

Childhood Overweight and Obesity (COO) Policy Research Project Institute for Population and Social Research, Mahidol University 2020



"making policy for or solving the problem of childhood obesity ... to achieve this we need data, comprehensive campaign, and clear examination, measurement and evaluation"

- Policy maker of the Ministry of Education -



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"Multiple interventions should take place concurrently. If people are more aware [of their health], it will lead to their behavioral change. With this change, of course, it will establish sustainable [healthy] behavior. Well, if the next generation is raised not addicted to sweetness, then when they get older, they will not crave for any sweet taste."

- Policy maker of the Ministry of Public Health -

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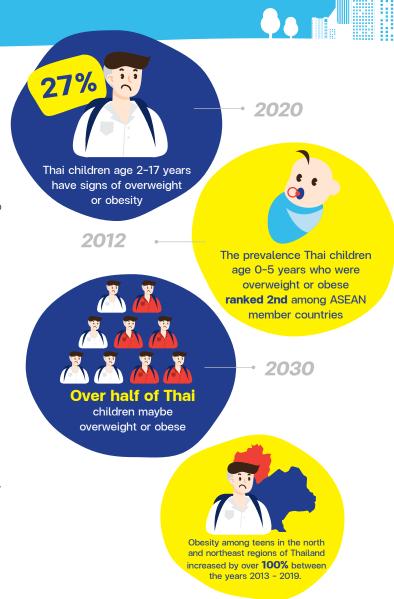
# If the existing situation remains unchanged in Thailand, the number of obese children will double in the next ten years

# Trends in over-nutrition in Thai children in the future

In the past two decades, from 1995 to 2014, the percentage of Thai children age 1-5 years who were overweight increased from 5.8% to 11.4% and the children age 6-14 year age group increased from 5.8% to 13.9% as assessed by the weight-for-height criterion. The prevalence of children who are overweight is forecasted to rise in the years to come.

As projected, the percentage of Thai children who are overweight will rise from 27% in 2020 to 32% in 2030. In the worst-case scenario, two out of three children, or 67.5%, will become overweight. Therefore, without preventive measures, the number of these children will grow to 3.5 million from 3.3 million, and to 7.4 million in the worst-case projection.

Overweight and obesity is generally found among boys more than girls. The beginning age of overweight and obesity is 5-9 years. Children living in municipal areas are more likely to be obese than those living elsewhere. However, in the northeast, north and south regions of Thailand, childhood obesity is higher in the non-municipal areas.





# Children who are obese tend to be obese in adulthood

Child-rearing influences habits and unhealthy eating behavior in children. Studies have found that parents' behaviors are key factors contributing to their child becoming overweight or obese.<sup>3,4</sup> A longitudinal study in the USA found that around half of obese children were obese when reaching the age of 35 years.<sup>5</sup>

# Frequent bullying in children who are obese

Weight stigma hurts children. It brings stress and shame, and contributes to a child's loss of confidence in school and social participation. Children's learning opportunities are impaired, along with the quality of life -- physically, behaviorally and mentallv.7

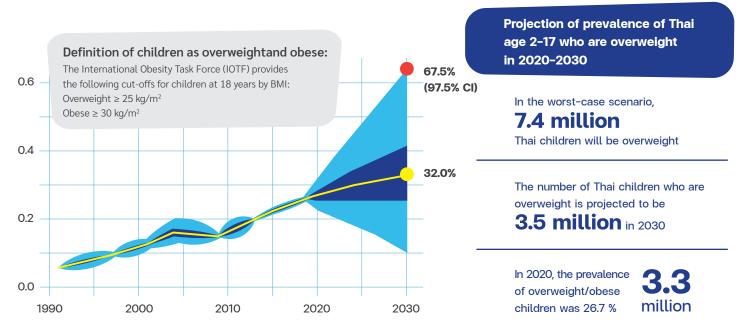


Obese students are 63% more prone to bullying than non-obese students.

# From overseas experience, there are 5 keys to obesity reduction in children

In studies of Finland, Japan, the UK, and New Zealand, five factors are key to the reduction of child obesity and relevant risks:

- 1) Child obesity is a national agenda
- 2) There is a focal mechanism to coordinating policies
- 3) There is monitoring and evaluation of policies/ measures
- 4) There is decentralization and empowerment for decision-making to each locality
- 5) There is an emphasis on a local response.



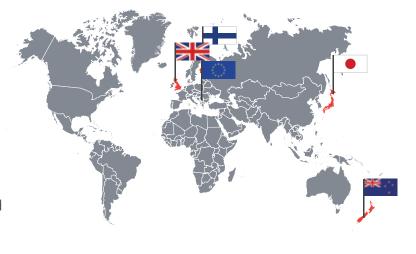
# **Experience in countries**

Finland: The Health in All Policies (HiAP) places the child obesity, besides overall health, as an important local agenda item.

Japan: The schools and child caretakers, particularly nutrition teachers, drive policies, such as the Shokuiku Basic Law.

UK and New Zealand: Childhood obesity is a national agenda item that is a part of integrated plans.

