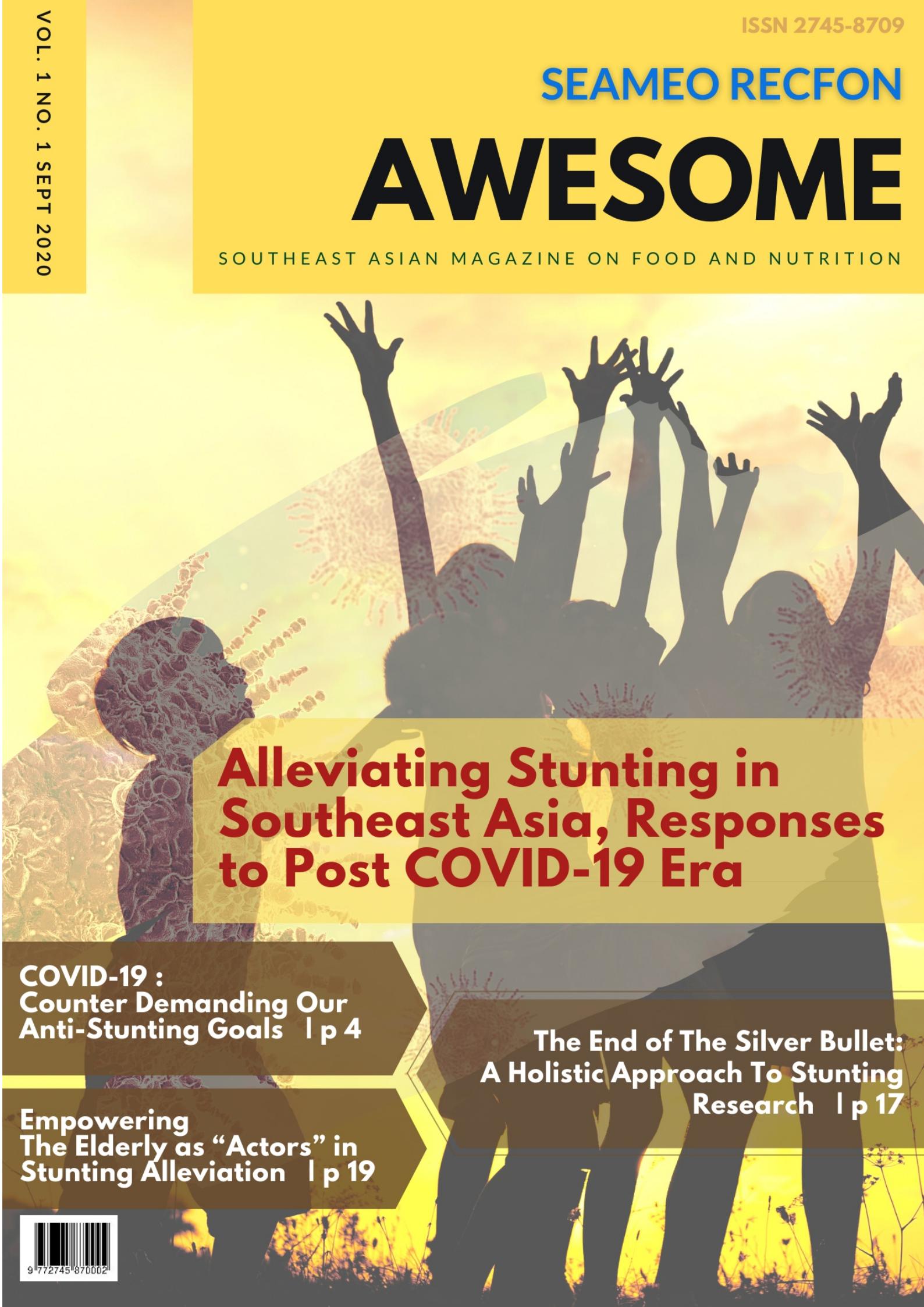


AWESOME

SOUTHEAST ASIAN MAGAZINE ON FOOD AND NUTRITION



Alleviating Stunting in Southeast Asia, Responses to Post COVID-19 Era

COVID-19 :
Counter Demanding Our
Anti-Stunting Goals | p 4

Empowering
The Elderly as “Actors” in
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MESSAGE FROM CHIEF EDITOR



Dear Readers,

We heartily welcome everyone to be a part of the readership of our Centre's magazine we call RECFON Awesome! This is our maiden issue and we hope that you will find all the articles interesting and insightful for you.

