



MyBreakfast Study of School Children: *Findings, Implications & Solutions*

Announcement of Key Findings

Tee E Siong PhD

*Principal Investigator & President of Nutrition Society of
Malaysia*

3rd December, 2015
Hotel Istana, Kuala Lumpur

Introduction



**Underweight &
stunting remain a
significant problem**



**Overweight & obesity
increasing at an
alarming rate**

**Existence of double-burden of
malnutrition**

Introduction

Healthy dietary practices are required to prevent under- and overnutrition

Healthy Dietary Practices



**Balanced +
Moderate +
Variety**

**Do not skip meals
(**MUST** take
breakfast
regularly)**

Introduction

Breakfast consumption among children in Malaysia as reported by previous smaller studies



**Breakfast is the most
commonly skipped meal**



**The quality of food was
found to be low**

MyBreakfast Study of School Children:

- The first nationwide, nationally representative study on breakfast consumption in Malaysia
- The whole range of primary and school children
- Provide latest data on nutritional status of school children
- Physical activity level
- Dietary intake, including whole grain intake
- Association between body weight, physical activity and breakfast habits

Objectives of study

How serious is the prevalence of under- and overnutrition amongst our school children? Who are most affected?

Do our school children skip breakfast? Who tend to skip breakfast more?

What are the main types of foods and beverages that our school children consume at breakfast?

Are our school children physically active?

Are school children who skip breakfast more likely to be overweight and obese?

Significances of study

**Gain useful insights into
breakfast habits of
Malaysian school children**

**Provide basis for all policy
makers and programme
managers**

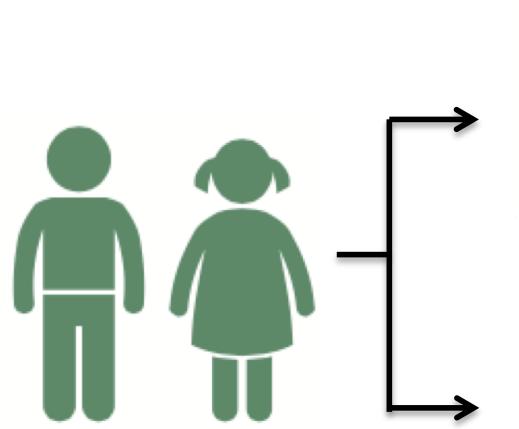
**Implement intervention
programmes**

Background of study



Sampled based on 5 regions, rural/urban, ethnic groups & sex distribution

**8705
primary &
secondary
school
children
(6-17 years)**



**5581
children from 56
primary schools**



**3124
children from 28
secondary schools**



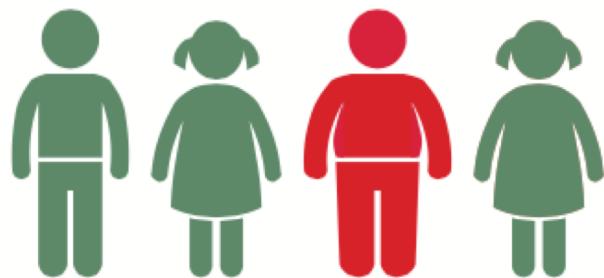


Main findings #1

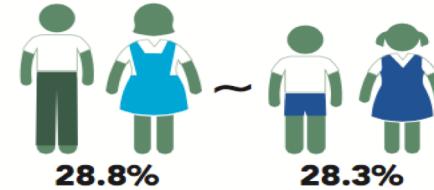
Nutritional status

Key Findings #1a

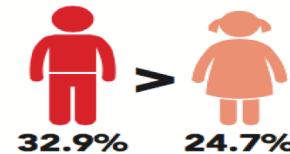
High prevalence of overweight and obese



**1 in 4 children
was either overweight or obese**



Prevalence is **similar** among primary and secondary school children



Prevalence is **higher** among boys than girls

Prevalence is **highest** in Indian (33.0%) and lowest in Malay (27.7%) children

Prevalence is **higher** among children in the **Central region** (31.1%) and **lowest** in **East Coast region** (24.7%)

Prevalence is **similar** in **rural** (27.8%) and **urban** (28.8%).

