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SEAMEO RECFON

AWESOME

SOUTHEAST ASIAN MAGAZINE ON FOOD AND NUTRITION

**Prevention and management
of adolescent obesity
in school setting**

Are schools supporting
kids to be fat? | p.11

Stop the stigma: better ways to
talk about healthy weight with
children and teenagers | p.1



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CONTENTS

ii	Director's Message
	Articles
1	Stop the stigma: better ways to talk about healthy weight with children and teenagers by Yessi Crosita Octaria
3	Understanding the broader complications of adolescent obesity by Chu Shan Elaine Chew
9	Empowering teenage girls as change agents for health and nutrition improvement in Indonesia by Garin Megan Pangestika
11	Are schools supporting kids to be fat? by Levina Chandra Khoe
13	Review of efforts or policy implementation in terms of obesity prevention and management among adolescents by Liew Jia yii, Nur Ayuni binti Udin
17	Interview with Expert: Fighting adolescent obesity through school-based interventions with Prof. Aryono Hendrarto, MD, Ph.D., MPH
	Opinion
19	Obesity in the Minds of School Adolescents in Southeast Asia
	Special Column
23	Flavors for the Mind
25	NGTS and ECCNE News Corner
	Infographics
7	Boba Milk Tea: Sweet yet Risky
16	Good Food, Good Mood
22	Obesity and Covid-19 Pandemic

Director's Message

Dear Readers,

Our magazine's maiden issue last year brought us pride and fulfillment in providing you with relevant and easy to understand information about stunting and ways to prevent it based on research results. We would like to believe that you learned a lot about stunting and the importance of addressing it from pre-natal to early childhood stages of life.

For our second issue this year, we are tackling another nutrition problem that is now becoming a serious concern as the number of cases worldwide is on the increasing trend especially among adolescents. I am referring to obesity.

Obesity has been considered as a major risk factor of chronic non communicable diseases such as diabetes mellitus and cardiovascular disorders in adulthood. In Indonesia alone, the lastest Basic Health Research conducted in 2018 showed that 16% and 13.5% of adolescents aged 13-15 and 16-18, respectively were considered obese. Thus, it is important to educate this age group about healthy living to avoid becoming obese.

We have lined up insightful articles and infographics for you in this issue that explain about the health implications of obesity, the stigma it creates, and the role of schools and parents to advocate obesity prevention among school-aged children. You might also be interested to know the advice from a medical expert and the opinions of school adolescents from various countries in Southeast Asia about obesity and what they can do help address it.

In this issue, we are also introducing a new column by one of our research assistants that would regularly feature some tips on various food and nutrition topics related to the magazine theme. The column is called Flavors of the Mind.

Please enjoy reading our magazine and share it to your colleagues and family members, too.

Thank you.

Prof. dr. Muchtaruddin Mansyur, PhD

Stop the stigma: better ways to talk about healthy weight with children and teenagers

by Yessi Crosita Octaria
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The number of Indonesian children and adolescents with overweight and obesity has been increasing over the years. However, we have not yet built a comprehensive strategy to tackle this problem. Among the many programs regarding obesity prevention, we haven't touched on the sensitive weight stigma issue,¹ even though Indonesian study on the social media campaign for nutrition among adolescent girls showed that study participants preferred a more positive framing on nutrition education messages.²

The latest Indonesian Basic Health Research (Riskesdas) in 2018 showed that one out of five children aged 5-12 is overweight or obese, while the prevalence of overweight or obesity for adolescents aged 13-15 and 16-18 was 16% and 13.5%, respectively.³ It is widely known that overweight and obesity are drivers for future chronic non-communicable diseases such as diabetes mellitus and chronic cardiovascular diseases in adulthood.⁴ In addition, it has also been established as a risk factor for increasing severe symptoms of infectious diseases such as COVID-19 infection, which is linked to impaired immune system and decrease in lung capacity.⁵ Weight stigma has been acknowledged

as an emerging global problem; this problem raises in parallel to the worldwide increase in overweight and obesity. Weight stigma can be linked to the blame and shame public health campaigns strategy.⁶ We often portray obesity as a matter of personal responsibility and base our assessment solely on body size, leading to the stigmatization of people with

can lead to binge eating, social isolation, avoidance of health care services, decreased physical activity, and increased weight gain, which worsen the obesity and create additional barriers to healthy behavior change in children.⁷

In our research regarding social media campaign for nutrition education, adolescent girls mentioned that the messages should focus on a healthy lifestyle and promote body acceptance rather than conform to ideal body shape.² In school settings, teachers are reluctant to discuss their students' nutrition problems, stating that body shape is largely genetics,⁸ indicating that they were not well equipped to talk about healthy weight. While on the other hand, a study among

adolescents showed that correctly identified one's body weight as overweight is an essential driver for reduced intake of unhealthy foods but may not necessarily promote healthy eating in girls.⁹



larger body or weight stigma. While, in reality, obesity is a complex problem of excessive adiposity deep-seated in genetic, physiological, psychosocial, and environmental factors, thus needs systemic intervention.

Stigmatization of obesity as a personal fault on top of toxic beauty standards of ideal body shape is dangerous. It can lead to various mental health issues and eating disorders. In addition, for those with a larger body, such stigma

This evidence from Indonesia should be a wake-up call for us that overweight and obesity is an emerging problem among children and adolescents. We need to have healthier conversations on healthy weight and body image. As

mentioned earlier, the key to preventing weight stigma is acknowledging that obesity is a complex genetic, physiological, psychosocial, and environmental-related problem. Henceforward, we need to empower the children and adolescents with weight problems and their environment. It is done by educating and equipping peers, teachers, and parents on talking about a healthy body in a healthier way.

But how are we going to do this? Teachers, parents, and peers should be supportive, focus on the strengths, and help build the self-esteem of the children or adolescents with obesity by encouraging their interests rather than pointing out their weight problems. Schools should educate children and adolescents on empathy and acceptance by preventing body-shaming. Teachers, parents, and peers can be role models or guardian angels for healthy behaviors, especially in terms of nutrition and exercise. It requires us to focus on the process rather than the result and reward

incremental but consistent changes. Teachers and the school can consider making healthy eating and physical activity a school-wide affair, by providing healthier food alternatives in the canteen and around the schools and increasing physical activity time during school hours.

Nutrition education for peers, teachers, and parents regarding obesity should include the skills to identify nutrition problems, ask consent from the child or adolescent to talk about their weight, converse about healthy weight, advise on healthy ways to address the issue, refer to health care facility whenever necessary, and follow-up after the referral to health care facilities. Health care professionals must be able to manage overweight and obesity problems and avoid weight bias in clinical settings. The nutrition campaign should focus on lifestyle changes such as healthier eating habits, increased physical activity, and a healthier food environment at home and school and not on the weight problem per se.

Current programs in Indonesia such as "GERMAS", "PHBS", and "GENTAS" campaigns have focused on these lifestyle changes. However, they have not touched on the sensitive issue of talking about healthy weight that will not heighten the weight stigma. This current approach, complemented with a more comprehensive take on how to talk about healthy weight in healthier ways, will lead us to a better path in halting the obesity epidemic among children and adolescents.

Glossary

- GERMAS = Gerakan Masyarakat Hidup Sehat (Community Movement for Healthier Life)
PHBS = Perilaku Hidup Bersih dan Sehat (Healthy and Hygienic Lifestyle)
GENTAS = Gerakan Berantas Obesitas (Movement to Eradicate Obesity)

Resources:

1. Kementerian Kesehatan RI. Panduan Pelaksanaan Gerakan Nusantara Tekan Angka Obesitas (GENTAS). [Http://P2PtmKemkes.go.id/Dokumen-Ptm/Panduan-Gentas](http://P2PtmKemkes.go.id/Dokumen-Ptm/Panduan-Gentas). Published online 2017:6-16. <http://p2ptm.kemkes.go.id/dokumen-ptm/panduan-gentas>
2. Januraga PP, Izwardi D, Crosita Y, et al. Qualitative evaluation of a social media campaign to improve healthy food habits among urban adolescent females in Indonesia. *Public Health Nutr.* 2020;24:98-107. doi:10.1017/S1368980020002992
3. Ministry of Health RI;Kementerian Kesehatan RI Badan Penelitian dan Pengembangan Kesehatan. Laporan Nasional RISKESDAS 2018, 2019.
4. Di Cesare M, Sorić M, Bovet P, et al. The epidemiological burden of obesity in childhood: A worldwide epidemic requiring urgent action. *BMC Med.* 2019;17(1):1-20. doi:10.1186/s12916-019-1449-8
5. Popkin BM, Du S, Green WD, et al. Individuals with obesity and COVID-19: A global perspective on the epidemiology and biological relationships. *Obes Rev.* 2020;21(11):1-17. doi:10.1111/obr.13128
6. Brewis A, Sturtzsreetharan C, Wutich A. Obesity stigma as a globalizing health challenge. *Global Health.* 2018;14(20):1-6.
7. Pont S, Puhl R, Cook S, et al. AAP Section on Obesity, Stigma Experienced by Children and Adolescent with Obesity. *Pediatrics.* 2017;140(6).
8. Octaria Y, Apriningsih A, Dwiriani CM, Februhartanty J. School readiness to adopt a school-based adolescent nutrition intervention in urban Indonesia. *Public Health Nutr.* Published online 2020:1-12. doi:10.1017/S1368980020001299
9. Niswah I, Rah JH. The Association of Body Image Perception With Dietary and Physical Activity Behaviors Among Adolescents in Indonesia. 2021;42. doi:10.1177/0379572120977452

Understanding the broader complications of adolescent obesity

by Chu Shan Elaine Chew

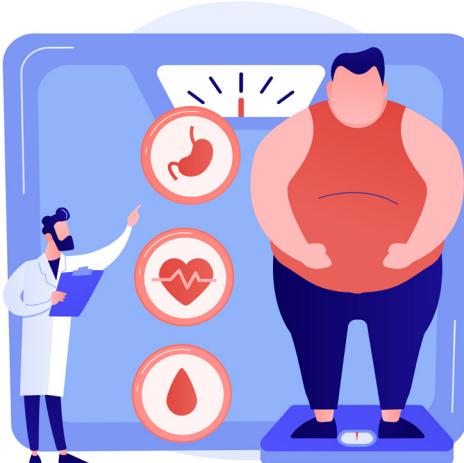
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The prevalence of adolescent obesity has risen rapidly in Southeast Asia over the last 10-15 years¹ with its associated complications. In addition to understanding the physical and psychological health consequences of obesity, it is necessary to recognize the wider psychosocial consequences of adolescent obesity by appreciating the broader context of an adolescent's circumstances.

