

PERSPECTIVE

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The Hunger-Obesity Paradox in Malaysia

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EXECUTIVE SUMMARY

- Malaysia has Southeast Asia's highest obesity rate. At the same time, at least a fifth of all Malaysian children under five years of age are believed to be stunted due to undernutrition.
- In the long term, persistent undernutrition threatens to reduce Malaysia's labour productivity. Hard evidence of undernutrition, particularly among B40 households, suggests that Malaysia's official poverty rate of 0.4% (2018) is considerably understated.
- Bringing down obesity rates in both adults and children is also becoming an increasingly urgent priority. As much as a fifth of national healthcare spending is already devoted to combating obesity-related diseases.
- A universal school feeding programme in Malaysia's primary schools would be the single most cost-effective measure for tackling the country's hunger-obesity paradox.
- However, current and possible future COVID-19-related school closures make implementation of school feeding programmes especially challenging. A national food delivery system providing lunches for all primary school students at home would help cushion the financial burden on families during the current pandemic.

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INTRODUCTION

Developing countries across the world are currently facing a double burden of malnutrition. The escalation of both undernutrition and obesity rates affects virtually all Southeast Asian countries, not least by hindering progress towards their Sustainable Development Goals (SDGs). Malaysia is already well-known for having Southeast Asia's most obese population.¹ Less well-known is the fact that at least a fifth of all Malaysian children under five years of age are believed to be stunted due to undernutrition. This proportion may in fact rise as a result of socio-economic disruptions stemming from the ongoing COVID-19 pandemic. Yet, apart from the Applied Food and Nutrition Program that was launched in Malaysia in 1976 and dissipated a decade later, there have not been any comprehensive programmes implemented to directly address Malaysia's hunger-obesity paradox.

This Perspective first examines undernutrition and its consequences in Malaysia, outlining some factors behind the phenomenon's recent national resurgence. The essay then goes on to discuss key issues regarding obesity in Malaysia, before outlining the weaknesses and strengths of Malaysia's public health policies in dealing with the malnutrition paradox. Particular attention is paid to school feeding programmes and why they have not been as effective as they could have been in tackling the double burden. The Perspective concludes with several policy recommendations.

UNDERNUTRITION'S PERSISTENCE

Undernutrition affects children from impoverished backgrounds most, but rates are high enough to include better-off children in developing countries. Stunting is the most common form of undernutrition and is a largely irreversible outcome of inadequate nutrition and repeated bouts of infection during the first thousand days of a child's life. Stunting results in diminished cognitive and physical development. A recent study among school children in Malaysian rural areas demonstrated that children with low birth weight tended towards lower school achievement, and children with lower iron levels and lower blood haemoglobin had significantly lower cognitive performance.²

Undernutrition also reduces productive capacity and health, and increases risk of degenerative diseases such as diabetes in later life. The World Bank estimated that a 1% loss in adult height due to childhood stunting is associated with a 1.4% loss in economic productivity.³ It is estimated that stunted children earn 20% less as adults compared to non-stunted individuals.⁴ Undernutrition thus strongly correlates with long-term harm to both individuals and national economies.

Recent research findings indicate that the problem of child malnutrition is still prevalent in Malaysia. A study (SEANUT Malaysia) conducted in 2013 found that 8.4% of Malaysian

children age six months to 12 years old were stunted, 9.8% were overweight and 11.8% obese.⁵ The latest report from Malaysia’s National Health and Morbidity Survey (NMHS) reported that among children under age of five, 13.6% were underweight, 20.7% suffered from stunting and 11.5% exhibited wasting (low weight for height).⁶ Notwithstanding differences in sample sizes, the proportion of children classified as underweight in Malaysia fell slightly between 2000 and 2016, whereas those classified as excessively thin and/or stunted rose (see **Table 1**).