Key Findings #1b

**Significant prevalence of undernutrition, ie
thinness and stunting**

6.4%

Prevalence of
thinness

7.2%

Prevalence of
stunting

**Confirming existence of double burden of
undernutrition and overnutrition**

Recommendations

Urgent intervention programmes should be systematically implemented through country



Dietary habits



Physical activity

Nutrition education in all schools, utilising modules such as NSM+Nestle Healthy Kids Programme

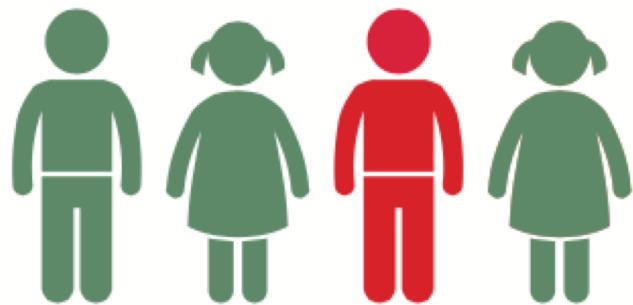


Main findings #2

Breakfast habits

Key Findings #2a

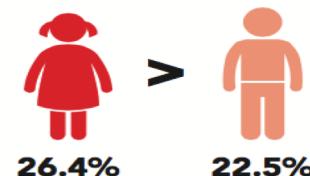
Prevalence of breakfast skippers



1 In 4 children skipped breakfast



Prevalence was **higher** among **primary** than **secondary school children**



Prevalence was **higher** among **girls** than **boys** for both primary and secondary school children

Prevalence was **higher** from families with **low-income** skipped breakfast (**28.2%**) than children from **middle** (**22.5%**) and **high** (**17.7%**) income families