Seeing the adolescent in context

Adolescence is a phase of life influenced by interactions between prenatal and early childhood development and the specific biological and social-role changes associated with puberty. It is also shaped by wider social determinants, as well as individual risk and protective factors that impact health-related behaviours. Being aware of these complex interactions and adopting a life-course perspective can help better understand an adolescent with obesity.

Various social determinants of health and access to quality healthcare can directly impact health outcomes.² Lower socioeconomic status affects obesity prevalence, with a greater number of children affected from low- and middle-income countries, than high-income countries. However, in high-income countries,



those from lower socioeconomic groups are most affected.¹ Certain ethnic groups are also disproportionately affected by obesity due to numerous factors, including genetic predisposition, socioeconomic and cultural factors. For example, in Singapore, Malays (20.7%) and Indians (14.0%) have higher rates of obesity compared to Chinese (5.9%).

Thus, when addressing adolescent obesity, it is critical to consider the influence of communities, wider societal and cultural considerations, and the role of families.³ Many factors can impact people's engagement with health services when addressing weight issues, including the experience of weight stigma, negative experiences with healthcare

services, adverse childhood events, and parental reluctance to identify overweight.^{4,5} Both adolescents and families seeking support from healthcare services for weight issues commonly experience frustration and criticism from providers. Furthermore, healthcare providers may be reluctant to engage in weight-related conversations due to a lack of training and confidence. This lack of training may increase the risk of weight stigma in health care services.

The ongoing COVID-19 pandemic has increased unhealthy lifestyle behaviours, worsening adolescent obesity and its associated consequences.⁶ The pandemic has also reduced access to healthcare, resulting in some groups being less likely to access obesity-related health care and thus increasing the risk of obesity-related consequences.

All these factors are critical to consider when working with individuals affected by obesity, as the ability of the family unit and individual to address obesity and its associated consequences is influenced by a broader context. Understanding this context and the complexity of the development of obesity will help those working with families and adolescents with obesity adopt a non-stigmatizing, non-blaming stance.

Consequences of childhood and adolescent obesity

Weight-related comorbidities and adolescent obesity can affect almost every organ system.⁷⁻¹¹ These complications, which were previously thought to happen in adulthood after long-term obesity, have now been shown to occur in children and adolescents. Medical consequences of obesity include hypertension, diabetes and insulin resistance, dyslipidemia, impaired respiratory function including sleep-disordered breathing and obstructive sleep apnea, polycystic ovarian syndrome, liver dysfunction, renal impairment, dental caries, and orthopedic/mobility issues.¹² Psychological consequences may be far-reaching, including negative self-image, poor self-esteem, and psychological difficulties.^{11, 13, 14} The common consequences of adolescent obesity are medical and psychological, with complications listed in Box One.

Medical consequences of childhood and adolescent obesity

Our published study of a pediatric weight management program found that 68% of the patients had already developed at least one obesity-related comorbidity, with dyslipidemia (elevation of high cholesterol levels) being the most common. Screening for and awareness of obesity-related comorbidities is essential as many of these comorbidities do not have signs and symptoms. The presence of obesity-related comorbidities predicted a lower attrition rate in our weight management clinic audit¹⁵ which may suggest better engagement with weight-related intervention, further adding to the

Cardiovascular	Atherosclerosis Hypertension Dyslipidemia	in triglycerides (TG) and reduction in high-density lipoprotein cholesterol (HDL). ¹⁸
Endocrine	Type 2 diabetes mellitus Polycystic ovarian syndrome	Endocrine
Respiratory	Obstructive sleep apnea Asthma	1. Type 2 diabetes mellitus
Orthopedic	Flat feet Musculoskeletal pain, especially of lower limbs	The most important risk factor for type 2 diabetes mellitus in childhood and adolescence is obesity. ⁷
Gastrointestinal	Non-alcoholic fatty liver disease (NAFLD)	Both impaired fasting glucose and impaired glucose tolerance are considered pre-diabetes states. ¹⁹ However, adolescents with obesity show signs of glucose dysregulation (glucose intolerance and/or abnormal fasting glucose) ¹⁹ and are more likely to have impaired insulin clearance. ²⁰ These findings place them at higher risk for progression to type 2 diabetes mellitus. Some of the risk factors for diabetes include a family history of type 2 diabetes or gestational diabetes, ethnicity, signs of insulin resistance—acanthosis nigricans, and other obesity-related conditions. ²¹ In Singapore, Malay children bear a disproportionate burden of type 2 diabetes mellitus than the Chinese population. ²²
Dermatologic	Heat rash/intolerance Skin infections Striae Acanthosis nigricans	
Psychological	Low self-esteem Poorer health-related quality of life Bullying Depression Anxiety Disordered eating behavior	

Box One. Medical and psychological complications of child and adolescent obesity.

value of screening.
Cardiovascular

Overweight and obesity during adolescence are strongly associated with increased cardiovascular mortality in adulthood.¹⁶ Furthermore, adolescents with obesity were found to be five times more likely to die from coronary heart disease when compared with normal-weight peers.¹⁶

Atherosclerosis development can begin in childhood and be worsened by hypertension, dyslipidemia, type 2 diabetes mellitus, and obesity. Obesity is the most common cause identified for hypertension in children.¹² Adolescents with obesity are at approximately three times higher risk of hypertension than normal-weight adolescents.¹⁷

Dyslipidemia can occur in adolescents with obesity with a risk of accelerating atherosclerosis due to an increase

2. Puberty and polycystic ovarian syndrome

Overweight and obesity can often drive early puberty in girls.⁷ Other effects of obesity in young women include fertility, menstrual irregularities, and polycystic ovarian syndrome (PCOS).⁷ Obesity is frequently associated with the polycystic ovarian syndrome (PCOS) with insulin resistance.²³ Signs include hirsutism, dysmenorrhea, and acne.²³ Screening for PCOS in adolescent women with obesity is thus an important aspect of addressing weight-related comorbidities.²⁴

Respiratory

1. Obstructive sleep apnea

Obstructive sleep apnea (OSA), a disorder of breathing leading to partial obstruction of the airways and interruption of sleep, can be accompanied by habitual snoring, sleep difficulties, and/or behavioral difficulties.²⁵ OSA affects approximately 30% of children with obesity.²⁶ Obstructive sleep apnea can further increase risk of cardiovascular morbidity and worsen the behavioral difficulties in an adolescent with obesity.²⁵

2. Asthma and decreased exercise tolerance

The development of asthma can limit exercise tolerance in children and adolescents with obesity, further impacting physical activity.²⁰ Adolescents with obesity have been found to have an increased risk of asthma compared to their normal-weight peers.²⁷

Orthopedic, musculoskeletal discomfort, and mobility issues

Many of the complications of obesity are secondary to the increased mechanical load on the body, which affects mobility.⁷ Common physical consequences include slipped capital epiphysis, Blount disease (idiopathic tibia vara), tibial torsion, flat feet (pes planus), ankle sprains, and increased risk of fractures.⁷ Back, hip, knee, and foot pain are common compared with normal-weight peers 2 to 19 years old. Musculoskeletal pain results in impaired mobility, reduced physical activity, and weight gain.²⁸

Gastrointestinal

1. Liver dysfunction

Non-alcoholic fatty liver disease (NAFLD) is due to excess fat accumulation in the liver and is associated with obesity, although adolescents with NAFLD are

commonly asymptomatic.²⁹ NAFLD progresses from steatosis to non-alcoholic steatohepatitis, fibrosis, and ultimately cirrhosis requiring liver transplantation in adulthood. Adolescents with type 2 diabetes mellitus are at increased risk of developing NAFLD.³⁰

Dermatologic

1. Acanthosis nigricans

Acanthosis nigricans is characterized by darkened, thickened skin with a velvety texture and usually commences as dark pigmentation. It commonly occurs on the back of the neck and in the axillae. It occurs because of insulin resistance.

2. Heat rash/intolerance and skin infections

Children and adolescents with obesity have a higher core temperature as adipose tissue is a good insulator of heat and reduces heat dissipation.³¹ This characteristic causes more heat intolerance, sweating, and perceptions of discomfort from physical activity.³² Such discomfort may lead to a reluctance to participate in physical activity or early discontinuation of participation. Excessive sweating can contribute to heat rash and body odor and increases the risk of skin infections, especially in between the skin folds.

3. Striae

Striae distensae, more commonly known as stretch marks, are common in adolescents with obesity. They usually occur during puberty and rapid weight gain and can be found over the abdomen and hips, thighs, breasts, and buttocks.³¹

Psychological and psychosocial consequences of childhood and adolescent obesity

Adolescents with obesity may exhibit many psychological and psychosocial consequences of weight issues, including low self-esteem, poor

health-related quality of life, disordered eating, and bullying.¹¹

1. Stigmatization, stereotypes, and being bullied

Children, adolescents, and their families seeking support intervention programs experience weight stigma and discrimination and previous negative experiences in the healthcare system due to their weight.⁴

Obesity predicts an increased risk of being bullied for both boys and girls.^{33,34} Being the victim of bullying further increases the risk of psychological conditions in an adolescent with obesity.³⁴

2. Depression

Youths seeking medical treatment for obesity have higher rates of depression³⁵, which may affect an individual's ability to engage and implement healthy lifestyle change recommendations leading to worsening weight status and subsequent consequences.

3. Disordered eating behavior

Obesity in childhood is associated with eating disorders such as excessive shape and weight concerns, dieting, and binge eating.³⁶ Parents have reported comfort eating and excessive hunger in over 60% of one cohort of children and adolescents with overweight or obesity.³⁷

Conclusion

Adolescents with obesity may experience broad medical and psychological consequences, which often go unrecognized. Understanding the adolescent's environment and wider context with physical and psychological assessment will help determine the level and nature of support required to manage weight-related comorbidities and achieve healthy lifestyle change. Approaching the family non-judgmentally with respect and compassion is important in ensuring access and appropriateness of services, irrespective of background, ethnicity, and family context.

