Editorial

Obesity in school-age children

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Compared to other age categories, the period of middle childhood (6–11 years) and young teens (12–14 years), or we called school-age is missed from the focus of health researches period. Children in these age categories are relatively free from health issues and do not have a significant public health concern. Besides, most of them are still living in a containment environment, protected by their parents and teachers at school. However, this period of childhood can provide the physical, cognitive, and social-emotional foundation for lifelong health, learning, and well-being of an adult.

In this edition of Medical Journal of Indonesia two research teams reported the results of their evaluation of health status in this age group. They highlighted obesity-related problems among elementary school children[1] and children age 12–14 years old[2] in two urban cities in Indonesia. Melinda et al[1] describes the association of sleep disorders on the prevalence of obesity in school children, while Utari et al[2] describes the result of their school-based interventions conducted on children with non-alcoholic fatty liver disease (NAFLD), a most common liver disease occurred among obese children.

The obesity rate in school-age children in Indonesia is somehow worrying. The 2013 Ministry of Health's Basic Health Research (RISKESDAS) data shows that the prevalence of obesity problems occurs in children of 5–12 years old was 18.8%, while the prevalence among 13–15 years old was 10.8%. Unfortunately, the 2018 RISKESDAS does not present data on the obesity status of this age group, but the survey showed an increased rate of obesity for adolescent of 21.8%, a steep increase from 14.8% in 2013. Melinda et al[1] conducted their survey in one school in Jakarta in 2015 and found the obesity prevalence of 20.6 % among their study population.

The root causes of obesity are the imbalance between food intake and physical activity. A large study, South East Asia Nutrition Survey (SEANUTS) was conducted in 4 countries in ASEAN, namely Indonesia, Malaysia, Thailand, and Vietnam in 2011. SEANUTS Indonesia involved 1,143 children age 6–12 years old and revealed a significant factor that influences the incidence of overweight and obesity, which is lack of physical activity (PA). Children with low PA have 3.4 times risk to be overweight and the ones who have a moderate PA and energy intake of more than 100% of Indonesian recommended daily allowance (RDA) had a 4.2 times risk of being overweight than children with high PA and energy intakes of less than 100% RDA.[3]

The lack of parenting from parents can be a contributing factor by unconsciously promoting a sedentary lifestyle to their children. The trend does not only happen in urban areas but now it has also hit the village. The influence of parenting on their children health-status was also observed by Melinda et al[1] the parents' perception on whether their children have sleeping disorders is affecting the occurrence of their children sleeping disorders.

Aside than their household environment, the school has been regarded as a setting that influences the health and nutritional status of their students. Since 2017, the Ministry of Education (MoE) of Indonesia, through its Southeast Asian Ministers of Education – Regional Centre for Food and Nutrition (SEAMEO RECFON) is working on school-based nutrition promotions activities in school environment called Nutrition Goes to School (NGTS). The program used the Demand-Policies-Supply-Information System (DEPPIS) framework (Figure 1) that aim to help school children become active, well-nourished, and in the end have an awesome academic performance.

To create and increase the demand for healthier food choice, nutrition education was given by educating their teachers on the importance of nutrition for their students. Teachers can then include the information on nutrition given to them in their daily intra and extra-curricula. Inclusion of the nutrition-

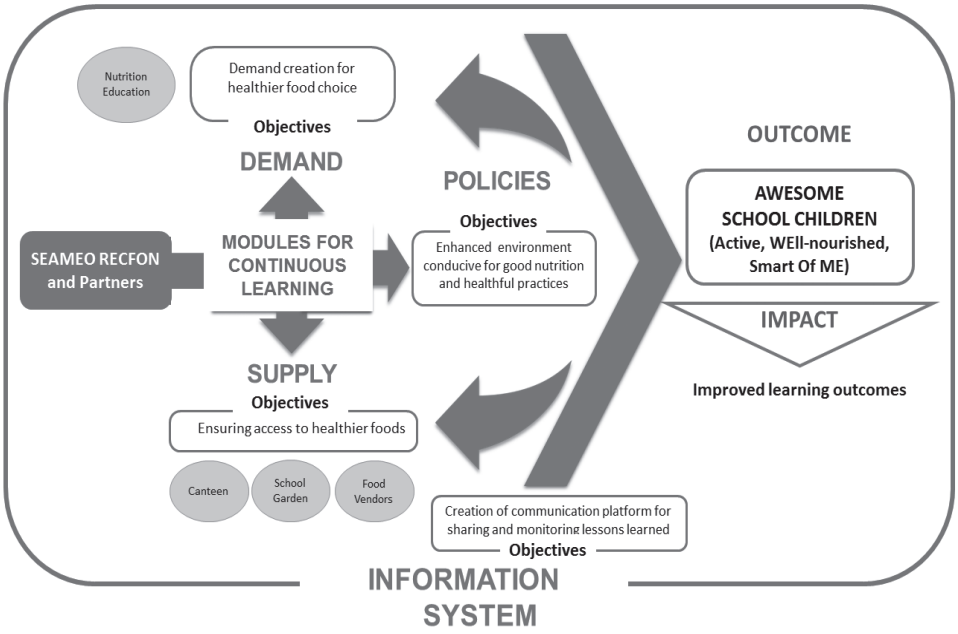

Figure 1. DEPPIS Framework by SEAMEO RECFON

specific and sensitive materials should be formalized with the school policies to guarantee its practice. To ensure students access to healthier foods, training and support were also given to school on healthy canteen, school gardening and education on food vendors. Also, the framework suggests the school to monitor and evaluate their children nutritional status by creating a specific information system.

In collaboration with stakeholders from local health department and local academic institutions, this framework is currently being implemented and evaluated in 8 high-schools in Malang, East Java. Children age 14–18 years old has been participated and the preliminary results showed that after a year of intervention children who went to school who implemented the complete DEPPIS framework have a higher cognitive score and significantly have a better breakfast habit (48.9% *versus* 39.8%, $p = 0.035$).[4]

School children are in the age of rapid physical, intelligence, mental, and emotional growth. Ensuring children and adolescent has a balance nutrition and healthy lifestyle to guarantees is important to control the rate of later-life obesity and non-communicable disease. The alarming rate of overweight and obesity among school-age children should be a concern not just parents, but also teachers, school principals, and food vendors. It will eventually need a regulatory support from cross-ministries in Indonesia, especially ministry of education, ministry of religion, ministry of health and ministry of internal-affairs who supervised the conduct of *Usaha Kesehatan Sekolah* (UKS – School Health Efforts), a program that tries to improve health services, health education, and foster healthy school environments and skills.

For health professionals and researchers, the obesity issues among school children can also serve as a wake-up call for more research and innovations in school-based nutrition promotion program.

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For more information on NGTS and DEPPIS framework you can visit: www.seameo-recfon.org

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