Important finding: Breakfast consumption is associated with bodyweight status



Breakfast skippers were
1.34 X
more likely to be
overweight/ obese*



Main findings #3

Breakfast foods & beverage choices

Choices for foods and beverages

Malaysian children consumed
more



Traditional Malaysia
breakfast foods



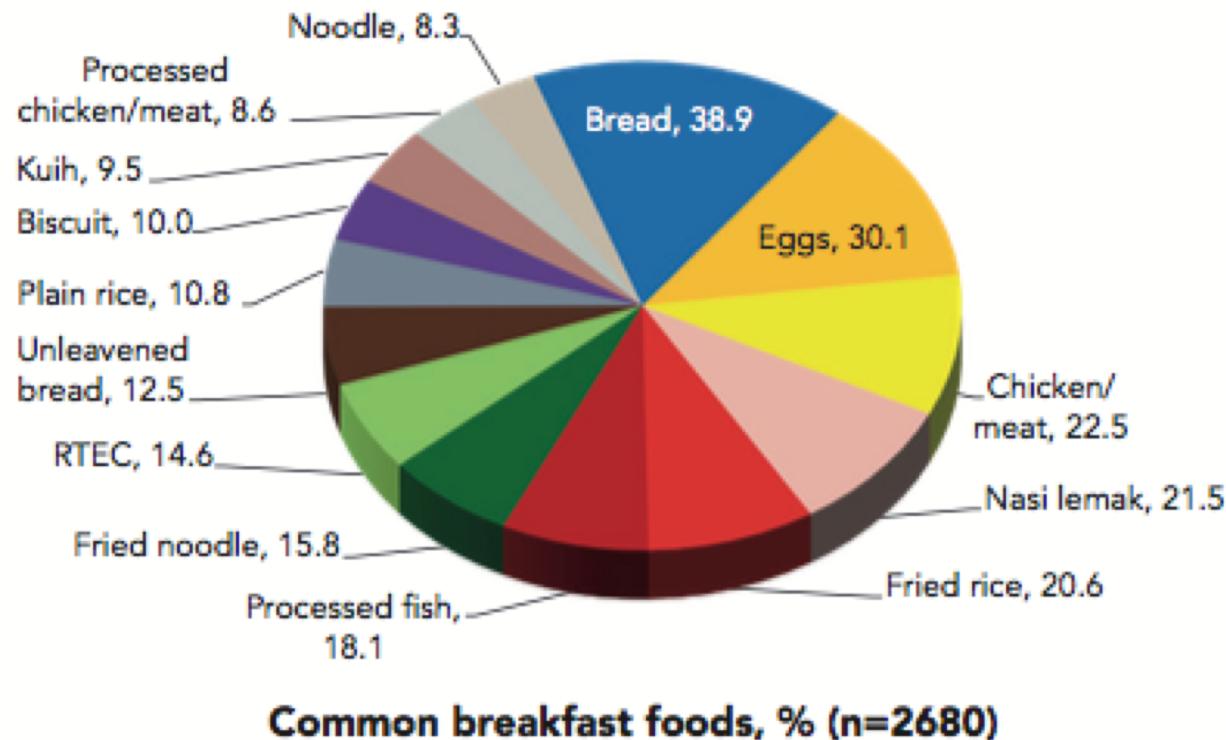
High energy meals



Carbohydrate-based
meals

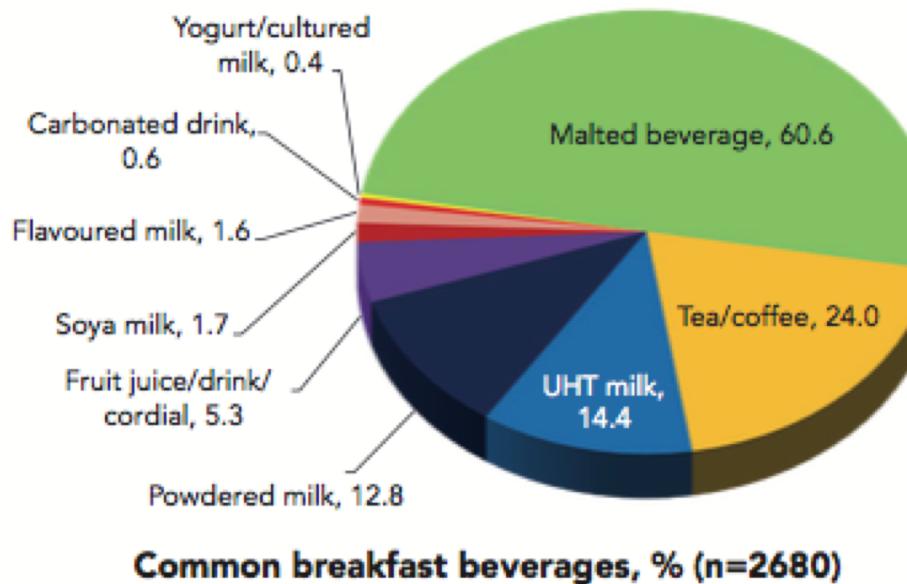
Key Findings #3b

Top 5 breakfast food choices



1. Bread
2. Eggs
3. Chicken/meat
4. Nasi lemak
