



## Evaluation of a pilot food education program delivered for children in grade four attending a school located in a disadvantaged area in greater Melbourne

E. Driscoll<sup>1</sup>, G. Aydin<sup>1</sup>, J. Nanayakkara<sup>1</sup>, C. Margerison<sup>1</sup>, K.A. Bolton<sup>1</sup>,  
C. Grimes<sup>1</sup> and A.O. Booth<sup>1</sup>

<sup>1</sup>*Institute for Physical Activity and Nutrition (IPAN), School of Exercise and Nutrition Sciences, Deakin University, Geelong, Victoria, Australia*

Primary school aged children (aged 4-12 years) in Australia consume approximately 40% of daily energy from energy-dense, nutrient poor foods and fewer than 5% meet the recommended guidelines for vegetables and fruit (ABS 2018). Poor eating habits in children can track into adulthood increasing the risk of non-communicable diseases later in life (Nicklaus 2013). Children spend a large amount of time at school where they are provided with social contexts which influence behaviour development (FAO, 2022) and thus are ideal settings for teaching children about food and nutrition (FAO, 2022; WHO 2017). This pilot study was designed in response to a call to action from a local primary school in southeast Melbourne facing disadvantage. Anecdotally, the school reported poor food literacy with many students bringing unhealthy lunches. The school asked us to design, pilot, and evaluate a student education program enabling healthier lunches among these children. The aim of the study was to explore the effectiveness of a 4-week food and nutrition education program delivered to grade 4 students within a disadvantaged area targeting children's food-related knowledge, behaviours and self-efficacy (confidence) to pack a healthy lunch. The program delivered weekly 1-hour interactive sessions over four weeks (October–November 2022). Topics included healthy eating, designing healthy lunches and food safety and were delivered using interactive games, activities, quizzes and food tasting. Students completed an online survey measuring their knowledge, self-efficacy and behaviour (e.g. foods packed in their lunchbox) pre- and post- program. A comparative analysis of the pre- and post-survey responses was performed using McNemar Tests in SPSS version 29.0. Sixty students completed both the pre- and post-surveys. A significant increase ( $p < 0.001$ ) in knowledge of recommended daily serves of fruit (pre 43%, post 80%) and vegetables (pre 17%, post 54%) was observed. There was also a significant ( $p < 0.001$ ) increase in student's ability to identify 'sometimes food'. No changes were observed in identification of 'everyday food', sources of protein and sources of dairy food or safety knowledge. Children's confidence to make healthy food swaps significantly increased from pre- to post- program (27% to 45%,  $p = 0.035$ ). We observed significant increases in children's food and nutrition related knowledge for some topics and confidence to make healthy food swaps following completion of the program. A program of longer duration may be beneficial to observe additional improvements in knowledge as well as behaviour change, including foods packed in school lunches.

**Keywords:** primary school; food and nutrition education; children; pilot program

### Financial Support

This research received no external funding.

### References

1. ABS (2018) National Health Survey First results. Canberra: ABS.
2. FAO (2022) School Food and Nutrition.
3. Nicklaus S and Remy E (2013) *Curr Obes Rep* 2: 179–184.
4. WHO (2017) Health promoting schools: experiences from the Western Pacific region.