infants from birth to 42 months ($P < 0.001$). Infants with rapid weight gain had significantly higher BAZ and WAZ, but not HAZ, when compared to those without rapid weight gain ($P < 0.01$). Infants whose mothers were Australian born had higher HAZ than infants whose mothers were born overseas ($P = 0.02$). Increased pre-pregnancy BMI was a significant predictor of changes in all three growth parameters ($P < 0.01$). High maternal education was inversely associated with changes in WAZ and BAZ ($P < 0.01$).

Conclusion: Our findings indicate that low birth weight, rapid weight gain, and several maternal factors are potential correlates of growth trajectories early in life. Recognising these early determinants provides the focus for the design of future intervention strategies to target most-at-risk groups for promoting healthy growth.

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Simulating the effects of replacing sugar-sweetened beverages with beverage alternatives on obesity outcomes among Australian adults: A modelling study

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Background: Emerging studies indicate that replacing sugar-sweetened beverages (SSB) with beverage alternatives may be a feasible way of reducing SSB consumption and combating obesity prevalence. However, evidence as to the impact of beverage substitution on obesity is limited. This study aimed to investigate the associations between SSB consumption, its substitution with beverage alternatives, and obesity outcomes among the Australian population.

Methods: Data from adults participating in the 2011—12 National Nutrition and Physical Activity Survey (NNPAS) were used. Multivariate linear regression with adjustment for covariates was used to examine the associations between SSB consumption and body mass index (BMI) and waist circumference (WC), and substitution modelling was used to contemplate the effects of replacing SSB with water, coffee/tea, diet drinks, fruit juice, and milk on obesity outcomes.

Results: SSB intake (100 g/day) was associated with higher BMI ($\beta = 0.07$ kg/m^2, $P < 0.001$) and WC ($\beta = 0.25$ cm, $P < 0.001$). In models not assuming a linear dose-response trend, adults who consumed greater than one serve/day of SSB had higher BMI ($\beta = 0.61$ kg/m^2, $P < 0.001$) and WC ($\beta = 1.7$ cm, $P < 0.001$) than those who consumed less than one serve/day. Replacing 100 g SSB with 100 g water was inversely associated with BMI ($\beta = -0.07$ kg/m^2, $P < 0.001$) and WC ($\beta = -0.26$ cm, $P < 0.001$). Similarly, every 100 g substitution of SSB with coffee/tea predicted 0.07 kg/m^2 decrease in BMI and 0.24 cm decrease in WC ($P < 0.001$). BMI and WC decreased by 0.09 kg/m^2 and 0.25 cm, respectively, when milk was substituted for SSB ($P = 0.001$).

Conclusion: Our results suggest that SSB consumption is a significant predictor of obesity. Water, coffee/tea, and milk were better alternatives for SSB pertaining to obesity. The findings of this study underline the role of SSB consumption in promoting obesity, and will facilitate health researchers and policy makers to deliver sound recommendations towards SSB consumption and suitable alternatives.

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Water consumption among Australian population: Results from 2011—12 National Nutrition and Physical Activity Survey

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Background: Water consumption as a vital component of the human diet is under-researched in dietary surveys and nutrition studies.

Aim: To examine water consumption, dietary sources and sociodemographic, anthropometric and dietary correlates of water consumption among Australian population.

Methods: Day one dietary intake data from 2011—12 National Nutrition and Physical Activity Survey were used. Water consumption was examined by age, sex, sociodemographic, anthropometric and dietary factors.

Results: The mean (standard deviation) total water intakes for children aged 2—18 years were 2.10 (0.92) L/d for boys and 1.89 (0.77) L/d for girls, and for adults aged 19 years and over were 3.24 (1.40) L/d for males and 2.77 (1.03) L/d for females. Total water consumption increased with age in children, but decreased with age in adults ($P < 0.0001$). The contributions of drinking water, other beverages and food moisture to total water intake were 43—45%, 28—25% and 29—30%, respectively, among children and 35—40%, 39—35% and 26—25% among adults. Full fat plain milk, fruit juice, regular soft drinks, and fruit drinks were the most commonly consumed beverages among children while the major beverage sources consumed by adults were alcoholic drinks, coffee, tea, and regular soft drinks. Higher total water consumption was associated with higher energy, sodium, fibre, fruit and vegetable intakes in both children and adults. No association was found between water consumption and body mass index and waist circumference, but longer physical activity duration, higher socioeconomic status and education level were associated with higher total water consumption.

Conclusion: The study findings provide useful insights pertaining to Australian's water consumption patterns and can serve as a useful resource for nutrition counselling, refinement of dietary guidelines and public health policies, and guidance for public health campaigns.

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Hypertriglyceridemia and acute pancreatitis in a cohort of overweight and obese patients

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Background: Hypertriglyceridemia (HTG > 1.7 mmol/l) commonly occurs with visceral obesity, metabolic syndrome and diabetes. The risk of hypertriglyceridemia-associated acute pancreatitis (HTGAP) increases with very high triglyceride levels (>5.6 mmol/l) and is 12-fold in severe HTG (>11.2 mmol/l). HTGAP accounts for 6% of all episodes of acute pancreatitis (AP).

Method: Data was collected on a retrospective cohort coded for HTG in two hospitals during 2010-15. The records for patients with HTG≥5.6 mmol/l and a subset with HTGAP were reviewed and collated.

Results: 22 admissions with HTG occurred in 16 patients. All patients had BMI ≥25 kg/m^2; 12/16 (75%) were male; 6/16 (38%) had family history of dyslipidemia. Patients with type 2 ($n = 8$, BMI = 36.9 kg/m^2) were more overweight than type 1 ($n = 1$, BMI = 25 kg/m^2) and those without diabetes ($n = 7$, BMI = 30.0 kg/m^2).

HTGAP was diagnosed in 14/22 of admissions in 11/16 of patients; 5/14 required ICU care. Overweight/obesity (100%), diabetes (45%) and alcohol use (63%) were common, with 78% having multiple risk factors. The HTGAP group had a similar risk profile to those with HTG alone: BMI (33.2 vs. 34.8 kg/m^2; $p = 0.6$) peak triglyceride level (37.9 vs. 39.6 mmol/l; $p = 0.9$), diabetes (45% vs. 80%; $p = 0.31$) and alcohol use (63% vs. 80%; $p = 1.0$).