

SCHOOL BASED NUTRITION PROMOTION IN INDONESIA

Book 4: for School Community



SEAMEO RECFON
2020



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SCHOOL-BASED NUTRITION PROMOTION IN INDONESIA

Book 4: for School Community



This book is part of a resources package School Based Nutrition Promotion in Indonesia. Within the package are:

Book 1: for Academicians

Book 2: for Policy Makers

Book 3: for Program Implementers

Book 4: for School Community

Book 5: for General Public and Media

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2020**



School-Based Nutrition Promotion in Indonesia: Book 4: for School Community/

Helda Khusun and Luh Ade Ari Wiradnyani

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FOREWORD

In the endeavour for addressing nutrition issues, SEAMEO RECFON always strives to give the best contribution in SEAMEO member countries including Indonesia. One potential approach to getting effective results in nutrition programs is to reach the school community. With its character as a semi-closed community, the existence of a role model, and agent of change in the family and its surroundings, school-based nutrition promotion activities becomes priority approach. Optimal nutrition intake of school-age children and adolescents is one of the key factors in the health of future generations. In addition, this age range is characterized by an increased nutritional needs to compensate for their rapid growth and development. Many efforts have been made, both by the government and other institutions, to conduct education and promotion of good nutrition practices at the school level. However, the results of this activities and the good practices and learning activities is still not well documented.

This book is a form of documentation of school-based nutrition promotion activities in Indonesian schools that are expected to be a reference for stakeholders, as well as advocacy materials for the urgency of integrated nutrition promotion activities as part of sustainable activities in schools. This book consists of 5 books, each of which is targeted for academics, policy makers, program implementers, teachers and school stakeholders, as well as parents and the media. This book is also available in English in order to reach a wider audience.

We extend our gratitude to all those who have contributed to and supported the preparation of this book. We hope this book will bring benefits to all stakeholders involved in school-based nutrition promotion activities in Indonesia.

Jakarta, June 2020



Muchtaruddin Mansyur
Director

WELCOMING REMARKS

The Ministry of Education and Culture is strongly committed to health of our students as it influences the readiness to participate in teaching and learning activities. Considering the length of time that students spend at school each day, we believe we can make school as the right means to promote and train students with good nutrition practices.

The Ministry of Education and Culture has made efforts to improve health and nutrition of our school-age children and adolescents by promoting the Nutrition and Health Program through the School Health Program or *Usaha Kesehatan Sekolah* (UKS). The efforts were based on the Joint Regulation of 4 Ministries on the Development of School/Madrasah Health Programs (UKS/M). In addition to that, from 2017 to 2019, the Ministry of Education and Culture implemented the School Children Nutrition Program (ProGAS). The programs were focusing on 3 components, namely, increasing nutrition intake by providing healthy breakfast, nutrition education, and character building.

The Ministry of Education and Culture also appreciates various activities to promote school-based nutrition that have been carried out by different stakeholders, including universities and non-governmental organizations. All of these activities need to be well documented so that best practices of the implementation can be scaled up. Therefore, the Ministry of Education and Culture, through SEAMEO RECFON, has created this School-Based Nutrition Promotion (SBNP) book. The book contains a compilation of activities that have been carried out by government agencies, universities, and non-government organizations and presents a lot of materials for conducting nutrition promotion activities in schools.

We believe this book is beneficial for all stakeholders involved in school-based nutrition promotion activities. When they need to foster creative ideas to promote nutrition and health in schools with sustainable implementation for a healthy and quality future generation, this book can be a reliable and credible reference.

Jakarta, June 2020



Prof. Ainun Na'im, Ph.D
Secretary General
Ministry of Education and Culture of the Republic of Indonesia

WELCOMING REMARKS

The challenges in overcoming health and nutrition problems in Indonesia lies not only in solving short-term problems, but it is also important to ensure that the current nutrition improvement will also have an impact for the aversion of future similar problems in the next generation. Overcoming nutrition problems among school-age children and adolescent is one such program, bearing in mind that nutrition problems in this age-range will have long lasting effect such as Chronic Energy Deficiency and Anemia among pregnant women.

Following the life cycle approach, many health and nutrition programs have been in place in various age groups, including school-aged children and adolescents. In this age group, programs implemented are multi-sectorial in nature through the School/Madrasah Health Program or *Usaha Kesehatan Sekolah/Madrasah (UKS/M)* and intended to develop healthy habit and improve health and nutritional status. Programs as Iron Pill Supplementation for adolescent school-girl and the Healthy School/Madrasah Model are implemented within the framework of the UKS/M. There are also program implemented using platform at community, i.e. the Adolescent sensitive Youth Health Care (*Pelayanan Kesehatan Peduli Remaja (PKPR)*) and Adolescent Health Post (*Posyandu Remaja*)), which are also intended for the same purpose. These various programs and activities need to be well documented so that the best practice revealed in the program can become a reference for implementation.

Therefore, we appreciate the initiative taken by SEAMEO-RECFON through the School-Based Nutrition Promotion (SBNP) Working Group in Indonesia. Documentation of school-based nutrition promotion activities that have been carried out in Indonesia by various Government Agencies, Universities, and Non-Government Organizations. It is expected could encourage the revival of innovative school-based nutrition intervention.

It is expected that this book will be well received and used by various stakeholders involved in school-based nutrition promotion activities and policy makers in Indonesia. Hopefully, launching of book, integrated programs that will focus on school age children and adolescents can emerged for a healthy and competent future generation.

Jakarta, 1 June 2020



dr. Kirana Pritasari, MQIH
Directorate General of Public Health
Ministry of Health of the Republic of Indonesia

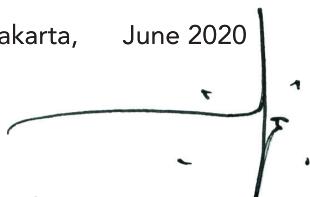
WELCOMING REMARKS

The Ministry of Religious Affair of the Republic of Indonesia pays attention to the health of school-age children and adolescents through Madrasah and Islamic Boarding Schools whose educational activities are the responsibility of the Ministry of Religious Affair. One of the roles of the Ministry of Religious Affair is also described in the Joint Regulation of 4 Ministries on the development of School/Madrasah's Health, the effort among others is developing the Healthy School models in *Madrasah* and Islamic Boarding School.

We extend our appreciation to SEAMEO RECFON, in which through the School-Based Nutrition Promotion Working Group in Indonesia has published a School-Based Nutrition Promotion Book. The book is a collection of documentation on nutrition promotion activities in schools that have been carried out by Government Agencies, Universities, and Non-Government Organizations. Lessons learnt can be drawn from past experiences to make implementation of promotional activities in *madrasah* and *pesantren* to be more efficient and effective.