EPODE: European countries apply the EPODE model in which local power and central coordination are the prime mechanisms. There is a working group that functions as a coordinating body that draws concerned parties to join forces at the international, national, and local levels. The group acts as an information center and assessor of policy implementation and communication, and empowers local staff.



# Thailand has a lack of monitoring and evaluation of measures

Despite Thailand's numerous policies, implementation has been rather ineffective in producing a decline in the number of over-nourished children. The major reason is a lack of monitoring and evaluation of policies and measures, and then acting on those findings. Thailand also needs a coherent mechanism to work on obesity prevention in children. An effective mechanism would promote collaboration between public and private sector organizations.





- 1. The government should make the policy on reduction of childhood obesity a national goal. This is intended to spur concrete collaboration among concerned parties.
- 2. More measures at the local level are required, especially for children's venues such as daycare facilities and schools. At this level, education on nutrition and relevant practices should be provided in all schools and communities. This recommendation concerns integrating healthy behaviors, anti-stigma, and anti-bullying campaigns into subjects or learning activities for students, from the young ages through the teenage years.
- 3. There should be a core organization to monitor and evaluate policies and measures. Such an organization should also report the performance to local authorities for improvement.

# Acknowledgement

# Childhood Overweight and Obesity (COO) Policy Research Project is funded by the Thai Health Promotion Foundation (ThaiHealth).

### References

- \* ASEAN/UNICEF/WHO. (2016). Regional Report on Nutrition Security in ASEAN. UNICEF. https://www.asean.org/wp-content/uploads/2016/03/Regional -Report-on-Nutrition-Security-in-ASEAN-Volume-2.pdf
- 1) Wichai Ekpalakorn. (Editor). (2014). Report of the 5th Survey of Thai Health using Physical Examination (children's sample), 2014 Nonthaburi: Institute of Public Health Systems Research.
- 2) Cole, T. J., Bellizzi, M. C., Flegal, K. M., & Dietz, W. H. (2000). Establishing a standard definition for child overweight and obesity worldwide: international survey. BMJ, 320(7244), 1240. doi:10.1136/bmj.320.7244.1240
- 3) Bahreynian, M., Qorbani, M., Khaniabadi, B. M., Motlagh, M. E., Safari, O., Asayesh, H., & Kelishadi, R. (2017). Association between Obesity and Parental  $Weight Status in Children \ and \ Adolescents. \ \textit{Journal of clinical research in pediatric endocrinology}, \ 9(2), \ 111-117. \ doi: 10.4274/jcrpe. 3790$
- 4) Fuemmeler, B. F., Lovelady, C. A., Zucker, N. L., & Østbye, T. (2013). Parental obesity moderates the relationship between childhood appetitive traits and weight, Obesity (Silver Spring, Md.), 21(4), 815-823, doi:10.1002/obv.20144 5) Ward, Z. J., Long, M. W., Resch, S. C., Giles, C. M., Cradock, A. L., & Gortmaker, S. L. (2017). Simulation of Growth Trajectories of Childhood Obesity into
- Adulthood. The New England Journal of Medicine, 377(22), 2145-2153 doi:10.1056/NEJMoa1703860 6) World Health Organization. Weight bias and obesity stigma: considerations for the WHO European Region (https://www.euro.who.int/ data/assets/
- pdf file/0017/351026/WeightBias.pdf
- 7) Palad, C. J., Yarlagadda, S., & Stanford, F. C. (2019). Weight stigma and its impact on paediatric care. Current opinion in endocrinology, diabetes, and obesity, 26(1), 19-24, https://doi.org/10.1097/MED.000000000000453

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# Enhancing government effectiveness, establishing mechanisms for coherent implementation of childhood obesity prevention in Thailand

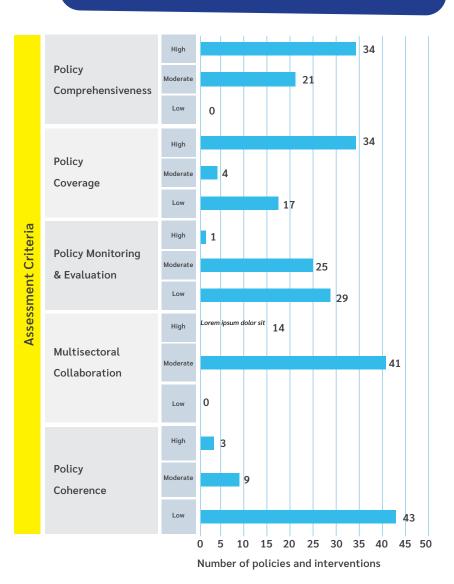
- > Nearly 80% of childhood overweight and obesity (COO) policies in Thailand lack governance mechanisms for policy coherence as a driver of effective and sustainable COO prevention.
- Unless the government changes tack, childhood obesity in Thailand could increase two-fold within the next 10 years.
- If there is a central coordination entity for COO policy implementation across sectors and levels, that would help stakeholders to work in a coherent and concerted manner and, thus, accelerate progress toward COO reduction.

# Many COO policies are in place, but why is there a persistent rise of COO in Thailand?

There is a lack of mechanisms for coherent policy implementation. As part of its ongoing efforts to tackle COO, the Thai government has shown a greater commitment to rolling out policy actions for COO prevention during the past several years. The government actions are highly consistent with the global recommendations made by WHO's Commission on Ending Childhood Obesity (ECHO). Out of a total of 36 recommended actions (and 67 sub-actions), the Thai government has implemented 33 actions with 55 sub-actions.<sup>1</sup>

However, looking at key features that can influence the success of policy mplementation, from 'policy comprehensiveness', 'policy coverage', 'policy monitoring and evaluation', 'multisectoral collaboration' to 'policy coherence' (see policy criteria on p. 9), nearly 80% of the existing policy actions lack institutional mechanisms for policy coherence. Policy incoherence, or contradictions (both within and across sectors), can cause overlapping mandates and confusion of responsibilities among stakeholders from the central to the local level, and from one sector to another.

Performance level of Thai government policy actions, by assessment criterion



# Assessment of Thai government policy implementation, by ECHO recommendations

Many government policy actions have a 'low' performance level.

Three-fourths of the

policy actions have a 'low' performance rating. Only seven actions were rated as 'high.' The highperformance actions were mostly legislative or mandatory measures which require engagement or involvement of multisectoral stakeholders and establishment of a central coordination mechanism. Without any improvement in certain institutional mechanisms for policy coherence, prevalence of COO in Thailand could double in

the next 10 years<sup>2</sup>.

### Not in place

1.3 Set of WHO recommendations on food marketing to children 1.5 Cooperation to reduce the impact of cross-border food marketing 2.1.4 Use peer education and whole-of-school initiatives to promote PA 4.5.1 Assess the impact of legislation / regulations on the marketing of complementary foods and beverages 4.10 Food education 5.4.1 Develop nutrition, food and health education 6.1.2 Alian services with existing clinical guidelines 6.1.3 Educate and train concerned primary health care providers 6.1.4 Include childhood weight management services as part of universal health coverage.

# 'Low' performance

1.1.1 Inform population about COO consequences 1.1.2 Update guidance throughout the life course 1.1.4 Develop and implement public education campaigns 1.4 Establish a National nutrient-profiling model 1.9 Increase foods access in disadvantaged communities. 2.1.1 Develop and implement evidence-based, targeted and appropriately funded, public education campaigns 2.1.2 Include guidance on PA throughout the life course 2.1.3 Disseminate guidance on PA to key stakeholders 4.3 Broad-based education on benefits of breastfeeding 4.9.1 Set mandatory nutrition standards for foods and beverages 4.9.2 Implement food laws, regulations, standards into catering 4.11.1 Set standards for PA in child-care settings 4.11.2 Provide PA guidance 4.12.1 Develop guidance on PA for children under 4.12.2 Develop guidelines on screen-based entertainment 5.2 Eliminate unhealthy foods in the school environment. 5.3 Access to potable water in schools and sports facilities 5.4 Include nutrition and health education within the core curriculum 5.5 Nutrition literacy and skills of parents and carers 5.6 Food preparation classes for children, parents and careers 6.1 Family-based weight

management services

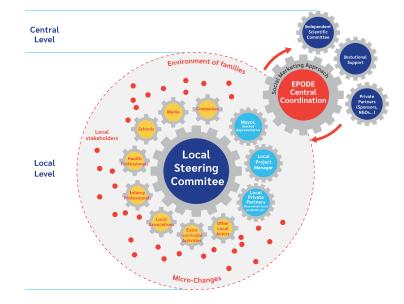
1.1.3 Disseminate FBDG for key stakeholders 1.2.1 Analysis of administration labelling and impact of SSB tax 1.6.1 Work through the Codex **Alimentarius Commission** 1.7 Front-of-pack labelling 1.8 Healthiness of food environments 2.2 Facilities are available on school 3.1 Diagnosis of hyperglycaemia and gestational hypertension 3.2 Monitoring of gestational weight gain 3.4 Clear guidance and support for the promotion of good nutrition, healthy diets and physical activity 4.2 Ten Steps to Successful Breastfeeding 4.6 Clear guidance and support to carers to avoid unhealthy foods 4.7 Clear guidance and support to caregivers to encourage healthy foods 4.8 Guidance to caregivers on appropriate nutrition, diet and portion size for this age group

# 'High' performance

1.6.2 Adopt mandatory laws and regulations for nutrition 1.2.2 Levy an effective SSB tax according to WHO's guidance 3.3 Guidance and advice for both prospective mothers and 4.1 The International Code of Marketing of Breast-milk Substitutes (Milk Code) 4.4 Regulatory measures to support breastfeeding 4.5.2 Adopt and implement effective measures on the marketing of complementary foods and beverages 4.5.3 Establish enforcement mechanisms for the marketing of complementary foods and

beverages

# Implementation mechanism of the EPODE model



# International good practice calls for a central coordination mechanism as a driver for success

4.13 Whole-of-community

support for carers and

5.1 Food and beverage

in the school curriculum

5.7 Quality of physical education

standards in schools

child-care settings

**EPODE** model using Central Coordination Team (CCT) as a core element to drive implementation. EPODE<sup>3</sup> is a community-based program which helps communities to build capacity to reduce childhood obesity, and has been implemented in more than 35 countries since 2004. Its approach focuses on promoting involvement of multiple stakeholders across sectors and levels. A CCT leads the implementation of community-level programs by collecting relevant information, available knowledge, and fieldwork experience for developing implementation objectives and targets, and training/ coaching local project managers. The CCT also employs social marketing to develop tailored-made messages for local communication and public relations. The CCT helps foster local dynamics (e.g., partnerships and networks), and empowers local stakeholders to initiate local projects and activities.

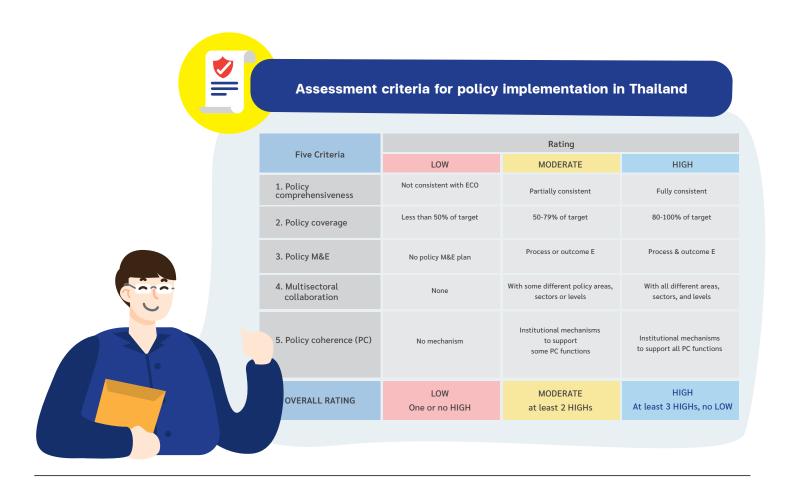
# Building for the future in Thailand: A central coordination mechanism for COO prevention

Designating an organization to become a central coordinator of COO prevention activities in Thailand.

A capable organization which has extensive knowledge, field experience, and advocacy/networking skills, and which can work with COO stakeholders from multiple sectors (government, non-government and academia) and different levels (local, national, international) should take the lead in coordinating policy implementation. Such an organization would have a good understanding of the roles, interest, and expertise of each of the potential stakeholders.

This central platform will strongly encourage the stakeholders to work together in a coherent and concerted manner under a set of shared goals. Such an approach has the potential to accelerate progress towards effective COO reduction.

Potential organizations for the coordination role include the Department of Health (of the Ministry of Public Health), the Thai Health Promotion Foundation, the Thai NCD Alliance, the National Health Foundation, and the Youth Network.



# Acknowledgement

Childhood Overweight and Obesity (COO) Policy Research Project is funded by the Thai Health Promotion Foundation (ThaiHealth).

# References

- World Health Organization. (2017). Report of the Commission on Ending Childhood Obesity. Implementation plan: executive summary. Geneva: World Health Organization.
- Institute for Population and Social Research. (2020). Childhood Overweight and Obesity (COO) Policy Research Project.
   Nakhon Pathom: Institute for Population and Social Research, Mahidol University.
- Borys, J. M., Le Bodo, Y., De Henauw, S., Moreno, L. A., Romon, M., Seidell, J. C., & Visscher, T. L. S. (2011). Preventing Childhood obesity: EPODE European Network Recommendations. Lavoisier.

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# Scaling up the Dek Thai Kam Sai Project: A sustainable alternative to tackle overweight and obesity in Thai children

Childhood overweight and obesity are a major health concern, as they can lead to non-communicable diseases including diabetes, high-blood pressure, and hypertension. Around 50% of obese children grow up to be obese adults with non-communicable diseases<sup>1</sup>, resulting in both a public health and health and economic burden.

Dek Thai Kam Sai (DTKS) is a project initiated in 2014 to improve the nutritional status of students. Evidence shows that DTKS was effective in reducing the probability of students from becoming overweight. From the 472 schools under the Office of Basic Education Commission (OBEC) that participated in Phase I of the Project in 2014-16, students had a 19% reduction in the probability of becoming overweight compared to students in non-participating schools. The schools in Phase I were not required to implement all eight elements as suggested by the Project but, in Phase II, all eight activities were compulsory, and Project impact increased to 22% reduction in the probability of becoming overweight, and 25% reduction in the probability of becoming obese in children of participating schools.





"DTKS really changed our students for the better. Many obese students lost weight, even when we only managed their lunch diet. The knowledge the students gained from the teachers enabled them to change their behaviors on their own."

# - Wat Sri Maha Pho School, Nakhon Pathom<sup>2</sup>

"The fact that students have better health and academic outcome, despite having the same teachers and teaching methods, must be due to better nutrition."

"The change that we observed in our students is that, when they are taught to consume less sweets, their behavior at home changes too. For example, when preparing hot chocolate at home, the child will tell their parents when it is too sweet."

- Chumchon Wat Ruang School, Nakhon Ratchasima<sup>2-</sup>



# Average budget in implementing each DTKS activity

However, the success of the Project depends on its continuity. In 2019, approximately three years after the end of Phase I, the impact on overweight and obesity reduction began to diminish. The probability reduction of overweight declined to only 6% compared to non-participating schools, and over time, the effect may completely disappear.

Activity	Average budget (baht)
1. School farming	58,000
2. Student cooperatives	34,000
3. Food provision and management	40,000
4. Monitoring nutritional status	23,000
5. Developing personal hygiene	29,000
6. Promoting a healthy environment	23,000
7. Providing health services	24,000
8. Providing health education	71,000



To achieve a sustainable impact, interventions must be implemented continuously. The eight components from the DTKS Project can be realistically implemented in all OBEC schools in Thailand, as many of these activities are already administered in most schools. Additional support and reinforcement are needed to achieve the desired outcomes. For instance, most schools have access to the Thai School Lunch Program, but many schools do not use it to plan student meals as they do not have a full understanding of how to apply it. Appropriate support and training can help schools to successfully implement many of the activities that are already in place.



- 1. There should be a policy for all schools under OBEC to implement activities according to the DTKS framework. Each school would be free to choose activities deemed appropriate to their context.
- 2. OBEC should consider increasing budget for schools to implement activities according to the DTKS framework. For example, OBEC should encourage school farming for schools with enough space to provide safe and secure food sources for students to prepare meals according to the Thai School Lunch Program by providing appropriate budget and training.
- 3. OBEC should provide appropriate training for schools to successfully implement all eight activities under the DTKS framework by involving experts in related fields such as nutrition and farming.



# Acknowledgement

Childhood Overweight and Obesity (COO) Policy Research Project is funded by the Thai Health Promotion Foundation (ThaiHealth).

# References

1) Ward, Z. J., Long, M. W., Resch, S. C., Giles, C. M., Cradock, A. L., & Gortmaker, S. L. (2017). Simulation of Growth Trajectories of Childhood Obesity into Adulthood. The New England Journal of Medicine, 377(22), 2145-2153. doi:10.1056/NEJMoa1703860

2) Thanom Khunphet. (2018). Dek Thai Kam Sai: Lessons from school administration, teachers, students, parents, school chef, and Dek Thai Kam Sai working team. Nontaburi: Food Safety and Nutrition for Health Promotion Institute.

# Food advertisements stimulate children's appetite! Is it time to limit ads of food and beverages which are high in fat, sugar, and salt?



# **Problem**

- Almost 90% of Thai children are exposed to advertisement (ads) for unhealthy snacks, fast food, and sugar-sweetened beverage (SSB)
- If children see the same ads four times per hour or more, that may be enough exposure to motivate them to want and obtain the product
- More than three-fourths of Thai children are not exposed to warning messages in food ads

# **Solutions**

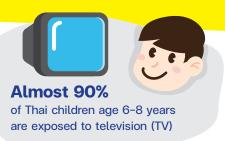
- Legislation to restrict TV advertising of food and beverages high in fat, sugar, and salt (HFSS) would reduce body mass index (BMI) on average by 0.32 kg/m<sup>2</sup> for Thai children age 6-12 years
- An intervention restricting HFSS TV advertising would cost about one million baht, resulting in a reduction of 121,000 overweight and obese children

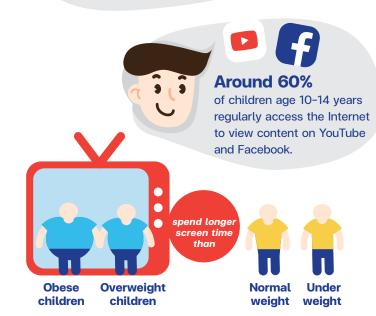
The prevalence of obesity rose from 5.4% in 2009 to 13.9% in 2014 among Thai children age 6-14 years. Media exposure is an important factor which influences eating behavior, particular among children and teenagers.

Overall, 89% of Thai children age 6-8 years are exposed to television (TV) on a daily basis.<sup>3</sup> In addition, 58.8% of children age 10-14 years regularly access the Internet to view content on YouTube, Facebook, and TikTok, followed by on-line games (27.8%), TV programs and movies (12.5%). Overweight children (57.4%) and obese children (55.5%) spend longer screen time (1/2 - 3 hours) than children who have normal weight (56.4%) and underweight (48.4%).<sup>3</sup>

# Almost 90% of Thai children are exposed to advertising of food high in fat, sugar, and salt (HFSS), and sugar-sweetened beverages (SSB)

Almost 90% of Thai children are exposed to ads for unhealthy snacks, fried chicken, pizza, and SSB.<sup>3</sup> More than 70% of children age 6-8 years are exposed to ads for HFSS products and SSB on TV.<sup>3</sup>





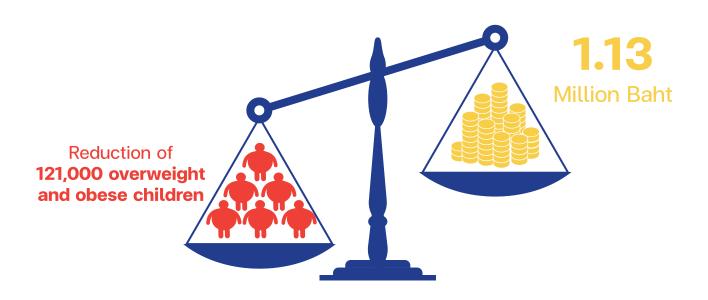
A common strategy for food ads on TV and Facebook is to use celebrities as presenters, in addition to special price promotions, raffles, and giveaways.<sup>4,5</sup> What is more, about one-third of Thai children and youth eat snacks while watching TV.<sup>6</sup>

# Seeing the same ads four times per hour increases food intake in children

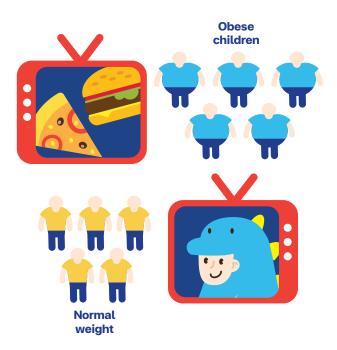
Findings from studies in Thailand are consistent with international evidence that food and beverage ads impact on children's eating behavior.<sup>6</sup> If children are repeatedly exposed to the same ads four times per hour or more, that intensity of messaging may change their attitudes and behavior toward consuming those advertised products.<sup>5</sup>

Children are also enticed to purchase food with special price promotions and giveaways. Using celebrities as product presenters promotes children's eating preferences and behavior. Children who can recall a particular brand of food increases the likelihood that they will seek it out. 9-12

# **Limiting ads on TV: Low investment-high return**



# Limiting ads on TV: Reduce BMI on average by 0.32 kg/m<sup>2</sup>



# Restriction of food ads on TV is very cost-effective: Low investment-high return

It is indisputable that targeted advertising influences eating behavior of children. This leads to health problems such as addiction to HFSS foods, overweight/obesity, being temperamental or hyperactive, heart and lung failure, and metabolic disorder. Obesity is one of the major risk factors for other non-communicable diseases such as diabetes, hyperlipidemia, hypertension, and cardiovascular disease. One of the major risk factors

An Australian study<sup>15</sup> found that legislation to restrict TV advertising of HFSS food and beverages to Australian children was a cost-effective intervention to reduce consumption of those foods. If that intervention is implemented in Thailand, it would reduce BMI in children age 6-12 years on average by 0.32 kg/m² and at a cost of only about one million baht. That would result in reduction of 121,000 overweight and obese children.³

# Food advertising regulations in Thailand

Food advertising regulations in Thailand are as follows:

- 1. The Food Act of 1979
- 2. Notification of the Ministry of Public Health (No.394) (2008), issued by virtue of the Food Act Re: Food products Required to Bear Nutrition Labelling and Guideline Daily Amounts, GDA Labelling
- 3. Announcement of the Food and Drug Administration (FDA) Re: Criteria for Food Advertisement (2018)

These laws prohibit advertising that misleads or exaggerates qualities and characteristics of the product over and above its true qualities and characteristics. Before an advertisement is broadcast through radio and/or television, film, newspaper/magazines, or any other media, the ads must be reviewed and approved by an authorized person. Ads for HFSS and SSB products must include labeling that says: "Eat less and exercise for health."

The Fifth Ministerial Regulation (1991) issued under the Consumer Protection Act of 1979 required that offering a special price, vouchers, raffles, rebates, and sweepstakes with a grand prize must display detailed information and conditions such as the terms of product promotion, place of activity, value of reward, and the starting and closing dates of the promotional campaign.

The Broadcasting and Television Businesses Act (2008) prescribed that the duration of free-TV ads must not exceed 12.5 minutes in any given hour, and the daily average duration of advertising must not exceed 10 minutes per hour.

Going further, the Thai FDA has required that HFSS and SSB ads must include a warning message. Radio broadcast media (or other sound-only media) must include a clearly-stated verbal warning as part of these ads. Print or other static visual media must include a warning using colorful letters for which the height of the letters is not less than 1/25th of the height of the advertising space. For ads appearing on TV, movie, video, or other visual media which use images and sound, the warning must be clearly audible and visible (for at least 5 seconds or appropriate to the ad duration) with SUPER letters that are not less than 1/25<sup>th</sup> of the height of the advertising space. 16



# Children cannot see the warning message

Despites these measures, over three-fourths (76.8%) of Thai children cannot identify health warning messages in HFSS ads.3 Further, there are usually no audible warning messages in HFSS ads on TV and Facebook<sup>4-5</sup> A study in France found that children exposed to HFSS ads ignore the warnings that are clearly visible and occupy at least 7% of the advertising space on both TV and print ads. When watching these ads, consumer attention is usually drawn to the center of the ads. Therefore, the warning message should be placed at the center of the ads. 17 Warning notices can influence consumer choices regarding SSB.<sup>18</sup> However, if children are not seeing or hearing the warnings, then that indicates that the law is not protecting children as intended.17

Thailand has food advertising regulations, but children are not adequately exposed to warning messages in HFSS ads. Evidence confirms that control of food ads is an effective intervention.

Moreover, the prohibition of HFSS ads on TV which target children can significantly reduce overweight and obesity in children age 6-12 years.<sup>3</sup> The relevant organizations should immediately take action based on the following recommendations:

# Recommendations





- 1. The Thai FDA of the Ministry of Public Health should adjust the size and position of warning messages on media, and warnings on TV or other media (with both picture and sound) must be presented clearly for both text and sound.
- 2. The Thai Foundation for Consumers, the Independent Committee for Consumer Protection, and Civil Society organizations involved in tracking food advertising must play a bigger role in monitoring and reporting ads that violate the laws to the FDA, the Office of the Consumer Protection Board, and the National Broadcasting and Telecommunications Commission in order to protect children from the unhealthy effects of overconsumption of HFSS and SSB.

# Acknowledgement

# Childhood Overweight and Obesity (COO) Policy Research Project is funded by the Thai Health Promotion Foundation (ThaiHealth).

### References

- 1) Aekplakorn W, Mosuwan L, Ruangdarakanon N, Chanarong P, Sathiennoppaklao P, & et al. (2009). National Health Examination Survey 2009 (Wichai Aekplakorn Ed.). Nonthaburi: National Health Examination Survey office and Health Systems Research Institute.
- 2) Canadian Pediatric Society. (2003). Impact of media use on children and youth. Paediatr Child Health, 8(5), 301-306.
- 3) Phulkerd S, et al. (2020). Childhooh Overweight and Obesity (COO) Policy Research Project. Nakorn Prathom: Institue for Population and Social research.
  4) Jaichuen N, and Media Monitor. Food and Beverages Advertising on Children's Television Programs: a Loophole and Control Crisis. Journal of Health Systems Research, 10(4) Oct-Dec: 377-393.
- 5) Jaichuen N, Vongmongkol V, Suphanchaimat R, Sasiwatpaisit N, Tangcharoensathien V. Food Marketing in Facebook to Thai Children and Youth: An Assessment of the Efficacy of Thai Regulations. Int J Environ Res Public Health. 2019;16(7):1204. Published 2019 Apr 3. doi:10.3390/jieprh16071204. 6) Sisson SB, Broyles ST, Robledo C, Boeckman L, Leyva M. Television viewing and variations in energy intake in adults and children in the USA. Public Health Nutrition. 2012;15(4):609–1.
- 7) Aoybumrung D. Dessert advertising for children or for whom? Dissemination and Public Relations Division, Office of the Consumer Protection Board; (n.d.). (in Thai)
- 8) Boyland EJ, Harrold JA, Dovey TM, Allison M, Dobson S, Jacobs MC, Halford JC. Food choice and overconsumption: effect of a premium sports celebrity endorser. J Pediatr. 2013 Aug;163(2):339-43. doi: 10.1016/j.jpeds.2013.01.059. Epub 2013 Mar 13. PMID: 23490037.
- 9) Jaichuen N, Phonsuk P, Phulkerd S, Chaisong S, Thamarangsi T. Brand Recall Brand name logo recognition by school children in Prathom 6. Journal of Health Systems Research, 6(1) Jan-Mar: 72-85.
- 10) Boyland EJ, Halford JC. Television advertising and branding. Effects on eating behaviour and food preferences in children. Appetite. 2013 Mar; 62: 236-41. doi: 10.1016/j.appet.2012.01.032. Epub 2012 Mar 12. PMID: 22421053.
- 11) Forman L, Halford JC, Summe H, MacDougall M, Keller KL. Food branding influences ad libitum intake differently in children depending on weight status. Results of a pilot study. Appetite. 2009;53(1):76-83.
- 12) Arredondo E, Castaneda D, Elder JP, Slymen D, Dozier D. Brand name logo recognition of fast food and healthy food among children. Community Health. 2009;34(1):73-8.

  13) Jidjang U. Snack and dessert consumption of children 3-15 years old. Final report. The Institute of Nutrition, Mahidol University, Sweet Enough
- Networks and Thai Health Promotion Foundation; 2004. (in Thai)

  14) World Health Organization. (2020). Obesity and overweight (fact sheet). Retrieved 7 May 2020, from World Health Organization
- https://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight

  15) Brown, V., Ananthapavan, J., Veerman, L., Sacks, G., Lal, A., Peeters, A., Backholer, K & Moodie, M. (2018). The Potential Cost-Effectiveness and Equity Impacts of Restricting Television Advertising of Unhealthy Food and Beverages to Australian Children. Nutrients, 10(5), 622. doi:10.3390/nu10050672.
- 16) Announcement of the Food and Drug Administration Re: Regulations on Food Advertising (2018)
- 17) Lacoste-Badie S, Minvielle M, Droulers O. Attention to food health warnings in children's advertising: a French perspective. *Public Health*. 2019 Aug; 173:69-74. doi: 10.1016/j.puhe.2019.05.012. Epub 2019 Jun 27. PMID: 31254680.
- 18) Schillinger D, Jacobson MF. Science and Public Health on Trial: Warning Notices on Advertisements for Sugary Drinks. JAMA. 2016 Oct 18;316(15):1545-1546. doi: 10.1001/jama.2016.10516. Erratum in: JAMA. 2016 Sep 27;316(12):1319. PMID: 27479332.

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# Limiting portion sizes of packaged snacks and sugar-sweetened beverages: A way to tackle overweight and obesity in Thai children



Based on a survey in 2018, one out of two Thai children age 12 years drank sugar-sweetened beverages more than twice per day and 1-3 days per week. Two out of three children ate packaged snacks twice per day, every day.1

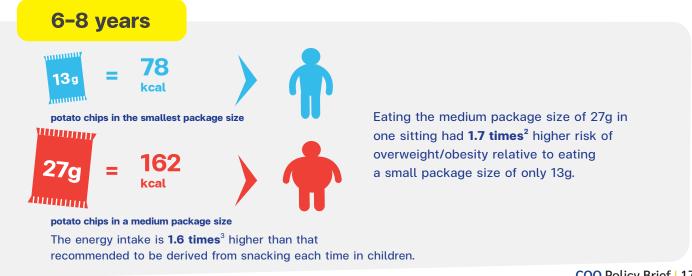


Results from a survey in 2020 revealed that 46.3 and 57.9 percent of parents of children age 3-5 years often gave their children sugar-sweetened beverages and packaged snacks, respectively.2

# Servings of packaged snacks and sugar-sweetened beverages sold in the market are too big for children.

The vast majority of the packages of snacks and sugar-sweetened beverages available in the Thai market contain adult-size portions. When parents share these snacks or beverages with children, or when children buy these products by themselves in large-package sizes, overconsumption is likely to occur. In addition, when parents buy these items in family-sized packs (out of a desire to economize and share among family members), there is a tendency to over-consume, especially among younger members of the family, thus contributing to childhood overweight and obesity.3

The larger the package size of snacks and sugar-sweetened beverages, the greater the intake, thus increasing the risk of overweight and obesity in children.



# **9-14** years

410ml bottle of soft drink





The amount of sugar is **4 times** higher than that recommenced for children derived from beverages each time<sup>4</sup>.





Children who were accustomed to drinking a 410ml bottle of soft drink at a single sitting were **1.4 times**<sup>2</sup> more likely to be overweight/obese than those who were satisfied with a 245ml portion – the smallest container size of soft drink available in the Thai market.

Prepare and serve your child with healthier and lower-energy snacks and drinks. Examples of these snacks and drinks include fruits, root vegetables (e.g. steamed pumpkin and sweet potatoes), nuts, grains (e.g. corn and millet), plain dairy milk, plain yogurt, and soymilk.

For children under 6 years of age, parents should restrict consumption of high-energy, packaged snacks and artificially-sweetened soft drinks

For children age 6 years or older, parents should provide them with correct guidance. If children want to buy these food and beverage items themselves, they can do so. However, they should limit eating or drinking packaged snacks and sweetened soft drinks once a day, and only 1-2 days per week, maximum.

Avoid buying large or 'family' sizes of high-energy, packaged snacks and sweetened soft drinks, or letting your child over-consume your purchase of these snacks and beverages.

The smallest package size of high-energy snacks and soft drinks available in the Thai market today is the only size that is suitable for school-age children (6-12 years), and preference for the smaller package size could help prevent childhood overweight and obesity. High-energy snacks and soft drinks which are targeted for children should be packaged in containers at the approximate sizes of 13g and 200ml, respectively.

In a situation where sharing these snacks and beverage items between adults and children (or between children themselves) is unavoidable, then parents should limit intake of high-energy, packaged snacks and sweetened soft drinks by children. For the high-energy, packaged snacks, one serving size for children is approximately 13g (equal to an adult handful). For sweetened soft drinks, a child's portion is approximately equal to one glass (200ml). One of the tips and tricks that can help reduce a portion size consumed by children is to put these snacks and Soft drinks in a small container. In addition, parents should have separate containers for adults and children for these items so that parents can monitor the intake by children



Recommendations for parents to limit portion sizes in children

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## References

- 1) Bureau of Dental Health, Department of Health. Report of the  $8^{th}$  survey on national oral health (in Thai). Retrieved on December  $10^{th}$ , 2020, from http://hp.anamai.moph.go.th/ewtadmin/ewt/dental/more\_news.php?cid=273&filename=index
- Sujaritpong, S., et al. (2020). Individual and environmental factors affecting childhood overweight and obesity which potentially contributing to
  obesity prevention policies in Thailand. Nakonpathom: Institute for Population and Social Research, Mahidol University.
- 3) Aerts, G., & Smits, T. (2017). The package size effect: How package size affects young children's consumption of snacks differing in sweetness. Food Quality and Preference, 60, 72–80. https://doi.org/https://doi.org/10.1016/j.foodqual.2017.03.0153.
- 4) The Project on Pilotting Provincial Networks for Driving Public Policy on Food and Nutrition for Thai Children to Have Proper Nutritional Status Guidebook on Provision of Foods, Snacks, Milk and Beverages According to Nutritional Standards (second trial version) (in Thai). (2017). National Office of Buddhism Prinintg Plant.

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