Resources:

1. World Health O. Report of the Commission on Ending Childhood Obesity. Geneva; 2016.
2. Commission on Social Determinants of H. Closing the gap in a generation: health equity through action on the social determinants of health. Final Report of the Commission on Social Determinants of Health. 2008.
3. Gluckman P, Nishtar S, Armstrong T, Gluckman P, Nishtar S, Armstrong T. Ending childhood obesity: a multidimensional challenge. *Lancet*. 2015;385(9973):1048-50.
4. Wild CEK, Rawiri N, Willing EJ, Hofman PL, Anderson YC. Determining barriers and facilitators to engagement for families in a family-based multicomponent healthy lifestyles intervention for children and adolescents: a qualitative study. *BMJ Open*. 2020;10(e037152).
5. Kelleher E, Davoren MP, Harrington JM, Shiely F, Perry IJ, M S, et al. Barriers and facilitators to initial and continued attendance at community-based lifestyle programmes among families of overweight and obese children: a systematic review. *Obes Rev*. 2017;18:183-94.
6. Almazan JP, Xie L, Schellinger JN, Mathew MS, Gazda C, Ofori A, et al. Impact of COVID-19 stay-at-home orders on weight-related behaviours among patients with obesity. *Clinical Obesity*. 2020(1758-8111 (Electronic)).
7. Lobstein T, Baur L, Uauy R, TaskForce IIO. Obesity in children and young people: a crisis in public health. *Obesity Reviews*. 2004;5(Suppl 1):4-85.
8. Lakshman R, Elks CE, Ong KK. Childhood obesity. *Circulation*. 2012;126(14):1770-9.
9. Han JC, Lawlor DA, Kimm SY. Childhood obesity. *Lancet*. 2010;375(9727):1737-48.
10. Ebbeling CB, Pawlak DB, Ludwig DS. Childhood obesity: public-health crisis, common sense cure. *The Lancet*. 2002;360(9331):473-82.
11. Must A, Strauss RS. Risks and consequences of childhood and adolescent obesity. *International Journal of Obesity & Related Metabolic Disorders: Journal of the International Association for the Study of Obesity*. 1999;23(Suppl 2):S2-11.
12. Barness LA, Opitz JM, Gilbert-Barness E. Obesity: Genetic, molecular, and environmental aspects. *American Journal of Medical Genetics Part A*. 2007;143A(24):3016-34.
13. Williams J, Wake M, Hesketh K, Maher E, Waters E. Health-related quality of life of overweight and obese children. *JAMA*. 2005;293(1):70-6.
14. Anderson YC, Wynter LE, Treves KF, Grant CC, Stewart JM, Cave TL, et al. Assessment of health-related quality of life and psychological well-being of children and adolescents with obesity enrolled in a New Zealand community-based intervention programme: an observational study. *BMJ Open*. 2017;7(8):e0105776-e.
15. WJN Hong H, KRajasegaran, JYOh, S Kelly, SE Saffari and CSE Chew. Presence of Obesity Related Comorbidities Associated with Lower Attrition Rate in Pediatric Weight Management Program. *Journal of Childhood Obesity*. 2017;2(2:10).
16. Twig G, Yaniv G, Levine H, Leiba A, Goldberger N, Derazne E, et al. Body-Mass Index in 2.3 Million Adolescents and Cardiovascular Death in Adulthood. *New England Journal of Medicine*. 2016.
17. Sorof J, Daniels S. Obesity hypertension in children: a problem of epidemic proportions. *Hypertension*. 2002;40(4):441-7.
18. Expert panel on integrated guidelines for cardiovascular h, risk reduction in c, adolescents, National Heart L, Blood I. Expert panel on integrated guidelines for cardiovascular health and risk reduction in children and adolescents: summary report. *Pediatrics*. 2011;128(Suppl 5):S213-56.
19. Bacha F, Lee S, Gungor N, Arslanian SA. From pre-diabetes to type 2 diabetes in obese youth: pathophysiological characteristics along the spectrum of glucose dysregulation. *Diabetes care*. 2010;33(10):2225-31.
20. Bergman RN. Pathogenesis and prediction of diabetes mellitus: lessons from integrative physiology. *Mount Sinai Journal of Medicine*. 2002;69(5):280-90.
21. Peña AS, Curran JA, Fuery M, George C, Jefferies CA, Loble K, et al. Screening, assessment and management of type 2 diabetes mellitus in children and adolescents: Australasian Paediatric Endocrine Group guidelines. *Medical Journal of Australia*. 2020;213(1):30-43.
22. Phan TP, Alkema L, Tai ES, Tan KHX, Yang Q, Lim W-Y, et al. Forecasting the burden of type 2 diabetes in Singapore using a demographic epidemiological model of Singapore. *BMJ Open Diabetes Research & Care*. 2014;2(1):e000012.
23. Whitaker KN. Polycystic ovary syndrome: an overview. *Journal of Pharmacy Practice*. 2011;24(1):94-101.
24. Barlow SE, Expert C. Expert committee recommendations regarding the prevention, assessment, and treatment of child and adolescent overweight and obesity: summary report. *Pediatrics*. 2007;120(Suppl 4):S164-92.
25. Nespoli L, Caprioglio A, Brunetti L, Nosetti L. Obstructive sleep apnea syndrome in childhood. Early human development. 2013;89(Suppl 3):S33-7.
26. Wing YK, Hui SH, Pak WM, Ho CK, Cheung A, Li AM, et al. A controlled study of sleep related disordered breathing in obese children. *Archives of Disease in Childhood*. 2003;88(12):1043-7.
27. Rodriguez MA, Winkleby MA, Ahn D, Sundquist J, Kraemer HC. Identification of population subgroups of children and adolescents with high asthma prevalence: findings from the Third National Health and Nutrition Examination Survey. *Archives of Pediatrics & Adolescent Medicine*. 2002;156(3):269-75.
28. Smith SM, Sumar B, Dixon KA. Musculoskeletal pain in overweight and obese children. *Int J Obes (Lond)*. 2014;38(1):11-5.
29. Vos MB, Abrams SH, Barlow SE, Caprio S, Daniels SR, Kohli R, et al. NASPGHAN Clinical Practice Guideline for the Diagnosis and Treatment of Nonalcoholic Fatty Liver Disease in Children: Recommendations from the Expert Committee on NAFLD (ECON) and the North American Society of Pediatric Gastroenterology, Hepatology and Nutrition. *Journal of Pediatric Gastroenterology & Nutrition*. 2017;64(2):319-34.
30. Nadeau KJ, Klingensmith G, Zeitler P. Type 2 diabetes in children is frequently associated with elevated alanine aminotransferase. *J Pediatr Gastroenterol Nutr*. 2005;41.
31. Yosipovitch G, DeVore A, Dawn A. Obesity and the skin: skin physiology and skin manifestations of obesity. *J Am Acad Dermatol*. 2007;56(6):901-16; quiz 17-20.
32. Nino M, Franzese A, Ruggiero Perrino N, Balato N. The effect of obesity on skin disease and epidermal permeability barrier status in children. *Pediatr Dermatol*. 2012;29(5):567-70.
33. Griffiths LJ, Wolke D, Page AS, Horwood JP. Obesity and bullying: different effects for boys and girls. *Archives of Disease in Childhood*. 2006;91(2):121.
34. van Geel M, Vedder P, Tanilon J. Are overweight and obese youths more often bullied by their peers? A meta-analysis on the correlation between weight status and bullying. *Int J Obes (Lond)*. 2014;38(10):1263-7.
35. Dreyer ML, Egan AM. Psychosocial functioning and its impact on implementing behavioral interventions for childhood obesity. *Progress in Pediatric Cardiology*. 2008;25(2):159-66.
36. Goldschmidt AB, Aspen VP, Sinton MM, Tanofsky-Kraff M, Wilfley DE. Disordered eating attitudes and behaviors in overweight youth. *Obesity (Silver Spring)*. 2008;16(2):257-64.
37. Anderson YC, Wynter LE, Butler M, Grant CC, Stewart JM, Cave TL, et al. Dietary Intake and Eating Behaviours of Obese New Zealand Children and Adolescents Enrolled in a Community-Based Intervention Programme. *PLoS ONE*. 2016;11(11): e0.

Boba Milk Tea: Sweet yet Risky?

- > Boba milk tea, or called bubble tea, is a popular drink that is widely consumed in Asia and other parts of the world.
- > This drink is made from milk, tea, and additional toppings such as pearls, processed from tapioca that have undergone a flavoring process with massive sugar.
- > The rich sweet flavor, combined with other fresh toppings, is the perfect combination to become everyone's favorite—especially among adolescents.



BUBBLE TEA CONSUMPTION IN SEA COUNTRIES



Note: Average bubble tea consumption by cups per person per month.

Why do people consume it so willingly?

Bubble tea is packaged into a **viral food trend** that is very appealing to younger consumers.



Does it pose some health risk?

The calories included in bubble tea offer **less satiety** and **little to no nutritional value** than solid food.



Overconsumption of boba leads to **unhealthy weight gain**, and contribute to higher rates of overweight -> greater risk for obesity-related chronic diseases, such as hypertension, dyslipidemia, and type-2 diabetes.

Some popular bubble tea brands in Singapore:



Brown Sugar
Boba Milk Tea

18,5x tsps

Bubble
Milk Tea

20,5x tsps



Daily sugar intake recommendation*:

Adult
8x tsps



Children
5x tsps



*according to 2015 US Dietary Guidelines Advisory Committee

What can people do to lessen the obesity risk while enjoying boba?

- > Let's **control your cravings** and have a **moderate consumption of bubble teas**
- > Choose **less sugar option**, select boba tea **without any milk added**, and **leave out the sweet toppings!**



References:

- Min JE, Green DB, Kim L. Calories and sugars in boba milk tea: implications for obesity risk in Asian Pacific Islanders. *Food Sci Nutr*. 2016;5(1):38-45. doi:10.1002/fsn3.362
Yim P, Lee M. Bubble tea craze on GrabFood! [Internet]. Location unknown: Grab; 2019 Mar [cited 2021 Aug]. Available from: <https://engineering.grab.com/bubble-tea-craze-on-grabfood>
Teng NIMF, Juliana N, Izlin NL, Semaon NZ. Knowledge, attitude and practices of sugar-sweetened beverages: a cross-sectional study among adolescents in Selangor, Malaysia. *Nutrients*. 2020 Nov;12:3617.