5. Fried rice

Top 5 breakfast beverages choices

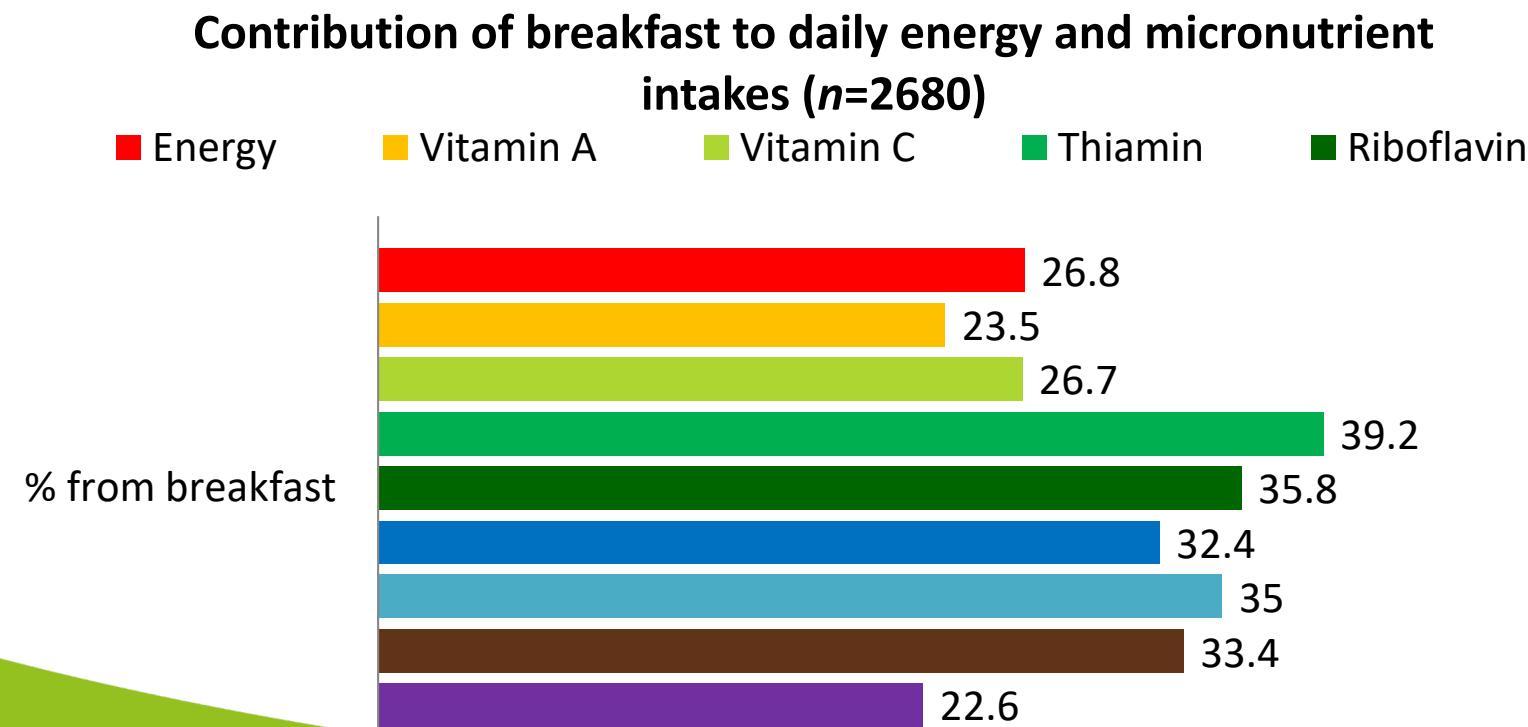


1. Malted beverage
2. Tea/ coffee
3. Ultra-heat treated (UHT) milk
4. Powdered milk
5. fruit drink/ cordial

Key Findings #3d

Among breakfast consumers, this meal contributed to about
25%

of their RNI for energy and selected micronutrients



Recommendations



Interventions to promote regular breakfast consumption including through schools, should be one of the approaches undertaken to combat the serious problem of overweight and obesity in the country

