AGED 4–14 YEARS

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Background/Aims: To examine the association between sodium intake, as assessed by 24 hr urinary sodium excretion, and weight status in children aged 4–14 years.

Methods: A cross-sectional study was completed within a convenience sample of Victorian primary schools ($n = 43$). Sodium intake was assessed via one 24-hr urine collection. Fourteen percent of samples were deemed invalid and excluded. BMI z-scores were calculated from measured weight and height adjusted for age and gender (2000 Centres for Disease Control and Prevention

growth charts). Participants were grouped into weight categories using the International Obesity Task Force cut-points. Differences in sodium intake and weight status were assessed using ANOVA, linear and logistic regression.

Results: The average age of the 661 children with valid urine samples was $9.3 \pm$ (SD) 1.9 years. Ten percent were classified as underweight, 73% healthy weight, 14% overweight and 3% obese. Average sodium intake differed across weight categories, underweight 81 ± 29 mmol/day (salt equivalent 4.7 ± 1.7 g/day); healthy weight 102 ± 43 mmol/day (salt 6.0 ± 2.5 g/day); overweight 125 ± 55 mmol/day (salt 7.3 ± 3.2 g/day); obese 148 ± 97 mmol/day (salt 8.6 ± 5.7 g/day) ($p = 0.001$). After adjustment for age and gender, sodium intake was significantly associated with BMI z-score (standardised $\beta = 0.27$, $p = 0.001$). A 17 mmol/day increase in sodium intake (salt 1 g/day) was associated with a 23% (OR: 1.23; 95%CI: 1.13, 1.32) greater risk of being overweight or obese, adjusted for age and gender.

Conclusions: Higher sodium intake is associated with overweight and obesity in Victorian schoolchildren. This may be related to increased energy intake, and this association should be explored further.

Funding source(s): NHF.

SODIUM AND POTASSIUM INTAKE OF 5–14 YEAR OLD CHILDREN AND THEIR PARENTS AS ASSESSED BY 24 H URINARY EXCRETION

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Background/Aims: Objective measures of sodium and potassium intakes in children are lacking. The aim of this study is to determine the sodium and potassium intakes and ratio in a sample of Victorian schoolchildren; and assess the relationship between child and parental intake of sodium and potassium.

Methods: A cross-sectional study with a convenience sample of Victorian schools ($n = 43$) utilised 24-hr urinary excretion to estimate sodium and potassium intake. Urine samples were provided by 769 children and 181 parents. Relationships between child and parental intakes were assessed via Pearson's correlation coefficient.

Results: Valid urine collections were provided by 161 parents (83% female) with a mean \pm SD age of 42.3 ± 4.8 years. Only the corresponding 161 children (50% female) with a mean age of 9.2 ± 2.0 years with valid urines were included for analysis. In children, sodium and potassium intake was 101 ± 47 mmol/day (salt equivalent 5.8 g/day) and 48 ± 18 mmol/day, respectively. The sodium to potassium ratio (Na:K) was 2.3 ± 1.1 . In parents, sodium and potassium intake was 163 ± 54 mmol/day (salt 9.6 ± 3.2 g/day) and 93 ± 41 mmol/day respectively in males and 119 ± 46 mmol/day (salt 7.0 ± 2.7 g/day) and 67.7 ± 18 mmol/day) in females. The Na:K was 2.0 ± 0.8 in male and 1.9 ± 0.8 in female parents. There was a weak association between child and parental sodium intake ($r = 0.20$, $p = 0.009$) whereas there was no relationship between child and parental potassium intake ($r = 0.09$, $p = 0.24$).

Conclusions: Both schoolchildren and their parents are exceeding World Health Organisation recommendations of a Na:K of 1:1. Parental intake of sodium is weakly correlated to children's sodium intake, a finding that warrants further investigation.

Funding source(s): NHF.

A RANDOMISED CONTROLLED TRIAL ANALYSING THE EFFECT OF SODIUM INTAKE ON THE SYSTEMIC INFLAMMATION MARKER IL-6

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Background/Aims: Atherosclerosis is an inflammatory condition that is the major cause of heart attack and stroke. This study investigated the hypothesis that sodium was associated with systemic inflammation. We compared the effect of a low sodium Dietary Approaches to Stop Hypertension-type diet, which included lean red meat (vitality diet, VD), with a healthy diet (decreased fat and increased fibre, HD) on a marker of inflammation, IL-6.

Methods: In a randomised parallel intervention study, 73 postmenopausal women (mean \pm SD age 59.2 ± 5.2 years, BMI: 29.6 ± 4.2 kg/m²) were