We expect that this book can be well accepted and used by various stakeholders involved in health and nutrition promotion activities in *Madrasah* and *Pesantren*. Ensuring proper implementation of health and nutrition improvement program in *Madrasah* and *Pesantren* is expected to lead to healthier students with sufficient nutrition and will have an impact on the student's readiness to learn and their school performances.

Jakarta, June 2020



Prof. Dr. Phil Kamaruddin Amin, M.A
Directorate General of Islamic Education
Ministry of Religion of the Republic of Indonesia

WELCOMING REMARKS

School-age children and adolescents are the right age group to instill good nutrition practice habit. Currently as many as 26% of Indonesia's population are school-age children and adolescents with an age range of 6-19 years, and this age range is the age of compulsory education, so they spend quite a long time in school. Thus, schools can be regarded as potential means for nutrition to adolescents.

On the other hand, studies showed that nutrition problems in this age group still need to be improved. National data from *Riset Kesehatan Dasar (Riskesdas)* in 2018 showed the stunting prevalence in children aged 5-19 years ranging from 23,6% to 26,9%, the wasting prevalence from 8-9%, but the prevalence of overweight/obese also reached 13,5%-20%. In addition, health-risk behaviors are also high, including less consumption of fruits and vegetables, low physical activity, and lack of hygienic and healthy lifestyle.

Nutrition promotion for school children and adolescents is one of the activities of the School/Madrasah Health Program (UKS/M) which was conducted based on a Joint Regulation among Minister of Education and Culture Republic of Indonesia, Minister of Health Republic of Indonesia, Minister of Religious Affair Republic of Indonesia, and Minister of Home Affairs Republic of Indonesia, reference number 6/X/PB/2014 number 73 year 2014 number 41 year 2014 number 81 year 2014. One of the roles of the Ministry of Home Affairs is to encourage local governments to include the UKS/M program in the regional planning district and provincial level.

For nutrition problem alleviation, many stakeholders have been involved to strive for the implementation of good nutrition practices among school-age children and adolescents. Through the School-Based Nutrition Promotion Working Group in Indonesia, SEAMEO RECFON documented various school-based nutrition promotion efforts that have been carried out including good practices. Compilation is carried out through documents/literatures review and direct data collection to stakeholders who works in developing school-based nutrition promotion. This School-Based Nutrition Promotion Book contains information on various government programs and various nutrition interventions in school from various institutions, and include themes on the First 1000 Days of Life (1000 HPK) interventions, balanced nutrition, obesity, food safety and other topics, including information on tools and modules used.

We hope that this book can serve as a reference and used by various stakeholders involved in the implementation of nutrition and health promotion activities in school that are sustainable for a healthy and quality future generation.

Jakarta, July 2020



Dr. Ir. Muhammad Hudori, M.Si.
Directorate General of Regional Development
Ministry of Home Affairs of the Republic of Indonesia

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1. NURTURING HEALTH FOR SCHOOL-AGE CHILDREN AND ADOLESCENTS

1.1 The Health of School-age Children and Adolescent is Imperative

The right for health is a basic human right, thus it is protected by the state. However, there are community groups that have a greater risk to health problem, thus needed more attention. School-age children and the adolescents (aged 7 to 18 years old) are part of those at-risk community. Almost a quarter of Indonesia (23%) are from this age group¹. They have distinctive physical and psychological characteristics due to their fast growth and development. During this developmental stage, balanced intake of nutrition is pivotal to reach their optimum potential. While on the other hand, school-aged children and adolescents are in the peak of their health and rarely suffer from physical illness. This has made them less mindful of their health, therefore we need to continuously remind them on the importance of building a healthy life style. Intervention to promote healthy life style in this age group is timely since during this age, children and adolescent have developed an agency for decision making, attitude formation and behavior adoption, including those related to health and nutrition, which will benefit them in the long run.

Why Health Intervention for School-aged Children and the Adolescent is Imperative:

- 1 out of 4 Indonesians are school-aged children and adolescents.
- This is an important stage for physical and cognitive growth, including at puberty where adequate and balanced nutrition is crucial to enable optimum growth.
- They have developed an agency to form attitudes, make decisions, and adopt beneficial behavior from their environment.
- Investing in the health of school-age children and adolescents is beneficial in supporting their current performance in school and in the community as well as for their future productivity in adulthood. This includes the health of the next generation, especially for adolescent girls as future mothers.

Nutrition for school-aged children and the adolescent should be seen as part of the nutrition in the life cycle, where nutritional problem within this age will result on impaired growth and development which will impact the next stage of life

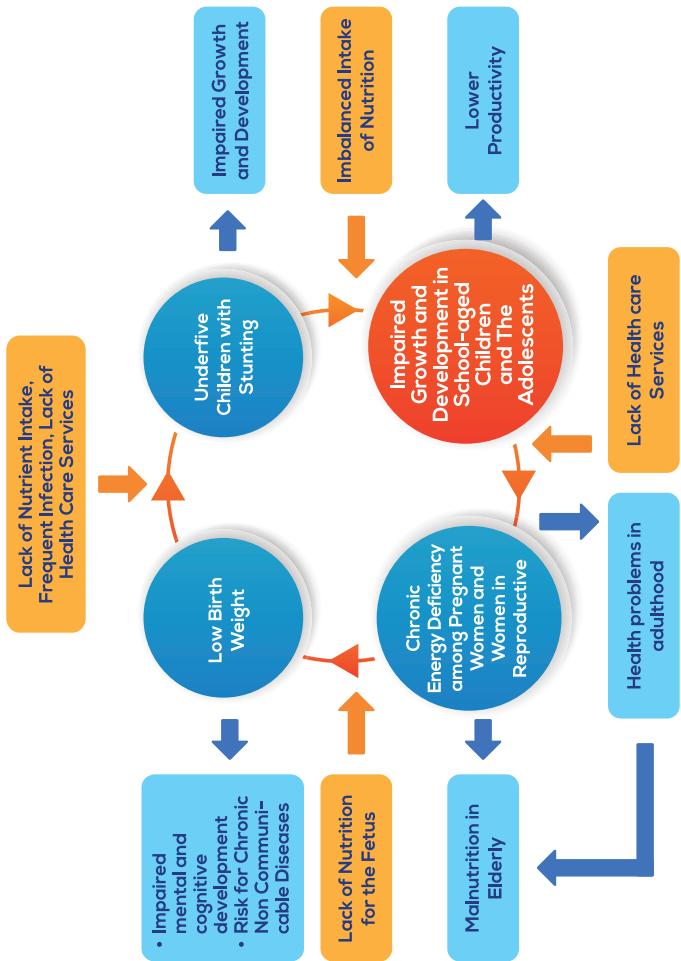


Figure 1. Nutrition Problem in the Life Cycle

Source: Gizi dalam Daur Kehidupan²

1.2 Nutrition Problem in School-aged Children and Adolescents

Diet that is not balance in nutrition will not fulfill what the body need, thus it can cause malnutrition. Malnutrition refers to imbalances in a person's nutrition condition, both in the form of deficiencies or excess. In addition to both malnutrition forms (under and overnutrition), there is another issue, i.e. micronutrient deficiencies for example iron deficiency and iodine deficiency. Micronutrient deficiency often can not be physically recognized, and therefore it is very important to prevent it by fulfilling the daily micronutrient intake requirement through a good eating habit. The problem of under and overnutrition as well as micronutrient deficiencies that occur simultaneously is known as "Triple burden of malnutrition"³.

