



## Household food insecurity and associations with energy, nutrient intake, and sociodemographic characteristics in young New Zealand children

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Although food insecurity affects a significant proportion of young children in New Zealand (NZ)<sup>(1)</sup>, evidence of its association with dietary intake and sociodemographic characteristics in this population is lacking. This study aims to assess the household food security status of young NZ children and its association with energy and nutrient intake and sociodemographic factors. This study included 289 caregiver and child (1-3 years old) dyads from the same household in either Auckland, Wellington, or Dunedin, NZ. Household food security status was determined using a validated and NZ-specific eight-item questionnaire<sup>(2)</sup>. Usual dietary intake was determined from two 24-hour food recalls, using the multiple source method<sup>(3)</sup>. The prevalence of inadequate nutrient intake was assessed using the Estimated Average Requirement (EAR) cut-point method and full probability approach. Sociodemographic factors (i.e., socioeconomic status, ethnicity, caregiver education, employment status, household size and structure) were collected from questionnaires. Linear regression models were used to estimate associations with statistical significance set at  $p < 0.05$ . Over 30% of participants had experienced food insecurity in the past 12 months. Of all eight indicator statements, “the variety of foods we are able to eat is limited by a lack of money,” had the highest proportion of participants responding “often” or “sometimes” (35.8%). Moderately food insecure children exhibited higher fat and saturated fat intakes, consuming 3.0 (0.2, 5.8) g/day more fat, and 2.0 (0.6, 3.5) g/day more saturated fat compared to food secure children ( $p < 0.05$ ). Severely food insecure children had lower g/kg/day protein intake compared to food secure children ( $p < 0.05$ ). In comparison to food secure children, moderately and severely food insecure children had lower fibre intake, consuming 1.6 (2.8, 0.3) g/day and 2.6 (4.0, 1.2) g/day less fibre, respectively. Severely food insecure children had the highest prevalence of inadequate calcium (7.0%) and vitamin C (9.3%) intakes, compared with food secure children [prevalence of inadequate intakes: calcium (2.3%) and vitamin C (2.8%)]. Household food insecurity was more common in those of Māori or Pacific ethnicity; living in areas of high deprivation; having a caregiver who was younger, not in paid employment, or had low educational attainment; living with  $\geq 2$  other children in the household; and living in a sole-parent household. Food insecure young NZ children consume a diet that exhibits lower nutritional quality in certain measures compared to their food-secure counterparts. Food insecurity was associated with various sociodemographic factors that are closely linked with poverty or low income. As such, there is an urgent need for poverty mitigation initiatives to safeguard vulnerable young children from the adverse consequences of food insecurity.

**Keywords:** diet; children; food insecurity; nutrient intake

### Ethics Declaration

Yes

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