

Ultra-processed foods and drinks consumption in early childhood: Findings from the largest multi-ethnic birth cohort of Aotearoa New Zealand

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Early childhood represents a critical window of opportunity to establish healthy eating habits that can shape food preferences and behaviours, with long-lasting implications for human health and wellbeing. Several studies have demonstrated that higher UPFD consumption during the preschool years is associated with increased risk of overweight and obesity later in life. Yet, information on early childhood diet quality related to food processing is limited in Aotearoa New Zealand (NZ). Data from the largest NZ birth cohort were used to: i) assess the *proxy* of intake of UPFD at 2 (n=6,235) and 4.5 years (n=6,064), and ii) examine associations between children's intake of UPFD with dietary pattern (DP) scores and with maternal characteristics. Data on children's diets were collected using semi-quantitative food-frequency questionnaires, and the NOVA classification was used to identify UPFD. Kruskal-Wallis and Mann-Whitney tests examined differences in medians of UPFD intake. Associations were examined using multivariate multinomial regressions. At 2 and 4.5 years, the UPFD median intake was 6 servings/day, accounting for approximately 30% of the total food servings/daily, with higher intakes in males (*vs* females). The greatest contributors to UPFD intake were: Crackers; Brown, wholemeal or wholegrain breads; Cakes and biscuits; Snacks (e.g., Crisps, corn chips); and Processed meats. The higher the intake of UPFD, the higher the median scores in a DP characterized by high loadings in refined foods and those high in sugar, sodium, and unhealthy fats, and in a DP characterized by high loadings in fruit, vegetables, as well as in whole grain breads and cereals (at 2 years) and protein foods (at 4.5 years). Children's UPFD intake was associated with maternal ethnicity, pre-pregnancy BMI, and antenatal dietary quality. UPFD accounted for a substantial proportion of the cohort's diets during the preschool years, underscoring the need for national policies to limit exposure to these foods in the first years of life.

Keywords: Preschool children, Ultra-processed food, Dietary patterns, Birth cohort.