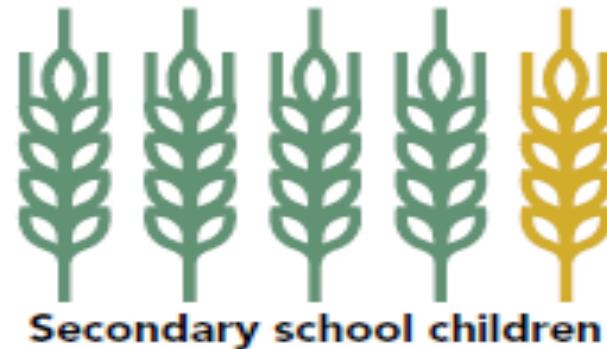


Main findings #4

Whole grain and wholegrain food consumption

Key Findings #4a

**Wholegrain consumption among school children
was very low**



Only

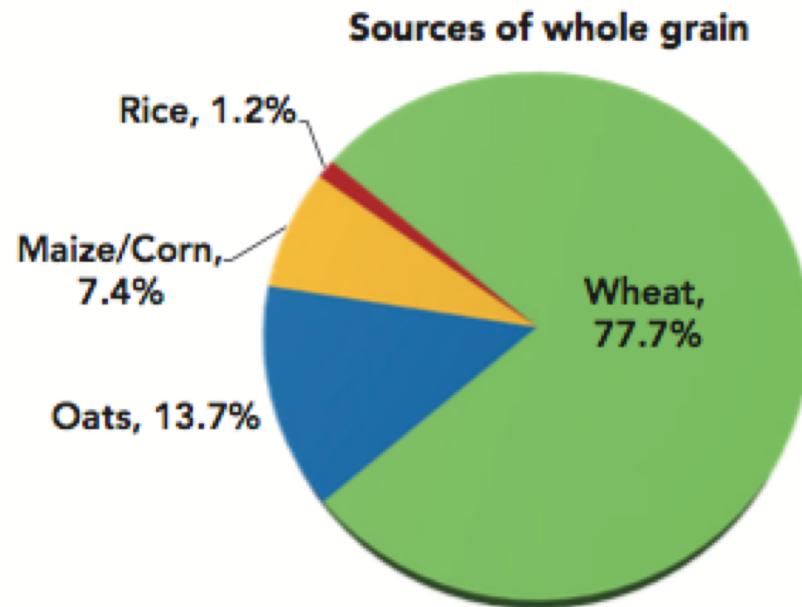
25% primary school children & 19% secondary school children