Empowering teenage girls as change agents for health and nutrition improvement in indonesia

by **Garin Megan Pangestika**
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If we want to find out what our world would look like in the future, then we would talk about our current generation of adolescents. Adolescence is a unique period in our lives in which significant physical and developmental changes occur that are greater than those of any other life cycle period. These changes include a growth spurt in height and weight, which can significantly affect nutritional needs. According to

WHO, approximately 20 % of the Southeast Asian population consists of adolescents whose nutritional needs are crucial for the future well-being of any country. Thus, supporting good nutrition during this phase is critical to prevent adult onset of nutrition-related diseases.

According to the 2018 Global Nutrition Report, 20% of primary school-aged children and about 15% of adolescents are obese in Indonesia. This trend is on the rise if not given immediate attention. The lack of nutritional knowledge along with changing diets and sedentary lifestyles have all contributed to inadequate consumption of fresh and healthy food, and increased intake of processed food that contains high sugar, salt, and fat. Inappropriate dietary intakes during adolescence can have several consequences,

including obesity, undernutrition, anemia, micronutrient deficiency, stunting, and eating disorders.



Lecture learning session

Obesity in children and adolescence has long term consequences and is responsible for occurrence of non-communicable diseases like cardiovascular diseases and diabetes into adulthood. Obesity also has immediate impacts such as negative body image among teenagers which leads to low self-esteem and confidence. If most of our younger generation suffer from obesity, it will reduce their productivity in the future.

Another nutritional problem affecting the growth and development of adolescents in Indonesia is anemia. Females tend to suffer from anemia more than males due to blood loss through menstruation. This will have an impact on pregnancy, childbirth, and the newborn which could contribute to the intergenerational cycle of malnutrition.

The 1000 First Days of Life Movement or 1000 Hari Pertama Kehidupan (1000 HPK) is a national movement in Indonesia designed to improve nutritional status, focusing on the intervention given to mothers or premarital women and infants. Although the female teenagers/adolescents were not explicitly mentioned in 1000 HPK guidelines, the good nutritional status of young women as a mother in the future has a major contribution to the health and safety of pregnancy and birth. An intervention that begins in the teenage

phase has become an alternative accelerated program included in the 1000 First Day of Life Movement. One of the methods that may be used to prevent this is by providing nutritional education in school settings.

Psychosocial development also occurs during adolescence which can affect food choices and eating behaviors among teenagers.

Peer influence usually plays a major role on this matter and can be detrimental if peers do not consume healthy meals. However, with proper guidance, peer influence could be a golden opportunity to increase the knowledge of adolescent girls about nutrition and empower them to be change agents for any nutrition programs.

Nutrition education or counseling is one approach that can produce

good individual behavior in increasing intake of a healthy diet among people. In 2019, we implemented two nutrition programs for female students in Yogyakarta. We chose a Mosque organization and Islamic boarding school as our locations for the

role model in advocating proper health and nutrition practices. The topics shared to the group included about 1000 HPK, healthy lifestyle for adolescents, female reproductive system, and the importance of having breakfast. In addition, the cadres were also given motoric skills on how to measure height and weight, upper arm circumference, nutritional status, and body mass index. We assessed their skill using an anthropometric observation checklist to ensure they are doing correctly. At the end of the program, we officially selected 12 adolescents health cadre out of 30 female adolescents that participated in the program who are tasked to share the knowledge,

adolescent health and nutrition topics such as balanced nutrition, female reproductive system, positive body image, physical activity, and healthy and clean behavior. The students were given motoric skills to do basic anthropometric measurement and practice classes, such as gymnastics and light exercise at the open hall. At the end of practice classes, we measured their endurance using the Harvard step test. Students also role played in measuring anthropometric and nutrition counseling to their friends. We also sharpened their critical thinking through case study tutorial and focus group discussion accompanied by a trained facilitator. We put posters in the bathroom, kitchen, information board, classroom, wash basin, and many other areas to enhance their awareness and exposure to a healthy lifestyle.

Tutorial and discussion session

programs where the target recipients usually gather and spend more than half of their time. The programs are aimed to enable the young women to realize and understand the importance of nutrition and health during this stage of their life. The long-term goal of these programs is to reduce obesity, anemia, and other nutrition-related diseases among adolescents in Yogyakarta.

The first program is a community service to form adolescent health cadres from among the female adolescents in the Jogokariyan mosque residing in Mantrijeron District of Yogyakarta City through a week of counseling, lecture, tutorials, and practice. This district was chosen because it had the largest number of child mortality in 2013 according to the Yogyakarta health office. This mosque was chosen because it is the fourth best national Masjid in Indonesia where active and inspiring female adolescents go to pray. We expect that Jogokariyan Mosque will be a

promote proper health and nutrition practices, and be a role model to their peers.

The second program is called Sekolah Gizi untuk Perempuan Cerdas (SGPC) or the Nutrition School for Smart Women for students in Muhammadiyah Boarding School Prambanan Yogyakarta. SGPC is an alternative program that provides nutrition education to students in a female boarding school setting. We had 68 participants aged 15 to 18 years old. This program differs from the first program in terms of methods and media. The methods used included lectures, tutorials, demonstrations, case studies, role play, and practice. The media used included PowerPoints, educational videos, modules, food models, leaflets, and posters. Intervention was given every week for a month, focusing on

The results of these two programs were satisfying. In the Jogokariyan mosque, the adolescent cadres were able to significantly improve their knowledge and skills in nutritional status measurement. In the Muhammadiyah Boarding school, the program improved the nutritional knowledge of students



Anthropometric measurement practice

on intake of calories, fats, and carbohydrates. The SGPC program also improved the perception of teenage girls' body image and

increased physical activity in their spare time.

The challenge in the Jogokariyan mosque is to upgrade the knowledge and skills of the female adolescent cadres to maintain

their motivation and efforts to share their experiences to their successors. On the other hand, the boarding school must pay more attention to prepare a food menu according to balanced nutrition guidelines at every mealtime. The

challenge is to institutionalize the SGPC program as part of the boarding school's curriculum to ensure its sustainability.

Are schools supporting kids to be fat?

by *Levina Chandra Khoe*

Department of Community Medicine, Faculty of Medicine, Universitas Indonesia



have nearly tripled in the last decade. Without interventions, these obese children will likely stay obese during adolescence and adulthood. Consequently, childhood obesity is associated with an increased risk of type 2 diabetes, cardiovascular disease, and even mental health problems.

Several studies confirm the influence of the environment on childhood obesity. Schools play a central role in a child's growth and development. On a typical school day in Jakarta, primary school children spend around five to six hours studying, playing, eating, and interacting with teachers and peers. The school setting holds a crucial part in shaping children's eating behavior and providing access to food.

We performed a survey among six schools in Jakarta to assess their environments in supporting children's healthy behavior. This study also renders the general public, particularly parents, to take a second look at how school environments influence children's food choices and eating habits.

One out of seven primary school children in Jakarta is overweight or obese, according to the Basic Health Survey 2018. The numbers

Important things to be aware of in the school environment

Access to healthy food options in the school canteen. Most schools have canteens inside their building and street vendors surrounding the building accessible to the students. Nevertheless, the healthy food options in both canteens and street vendors are limited. Almost all canteens had fruits or vegetables on their menu, but these are not available daily or in adequate amounts. Children commonly buy sweets, chocolates, sugary drinks, and rice-based meals. If these habits persist, excessive consumption of sugary foods could lead to overweight and nutrient deficiencies among school children.

Apart from the food availability, we also found that healthy food costs more than sweets or chips. No wonder sweets were more popular among the students, considering the meager pocket money that they receive from their parents.

School programs to motivate healthy eating behaviors. School is the most suitable place to start shaping healthy eating habits and raising awareness of children on the impacts of malnutrition if they continue eating sugary foods. Among schools that we surveyed, not all of them put healthy eating as a program priority for the children. Most schools would usually put up posters on



healthy eating, provide health education, and conduct fruit day and joint breakfast once a week among students and teachers. Nevertheless, schools do not have strict measures to monitor these programs. We also found that no schools forbid their children to buy food and drinks from street vendors.

A school environment that supports physical activities. Physical education has already been included in the national curriculum and is conducted for two hours per week. The duration is still far below the recommendation, i.e., at least one hour of moderate to vigorous intensity per day for children aged 5-17 years. It is important to determine whether the school has sports fields and

incorporate physical activities in the children's daily routine. During our observation, most Jakarta schools have sports fields, but the field might be shared with other schools.

A school with an "unhealthy environment" offers potential risks that are harmful to kids' health. Such "unhealthy environments" could pertain to enabling kids to freely consume more sugar- and carbohydrate-rich foods, the lack of regulation in selling unhealthy food in the school canteen and by street food vendors, and the absence of programs to educate children and their staff about balanced nutrition and healthy living habits. Unfortunately, such types of schools exist in Jakarta. The lack of access to "healthy food" and the greater

availability of "unhealthy" food within and near the schools could explain the higher prevalence of overweight and obesity among young children in urban areas. Schools must strive to become conducive environments for kids to grow intellectually and in their physical and character attributes by providing them more access to healthy and nutritious foods and educating them to acquire healthy eating habits. At the same time, parents should also be aware to find a school, which supports their children's optimal growth and development.

Review of Efforts and Policy Implementation on Obesity Prevention and Management among Adolescents

by *Liew Jia Yii, Nur Ayuni binti Udin*

University of Malaya

Adolescence is a transitional period between childhood and adulthood. The World Health Organization (WHO) defines an adolescent as an individual between the ages 10 and 19 (World Health Organization, 2014). Obesity and overweight are abnormal or excessive fat accumulation that may impair health (World Health Organization, 2000) and have become an alarming public health issue. Globally, more than 340 million children and adolescents aged 5–19 years were overweight or obese in 2016 (World Health Organization, 2018). According to the National Health and Morbidity Survey (NHMS), the prevalence of obesity in Malaysian adolescents increased tremendously between

2011 and 2015 from as low as 6.1 % (Institute for Public Health, 2011) to 11.9 % (Institute for Public Health, 2015). The National Health and Morbidity Survey 2015 found that the prevalence of obesity among adolescents in Malaysia were 14.4% in adolescents aged 10–14 years and 9.6% in adolescents aged 15–19 years (Institute for Public Health, 2015). In 2017, NHMS III reported that about 44% of adolescents were overweight and 14% were obese in Malaysia (Institute for Public Health, 2017). Another study in 2017 revealed the prevalences of overweight and obesity among adolescents (aged 13–17 years) in secondary schools were 15.2% and 13.3%, respectively (Institute for Public

Health, 2017). The government and many agencies have taken the initiative to prevent such further increases.

