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Process evaluation of a kindergarten-based intervention for obesity prevention in early childhood: the Toybox study Malaysia

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Abstract

Background Toybox is a kindergarten-based intervention program that targets sedentary behavior, snacking and drinking habits, as well as promoting physical activity in an effort to improve healthy energy balance-related behaviors among children attending kindergartens in Malaysia. The pilot of this program was conducted as a randomized controlled trial (RCT) involving 837 children from 22 intervention kindergartens and 26 control kindergartens respectively. This paper outlines the process evaluation of this intervention.

Methods We assessed five process indicators: recruitment, retention, dosage, fidelity, and satisfaction for the Toybox program. Data collection was conducted via teachers' monthly logbooks, post-intervention feedback through questionnaires, and focus group discussions (FGD) with teachers, parents, and children. Data were analyzed using quantitative and qualitative data analysis methods.

Results A total of 1072 children were invited. Out of the 1001 children whose parents consented to join, only 837 completed the program (Retention rate: 88.4%). As high as 91% of the 44 teachers and their assistants engaged positively in one or more of the process evaluation data collection methods. In terms of dosage and fidelity, 76% of parents had received newsletters, tip cards, and posters at the appropriate times. All teachers and their assistants felt satisfied with the intervention program. However, they also mentioned some barriers to its implementation, including the lack of suitable indoor environments to conduct activities and the need to make kangaroo stories more interesting to captivate the children's attention. As for parents, 88% of them were satisfied with the family-based activities and enjoyed them. They also felt that the materials provided were easy to understand and managed to improve their knowledge. Lastly, the children showed positive behaviors in consuming more water, fruits, and vegetables.

Conclusions The Toybox program was deemed acceptable and feasible to implement by the parents and teachers. However, several factors need to be improved before it can be expanded and embedded as a routine practice across Malaysia.

Keywords Process evaluation, Implementation fidelity, Pilot randomized controlled trial (RCT), Kindergarten

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Background

Childhood obesity is a global public health issue. Due to concerns about the morbidity and mortality associated with the high prevalence of obesity, it is now one of the top priorities in the prevention and control of non-communicable diseases (NCDs) [1]. In the 2015 Sustainable



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