

ToyBox Study Malaysia: Improving healthy energy balance and obesity-related behaviours among pre-schoolers in Malaysia

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Abstract

The prevalence of childhood overweight and obesity is increasing in Malaysia and currently nearly 10% of children aged between 6 months and 12 years are overweight and almost 12% are obese. Early interventions to prevent excess weight gain are needed. *ToyBox Study Malaysia* is a feasibility project, funded by the Medical Research Council Newton-Ungku Omar Fund, to assess the practicalities of adapting the existing European *ToyBox Study* intervention programme to the Malaysian kindergarten setting. The main aims of all *ToyBox* programmes are related to improving four key energy balance-related behaviours, namely drinking water, eating healthy snacks and meals, reducing sedentary behaviour and increasing physical activity. Using stratified sampling, the *ToyBox Study Malaysia* intervention will be delivered and compared to usual practice by assessing behaviour, physical activity and health-related outcomes as measured by questionnaires, accelerometry and anthropometry. It is hoped that the evidence-based *ToyBox Study Malaysia* will help to achieve healthier energy balance-related behaviours in the children and their families and provide lifelong benefits to health. This article provides information on the dietary patterns, physical activity levels and prevalence of overweight and obesity in Malaysian children, and the approach of the *ToyBox Study Malaysia*.

Keywords: behaviour, children, energy balance, healthy eating, obesity, pre-schoolers

Introduction

Childhood obesity is one of the most critical public health challenges around the world (NCD Risk Factor Collaboration 2017). Prevention of childhood obesity

is an international issue because it has a direct impact on child health and wellbeing (WHO 2016) and increases risk of obesity in adulthood, which can cause obesity-related diseases, and psychological and socio-economic problems (Craigie *et al.* 2011).

Globally, in 2014, the number of overweight and obese children under the age of 5 years was estimated to be over 41 million (UNICEF 2015). Lobstein *et al.* (2015) noted that, in most countries, where it has been recorded, the prevalence of childhood overweight

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