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%; $p = 1.0$).

HTG was diagnosed between 5 and 86 hours following AP admission. Insulin infusion resulted in rapid improvement (peak triglyceride 37.9 mmol/l to 9.8 mmol/l; $p < 0.001$). Medications (fibrates and omega-3) were added to very low fat diet. HTGAP accounted for 14 (0.8%) of our total 1685 AP admissions.

Discussion: Overweight/obesity is a common risk factor for HTG and HTGAP. Insulin resistance reduces lipoprotein lipase (LPL) action and increases VLDL production. Hydrolysis of triglyceride by pancreatic lipase produces excess unbound fatty acids that may damage acinar cells, precipitating HTGAP. All patients with AP should have HTG excluded at presentation. Insulin therapy activates LPL and reduces fatty acid production; early treatment reduces HTG and may improve outcome.

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