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Iron intakes of Australian infants and toddlers

LA Atkins, SA McNaughton, KJ Campbell, EA Szymlek-Gay
Centre for Physical Activity and Nutrition Research, School of Exercise and Nutrition Sciences, Deakin University, Burwood, VIC, Australia

Background
Iron deficiency continues to be the most common nutritional deficiency worldwide and infants are at particular risk. Preventative food-based strategies require knowledge of current intakes and sources of iron, yet few data are available for Australian infants.

Objective
To determine iron intake and food sources of iron for children aged 9 months and to identify factors associated with iron intakes.

Design
Dietary data were collected from 485 infants at 9 months of age via three telephone-administered 24-hr multi-pass recalls in the Melbourne Infant Feeding, Activity and Nutrition Trial Program. Nutrient intakes were estimated using AUSNUT2007. Food sources of iron were determined for each infant. Feeding practices and socio-demographic data were assessed for associations with iron intakes. Inadequate iron intakes were defined as intakes below the Australian/New Zealand Estimated Average Requirement for iron for 7-12 month olds (ie 7 mg/d).

Outcomes
Mean (SD) iron intakes were 9.1 (4.3) mg/d. Major sources of iron were infant formula and fortified infant foods (70% of total dietary iron intake) and cereals (14%). Meat, fish and poultry contributed only 5% of total iron intake [mean (SD): 0.5 (0.6) mg/d]. Iron intakes for boys [mean (SD): 9.6 (4.5) mg/d] were greater compared to girls [mean (SD): 8.5 (4.0) mg/d] (P=0.006). Infants who were currently breastfeeding had lower iron intakes [mean (SD): 6.3 (3.9) mg/d] compared to those who were never breastfed [mean (SD): 11.4 (3.8) mg/d] or those who had stopped breastfeeding [mean (SD): 11.2 (3.2) mg/d] (P=0.001). Iron intakes were positively correlated with vitamin C (r=0.61, P<0.0001) and calcium (r=0.76, P<0.0001) intakes and negatively correlated with age of introduction to solid foods (r=-0.16, P=0.001). Thirty-two percent of infants were at risk of inadequate iron intakes.

Conclusion
Despite the consumption of iron-fortified foods, up to a third of Australian infants are at risk of inadequate iron intakes. As late infancy is a period of rapid growth and high iron requirements, dietary strategies focusing on improving infants’ intakes of iron are necessary.

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