The undernutrition problem commonly experienced by school-age children and adolescents are stunting and wasting. Stunting or short (defined as low height for the given age) is a physical indicator of undernutrition for a long period/chronic, while wasting (defined as low body weight for the given height) is an indicator for short term/acute deficiencies.

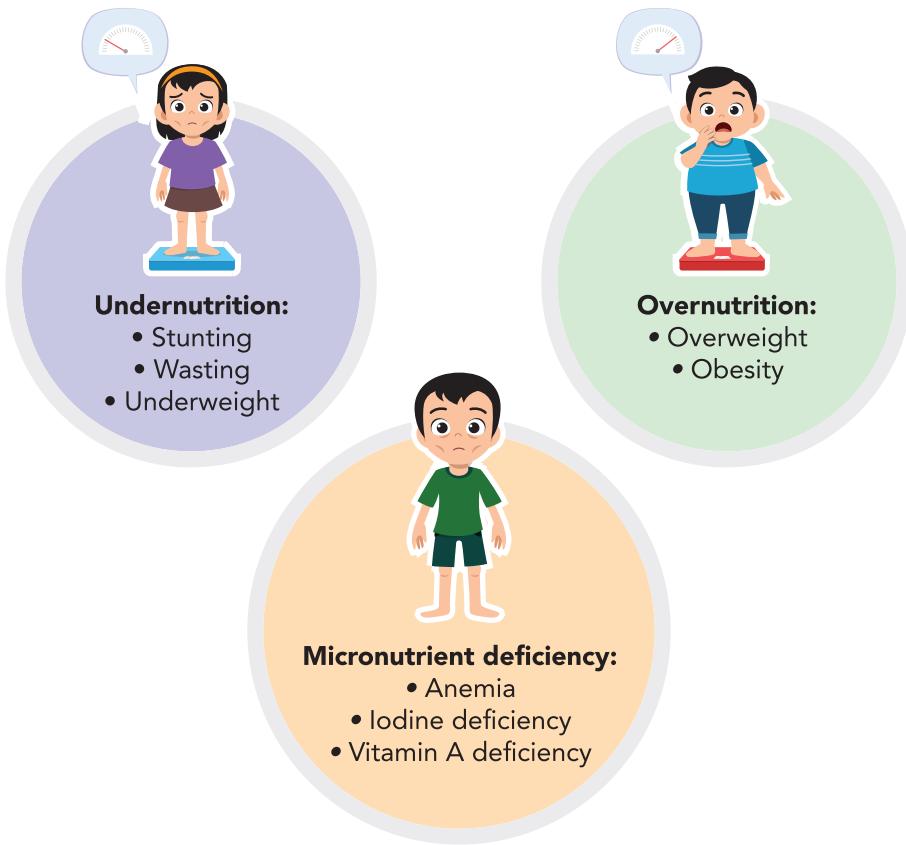


Figure 2. Nutrition Problem in School-aged Children and Adolescent

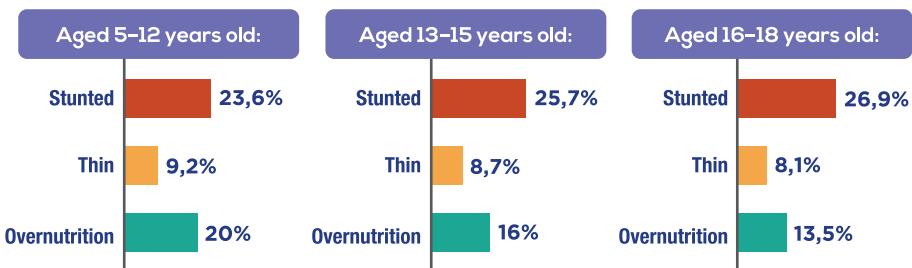


Figure 3. Magnitude of Nutrition Problem in School-age Children and Adolescent

Source: Riset Kesehatan Dasar, 2018⁴

Malnutrition, both in the form of stunting and wasting as well as micronutrient deficiencies such as anemia can lead to lower learning performance. Malnutrition hinders cognitive development as well as increases the risk for illness which lead to lower attendance⁵. While on the other hand, being overweight is an important risk factor for development of non-communicable diseases (diabetes, high blood pressure, heart disease, stroke, and several major cancers), which is currently one of the main causes of death in Indonesia.

Malnutrition are the result of various risky behaviors. Unfortunately, these risky health and nutrition-related behavior are observed in school-age children and adolescents, as illustrated in the illustration in **Figure 4**.

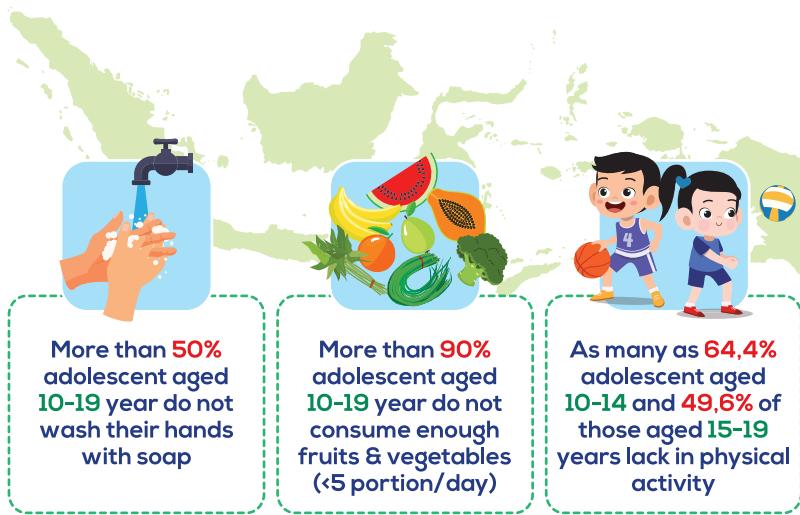


Figure 4. Risky Behavior in Indonesian Adolescent

Source: Riset Kesehatan Dasar, 2018⁴

Another healthy habit that is rarely applied properly is hand washing. Dirty hands increases the risk for infections, such as helminthiasis or diarrhea which can increase the person vulnerability to malnutrition. Proper hand washing should use running water and soap for 40 to 60 seconds. The recommended time for hand washing can be seen in **Figure 5**.