Table 1. Prevalence of undernutrition among Malaysian children under five years of age, 2000-2016

Type of malnutrition	2000	2006	2016
Underweight (Weight for age <-2 SD)			
Male (%)	19.9	13.2	14.9
Female (%)	18.5	12.7	12.4
Male & Female (%)	19.2	12.9	13.7
Total (N)		5,677	12,622
Thinness (BMI-for-age Z score <- 2SD)			
Male (%)		12.9	15.1
Female (%)		9.4	12.7
Male & Female (%)		11.2	13.9
Total (N)		5,348	12,471
Stunting (Height for age <-2SD)			
Male (%)	17.8	17.2	22.2
Female (%)	15.6	17.2	19.2
Male & Female (%)			20.7
Total (N)			3,176

Source: National Health and Morbidity Surveys of Malaysia, various years.

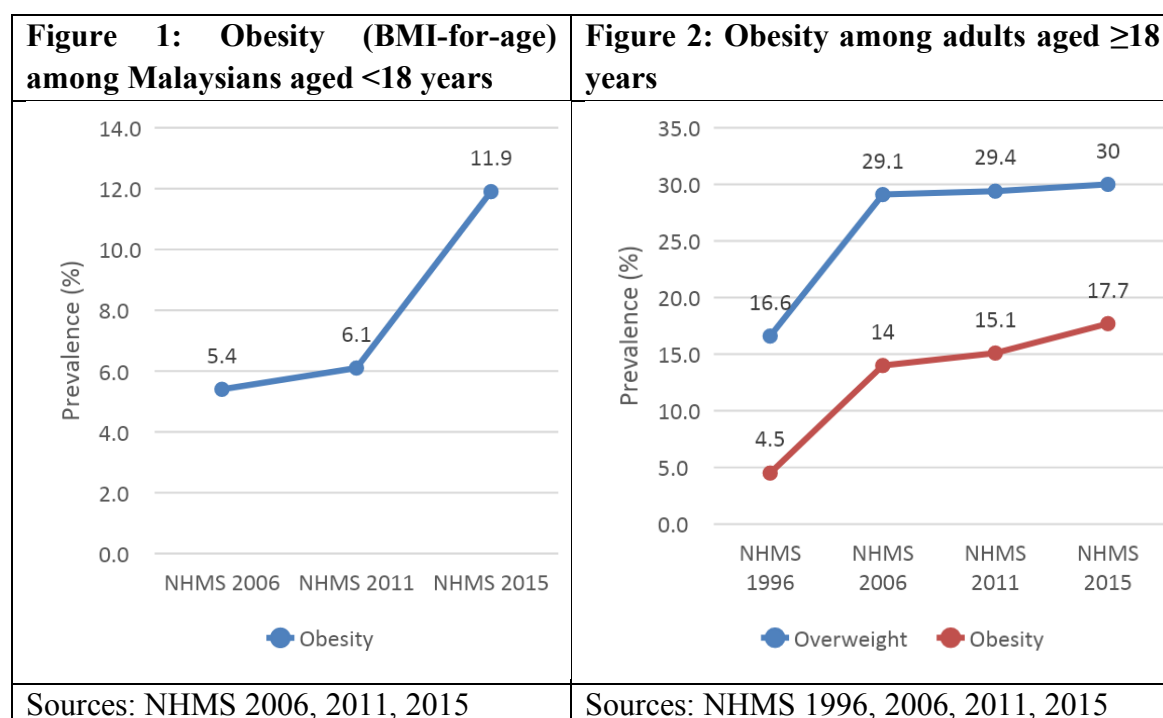
There are several factors at play behind persistent undernutrition in Malaysia. Poverty, paired with food insecurity among the bottom 40% of Malaysian households (B40), is a key driver of poor diets.⁷ Undernutrition’s prevalence renders Malaysia’s current poverty statistics as highly implausible. Official figures have pegged poverty rates at only 0.4% in 2018, down from 5.5% in 2000. Such figures are incompatible with more than 20% stunting rates among children under five years of age.

