

Compliance of commercial complementary infant and toddler snacks and beverages available in Kuala Lumpur using the World Health Organisation's draft Nutrient Profile and Promotion Model (NPPM)

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INTRODUCTION

Children are often served commercial complementary snacks and beverages because of the convenience. [1] The majority of snacks and beverages contain a high level of sugar and sodium that can lead to childhood obesity. [2, 3] Most parents and caregivers are lack knowledge in choosing food products for infants and toddlers.

There was no holistic evaluation to examine complementary food products for infants and toddlers available in Malaysia using a standard measure.

OBJECTIVES

To evaluate the nutrient profiles and marketing strategies of commercial complementary snacks and beverages for infants and toddlers available in Kuala Lumpur using the World Health Organisation's draft Nutrient Profile and Promotion Model (NPPM)

To compare the association of compliance between the two results in the difference between local and foreign countries

MATERIALS AND METHODS

Study design: Cross-sectional study

Setting: Kuala Lumpur

Sample size: 135 products (130 from dry finger foods and snacks, 5 from juices and other drinks)

Phase 1: Data collection from stores available in Kuala Lumpur

Identify commercial infant and toddler food

Meet the inclusion criteria:

- Food label data from snacks and beverages for infant and toddler aged 6 to 36 months
- Dry finger foods and snacks or juices and other drinks

Meet the exclusion criteria:

- Duplicate samples
- Cow's milk or milk substitutes
- Supplements
- Dry, powdered and instant cereals/starchy food
- Soft-wet spoonable food
- Meals with chunky pieces

Example:



Excluded from study

PHASE 2: Data Entry

General information on the food package was recorded into a pre-designed Excel spreadsheet

PHASE 3: Data Extraction

Tested the data against thresholds using NPPM baby food calculator website (<https://babyfoodnpm.org>)
Recorded the results into the spreadsheet

PHASE 4: Data Analysis

Analysed the data from the documented summary:
➢ Number and percentage of products meeting the proposed nutrition and marketing criteria

RESULTS

Two food categories should be prohibited for sale to infants:

- Confectionery, sweet spreads and fruit chew
- Single or mixed fruit juices, vegetable juices, or other non-formula drinks

Two food categories met the inclusion criteria:

- Other snacks and finger foods
- Fruit (fresh or dry whole fruit or pieces)

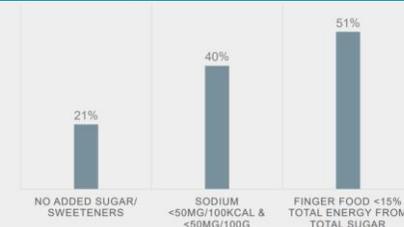


Figure 1. Percentage of other snacks and finger foods meeting proposed NPM nutrition thresholds

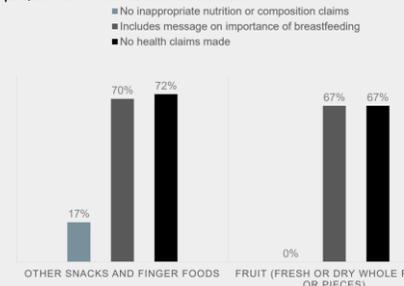


Figure 2. Percentage of other snacks and finger foods meeting proposed NPM nutrition thresholds

- None of snacks and beverages met the criteria of nutrition thresholds as well as the energy density test.
- Fruits (fresh, dry whole fruit or pieces) were highly-compliant to the nutrition thresholds which showed 100%.

Results showed low compliant to food claims, especially for health claims. Using the terms 'healthy' and health benefits provided from the products, and 'yummy', 'delicious' used as marketing claims.

11 products with poor nutritional quality and employed unacceptable marketing strategies, which manufactured from other countries.

DISCUSSION

- Majority of snacks and beverages had poor nutritional quality however, employing a good marketing strategies to promote the products, which can misguide consumers to purchase the product. Therefore, this is a urgent need to create awareness among consumers and health care professionals.
- High energy, sugar, and sodium found in the snacks, which in line with study from European, Taiwan and Malta. [2-4]
- Taiwanese study showed most infant snacks had nutrient claims and composition claims, and an UK study revealed the majority of snacks included promotion claims, composition and marketing claims, which might confuse consumers. [2, 3]
- These findings are in line with previous study.

REFERENCES

- Brady C. Baby Food - Making Baby Food vs Commercial Baby Food [Internet]. Babybirthbasics.com. 2021 [cited 31 May 2021].
- Hutchinson J, Rippin H, Threapleton D, Jewell J, Kanamäe H, Salupuu K et al. High sugar content of European commercial baby foods and proposed updates to existing recommendations. *Maternal & Child Nutrition*. 2020;17(1).
- Koo Y, Chang J, Chen Y. Food claims and nutrition facts of commercial infant foods. *PLOS ONE*. 2018;13(2):e0191982.
- Pace L, Bica M, Williams J, Hutchinson J, Cade JE, Wickramasinghe K, Vassallo C, Breda J. High levels of sugar and salt in commercial baby foods in Malta: results from a pilot study using the World Health Organization draft nutrient profile model.

CONCLUSION

Snacks and beverages with poor nutrient profiles and used good marketing tactics to promote the products that can cause confusion to consumers. The poor nutrient profiles are significantly associated with overweight and obesity among young children in Malaysia.

Significance of the study:
The first study provided a baseline data on nutrient profiles and marketing strategies of commercial complementary snacks and beverages to develop guidelines, regulations and policies to prevent unacceptable promotion that compromise infants' and toddlers' health in Malaysia.

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