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Figure 5. Recommended Time for Washing Hand⁵

The poster is in Bahasa Indonesia, produced by the Ministry of Health. It informs about the recommended time to wash your hands, i.e. after sneezing/coughing, after playing on ground/mud or other dirty places, before and after handling food, before eating or feeding children, after using the toilet, after helping children clean themselves, before breastfeeding, anytime your hands are dirty e.g. after typing, holding money, petting your pet, and others.

2. SCHOOL-BASED NUTRITION PROMOTION: A REVIEW OF THE EVIDENCE

Various school-based nutrition intervention studies have been conducted in Indonesia. These interventions are expected to increase knowledge, practice and nutritional status of school children so that it improves children's learning performance and competitiveness. In the end children with good nutritional status can show significant contribution to the nation's development⁷.

Studies on School Based Intervention Program

- School Feeding – provision of foods/meal at school, involving parents and the local community using local food sources.
- Nutrition education in schools - nutrition education includes cognitive aspects, cooking skills and visits to food producers which are then followed up with ongoing monitoring. Nutrition education involves students, teachers and parents.
- Peer Education – educating peer of the adolescent groups to increase knowledge, attitudes and behaviors regarding healthy eating patterns and balanced nutrition.
- Supplementation of vitamins and minerals - in the form of powder and fortified biscuits.

School feeding is one of the school-based intervention program that has been carried out and has shown benefits for improving the nutritional status of children. In addition to its direct impact on the nutrition and health status of the children, the provision of food in schools also serves to develop the economy and agriculture activities in rural areas as one forms of social protection. The program has shown to help achieve optimal learning achievement, and reduce student absenteeism⁸.

Studies regarding nutrition education as an intervention showed promising role in equipping students and the school community with the knowledge and skills to adopt healthier eating habits. Nutrition education is mostly done with a variety of fun activities that involve students, teachers and parents. Several nutrition education studies in schools have implemented various approaches with a variety of activities to strengthen the nutrition messages delivered such as shown in **Figure 6**.

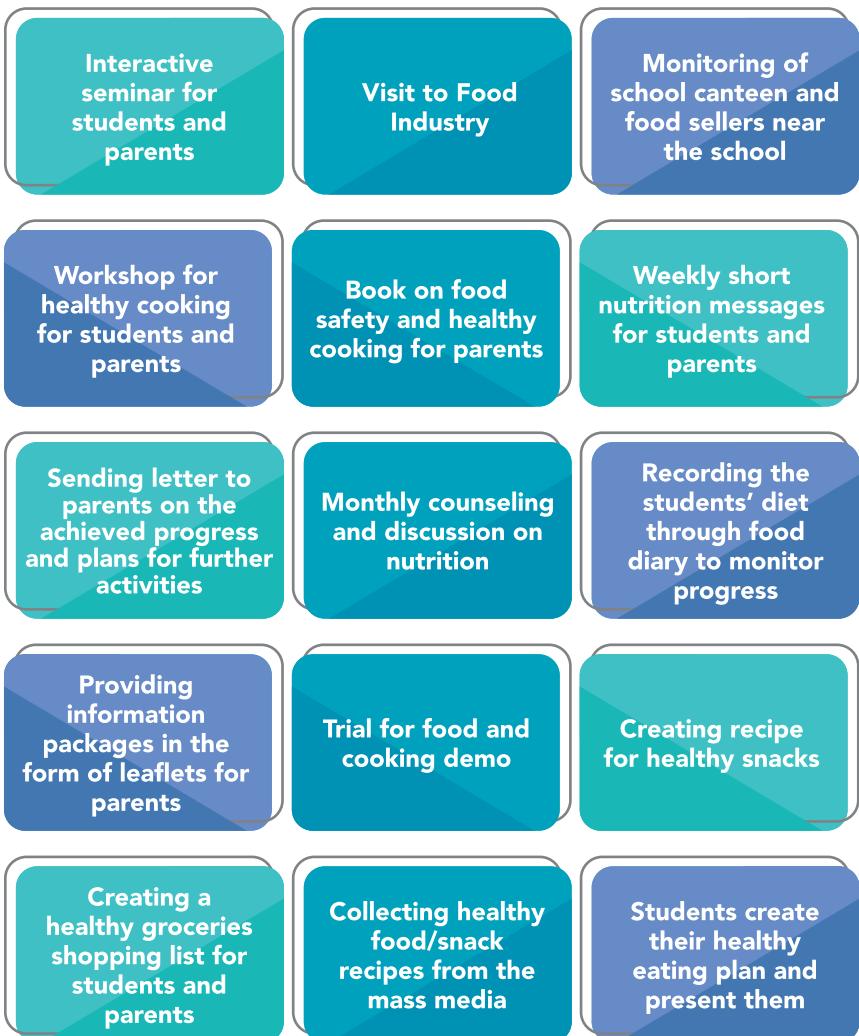


Figure 6. Various Approaches with a Variety of Nutrition Education Activities

Another important path to improve nutrition practices in school environment is peer education.. In this approach, students are empowered and encouraged to play the role of educators or counselors who work in teams to provide information or material advice to their fellow students of the same age (peers)¹². Several studies on peer education methods showed that it has been effective for reducing sedentary lifestyles and increasing knowledge scores, positive attitudes, and adolescent behavior towards balanced diet¹³.

Multivitamin and mineral supplementation is also a promising intervention to improve nutrition status of school-age children. Studies show that the administration of multivitamin and mineral fortified biscuits, given every day during the school day to elementary school children has been shown to increase iron levels and various vitamins in the blood¹⁴.

In parallel to research on nutrition education, researchers also developed various nutritional education tools covering various themes including balanced nutrition, the first 1000 days of life (HPK), Obesity, Food Safety and Hydration as presented in **Table 1**. This educational tool can be used for delivering nutrition messages at school through interesting activities.

Table 1. Education Tools for Balanced Diet, First 1000 Days of Life, Obesity, Food Safety and Hydration

Level	Nutrition Education Tools
Elementary School	Educative books on game-based education on fruit and vegetable consumption, Nutrition Card Games and my dinner plates, the song "My eating habits", Pocket Book of obesity education movements (Gentas), Cooking Demo Module, Fairytale and drama, module for child cadre for street food supervisors, balanced nutrition puzzle games, balanced nutrition ladder and snake games, various nutrition education videos and flyers, Anemia Flash Cards, Posters/Videos/PPT the benefit of fiber, Interactive learning media for Iodized Salt, Zimaja Lantera Module, School canteen development documents, Comic "The Health Importance of Drinking Water".
Junior High School	Nutrition education modules for junior high school teachers, Clean and Healthy Lifestyle Discs and Posters (<i>Pola Hidup Bersih dan Sehat - PHBS</i>), Android-based Balanced Nutrition Comics, Module on Nutrition School for Smart Women (<i>Sekolah Gizi Perempuan Cerdas - SGPC</i>), Zimaja Lantera Module, Pretty Picky interactive video.
Senior High School	Module on Nutrition School for Smart Women (<i>Sekolah Gizi Perempuan Cerdas - SGPC</i>), Nutrition education module based on theory of planned behavior, Breast Cancer Risk Factor Pocket Book, Training module for Peer Counselor for Community Integrated Health Post for Youth (<i>Posyandu Remaja</i>).