That being said, malnutrition is not just rampant among B40 households. In places like Putrajaya, undernutrition (stunting) is also commonly observed among children of M40

(middle income) households.⁸ Faulty diets are one of the main reasons, where child nutrition and dietary intake are not being given due attention by carers.

OBESITY IN MALAYSIA

The growth of undernutrition in Malaysia has occurred amidst steadily rising rates of overweight and obesity among children and adults. In 2015, 14.2% of Malaysian adolescents aged 12–19 were overweight, while 10.1% were obese.⁹ **Figures 1 and 2** shows the trend in obesity (BMI-for-age) among Malaysian children and adolescents aged below 18 years, and adults aged ≥ 18 years respectively.¹⁰



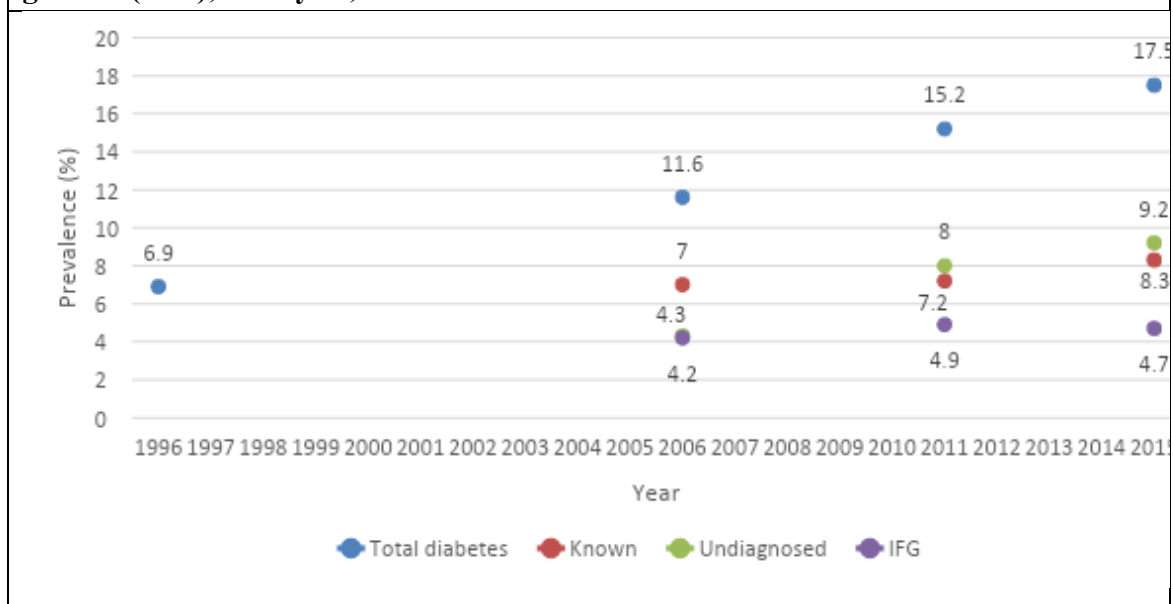
Incidence varies by gender, age and ethnicity. The third National Health and Morbidity Survey (NHMS III) 2006 indicated that the national prevalence of abdominal obesity among Malaysian adults is 17.4%, with prevalence much higher in women (26.0%) than men (7.2%) (Odds Ratio (OR): 4.2). The prevalence of abdominal obesity increased steadily with age until the age of 50 to 59 years, after which the prevalence declined. Among ethnic groups, prevalence was higher among Indians (OR: 3.0) and Malays (OR: 1.8) compared to others. Put another way, older female adults of Indian or Malay ethnicity currently make up the largest segment of the obese in Malaysia.

