

## Socio-demographic determinants of fruit and vegetable consumption in children aged 1.5 to 10 years: results from the National Diet and Nutrition Survey rolling programme (2008–9)

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Fruit and vegetable (FV) consumption has been shown to reduce chronic disease risk<sup>(1–3)</sup>. Efforts have been made to target children in increasing their FV consumption; however, better understanding into the determinants of FV consumption and behaviour is needed for these interventions to be effective. The aim of this present study is to investigate associations between a number of socio-demographic indicators and FV consumption in UK children from the first year of the National Diet and Nutrition Survey rolling programme, which was carried out between February 2008 and March 2009.

A nationally representative sample of 359 children aged 1.5–10 years was included in the analysis. Data were collected using 4-d unweighed food diaries and computer-assisted personal interview (CAPI) questionnaires, answered by the household's main food provider (MFP). MFP was the person who was best placed to answer questions about food purchased and prepared for the child participant. Social parameters including National Statistics Socio-economic Classification (NS-SEC) as an indicator of social economic status<sup>(4)</sup>, ethnicity, age of MFP, size of household, and the number of children aged <16 years in household were investigated. Univariate analyses were performed to assess relationships between fruit (g/d), vegetable (g/d) and FV consumption (g/d) and age group and sex of children. Multiple linear regressions were used to model the independent associations between socio-demographic variables and the transformed variables of fruit, vegetable and FV consumption. Children's age and sex were adjusted in all models.

Girls consumed significantly more fruit than boys ( $P = 0.009$ ), but no difference was observed for vegetable or total FV consumption between sex groups. There was no difference in total fruit and vegetable consumption between age groups 1.5–3, 4–6 and 7–10 years; however, children aged 7–10 years ate significantly more vegetables than children in other age groups ( $P < 0.001$ ), and children aged 1.5–3 years consumed significantly more fruit than children of other ages ( $P = 0.011$ ), with a decreasing trend of consumption as age increased. Regression models revealed higher NS-SEC was consistently associated with higher fruit ( $P = 0.002$ ), vegetable ( $P = 0.0002$ ) and total FV consumption ( $P < 0.0001$ ). Household size was negatively associated with total FV ( $P = 0.04$ ) and vegetable consumption ( $P = 0.02$ ). Older MFP was associated with children with higher total FV and fruit consumption (both  $P = 0.02$ ). Ethnicity and the number of children <16 years were not associated with any outcome variables.

NDNS year 1 data highlight a number of main food providers and household composition characteristics that have an important influence on FV consumption in children. Future FV interventions and programmes should take account of the potential impact of these household-related factors.

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