3. SCHOOL BASED NUTRITION PROMOTION AND PROGRAM IN INDONESIA

The government of Indonesia has implemented various policy and program to improve the health of school-age children and adolescents in the country. For example, the National Action Plan (NAP) for School-Age and Adolescent Health for 2017-2019, issued by the Coordinating Ministry for Development and Humanitarian Affairs. This NAP is intended to be used as a reference by Ministries, Institutions and Local Governments in implementing efforts to prevent and reduce the health problems of school-age children and adolescents, including nutrition (such as anemia, underweight, and overweight) and non-communicable diseases that are closely related with nutrition (i.e. lack in physical activity as well as consumption of vegetables and fruit)¹⁵.

School Health Program - *Usaha Kesehatan Sekolah/UKS*

The School Health Program (*Usaha Kesehatan Sekolah - UKS*) aims to enable the school community to live a healthy life, to improve the health status of students as well as to create a healthy environment so that the students can reach their optimum potential. The UKS was designed as an 'entrance' for the coordination of various health-related activities carried out in schools. In 2014 four Ministries issued a Joint Regulation between the Minister of Education and Culture, the Minister of Health, the Minister of Religion, and the Minister of Internal Affairs of the Republic of Indonesia Number 6/X/PB/2014; Number 73 of 2014; Number 41 of 2014 and Number 81 of 2014 concerning the Development and Development of School/Madrasah Health Program (UKS/M) as the legal basis for implementing UKS.

The UKS program is implemented by the UKS Team in each school in coordination with the UKS team in the Puskesmas, and supported by the school communities such as parents, school committees, canteen managers and tenants, street vendors, and the community around the school. The UKS/M main activities are carried out through three pillars called the UKS Triad, namely health education, health services, and school environment development.



UKS TRIAD

1. Health Education

- Health literacy movement.
- Education for life skill to live a healthy life.
- Hand washing.
- Teeth brushing.
- Physical activity during class/subject changes.
- Breakfast program where students bring their own food that fulfill the balanced diet.

2. Health Care Services

- Regular physical and health check up.
- Vaccination, and anti helminthic, supplementation of iron and folic acid.
- First aid services.

3. Supporting Healthy School Environment

- Support and monitoring of healthy canteen and food vendors around school.
- Garbage disposal management.
- School garden.
- Eradication of mosquito nest.
- Tobacco free school environment.

Figure 7. UKS TRIAD

Source: Strategi Komunikasi UKS/M¹⁶

Health Education can be implemented through the curricular and extracurricular activities. Curricular activities mean implemented during class hours according to the curriculum that applies to each level and can be integrated into some subjects, especially Physical Education, Sports and Health. Whereas extracurricular activities (carried out outside regular learning hours) relating to health education include school gardens, scouts, school community papers (in Indonesia commonly displayed on the wall on public service area), various competitions, youth red cross, student council, and others.

In the implementation, the community health center (*Puskesmas*) play a role in fostering promotional and preventive activities in the schools in their working areas through UKS/M activities. Unfortunately, this role has not yet been optimized because of the limited human resources¹⁵. Accordingly, although the UKS/M has been implemented for a long time, the achievements of each region are very diverse and highly dependent on the level of concern and commitment of stakeholders in each region towards the UKS/M. In general, it was found that the implementation of UKS/M activities in Indonesia was not yet optimal¹⁷.

Government Program for Nutrition Intervention and Promotion

Some nutrition intervention/promotion programs have been launched by the government to promote nutrition (and health) in schools are: health education, health examination and recording in *Buku Raport Kesehatanku/My Health Report Card*, Weekly Iron-Folic Acid Supplementation for Adolescent Girls, *Model Sekolah/Madrasah Sehat/Healthy School/Madrasah Models*, *Program Gizi Anak Sekolah/Nutrition Programs for School Children* and *Pola Hidup Bersih dan Sehat/the Clean/Hygiene and Healthy Lifestyle Program*.

School-Based Nutrition Program that has been carried out by the Indonesian Government

- **My Health Report Card** - the focus of the program is health and nutrition education, parallel to the examination and recording of nutritional and health status. Target: elementary, middle and high school students.
- **Weekly iron and folic acid tablet supplementation** - the focus of the program is on supplementation of iron and folic acid in school going adolescent girl to prevent anemia. Supplements are taken together at school on the same day every week, 1 tablet/week or 52 weeks a year - target adolescent girls at junior high/high school level.
- The Clean and Healthy Behavior Program **in schools** - the focus of the program is to improve clean and healthy behavior in the school environment - target elementary/middle/high school students and the school environment.
- **ProGAS** - the focus of the program are the three pillars, namely 1) Increasing the intake of food to fulfill the balanced nutritional need for children in school, by using local food through community based cooking groups at school, 2) Nutrition education provided to cooking groups, students, teachers and parents, 3) Character building through discipline training, queuing culture, orderliness, pray before and after eating, finish the foods, and give appreciation for parents who have prepared breakfast at school and the application of clean and healthy living behaviors (PHBS) - Target students in food and nutrition-prone areas or special areas e.g. post-disaster, country borders and remote areas.
- **Healthy School/Madrasah** - is creating a healthy school environment through various components of health promotion programs and health services - Target elementary/junior high/high school students and the school environment.

My Health Report Card was published by the Directorate of Family Health of the Ministry of Health in 2017. This book consists of the Health Information series (contains information related to health and growth

and development for students) and the Health Record series (contains student health records from the results of health services in schools, Puskesmas or other health facilities). These two series are used side by side. My Health Report Card are prepared specifically for students at each elementary/MI, and for SMP/MTs and SMA/SMK/MA level. This book is expected to be read by students (for example during a 15-minute literacy session) and parents. In addition, health workers and teachers are asked to explain the contents of this book to students. The use of this book fulfills pillars 1 and 2 of the UKS triad, namely education and health services.

Another school-based nutrition program is the provision of weekly iron and folic acid supplementation/WIFAS for adolescent girls at junior and senior high school levels. The implementation of this program is in close coordination between the health sector/authority and education sector/authority as well as the Religious office in the districts/cities and provinces. The major points of this program are explained in the following box^{18,19}.