To be sure, the rising prevalence of overweight and obesity in Malaysia is not an isolated case, but part of a global pandemic.¹¹ It is well-established in scientific literature that widespread obesity has deleterious consequences for societies and economies regardless of

income level. Obesity increases injuries and disability, while reducing work productivity.¹² Obesity is a leading risk factor for non-communicable diseases (NCDs) such as chronic heart disease, stroke and diabetes. In most middle- and high-income countries, NCDs are now responsible for more deaths than all other causes of death combined.¹³

Malaysia’s high obesity rates therefore merit extreme concern. Of the total of 162,201 deaths recorded in 2016, an increase of 4.1% as compared to 2015 (155,786 deaths), 73% were due to non-communicable diseases (Department of Statistics Malaysia, 2017). Data from the Department of Statistics and Health Ministry show that the leading cause of death in Malaysia in 2016 was ischaemic heart disease (13.2%, 11,310 deaths). Other NCDs such as stroke, diabetes, lung cancer and chronic obstructive airways rank among the top 10 causes of death in this country.¹⁴ Diabetes, a costly disease to treat, has also shown a sharp increase from 6.9% in 1996 to 17.5% in 2015 in Malaysia (**Figure 3**). Malaysia leads Southeast Asia in public healthcare costs for obesity, with between one-tenth and nearly one-fifth of national healthcare spending allocated to obesity.¹⁵

Figure 3: Trends in prevalence of total diabetes mellitus (known and undiagnosed), known diabetes mellitus, undiagnosed diabetes mellitus and impaired fasting glucose (IFG), Malaysia, 1996-2015



Source: NHMS, 1996, 2006, 2011, 2015

The growing prevalence of overweight and obesity are normally attributed to risk factors such as increased food intake. Total daily availability of calories per capita in Malaysia rose from an estimated 2,430 kcal in 1961 to 2,923-2,990 kcal in 2007, a 20% increase over 40 years.¹⁶ During the same interval, fat and sugar intake of Malaysians had increased by 80% and 33% respectively.

However, inadequate physical activity and environmental factors also play major roles. According to the Malaysian Adult Nutrition Survey 2014, about 7.1 million or 36.9% of Malaysian adults were physically inactive, with twice as many among female (50%) adults as opposed to their male (24.7%) counterparts.¹⁷ There has been growing concern that urban sprawl and the built environment increase obesity rates, chiefly through sedentary lifestyles and growing reliance on automobiles for mobility.¹⁸ As non-communicable disease rates rise, medication intake and genetics can further aggravate the situation. Medication, such as steroids taken for treatment and management of specific illnesses can contribute to weight gain. Whether due to economic, cultural or epigenetic factors, children are also more likely to be overweight when parents are overweight. Rising obesity rates are thus difficult to halt and reverse without decisive, sustained external policy interventions targeting various social groups, particularly families with young children.

CURRENT POLICY RESPONSES: STRENGTHS AND WEAKNESSES

Malaysia's policy frameworks to address food intake and nutrition challenges have centred on three consecutive National Plans of Action for Nutrition of Malaysia (NPANM): NPANM I (1996-2000), NPANM II (2006-2015), and NPANM III (2016-2025).¹⁹ Each plan was intended to address malnutrition in children and adults in a comprehensive manner. However, the main implementing agency of these plans, the Nutrition Division of the Ministry of Health, was too limited in human capital to embark on a large-scale execution of each plan's policy recommendations. To be sure, some programmes focussing on alleviation of micronutrient deficiencies, such as management of iodine deficiency disorders and promotion of breastfeeding, have been quite successful. However, projects dealing with prevention and management of obesity and non-communicable diseases have yet to show significant impact. For instance, the 12-year (1991-2002) National Healthy Lifestyle campaign implemented by Malaysia's Health Ministry has not yielded any promising results to date.

School feeding programmes hold much long-term promise in addressing the twin problems of undernutrition and overnutrition. They can provide multiple benefits through improved education, better nutrition, and increased local agricultural production. To date, three different feeding programmes have been established in Malaysia, with varying outcomes.

Rancangan Makanan Tambahan

Rancangan Makanan Tambahan (RMT), also known as the School Supplementary Feeding Programme, was originally introduced as an interim measure to help starving children and those experiencing hunger as a result of poverty or other conditions. The programme runs for 190 school days each year. Since 2015, the allocated budget per student was RM2.50

per day in Peninsular Malaysia and RM3 in Sabah and Sarawak. If guidelines are followed, the RMT can supply about one-third of a child's daily nutritional needs.