Started on 1 July 2019, the Malaysian government began implementing a sugar tax on pre-packaged sugar-sweetened beverages (SSBs) to reduce its obesity prevalence. All ready-to-drink SSBs that are either imported into or manufactured within Malaysia are subjected to a tax of RM0.40/liter. This applies to soft drinks containing more than 5 g of sugar per 100 ml, flavored Ultra-High Temperature (UHT) milk-based drinks containing more than 7 g of sugar per 100 ml, and fruit juices with more than 12 g of sugar per 100 ml



TYPE OF FOODS	EVERDAY Criteria (i) Fat : ≤3.0g/100g and/or (ii) Sugar : ≤5.0g/100g or ≤5.0g/100ml	3 times per week (i) Fat : >3.0g-20.0g/100g and/or (ii) Sugar : >5.0g-12.5g/100g or >5.0g-12.5g/100ml
RICE	<ul style="list-style-type: none"> ● White Rice ● Porridge ● Soto 	<ul style="list-style-type: none"> ● Nasi Ambang ● Nasi Lemak ● Nasi Goreng ● Nasi Ayam ● Lontong ● Nasi Berlauk ● Nasi Kuning ● Pulut Kuning
NOODLES/ RICE NOODLES/ FLAT RICE NOODLES	<ul style="list-style-type: none"> ● Noodles/Rice Noodle/Flat Rice Noodles Soup ● Laksa Kedah/Penang/Perlis ● Mi/Bihun/Kuetiau Ladna ● Mi/Bihun Tomyam ● Mi Tung Kow Sup/ Mi Hunan Sup ● Mi Wantan ● Loh Shi Fun Sup ● Mi Soto ● Konlo Mi (Mi Kicap)/Bihun Kicap 	<ul style="list-style-type: none"> ● Mi Rebus ● Bihun Kari ● Mi/Bihun/Kuetiau Hailam ● Mi/Mi Huan/Yee Mee/Loh Shi Fun/Mi Sanggu/Mi Kering/Bihun Goreng ● Mi Bandung ● Chee Cheong Fun ● Pan Mian Sup ● Laksa Kari ● Laksa Kelantan/Johor/Sarawak ● Laksam ● Spaghetti Goreng ● Curry Noodles ● Mi Kampua ● Mi Kolok Sup

Healthy menu and its frequency recommendation

(Mohamed Nor *et al.*, 2021). Therefore, a one-liter sugar-sweetened beverage would cost RM0.40 more from 1 July onwards, while a 250-ml bottle would cost RM0.10 extra. The policy aimed to encourage consumers to reduce the consumption of sugar-sweetened beverages, especially among adolescents. SSB consumption is positively associated with obesity in teenagers (Luger *et al.*, 2018). The Malaysia School-Based Nutrition Survey in 2012 reported that 24.5% of adolescents consumed sweetened tea daily and 42.2% of them consumed it weekly with an average intake of 397.7 mL/day and 564.7 mL/day, respectively. Chocolate drinks were ranked the second most popular SSB with 24.0% of adolescents consuming it daily and 45.8% consuming it weekly with an average intake of 398.2mL/day and 686.7ml/day, respectively (Institute for Public Health, 2012). In the 2017 survey, malted drinks were the most popular SSB among the adolescents where 80.0% of them consumed it and the median intake was 99.7mL/day (Institute for Public Health, 2017). It is

important to raise more awareness about SSB's negative effects through a preventative measure like a sugar tax.

The Malaysian government has imposed a ban on selling unhealthy food under The Food and Beverages Selling at School Guide as an effort to combat obesity and unhealthy eating among Malaysian students (Bahagian Pemakanan (Kementerian Kesihatan Malaysia), no date). Under this guideline, junk food, sweets, and preserved food such as '*jeruk*' are strictly prohibited at the school canteen. Apart from that, the guideline also issues the list of discouraged foods and beverages which includes instant noodles, ice cream and confectionary, tea and coffee, carbonated drinks, cream or sugar-coated foods, and processed foods such as burger patty, sausages, and nuggets. The banning of these foods is an important step to curb the obesity problem as they are generally dense in calories and poor in nutrients. Adolescence is a period when teenagers are rapidly growing and developing. Hence, they need to be supplied with well-

balanced and healthy food to meet their nutrient demands but at the same time control the over-consumption of calories. In response to this issue, the ministry of health provides a healthy menu and its frequency recommendation as a guide for the canteen vendors (refer to Figure 1). The teachers are expected to monitor the implementation weekly and advise the canteen vendors for further improvement.

Physical activity is another strategy to tackle obesity in Malaysia. The National Physical Fitness Standard Test (SEGAK)

for Malaysian students had been introduced in 2005 but has been implemented in full force by the Malaysian Ministry of Education in 2008 for Year 4 pupils until Year 11. SEGAK is a test designed to assess the fitness level of students, monitor their Body Mass Index (BMI) value, and nutritional status (Bahagian Pembangunan Kurikulum Kementerian Pendidikan Malaysia, 2016). Before starting the fitness test, all students must measure their weights and heights to calculate their BMIs (Krishnasamy and Veloo, 2017). BMI has been recommended and widely used to indicate body fatness in adolescence since it is easier to measure, inexpensive, and relatively accurate (Zaililah *et al.*, 2006). According to Malaysia School-Based Nutrition Survey 2012, 57.3% of adolescents aged 10 to 17 years old were physically inactive (Baharudin *et al.*, 2014). Farah Wahida *et al.* reported that boys (35.0%) in Kuantan, Pahang were more physically active than girls (17.3%) (Farah Wahida, Mohd Nasir and Hazizi, 2011). Generally, the adolescents

from Sarawak were low physical activity with 65.9%, 31.7%, and 2.4% having low, moderate, and high physical activity levels, respectively (Law, L.S., Taib, M.N. and Saad, 2014). In July 2009, the government introduced a media-friendly physical activity campaign called "10,000 Steps A Day" to reduce the sedentary lifestyle. Other countries in the region have explored similar campaigns, such as the "Walk for Nutrition" in the Philippines or Singapore's "National Steps Challenge". In Indonesia, Jakarta implements a car-free zone every Sunday for the citizens to use the freed

public space to carry out physical activities.

Adolescent obesity problems have adverse consequences. It might culminate in an increased risk of developing chronic diseases and metabolic syndrome, leading to premature mortality and physical morbidity later in life. Preventing adolescent obesity is a critical step toward reducing adult obesity. The sugar tax, the ban on selling unhealthy food in school canteens, and physical activity programs are wise approaches and initiatives carried out by the Malaysian government to fight against

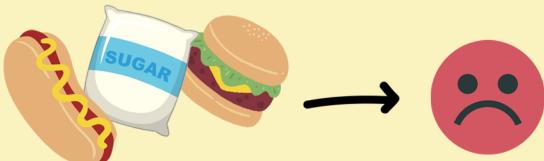
obesity. Despite these continuous efforts and policy implementation to address this ongoing health concern, its prevalence continues to rise at an alarming rate. We must identify the underlying cause of this capricious outcome. Is it due to a lack of sustainability or sociodemographic issues? To find the truth behind these unanswered questions, we should not rely entirely and pass the buck on the government to tackle this never-ending issue. Instead, we demand all hands on deck to rescue the future of our posterity.

Resources:

1. World Health Organization (2018) 'Obesity and overweight.' Available at: <http://www.who.int/news-room/fact-sheets/detail/obesity-and-overweight>.
2. World Health Organization (2014) 'Health for the World's Adolescents.' Available at: http://www.who.int/maternal_child_adolescent/topics/adolescence/second-decade/en/.
3. Bahagian Pemakanan (Kementerian Kesihatan Malaysia) (no date) "Garis Panduan Penjualan Makanan dan Minuman di Kantin Sekolah", in Garis Panduan Pelaksanaan Pemakanan Sihat di Sekolah, pp. 33–66.
4. Bahagian Pembangunan Kurikulum Kementerian Pendidikan Malaysia (2016) 'Panduan Standard Kecergasan Fizikal Kabangsaan untuk Murid Sekolah Malaysia (SEGAK)'.
5. Baharudin, A. et al. (2014) 'Factors associated with physical inactivity among school-going adolescents: data from the Malaysian School-Based Nutrition Survey 2012,' Asia-Pacific journal of public health / Asia-Pacific Academic Consortium for Public Health, 26(5 Suppl). doi: 10.1177/1010539514543682.
6. Farah Wahida, Z., Mohd Nasir, M. T. and Hazizi, A. S. (2011) 'Physical activity, eating behaviour and body image perception among young adolescents in Kuantan, Pahang, Malaysia', Malaysian Journal of Nutrition, 17(3), pp. 325–336.
7. Institute for Public Health (2011) National Health and Morbidity Survey 2011, Ministry of Health.
8. Institute for Public Health (2012) 'Malaysia School-Based Nutrition Survey 2012.', Ministry of Health Malaysia, Kuala Lumpur.
8. Institute for Public Health (2015) 'Non-Communicable Diseases, Risk Factors & Other Health Problems', National Health and Morbidity Survey 2015 (NHMS 2015)., p. 2.
9. Institute for Public Health (2017) 'Adolescent Health Survey 2017', National Health and Morbidity Survey (NHMS).
10. Krishnasamy, H. N. and Velloo, A. (2017) 'Implications of the Implementation of the Segak', 3(2), pp. 1986–1999.
11. Law, L.S., Taib, M.N. and Saad, H. A. (2014) 'Factors associated with physical activity level among adolescents in Sarawak, Malaysia.', J Phys Activ Sport Exercise, 2, pp.7-14.
12. Luger, M. et al. (2018) 'Sugar-Sweetened Beverages and Weight Gain in Children and Adults: A Systematic Review from 2013 to 2015 and a Comparison with Previous Studies', Obesity Facts, 10(6), pp. 674–693. doi: 10.1159/000484566.
13. Mohamed Nor, N. et al. (2021) 'Price Elasticity of Demand and the Impact of Taxing Sugar-Sweetened Beverages in Malaysia', Malaysian Journal of Public Health Medicine, 21(1), pp. 223–229. doi: 10.37268/mjphm/vol.21/no.1/art.794.
14. World Health Organization (2000) 'Obesity: preventing and managing the global epidemic.'
15. Zalilah, M. S. et al. (2006) 'Estimates and distribution of body mass index in a sample of Malaysian adolescents', Medical Journal of Malaysia, 61(1), pp. 48–58.

