



## Dietary fat intakes and food sources in early childhood: results from the Melbourne Infant Feeding, Activity and Nutrition Trial (InFANT) Program

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Dietary fat is a major energy source and an essential nutrient that supports healthy growth and development in young children<sup>(1)</sup>. Despite the important role of dietary fat in early childhood, our understanding of fat intake trends during this period is limited, particularly among Australian children. Insufficient evidence has led to the establishment of an Adequate Intake (AI) for infants aged 0-12 months in Australia, while no recommendation is available for children ages 1-5 years. This study aimed to comprehensively describe fat intake and major food sources in young Australian children. The data of children at ages 9 months (n = 393), 18 months (n = 284), 3.5 years (n = 244), and 5 years (n = 240) from the Melbourne InFANT Program were used<sup>(2)</sup>. At each time point, child dietary intake data were collected via three 24-hour recalls. Food measurement booklets were utilised to estimate food portions. Food groups and nutrient intakes per day were calculated using the 2007 AUSNUT Food Composition Database. Daily energy (kJ/d) and fat (g/d) intake, the contribution of fat to total energy intake, and key food sources of fat intake were calculated. Descriptive statistics (mean and SD) were used to summarise all data. The mean daily energy intake increased from 3490 kJ/d at 9 months to 5889 kJ/d at 5 years. The mean (SD) fat intake (g/d) was 33.7 (8.0) (Australian AI is 30 g/d) at 9 months, 37.5 (9.5) at 18 months, 44.6 (13.4) at 3.5 years, and 49.0 (15.1) at 5 years. The WHO/FAO recommends that total fat intakes should constitute a minimum of 35% of energy (%E) for children aged 6-24 months, gradually reducing to a range of 25% to 35 %E for children aged 2 to 5 years<sup>(3)</sup>. Notably, 40% of children at 9 months, 76% at 18 months, 14% at 3.5 years, and 12% at 5 years had fat intakes below the WHO/FAO recommendations. In contrast, 24% of children at 3.5 years and 28% at 5 years exceeded the recommendation. At 9 months, the primary source of fat was formula/breastmilk, while at later ages, the major sources were milk/milk products, cakes/cookies, and breads/cereals. The proportion of fat from discretionary foods, such as cakes/cookies, processed meats, butter, oil or fat spreads, increased with age. The percentage of total fat from fish, nuts, and seeds was low, contributing <4 %E at all time points. The study highlights a significant proportion of children exceeding or falling below fat intake recommendations. Moreover, the results suggest low consumption of healthy fat sources such as fish, nuts, and seeds. The study findings will contribute to the refinement of fat recommendations in young Australian children and contribute to interventions that aims to improve fat intakes.

**Keywords:** fat intake; food source; infant; child

### Ethics Declaration

Yes

### Financial Support

The Melbourne INFANT Program was supported by the National Health and Medical Research Council (grant 425801), and the follow-ups were funded by a National Health and Medical Research Council Project Grant (APP1008879). TST is supported by Deakin University Postgraduate Research Scholarship (DUPR), MZ is supported by the Australian National Health Medical Research Council Early Career Research Fellowship.

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