Provision of weekly iron and folic acid supplementation/WIFAS for adolescent girls at junior and senior high school levels^{18,19}:

- The objective is to improve the nutritional status of the adolescent girls, so that they can break the cycle of stunting, prevent them from anemia, and increase the iron storage in the body to prepare them for their future role as mothers.
- The tablet composition: 60 mg of elemental iron and 0.4 mg of folic acid.
- The tablet is given to young women aged 12-18 years, students in junior and senior high school or equivalent through UKS/M.
- Each school allocates a WIFAS day each week (a fixed day, same day every week) according to the agreement in their respective regions.
- The Community Health Centre (Puskesmas) will distribute the tablet to schools through UKS/M activities.
- Monitoring of compliance is carried out by the UKS/M team in each school.
- The recording is done using the recording format provided by the Puskesmas and collected monthly in stages (school/madrasah > Puskesmas > District Health Office > Provincial Health Office > Ministry of Health).

Nutrition problems are closely related to overall lifestyle. So it's not just a matter of food and eating habit. Therefore, the Directorate of Health Promotion and Community Empowerment at the Ministry of Health launched the Clean/Hygienic and Healthy Lifestyle Program (**Pola Hidup Bersih dan Sehat-PHBS**). Guidelines for the Development of PHBS are regulated in Regulation of the Minister of Health of the Republic of Indonesia Number 2269 / MENKES / PER / XI / 2011. The purpose of the PHBS program is to increase knowledge, attitudes, and practices related to living a healthy and hygienic lifestyle. The PHBS structure includes PHBS in households, schools, workplaces, health facilities and public places. PHBS is also the second pillar of the four pillars of Balanced Diet.



Figure 8. Examples of PHBS Activities in School Environment

Source: Ministry of Health of Indonesia, 2016²⁰

As findings in various countries show that school feeding programs are considered effective in improving the nutritional status of students, there is a similar program in Indonesia named the Nutrition Program for School Children or **Program Gizi Anak Sekolah (ProGAS)**. This program was implemented for the first time in 2016, under the coordination of the Directorate of Elementary School Development, Director General of Primary and Secondary Education, Ministry of Education and Culture. In 2017, ProGAS was implemented in 11 districts in 5 provinces with 100 thousand students. Expansion of coverage was carried out in 2018, namely 64 districts in 20 provinces with a total number of 100,136 students. It was continued in 2019 with a target number of 100,620 elementary students in 39 districts in 20 provinces. ProGAS target districts are regencies that fall into the category of food and nutrition insecure as well as certain regencies that have specificities such as remote islands, border areas, and post-disaster areas. Whereas the designation of schools is decided in coordination with the District Education Office where the office proposes the prospective school as the ProGAS recipients.

ProGAS is carried out through three interconnected components, namely: Increasing nutritional intake by providing healthy breakfast in accordance to the balanced diet guidelines, using local recipes and food ingredients prepared by community-based cooking groups in schools. In 2019, the breakfast at school were held for a total of 60 days (*Hari Makan Anak*) per student, respectively. Nutrition education is given to the cooking groups, students, teachers and parents. The Character Building is delivered by promoting queuing culture, orderliness, pray before and after eating, finish the foods, and give appreciation for parents who have prepared breakfast at school and the application of clean/hygiene and healthy living behaviors (PHBS).



Figure 9. Integrated ProGAS Scheme

Source: Best Practices ProGAS²¹

The school requires a comprehensive model of intervention to solve the nutrition problem in the school environment. In ProGAS and PHBS the principles of implementing an intervention that involve the entire school community is clearly apparent. Improving the nutritional status of students can be achieved by creating a healthier school environment and improving healthy living habits as a whole. In Indonesia, there is a healthy school/madrasah model, where schools/madrasah who wish to obtain the title must meet the existing criteria. Indicators for applying the healthy school model consist of physical, mental and social indicators²².

01

Physical indicators

Including, 1) Number of students with normal nutritional status; 2) Have adequate clean water facilities and adequate sanitary latrines; 3) Have adequate hand washing facilities and garbage bins; 4) Perform Hand Washing with Soap (*Cuci Tangan Pakai Sabun – CTPS*); 5) Breakfast/lunch and tooth brushing together; 6) Conduct regular physical activity; 7) Conduct health screening and periodic checks.

02

Mental indicators

Namely providing education on healthy living skills (psychosocial competence) in schools.

03

Social indicators

Namely 1) Smoke-free area (*Kawasan Tanpa Rokok - KTR*); 2) Drugs-free areas (*Kawasan Tanpa Narkoba-KTN*); 3) Violence-free area (*Kawasan Tanpa Kekerasan KTK*); 4) Have sufficient school/doctor health cadres and 5) Low absenteeism due to illness²².

In achieving healthy school indicators, there are a number of activities that can be carried out by healthy schools/madrasah by integrating them into the teaching and learning activities plan in schools as in **Table 2**²³.

Table 2. Example of Healthy School/Madrasah Model Activities Integrated into Regular Teaching and Learning (RTL) Schedule

Time	Day				
	Monday	Tuesday	Wednesday	Thursday	Friday
	Smile and polite greetings	Smile and polite greetings	Smile and polite greetings	Smile and polite greetings	Smile and polite greetings
06.30 – 07.00	Flag Ceremony	- Hand washing with soap - Breakfast program - Hand washing with soap	Health Literacy movement (Utilizing the "My Health Card")	Education on Healthy Life Skill	Physical Activity
07.00 – 07.45	RTL	RTL	RTL	RTL	RTL
07.45 – 08.30	RTL	RTL	RTL	RTL	RTL
08.30 – 09.15	Stretching, RTL	Stretching, RTL	Stretching, RTL	Stretching, RTL	Stretching, RTL
09.15 – 10.00	RTL	RTL	RTL	RTL	RTL
10.00 – 10.15	Recess, Canteen Monitoring	Recess, Tooth brushing	Recess	Recess	Recess, Tooth brushing
10.15 – 11.00	RTL	RTL	RTL	RTL	RTL
11.00 – 11.45	RTL	RTL	RTL	RTL	RTL
11.45 – 12.45	Recess	Recess	Recess	Recess	Recess
12.45 – 13.30	RTL	RTL	RTL	RTL	Coaching/training of health cadre
13.30 – 14.15	RTL	RTL	RTL	RTL	Drinking WIFAS together for female students

4. THE ROLE OF SCHOOL IN SCHOOL BASED NUTRITION PROMOTION PROGRAM IN INDONESIA

To be able to understand the importance of adequate nutrition intake and healthy lifestyles and implement it in daily life, school-age children and adolescents need to be exposed to adequate information as well as role models who serve as examples for healthy behavior. Examples can come from parents, teachers, peers and public figures.

Nutrition education which increase the nutrition knowledge does not necessarily be translated into behavior. Sufficient knowledge and attitudes that begin to form must be supported by the home and school environment, so that it can be translated into a behavior that is consistently practiced, and thus form a healthy habit.

The school environment is one of the very important, effective, and efficient environment to nurture and promote healthy nutrition, for several reasons as explained in **Figure 10**.

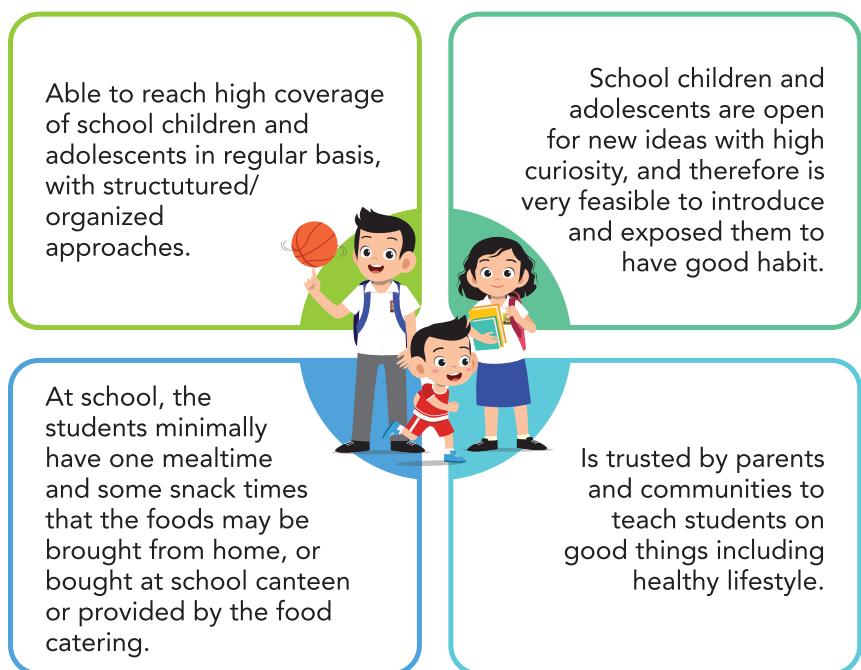


Figure 10. Factors that Made Schools as a Potential Setting to Promote Nutrition²⁴⁻²⁶

However, efforts to change behavior through school is not without barriers and challenges. First is the traditional function and structure of schools, where there is a hierarchy of teacher-student relationships that focus on knowledge transfer according to the curriculum. On the other hand there are also limited teacher capacities in innovating to develop advocacy competencies. Time and other resources availability also determine whether a program will be a priority or not. In general, teachers have the main responsibilities related to their main tasks to improve and monitor the students' academic achievement, as well as some administrative assignments. Therefore monitoring nutrition activities or other health programs such as School Health Program (UKS) may not be a in the top priority²⁷. In addition, the limited physical facilities and infrastructure to support the implementation of programs/health promotion activities in schools is also a challenge for the implementation of the program.

Some guidelines require more detailed instructions at the school level so that in practice they can implement it according to the expected quality standards. Learning from the challenges at various levels of school-based nutrition program implementation, there are several key factors determining the implementation of School-Based Nutrition Promotion as described in **Figure 11:**

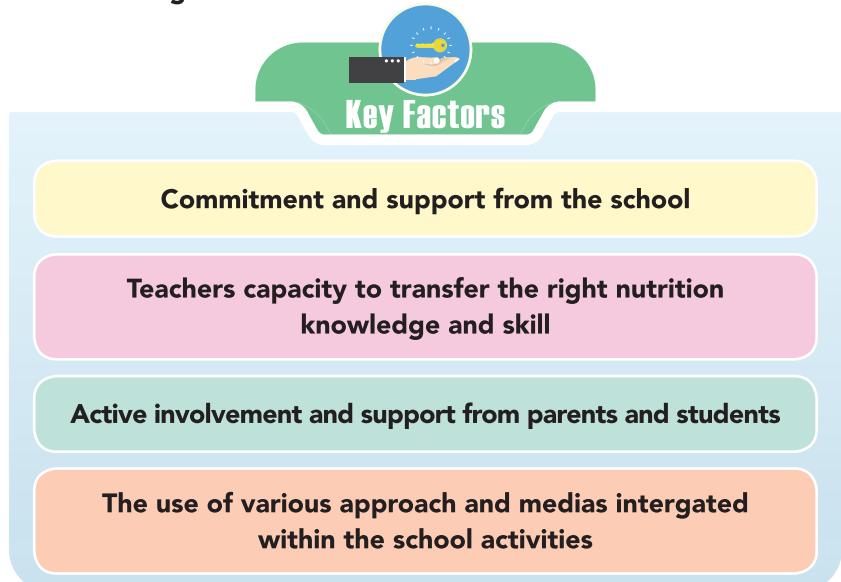


Figure 11. Key Factors for the Implementation of School Based Nutrition Promotion

School management commitment and support can be in the form of:

- 1.** Policies that support the realization of healthy behavior and habits in students and throughout the school community. For example, bring lunch and breakfast together at school, healthy food day at the school canteen, "fruit day" at school, physical activity day at school. This activity is part of the regular school-agenda and is followed by the entire school community.
- 2.** The formation of a team, responsible for carrying out and monitoring this activity.
- 3.** Allocate time during regular school meetings to discuss the achievements and challenges of implementing the SBNP activities and ideas for solutions or other activities related to the habit of healthy living at the school level.
- 4.** Policy to involve the entire school community at every stage to increase ownership and pride in the program being implemented.

The resources limitation and the different priorities of schools also need to be taken into account in implementing the school-based nutrition program. Therefore, as the first step the school needs to adjust and develop a nutritional promotion model in accordance with the conditions of the school, parallel with the mandatory national program for anemia prevention through weekly iron-folic acid supplementation at school. For example, schools may start with strengthening their healthy canteen, empowerment of students as health/nutrition cadres at school, integrated nutrition education, use of school garden for promoting nutrition, and other activities. Gradually, the schools may build up other components of the SBNP to have all components integrated at school because they complement each other. Thus, the main purpose of nutrition promotion in schools can be optimally achieved.

5. CLOSING

Ensuring balanced nutrition and healthy lifestyle of the school children and adolescents is very important for maintaining their health, cognitive abilities and productivity as students and their future impact on health and socioeconomic productivity as adults. With high levels of school participation in this age group in Indonesia, schools are an important entry point for reaching groups of children and young people. Nevertheless, a fundamental paradigm shift by all key stakeholders is needed so that schools become a holistic, student-centered educational environment, in which the students are empowered to be responsible decision makers. Thus, in addition to being equipped with cognitive abilities, students also need to be equipped with life skills and welfare education both physically, mentally and socially. This approach will enable us to achieve quality and sustainable changes in healthy behavior that will have an impact on the health of future generations.