GOOD FOOD, GOOD MOOD: Not Just a Phrase

Have you ever found yourself craving for sweets, fatty snacks when times get tough? If you have ever felt like that, you're not alone.



Unhealthy foods high in sugar and fat content can seem to offer comfort in unpleasant situations in life. However, those foods can actually increase the likelihood of depression and anxiety.



If this detrimental eating behavior is established at a young age, it could stay into adulthood. A person can experience several health problems as a result of this stress-induced eating habit.

This can lead into a vicious cycle of craving for more sugary and fatty junk food in response to each episode of new bad mood. This cycle can eventually end in obesity.



This behaviour must stop. The good news is there is a way to do it by eating a healthy diet. Several research results reveal that eating healthy foods like fruits, vegetables, whole grains and lean proteins can help stabilize mood and overcome depression.

REFERENCES:

- 1- American Heart Association. Food and mood [Internet]. [cited 2021 Aug 07]. Available from: <https://www.heart.org/en/healthy-living/healthy-lifestyle/mental-health-and-wellbeing/food-and-mood>
- 2- Hill DG, Moss RH, Sykes-Muskett B, Conner M, O'Connor DB. Stress and eating behaviors in children and adolescents: Systematic review and meta-analysis. *Appetite*. 2018 Apr 1;123:14-22.
- 3- Lazarevich I, Irigoyen-Camacho ME, Velázquez-Alva MC. Obesity, eating behaviour and mental health among university students in Mexico city. *Nutrición Hospitalaria*. 2013;28(6):1892-9.

Fighting Adolescent Obesity through School-Based Interventions

Interview by Gabrielle Adani & Taris Zahratul Afifah

What can schools do to combat adolescent obesity?

One in five children and adolescents in the world has a risk of developing obesity. In Southeast Asia, obesity is fast becoming a serious health threat for all children and adolescents. The current pandemic—with the convenience to order food online, stay-at-home sedentary lifestyle, and increasing screen time—can make this situation even worse.

"School-age children and adolescents are highly influenced by their environments which are their families and communities," explained Prof. Aryono Hendrarto, MD, Ph.D., MPH, a pediatrician consultant at the Department of Child Health, Dr. Cipto Mangunkusumo National Central Public Hospital. Prof. Aryono added that "usually, obesity that starts from middle school age remains until adulthood, and people need to know that it is unhealthy and comes with morbidity risks."

"Their families and communities need to understand that being fat does not equal being healthy. When people around the child already understand the risks that obesity holds and the unhealthy lifestyle leading to it, they have to be educated about healthy nutrition and lifestyle," Prof. Aryono argued.

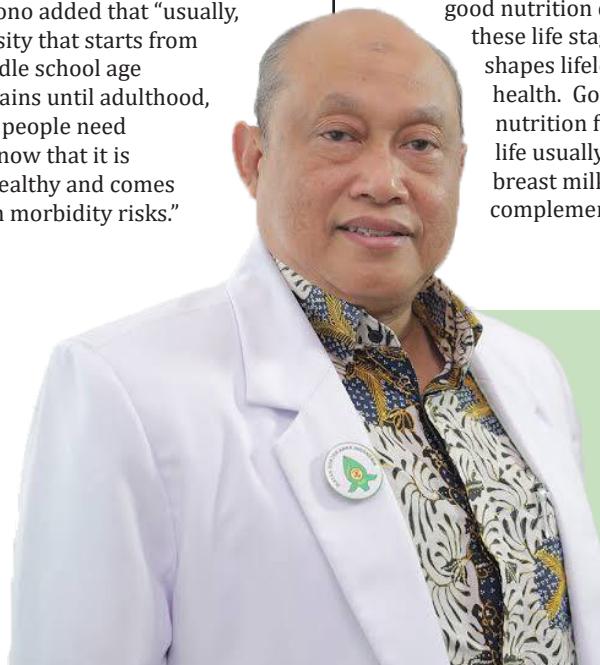
How to encourage children and adolescents to start consuming healthy foods to combat obesity?

A healthy eating pattern is not something that the adolescents can magically acquire. Ideally, it must be introduced from infancy to early childhood because good nutrition during these life stages shapes lifelong health. Good nutrition from early life usually involves breast milk feeding, complementary

"They need to learn and implement three main things properly: adequate balanced diet, calories needs per day, and healthy diet pattern."

feeding, and introducing solid food to meet the nutrient requirements of a child until he reaches five years old. After this stage, the child should already practice a balanced diet and maintain it until adulthood.

"However, adolescents face relatively more complex problems because they are exploring themselves," said Prof. Aryono. He opined that adolescents are conscious of their self-image and



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societal views on beauty which often leads to an eating disorder.

According to Prof. Aryono, these eating disorders include anorexia or bulimia, as well as overeating tendencies. He also observed that adolescents are not accustomed to eating vegetables and fruits daily while, at the same time, they highly consume sweetened foods.

"We have to make sure they understand that fast food, soft drinks, and sweet cuisines have high calories," added Prof. Aryono. "They need to learn and implement three main things properly: adequate balanced diet, calories needs per day, and healthy diet pattern."

How can schools help in preventing obesity?

Prof. Aryono suggested that schools should do the following to help prevent obesity among their students:

1. Every school should hold physical education courses to make sure the students stay active. They should also encourage additional personal physical exercise time among students to

keep them motivated to be active and maintain their stable energy expenditure.

2. Schools have to be sure that the food served in the school's cafeteria is healthy and can provide the recommended daily calorie intake of adolescents. Schools can partner with the nearest Public Health Center (Puskesmas) on this regard.

3. School cafeterias should provide a range of healthy food options to address the diverse food preferences of students. By observing the trends on students' food choices and taste preferences, students can be encouraged to eat in the cafeteria and avoid ordering from other food providers outside the school.

4. Early detection of overweight and obesity risk also can be done by schools through assessing students' heights and weights regularly. If there are serious cases, the school can intervene before such cases get out of hand.

By carrying out these strategies successfully, schools can take part in preventing students from obesity. Most of the non-

"If we can prevent obesity, we can focus and utilize the assets to preventive and health promotion measures."

communicable diseases that cause most deaths and disabilities are morbidities provoked by obesity. Non-communicable diseases also have an enormous economic burden, which can turn into significant family expenses.

"If we can prevent obesity, we can focus and utilize the assets to preventive and health promotion measures," Prof. Aryono emphasized. "We can also achieve a healthier generation with fewer comorbidities."



Obesity in the Minds of School Adolescents in Southeast Asia

Obesity is one of the major health issues that the world is currently facing. According to a WHO (2021) report, more than 1.9 billion adults aged 18 years and older were overweight, and over 650 million of these adults were obese in 2016.

The same trend in overweight and obesity among children and adolescents aged 5-19 is also becoming prevalent. From just 4% in 1975, the prevalence has risen to over 18% in 2016. Globally, more than 124 million children and adolescents were obese in 2016 (WHO, 2021). A systematic review on the prevalence of childhood and adolescent obesity in Asian countries (Mazidi, Banach and Kengne, 2018) reveals a

similar number. It is reported that 15.3% Asian adolescents were obese.

Obesity that happened early in life can progress to adulthood and cause additional health issues later in life. Children with obesity have a higher risk to develop cardiovascular disease, type 2 diabetes, breathing problems, musculoskeletal discomfort, and several digestive problems. Furthermore, obesity can lead to some psychological and social problems (CDC, 2021). It's important to save the younger generation from obesity.

We conducted a simple survey among school adolescents in Southeast Asia about obesity to explore their opinion about this

topic. We asked them these three questions: (1) What do you know about obesity? (2) Do you think obesity is a serious problem among school adolescents in your country? and (3) What can you do to help address obesity among teenagers like you in your country?

Generally, school adolescents have understood the broad concept of obesity though they vary on how they describe it. Some responded with a simple general definition:

“Obesity is the condition of being too overweight.”

Alysa Morales, 13, De La Salle Zobel High School, Philippines

We also got some more detailed responds about obesity from the respondents. Some adolescents recognized that obesity is a complex disease which is caused by several factors. They also know that it can lead to a lot of serious health problems. They got their knowledge about obesity from TV news, school, and parents.

“Yes, I do know something about ‘obesity’. It is a complex disease involving an excessive amount of body fat. This is also a medical problem that increases the risk of other diseases and health problems, such as heart disease, diabetes, high blood pressure, and certain cancers.”

Therese Francoise Jazmin, 16, Sekolah Menengah Serasa, Brunei Darussalam

“Obesity is a term used for excessive body weight.”

Alma, 15, Athirah Islamic High School, Indonesia

“I am familiar with obesity as it is a common condition acquired by people of all ages. Obesity refers to having more body fat than what is healthy for a person.

From what I know, the recommended weight is determined by one’s BMI, thus, those with obesity have a higher BMI than normal. I also learned from class that obesity is a common risk factor to other diseases.”

Beatrice Eunice M Abalos, 15, University of the Philippines Rural High School, Philippines

"I remember several times news in TV reporting severely obese children from my country. I know from what I learned at school and what my parents taught me, that obesity is a potentially dangerous health issue."

Fatih, 15, PGII Senior High School Bandung, Indonesia

Besides affecting physical health, some adolescents added that obesity can affect social and emotional well-being too.

"I know about obesity. It is a serious problem because overweight children cannot join some activity at school, for example, running, swimming."

Sinee Worasak, 14, Benchama Maharat School, Thailand

"I know some about obesity. In my opinion, it is a serious problem because children who are overweight and obese are likely to stay obese into adulthood and more likely to develop non-communicable diseases like diabetes and cardiovascular diseases at a younger age. Childhood obesity can affect children's physical health, social, and emotional well-being."

Chaniya Bangsai, 15, Benchama Maharat School, Thailand

Most of the adolescents think that obesity is a problem in their countries.