consumed whole grain

**Even among wholegrain consumers,
the mean intake was about 9g/day,
well below the recommendation intake**

**Almost all the children (over 99%)
did not meet the recommended intake
of 48g/day**

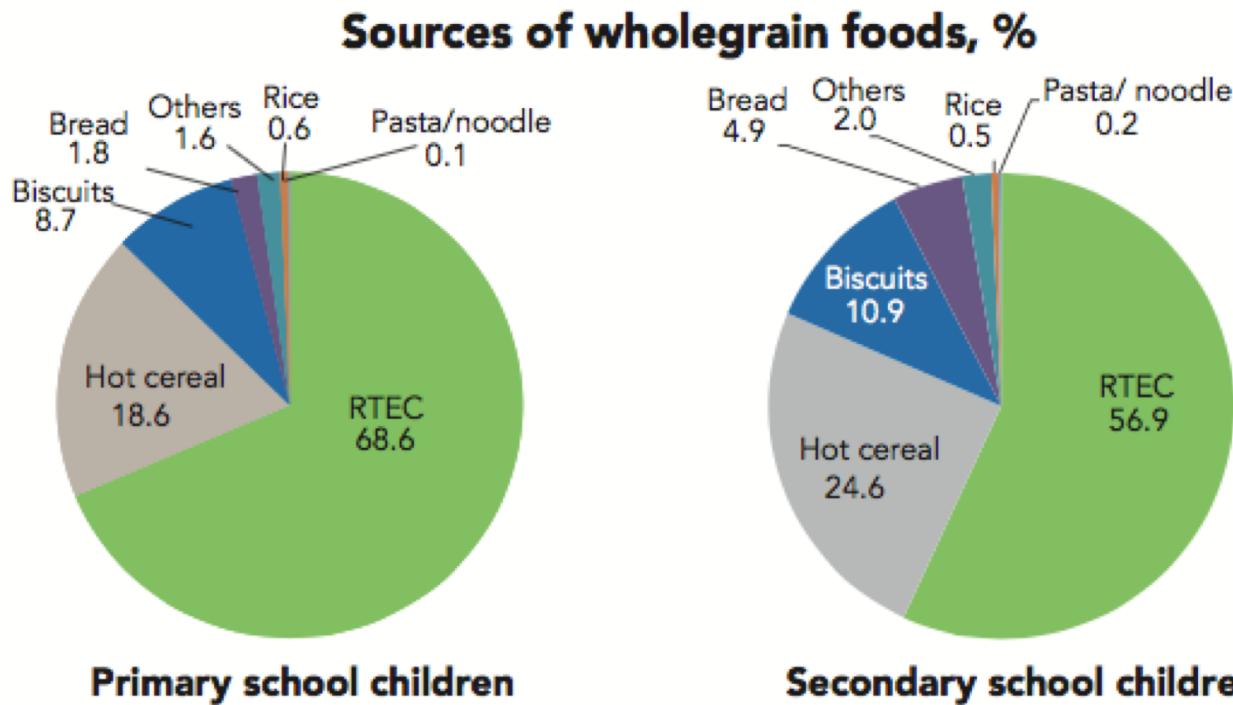
Key Findings #4c



**Wheat
was the main source of
whole grain intake**

RTEC

was the main source of wholegrain food among both primary & secondary school children



Recommendations

Greater efforts must be made to promote whole grain consumption, in line with Malaysian Dietary Guidelines



More research required to understand barriers to wholegrain consumption



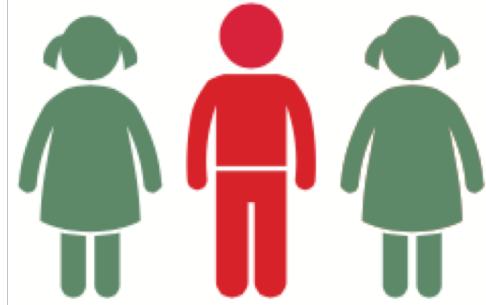
Regulatory authorities to consider measures to encourage manufacturers to add or increase whole grain in products



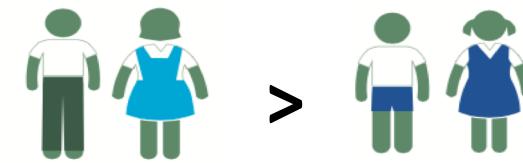
Main findings #5

Physical activity level

Key Findings #5a



1 in 3 children have low physical activity level



Prevalence of low physical activity level was **higher** among **secondary school** than **primary school children**.

Prevalence of low physical activity level was **highest** among **secondary school girls (59.5%)**

Prevalence of
overweight and obesity was
higher
among children with
low physical activity level

**Low physical activity level
was also observed to be**

higher

among

**breakfast skippers
than breakfast eaters**

Recommendations



**Make participation in
physical education
compulsory for every child**



**Classes intended for
physical education should
be strictly utilized for this
purpose**

Promoting optimal child nutrition

- Findings from MyBreakfast Study to be utilised by all stakeholders to implement effective intervention programmes
- Vital that programmes and activities identified through National Plan of Action for Nutrition of Malaysia be implemented effectively
- Nutritionists should be assigned to effectively implement nutrition related activities in schools
- Interventions must include parents
- Strategic partnership among government ministries, private sector and professional bodies is an effective approach to combat nutritional problems

**Investing in the nutritional wellbeing of
children today is the only way to ensure
a healthier generation of adult
Malaysians tomorrow**

Acknowledgements

Research Committee

Dr Tee E Siong (Principal Investigator)
Prof Dr Norimah A Karim
Assoc Prof Dr Mohd Nasir Mohd Taib
Assoc Prof Dr Hamid Jan Jan Mohamed
Dr Mahenderan Appukutty
Dr Tan Sue Yee

Cereal Partners Worldwide

Dr Frank Thielecke
Dr Sinead Hopkins

Nestle R&D Centre, Singapore

Ong Moi Kim
Celia Ning

Research Assistants

Nurliyana Abdul Razak (Head Research Assistant)
Nur Amalina Dzukarnain
Nur Zalika Zamzuri
Farah Wahida Za'abar
Rozahidah Roslee

Secretariat: Versacomm Sdn Bhd

Muhaini Hussin
Ng Lee Teng

Funding

Cereal Partners Worldwide, Switzerland
Nestle R&D Centre, Singapore

We would also like to express our gratitude to the Ministry of Education Malaysia and Department of Education in each of states involved for approving our study. We also thank all the schools, teachers, parents and children who were involved in this study.

Acknowledgements

SYMPOSIUM

Supported by:

