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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280

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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281

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.