"Yes, I think that the Philippines has a lot of young people who suffer from obesity. A big part of growing up is eating well, but different people show different rates of growth which might not be recognized as obesity,"

Beatrice Eunice M Abalos, 15, University of the Philippines Rural High School, Philippines

"It is a global issue. In the Philippines, this is an emerging problem because of the current lifestyle of adolescents involving lack of physical activities and intake of non-nutritious food. This topic should be discussed openly among our peers."

AJ Morales, 17, De La Salle Zobel High School, Philippines

"Obesity is condition of being overweight. Many children lack exercise, so it is a serious problem in my country."

Montawat Chueakaew, 14, Benchama Maharat School, Thailand



While most of them think that obesity is a problem in their countries, adolescents from Singapore have an opposite opinion. They think that obesity is relatively rare in Singapore. However, one of the adolescents from Singapore said that there are more children becoming overweight in her country.

"In Singapore, we are in the healthy range."

Alicia, 19, Yong Siew Toh Conservatory, Singapore

"I think not really (a problem) because Singapore is relatively healthy."

Amanda, 17, National Junior College, Singapore

All our respondents think that self-awareness is key to prevent obesity among adolescents.

"Awareness of each individual's body and health is an important step to addressing obesity among our age group,"

Beatrice Eunice M Abalos, 15, University of the Philippines Rural High School, Philippines

Some adolescents responded by giving real life implementation of self-awareness among their age group:

"In social gatherings, we can always use healthy alternatives for whatever we eat or at least keep it to a limit."

Alicia, 19, Yong Siew Toh Conservatory, Singapore

"When eating out, try to stick to healthier options."

Amanda, 17, National Junior College, Singapore

Our respondents implied that the people and the environment surrounding the adolescents play a big role on shaping their awareness of obesity. As mentioned earlier, most of the respondents got their knowledge from their schools, parents, TV news, or social media. Not just from adults, the adolescents also highlight the importance of information sharing and education among their peers.

"Seminars and medical consultations are some examples I can think of to raise teenagers' concern about their health, including their weight."

Beatrice Eunice M Abalos, 15, University of the Philippines Rural High School, Philippines

"I can help address obesity by posting information about it in my social media."

Alycia Morales, 13, De La Salle Zobel High School, Philippines

"We could encourage each other to engage in physical exercises even through the web."

Alycia Morales, 13, De La Salle Zobel High School, Philippines

"I exercise regularly and will tell every children to understand about how dangerous obesity is and how to avoid it."

Montawat Chueakaew, 14, Benchama Maharat School, Thailand

Adults' role in helping adolescents prevent to become obese is not limited to providing information about obesity. Our respondents, especially from the younger age group, think that adults have a role in controlling their health-related behaviour.

"Adults could help adolescents monitor and manage their health,"

Beatrice Eunice M Abalos, 15, University of the Philippines Rural High School, Philippines

"I usually just eat whatever my mom provides me at home. I think parents should provide their children easy access to healthy food in order to help them stay away from obesity,"

Fatih, 15, PGII Senior High School Bandung, Indonesia

This simple survey revealed several interesting insights on obesity in the minds of adolescents from various countries in Southeast Asia. Although there were only few of them who submitted their responses to us, it is good to know that these adolescents have certain level

of awareness of the dangers of obesity and how they can help prevent it in their own simple ways. Certainly, there is much more to do to fully educate the rest of the adolescents in the world on obesity. Governments, schools, parents, media and everyone

else play a role to help reduce the prevalence of obesity among adolescents towards forming healthier communities in wherever part of the world we live in. And nutrition education matters!

OBESITY & COVID-19 PANDEMIC

Obesity is a condition when someone has an excessive body weight because of an abnormal accumulation of fat mass.

- Overweight: BMI $>25 \text{ kg/m}^2$
- Obese: BMI $>30 \text{ kg/m}^2$



During the Covid-19 pandemic, the public is required to **stay at home**, restricting mobility and outdoor activities as much as possible. Like a double-edged knife, this lifestyle change can limit virus transmission, but exposes the population in **a higher risk of becoming obese** because of the change in daily physical activity and dietary habits.

Changes in dietary habits during the pandemic:



- Increase in the **number of snacks** per day
- Increase in the number of consuming **unhealthy food**, eating **out of control**, and **late-night snacking**



Factors that contribute to these changes are higher level of **stress** and **boredom**

Obesity is a **comorbidity** of other diseases, such as metabolic diseases, heart, lung, and impaired immune function. These diseases indirectly cause a person to become **more susceptible to get infected by SARS-COV-2**. Furthermore, obesity can lead to decreased lung function. This may contribute to the **worsening of symptoms** in obese person infected by Covid-19.

What can we do to avoid obesity in Covid-19 pandemic?

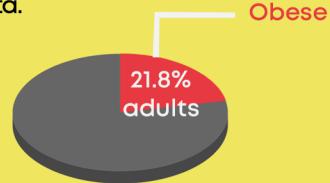
- **Eat a healthy and balanced diet by consuming more fiber-rich foods**
- **Limit snacking, especially of sweetened and salty foods**
- **Exercise or do other physical activities at home.**

WHO recommends 150 minutes of exercise per week.



The rate of obesity in Indonesia is quite **concerning**.

In **2018**, **21.8%** of adult population in Indonesia was categorized as obese. This prevalence indicates a **7% increase** compared to the 2013 data.



References

1. World Health Organization. Obesity [Internet]. [cited 2021 Aug 6]. Available from: <https://www.who.int/health-topics/obesity>
2. Kementerian Kesehatan Republik Indonesia. Laporan Nasional Riskesdas 2018. Jakarta: Kementerian Kesehatan Republik Indonesia; 2018.
3. Parikh NI, Pencina MJ, Wang TJ, et al. Increasing trends in incidence of overweight and obesity over 5 decades. *The American Journal of Medicine*. 2007 Mar; 120(3).
4. Hruby A, Manson JE, Malik VS, et al. Determinants and consequences of obesity. *Am J Public Health*. 2016;106(9):1655-1662.
5. National Heart, Lung and Blood Institute. Overweight and Obesity [Internet]. U.S. Department of Health and Human Services. [cited 2021 Aug 6]. Available From: <https://www.nhlbi.nih.gov/health-topics/overweight-and-obesity>
6. Ammar A, Brach M, Trabelsi K, Chtourou H, Boukhris O, Masmoudi L, Bouaziz B, et al. Effects of COVID-19 Home Confinement on Eating Behaviour and Physical Activity: Results of the ECLB-COVID19 International Online Survey. *Nutrients*. 2020;12(6):1583.
7. Yilmaz HO, Aslan R, Unal C. Effect of the COVID-19 Pandemic on Eating Habits and Food Purchasing Behaviors of University Students. *Jurnal Kesehatan Masyarakat Nasional*. 2020;15(3):154-9.



Flavours for the Mind

by **Nindhita Priscillia Muhamarrani**
SEAMEO RECFON

Flavours for the Mind is a space to share thought-provoking issues about nutrition and mental health. This column is expected to raise awareness and address more about the underexplored areas of nutrition in Southeast Asia, especially surrounding disordered eating, diet culture, body dissatisfaction, and food anxiety in various age groups. Moreover, this section aims to cover the writer's opinion on the current issues in nutrition.

The writer, Nindhita Priscillia Muhamarrani, S.Gz., M.Sc, is a Registered Nutritionist with a keen interest in nutrition and mental health. She obtained her bachelor's degree in Nutrition from Universitas Indonesia in 2016. She was awarded with a full-ride scholarship from Indonesia Endowment Fund for Education (LPDP) and received a master's degree in Eating Disorders and Clinical Nutrition from University College London (UCL), United Kingdom in 2019. Currently, she is working as a Research Unit Staff in SEAMEO RECFON and developing her platforms, Yayasan Delapan Detik Indonesia and Mind Your Meal Indonesia as a Co-Founder.

Mindful eating as an approach to ease your weight control journey

In our society, dieting behavior is often normalized to achieve an ideal body standard. Adolescents are considered more susceptible to fall into certain eating habits and live up to the diet culture. Puberty, school transition, and peer/family pressure are some of many

predisposing and precipitating factors for them to be vulnerable to developing eating behaviors. For young people, the diet struggle often lies in the constant search of a 'perfect' approach to prevent weight gain and yo-yo dieting. This has led to the development of many fad diet trends, which tends

to include excessive temporary weight loss behavior. However, this can be detrimental for the body in the long term.

Diet trends have also shaped our mindsets to eat whatever purveyors tell us rather than listening to our body cues. Many nutritional advice often focus on what, why, and how much food people should consume, but less attention is given on how they should eat them. In fact, a growing body of evidence^{1,2,3,4} has suggested that distractions surrounding the eating environment may lead to overeating due to the lack of awareness during the eating process. Hence, the failure of weight loss. The struggle is common in many parts of the world, including in Southeast Asian countries, where diet eating behavior is on the rise.

Interestingly, the rich food cultural heritage in Southeast Asia comes with various eating practices. Bare-hand eating on the floor with huge eating platters is one customary practice with food as a



social tool. This makes it difficult for people to really connect with each moment of eating and be aware of what and how much they have been eating. Thus, uncontrolled eating may occur which could result in some health problems like obesity. However, this may not be the case in some areas in the region where mindfulness is commonly practiced.

Mindful eating is an eating style based on Buddhism's mindfulness concept, which relies on your awareness and allows yourself to limit any distraction surrounding your eating environment. This encourages you to increase your sensitivity to your body cues rather than your environmental cues. Here are 3 reasons why mindful eating may help improve your weight management in the long run – better yet, your mental health and well-being.

1. It helps you listen to what your body actually needs

The mindful eating approach offers space for your body to prevent an 'auto-pilot' mode while eating. You will be more aware of your senses because you are allowing yourself to savor your eating experience. You are expected to explore how the food smells, how it tastes inside your mouth, and how crunchy the sound it makes while you are chewing. Research has found that this process helps you achieve the 'satisfaction factor' faster.⁵ This way, moderate

eating can be easily obtained.