REFERENCES

1. Badan Pusat Statistik. *Penduduk Indonesia Hasil Sensus Penduduk 2010*. 1st ed. (Subdirektorat Demografi, ed.). Jakarta: Badan Pusat Statistik Indonesia; 2012.
2. Pritasari, Damayanti D, Lestari NT. *Gizi Dalam Daur Kehidupan*. Jakarta: Pusat Pendidikan Sumber Daya Manusia Kesehatan Badan Pengembangan dan Pemberdayaan Sumber Daya Manusia Kesehatan; 2017.
3. UNICEF. *Children, Food and Nutrition. The State of the World Children 2019. Executive Summary*. New York: UNICEF; 2019.
4. Kementerian Kesehatan RI. Laporan Hasil Riset Kesehatan Dasar (Riskesdas) Indonesia Tahun 2018, Jakarta; 2018.
5. Jukes MCH, Drake LJ BD. *School Health, Nutrition and Education for All Levelling the Playing Field*. Cambridge: CAB International; 2008.
6. Direktorat Pencegahan dan Pengendalian Penyakit Tidak Menular Kementerian Kesehatan RI. Kapan saja harus mencuci tangan. <http://www.p2ptm.kemkes.go.id/infographic-p2ptm/hipertensi-penyakit-jantung-dan-pembuluh-darah/page/15/kapan-saja-harus-mencuci-tangan>. Published 2018. Accessed March 12, 2020.
7. Caniello M, Schneider S, Pauli RIP, Hunter D. Revaluing institutional food procurement. *Spec Issue Raizes*. 2016;36.
8. Bundy D, Burbano C, Grosh M, Gelli A, Jukes M, Drake L. *Rethinking School Feeding: Social Safety Nets, Child Development, and the Education Sector*. Washington DC; 2009. doi:10.1596/978-0-8213-7974-5.
9. Bagheri M, Darani FM, Sharma M, et al. Assessment of the efficacy of physical activity level and lifestyle behavior interventions applying social cognitive theory for overweight and obese girl adolescents. *J Res Health Sci*. 2018;18(2).
10. Hidayanty H, Bardosono S, Khusun H, Damayanti R. *The Use of Social Cognitive Theory to Develop and Evaluate the Effect of Healthy Lifestyle Program among Overweight Adolescents [Disertasi]*. Jakarta: Universitas Indonesia; 2016.
11. Kolopaking R, Firmansyah A, Umar J, Fahmida U. *Use of the Self-Regulatory Approach to Develop and Evaluate the Nutrition Education Effectiveness [Disertasi]*. Jakarta: Universitas Indonesia; 2010.

12. Hull TH, Hasmi E, Widyantoro N. "Peer" educator initiatives for adolescent reproductive health projects in Indonesia. *Reprod Health Matters*. 2004;12(23):29-39. doi:10.1016/S0968-8080(04)23120-2.
13. Cui Z, Shah S, Yan L, et al. Effect of a school-based peer education intervention on physical activity and sedentary behaviour in Chinese adolescents: a pilot study. *BMJ Open*. 2012;2(3):e000721. doi:10.1136/bmjopen-2011-000721.
14. Alayne MA, Rushdia A, Mahbub Latif AHM, et al. Impact of fortified biscuits on micronutrient deficiencies among primary school children in Bangladesh. *PLoS One*. 2017;12(4):1-16. doi:10.1371/journal.pone.0174673.
15. Kementerian Koordinator Bidang Pembangunan Manusia dan Kebudayaan Republik Indonesia. Peraturan Menteri Koordinator Bidang Pembangunan Manusia Dan Kebudayaan Republik Indonesia Nomor 1 Tahun 2018 Tentang Rencana Aksi Nasional Kesehatan Anak Usia Sekolah Dan Remaja Tahun 2017-2019. Indonesia; 2018.
16. Aliyas, Suharyanto A, Laksmi DNMDP, Zulkifli, Nusi H. *Strategi Komunikasi Usaha Kesehatan Sekolah/Madrasah (UKS/M)*. Jakarta: Sekretariat Direktorat Jendral, Direktorat Jendral Pendidikan Dasar dan Menengah, Kementerian Pendidikan dan Kebudayaan; 2019.
17. Kementerian Kesehatan Republik Indonesia. Pedoman Akselerasi Pembinaan dan Pelaksanaan UKS. *Bina Kesehat Anak, Depkes RI*. 2014;(November 2015):1-148. doi:10.3406/arch.1977.1322.
18. Direktorat Gizi Masyarakat Direktorat Jendral Kesehatan Masyarakat Kementerian Kesehatan Republik Indonesia. *Pedoman Pencegahan Dan Penanggulangan Anemia Pada Remaja Putri Dan Wanita Usia Subur (WUS)*. Jakarta: Kementerian Kesehatan RI; 2016.
19. Direktorat Jendral Kesehatan Masyarakat Kementerian Kesehatan. Surat Edaran Kementerian Kesehatan Republik Indonesia Nomor HK.03.03/V/0595/2016 tentang Pemberian Tablet Tambah Darah. Kementeri Kesehat RI. 2016.
20. Direktorat Promosi Kesehatan dan Pemberdayaan Masyarakat Kementerian Kesehatan. PHBS. <http://promkes.kemkes.go.id/phbs>. Published 2016. Accessed November 20, 2019.

21. Widaryat W. Best Practice Program Anak Sekolah (ProGAS). Presented at the *Workshop on Establishment of Southeast Asian School-Based Nutrition Promotion (SEA-SBNP) Working Group*, Jakarta; 2018.
22. Kementerian Kesehatan RI. Usaha Kesehatan Sekolah (UKS) menjadi Transformasi dalam Upaya Kesehatan di Lingkungan Sekolah. <http://sehatnegeriku.kemkes.go.id/baca/rilis-media/20170227/5419937/unit-kesehatan-sekolah-eksamen-menjadi-transformasi-upaya-kesehatan-lingkungan-sekolah/>. Published 2017. Accessed January 20, 2020.
23. Direktorat Kesehatan Keluarga Kementerian Kesehatan RI. Promosi Gizi dalam Model Sekolah Sehat di Indonesia. Presented at *Lokakarya Kelompok Kerja Promosi Gizi Berbasis Sekolah di Indonesia*, SEAMEO RECFON, Jakarta; 2018.
24. Rowe F, Stewart D, Somerset S. Nutrition on Education: : Towards a Whole-School Approach. *Heal Educ* 110(3), 197-208. 2010;110(3):197-208.
25. World Health Organization. *Health Promoting Schools Experiences from the Western Pacific Region.*; 2017. Licence: CC BY-NC-SA 3.0 IGO.
26. Van Cauwenberghe E, Maes L, Spittaels H, et al. Effectiveness of school-based interventions in Europe to promote healthy nutrition in children and adolescents: Systematic review of published and grey literature. *Br J Nutr.* 2010;103(6):781-797. doi:10.1017/S0007114509993370.
27. Tan D, Siri J. *SCHEMA Case Studies: Applying Systems Thinking to Urban Health and Wellbeing.* (Tan D, Siri J, eds.). Kuala Lumpur, Malaysia: United Nations University, International Institute for Global Health; 2018.

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