However, RMT is not a universal programme. Only Malaysian students enrolled in Standards 1 to 6 in government schools (*sekolah kerajaan*) or government-aided schools (*sekolah bantuan kerajaan*) are eligible. They must also meet at least one of the following criteria to qualify: (i) the head of the household earns less than the poverty line income; (ii) the child attends Orang Asli and Penan schools; or (iii) the student has special needs. Furthermore, scheme admission is not automatic. Eligible students still need to apply to join the RMT.

Hidangan Berkhasiat di Sekolah (HiTS)

Hidangan Berkhasiat di Sekolah (HiTS) is a school meal programme that was originally funded privately, mostly by parents in 2007. After witnessing the success of a programme run by a vernacular school in Muar, the scheme was subsequently trialled by the Health Ministry, mainly in Johor. The HiTS programme currently serves about 11,000 children in 61 schools nationwide. HiTS prepares and serves meals that meet school-age children's dietary requirements, while fostering better dietary knowledge and practices. The scheme provides a cheaper healthy meal package than the RMT. The package consists of a diversified meal made up of carbohydrates, protein sources, vegetables, and fruits. These meals were developed by nutritionists to meet 25%-30% of a child's daily caloric and macronutrient requirements, while at the same time fulfilling their micronutrient needs.

Early evaluations of the HiTS programme are encouraging, particularly in relation to the scheme's ability to control body mass index (BMI), improve cognitive performance, and enhance the health-related quality of life of HiTS's target recipients.²⁰ Unfortunately, not all parents can afford to join the HiTS meal scheme.

Enhanced Supplementary Food Programme

In August 2019, Maszlee Malik, Malaysia's then-Education Minister, announced that the federal government would implement a free school breakfast programme serving all 2.69 million students enrolled in government-run schools across the country by January 2020. However, the proposal was not mentioned during the 2020 budget presentation in the Malaysian Parliament. This has left the fate of the promised programme very uncertain.

Around the same time, an Enhanced Supplementary Food Programme (ESFP) was started in January 2020. It targets children from underprivileged groups in 100 primary schools.²¹ The ESFP was apparently intended to be an enhanced version of the RMT. However, crucial details of the new programme have yet to be released, except for the introduction of a 'grab

and go' breakfast. The programme's unsteady implementation points to its temporary and fragmented nature.

CONCLUSION

Malaysia's policymakers have yet to confront the hunger-obesity paradox effectively. An inclusive nutrition strategy that consolidates existing efforts to combat the double burden of malnutrition and diet-related NCDs is urgently needed. This strategy must provide an effective platform for inter-sectoral coordination and synergy towards achieving optimum nutrition for all.

In order to prevent future generations from facing worsening health outcomes, school feeding programmes are the best and most cost-effective measures that Malaysia can currently invest in. Based on recent findings, the HiTS programme should be expanded. A universal school feeding programme in primary schools is recommended. Evidence from around the world shows that such programmes have positive impacts on the pillars of human and economic development in the sectors of health & nutrition, education and agriculture. It is rare for a single programme to have benefits in each of these areas. School food programmes are an exception to this general rule, and should be encouraged further.

To be sure, current COVID-19-related school closures across Malaysia make implementation of such a programme additionally challenging. Yet, in other countries, governments continue to provide all children and adolescents with access to daily food in a timely manner. For instance, the Education Ministry of Chile has designed a food delivery system for the benefit of 1.6 million children and adolescents. Individual baskets are delivered, containing full breakfasts and lunches for 10 business days.²² In India, all states have been requested by the central government to arrange for delivering food grains or cooked meals to the homes of beneficiaries, or cash transfers to their parents' accounts during the duration of school closures.

Similarly, in Malaysia, providing free lunches for all primary school students stuck at home would be a powerful measure to cushion the financial burden on families due to the COVID-19 pandemic.

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