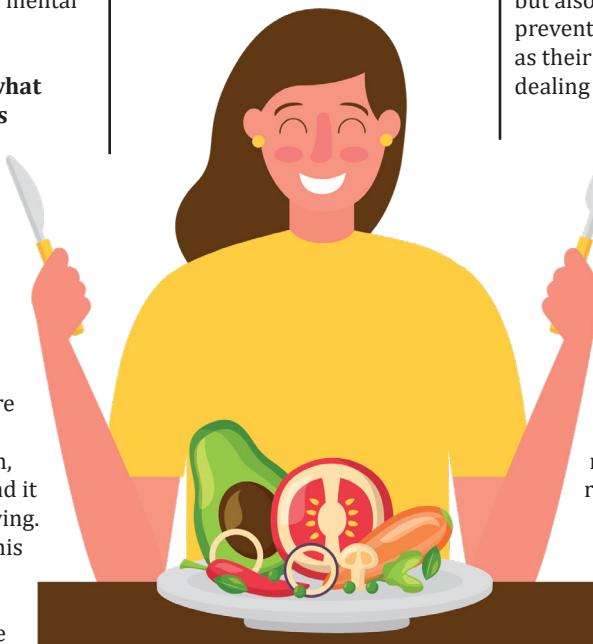
2. It helps you better navigate your food cravings

The current diet culture often highlights how we should prevent food cravings. Fad diet trends have the audacity to force us to eat 'vegetables' whenever we want some 'doughnuts.' Food cravings often become one of the main struggles for young people to maintain their normal weight. Oftentimes, one fails to restrict their food intake due to the uncontrollable binge as soon as their mouths touch the food they have been longing to eat. Many food psychologists have suggested that avoiding certain foods only increases the willingness to eat that food. Using mindful eating, you can still navigate your emotional eating by catering to your food cravings and

still consume the food in a proper amount.

3. It improves your relationship with food

Applying strict food rules on a daily basis may trigger the development of eating disorders. Dieting trends may promote a bad relationship with food or, even worse, increase our fear of certain foods, whereas mindful eating will help you increase your eating experience by being nonjudgmental towards foods. It has been shown to reduce the tendency for us to associate food with negative feelings,⁶ such as guilt, stress, etc. Challenging the food police in our mindsets have also shown positive impacts to our relationship with food.⁷ Mindful eaters also present better self-regulation as it makes them used to regulate not only their eating but also their emotions. This may prevent them from choosing food as their only coping mechanism in dealing with hardships.



All in all, we know that chronic dieting does not work to maintain our physical and mental health in the long term. Even though mindful eating has not been used in massive clinical trials, this could be an approach to help you improve not only your weight regulation, but also your relationship with food.

References

1. Nelson J. (2017). Mindful eating: The art of presence while you eat. *Diabetes Spectrum*, 30(3): 171 – 174.
2. Barney JL, Murray HB, Manasse SM, Dochat C, and Juaracio AS. (2019). Mechanisms and Moderators in Mindfulness- and Acceptance-Based Treatments for Binge Eating Spectrum Disorders: A Systematic Review. *European Eating Disorders Review*
3. Zervos K, Koletsis M, Mantzios M, Skopeliti N, Tsitsas G, and Naska A. (2021). An eight-week mindful eating program applied in a Mediterranean population with overweight or obesity: The EAT'T intervention study. *Psychological Report*
4. Masuda A and Hill ML. (2013). Mindfulness as therapy for disordered eating: a systematic review. *Neuropsychiatry*, 3(4), 433 – 447.
5. Cheung RYM and Lau EN-S. (2021). Is mindfulness linked to life satisfaction? Testing savoring positive experiences and gratitude as mediators. *Frontiers in Psychology*, 12: 591103.
6. Hsu T and Forestell. (2021). Mindfulness, depression, and emotional eating: The moderating role of nonjudging of inner experience. *Appetite*, 160, 105089.
7. Tribole E and Resch E. (2020). *Intuitive Eating*, 4th Edition: A Revolutionary Anti-Diet Approach. New York: St. Martin's Publishing Group.

NGTS and ECCNE News Corner

63 participants complete 1st online course on healthy school canteen in Southeast Asia

SEAMEO RECFON awarded certificates of completion to 63 school heads, teachers and canteen operators from Brunei Darussalam, Cambodia, Lao PDR, Malaysia, Myanmar, the Philippines and Indonesia as the first batch of graduates of the Online Training on Healthy School Canteen in Southeast Asia.

The 7-week course, which ended on 26 August 2021, was generally aimed to improve the knowledge and basic skills of the participants on food quality and implementation of healthy school canteen. In the long run, this initiative envisions to transform school canteens in the region to be reputable food establishments that contribute to the alleviation of foodborne illnesses and improving nutrition status of students.

Topics discussed during the online course included Balanced nutrition and meal guide; Safe food preparation in school canteen; Introduction to Halal; Healthier options of food preparation; and Implementation and management of healthy school canteen. The participants turned in action plans to improve their respective school canteens as a major requirement of completing the course based on the insights gained from the said sessions.

The online course was a collaboration between SEAMEO RECFON and the Centre for Transformative Nutrition and Health of the International Medical University (IMU) of Malaysia.

SEA, Indonesia SBNP Working Groups approve operating guidelines, produce action plans

Members of the Southeast Asian and Indonesian School-Based Nutrition Promotion (SBNP) Working Groups adopted the operating guidelines drafted by SEAMEO RECFON and formulated their plans of activities for the next four years during a virtual workshop held on 8-9 July 2021. The operating guidelines contain the overall goal, objectives, functions, structure and management, members' composition, responsibilities and benefits, funding and partnership arrangements, monitoring and evaluation system, and institutionalization of the Working Groups.

The plans of activities reflect the functions of the sub-working groups on evidence compilation, knowledge resource sharing, communication campaign and

policy advocacy, and capacity building of SBNP stakeholders except the latter in the case of the Indonesian SBNP Working Group.

SEAMEO RECFON initiated the establishment of the Working Group for Indonesia in 2018 and for SEA in 2019 recognizing the need to have a forum to catalyze the progress and sharing of best practices on SBNP within and among countries in the region and advance together on this aspect. The overall goal of both Working Groups is to enhance the quality and mainstream the practice of SBNP as a regular activity of schools at national and regional levels.

The SEA SBNP Working Group workshop was attended by 50 participants from relevant ministries, universities and research institutions, international development organizations, and SEAMEO Centres from Brunei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, and the Philippines. On the other hand, 53 members from the Ministry of Education, Health and Religion, academic institutions, and SEAMEO RECFON SBNP Team joined the Indonesian SBNP Working Group workshop.

NGTS Program to be implemented in Cambodian Technical-Vocational Schools

SEAMEO RECFON and the SEAMEO Regional Centre for Technical Education Development (TED) agreed to strengthen the food and nutrition education among selected technical-vocational schools in Cambodia starting in 2022 through the Nutrition Goes to School (NGTS) Program framework.

This initiative is aimed to: 1) improve the capacities of teachers in the target technical-vocational high schools to teach food and nutrition education to their students; 2) integrate food and nutrition education in the intra- and extra-curricular activities of the target technical-vocational high schools in line with their respective fields of interest/streams; 3) enhance the capacities of the target schools to implement school-based nutrition promotion activities; and 4) develop the target schools as models/implementers of school-based nutrition promotion in Cambodia.

The two Centres formalized their collaboration by signing a Memorandum of Understanding (MoU) during the SEAMEO Centre Directors Meeting held virtually on 22 July 2021. They will undertake capacity building, research and knowledge generation, information materials development and exchange, expertise exchange, and monitoring and evaluation to achieve the objectives of the partnership.

SEAMEO RECFON recommends local-specific FBRs for under-five children in 50 stunting priority districts in Indonesia

On 26 February 2021, SEAMEO RECFON launched a policy brief on integrating local-specific food-based recommendations (FBRs) in the health policy and food system in Indonesia to help address stunting among under-five children in 50 stunting priority districts in Indonesia. This activity was part of the Centre's flagship program on Early Childhood Care, Nutrition, and Education (ECCNE) Program.

The FBRs were developed in 2020 in collaboration with 19 health polytechnics and universities in Indonesia, with support from Ministry of Health Indonesia and Global Alliance for Improved Nutrition (GAIN). The FBRs were formulated using a linear programming approach to ensure compatibility with local food availability, food pattern and affordability, and nutrient adequacy.

The launching of the policy brief was attended by representatives from the Ministry of Health, Ministry of Village, Development of Disadvantaged Regions and Transmigration, Ministry of Internal Affairs, Ministry of Agriculture, National Planning Board (Bappenas), academe, NGOs and other institutions engaged in stunting prevention in Indonesia.

After the policy brief launching, SEAMEO RECFON disseminated the FBRs and conducted socialization on the ECCNE program to officials of local governments and academic institutions in the 50 priority districts in support of the national priority to accelerate stunting reduction.

Online ECCNE Master of Trainer (MOT) Training held for stunting priority districts

A total of 443 participants from 45 stunting priority districts joined the online ECCNE Master of Trainer (MOT) Training held on 6-9 July 2021. The participants were from district offices on health, education, religion, agriculture, fishery, food security, women empowerment

and child protection, population and family planning, village development, public health centers at sub-districts, ECE teachers, women organization, ECE and Nutrition-related professional organizations, and academic institutions.

The training consisted of plenary and parallel class sessions on the 9 ECCNE modules developed by RECFON's ECCNE Team. The MoT participants developed action plans to implement the ECCNE activities, together with their stunting convergence efforts in their respective districts.

The online training was officially opened by Dr. (HC) Hasto Wardoyo, MD as the Head of Indonesia Population and Family Planning Board (BKKBN) which is the lead executive institution for the Acceleration of Stunting Reduction in Indonesia.

SEAMEO RECFON ECCNE team develops distance learning materials on parenting

SEAMEO RECFON's ECCNE team has recently developed learning materials and media on parenting that can be used by Early Childhood Education (ECE) teachers in the program sites through Online platforms.

This initiative was prompted by the results of the online survey done in late 2020 which revealed that 95% of the 685 respondents comprising of ECE teachers and stakeholders in Indonesia faced difficulty to implement ECE activities with no face-to-face sessions. This situation is aggravated by the non-existence of materials and learning media, lack of communication facilities, and lack of support from parents. The parenting materials and learning media are expected to be ready by 2022.

**PELATIHAN MASTER OF TRAINERS
"ANAKKU SEHAT DAN CERDAS"**
Penerapan Konsep PAUD HI Melalui Sesi Parenting
Sebagai Upaya Pencegahan Stunting

6 - 9 Juli 2021