

# ToyBox Study Malaysia: a feasibility study to improve healthy energy balance and obesity-related behaviour

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## Background

Over the last two decades, levels of childhood overweight and obesity have increased considerably in Malaysia, such that the country now has the highest prevalence of obesity in Asia. The pre-school years are a key time for establishing healthy behaviours; hence, there is a need for effective interventions aimed at early childhood.

The ToyBox Study is an intervention to prevent obesity in pre-schoolers that has previously been conducted successfully in six different countries but to date not outside Europe. Given the ToyBox study was designed to be adapted to suit different cultures it was chosen to be trialled in Malaysia.

### The Intervention

The ToyBox Study Malaysia is a RCT feasibility study that was conducted in Kuala Lumpur and Sarawak, Malaysia.



The ToyBox Study specifically targeted four energy balance related behaviours:

- Eating healthy snacks and meals
- Making water the preferred drink
- Increasing physical activity
- Reducing sedentary behaviour



Participating kindergartens were funded by Jabatan Kemajuan Masyarakat (KEMAS), the Community Development Department under the Ministry of Rural and Regional Development. Existing ToyBox resources were translated into Bahasa Malaysia and materials were adapted to suit local culture. Theory of change workshops and training were conducted with parents, caregivers, teachers, cooks and government officers in order to help develop the implementation model.

Kindergartens	KL	Sarawak	Total
Intervention	15	7	22
Control	18	8	26
n	257	340	597

FFQ's were used to assess food intake. Accelerometry was used to measure physical activity. Weight, height and waist circumference were also measured. All measurements were made at baseline and post-intervention. Parents, caregivers and teachers were provided with relevant equipment, materials, newsletters and tip cards and encouraged to participate.

### Implementation

- 91% teachers completed the training
- 73% total participation rate
- 76% of activities occurred as per time plan
- 88% of the parents enjoyed the family activities
- Barriers: space and length of activities
- Overall feedback indicated implementation was a success



## Summary

It is envisaged that the ToyBox Study Malaysia will be adopted by other kindergartens in Malaysia. Ultimately it is hoped that the ToyBox Study Malaysia will help the children and their families achieve healthy energy balance related behaviours that will benefit their health in the long-term.

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