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Children`s dietary patterns and their maternal determinants during the first 5 years of life: Information from the Growing Up in New Zealand cohort

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Monitoring indicators of children`s diet quality at the national level is imperative to examine if a country is on track to achieving children`s global nutrition targets and fulfilling the related Sustainable Development Goals. Despite the importance of diet quality in early life and its impact in health and wellbeing throughout the life course, Aotearoa New Zealand has limited information that is nationally representative or generalizable on children`s diet quality, especially among children under 5 years old. The only national child nutrition survey conducted to date took place two decades ago and involved children 5 years of age and older. We have previously used data collected by the Growing in Up in New Zealand cohort study, which is nationally generalizable, to partially fill historic gaps in knowledge of children`s diet and feeding practices in the first five years of life. Information on breastfeeding initiation, duration and exclusivity, timing of food introduction and whole-of-diet adherence to National Food and Nutrition Guidelines have been previously published [1–3]. This work intends to complement information on NZ children`s diet quality by examining the cohort`s dietary patterns (DPs) at 9- (n = 6,259), 24- (n = 6,292), and 54-months (n = 6,131) and their maternal sociodemographic and health behaviour determinants. At all time-points, children`s DPs were identified using principal components analyses. Multivariate linear regressions were performed to examine the associations between each DP and the maternal variables. At 9-, 24- and 54-months two distinct DPs were identified, explaining, 36.4%, 35.3% and 33.6% of children`s intake variability, respectively. The *Refined high in sugar and salt* DP, at all time-points, was characterised by high positive loadings in white/refined breads and cereals and items with high content of sugar, sodium, and fat. At 24-months, the *Refined high in sugar and salt* DP also had high positive loading in the protein group. The *Fruit/Vegetables* DP, at all time-points, had high positive loadings for fruits and vegetables (with type varying across time-points). The *Fruit/Vegetables* DP had high loading in whole grain options of breads and cereals at 24-months and positive loading in the protein group at 9- and 54-months. High scores on the *Refined high in sugar and salt* DP at the three time-points were associated with maternal smoking habits, maternal education level, ethnicity, and maternal scores in the "*Junk*" and "*Traditional/White bread*" DPs (obtained at the antenatal maternal interview). High children's scores on *the Fruit/Vegetables* DP, at all time-points, were associated with the maternal antenatal score in the *"Health Conscious"* DP. Findings support that policies and interventions aiming to improve early life diets in NZ should be culturally safe and support mothers' access to formal education, healthy diets, and smoking cessation.

Keywords: children's diets; dietary patterns; inequities in diet quality

Ethics Declaration

Yes

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