Concurrent Session 10: Behavioural Nutrition

Family environmental predictors of children's energy balance behaviours and weight status

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Background – Children's eating and physical activity habits are learnt and supported from an early age in the context of the family home. Understanding the influences on children's behaviour is crucial in health promotion or obesity prevention efforts.

Objective – To model the relationships between family environment factors, children's energy balance behaviours and weight status, and explore the interaction between these factors.

Design – Families, with children aged 5-10 years (n=157), were recruited from 11 South Australian government schools. Self-reported questionnaires provided data about the family home environment including constructs such as parent's nutrition and physical activity knowledge, diet quality; feeding and parenting styles; food and physical activity environments. Exploratory structural equation modelling techniques were used to model the relationships between the home environment, parental and child behaviours. Predictors (β weights) are reported when $p < 0.05$ (*).

Outcomes – The proposed model shows an acceptable fit (NFI=0.457; CFI=0.746; RMSEA=0.044). Parents BMI (β=0.32*) and knowledge (β=0.17*) had the strongest direct associations with children weight status. Parent's intake and expenditure behaviours were indirectly associated with children's behaviours through the creation of the environment within the home. The physical activity environment was significantly associated with children's sedentary time (β=-0.44*) and activity time (β=0.29*). The family food environment was significantly associated with children's fruit and vegetable intake (β=0.47*). General parenting styles (β=0.63*) and child feeding practices (β=-0.74*) were significantly associated with the family environment.

Conclusion – This study identifies the complex interaction of potential influences of children's weight status and energy behaviours within the family home environment. Due to this small sample, future research should test the proposed model in a larger sample with a view to guide and design interventions in the area of childhood health promotion.

Relationship between general literacy skills and determinant factors of vegetable and fruit intake in children

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Background – Inadequate vegetable and fruit (V&F) intake is associated with higher risk of a range of important chronic diseases. Converting such knowledge into practice presents a major public health challenge, since mean consumption rates for V&F across all age groups in many countries is inferior to current recommendations, and in decline. Literacy is an important conduit for acquiring knowledge, skills and attitudes.

Objective – To determine if variations in literacy scores of children are associated with particular profiles of determinant factors of food choice.

Design – This cross-sectional study used a validated questionnaire to measure a series of determinant factors of vegetable and fruit consumption (family environment, neophobia, peer influence, preferences, nutritional awareness, perception of intake), and an aspect of food knowledge (ability to recognise specific vegetables and fruits) in two groups of children aged 7-8 years (grade 4, n=23) and 10-11 years (grade 7, n=30). These were then compared to literacy scores for each subject using a standard literacy assessment tool (St Lucia Reading Comprehension Test).

Outcomes – The most striking relationship was a strong positive correlation (r=0.821) between literacy scores and ability to recognise various vegetables and fruits in grade 7 boys (p<0.005). In grade 7 girls there was a positive relationship (r=0.530) between literacy level and perception of intake (*p*<0.05). Importantly, literacy scores were significantly different between genders in the older age group

Conclusion – Literacy-based nutrition education forms a large part of the way information about food and nutrition is communicated and interpreted into action. This study reports that variations in literacy scores were associated with some determinant factors of food choice. Thus, balance between literacy-based cf experiential nutrition education may be a key consideration according to both age and gender. Analysis of a larger sample size and broader age range is required to confirm these results.