In July 2019, the idea of coming up with a regional popular magazine on food and nutrition came about during one of our regular monthly meetings. We are thankful to our Governing Board members for approving this idea during its 9th annual meeting in September 2019 held in Bogor, Indonesia. After 10 months of conceptualizing the format, contents, and procedures for calling for articles, selecting the theme, and going through the editorial and printing processes, we finally produced our first issue!

Our magazine is meant for general readership. We envision it to serve as a platform to enhance awareness on food and nutrition issues and concerns in the region toward enabling you, our dear readers, to make informed decisions and actions to improve your well-being and ensure a healthy lifestyle. Our magazine shall disseminate easy to understand information on various food and nutrition topics that would address our readers' needs.

For our first issue, we thought of focusing on stunting alleviation in Southeast Asia as the main theme. Stunting is a serious problem confronting our countries in the region. Many studies have shown that this form of malnutrition affects the overall physical, cognitive and psychological growth and development of a child. It determines the child's potentials for life in terms of school performance, ability to earn a living during adulthood as well as susceptibility to chronic diseases. Fortunately, there have been several research works, programs and policies, trends and practices from various sectors toward addressing stunting in our region.

We invite you to read and learn from every page of our magazine about stunting alleviation. We hope that you can share your reading experience to your family and friends. We look forward to hearing your feedback so we can improve on our next issue. We would also love to hear the topics that you would like to be featured in our magazine.

In the meantime, sit back, relax and enjoy our magazine. Thank you.

Muchtaruddin Mansyur

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The AWESOME Story

The SEAMEO Regional Centre for Food and Nutrition (RECFON) believes that Southeast Asian countries share similar issues and concerns on food and nutrition. The Centre further believes that Southeast Asian countries have a lot to share in terms of programs, policies, research results, field experiences, and best practices to address such food and nutrition issues and concerns. Some of this information may have been published in technical publications but may have not been disseminated in formats that could be easily understood and utilized by the general public. The Centre feels that there is a need to popularize this abundance of information to benefit a wider range of stakeholders in the region.

Thus, the Centre conducted a roundtable discussion during its 9th Governing Board Meeting held in September 2019 in Bogor, Indonesia about the plan to come up with a bi-annual publication of a magazine that would capture the abovementioned

scenarios. The idea of publishing a popular magazine was also conceived as a support in operationalizing the compilation of best practices and advocacy function of the working groups that the Centre had established for its flagship programs on Nutrition Goes To School (NGTS) and Early Childhood Care, Nutrition, and Education (ECCNE).

The Governing Board members approved and endorsed the publication of the proposed magazine. They also agreed to name the magazine as RECFON AWESOME. The word AWESOME was adopted from the expected outcome of the NGTS program of developing Active, Well-nourished and Smart Of ME school children. The Centre believes that awareness on proper food and nutrition must start at an early age and reinforced in school so that AWESOME school children could become healthy and productive citizenry of their nation when they become adults.

The Magazine shall serve as a platform to enhance awareness on food and nutrition related issues and concerns in Southeast Asia toward enabling its target readers to make informed decisions and actions to improve their well-being and lifestyle. It shall disseminate easy to understand information on various food and nutrition topics that would address the needs of its intended readers.

The Magazine shall enhance the knowledge and inspire its target readers to improve their well-being and lifestyle through proper food and nutrition. Thus, it will publish highlights of research results, opinions on public health issues, briefs on existing policies and program initiatives, personalities, and trends and good practices depicting the richness of Southeast Asian culture in food and nutrition that could contribute to developing a healthy lifestyle among Southeast Asian nationals. (ed).

Procedures for Submission and Acceptance of Articles

The Magazine will announce a call for articles at the start of every year. The submitted articles shall be screened and selected by the Editorial Board according to certain criteria.

For more information you can contact the Knowledge Management and Policy Support Unit at information@seameo-recfon.org

Our Chefs



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Siti Fadhiyatun Nasfriyah

Main Article

COVID-19: Counter Demanding Our Anti-Stunting Goals

by Sumedha Pandey, Rama Medical College, Kanpur, Uttar Pradesh, India

How is stunting affecting us and the role of COVID-19?

The rise in the number of malnutrition victims seems to be gradually being abated to some extent as per reports of various governments, regional organizations and the World Health Organization (WHO). However, all the plans went into vain as the pandemic of COVID-19 stormed our shelters. According to WHO, at

the start of the crisis - 25 million children were wasted, 52 million were stunted, 5 million were overweight, and 400 million of women suffering from anemia. The World Bank estimates that 40-60 million could be pushed into extreme poverty due to the pandemic.

Stunting is not just a condition that affects the

health of the population but also has a great impact on our economy. Most of the Southeast Asian countries are developing nations so those who have already been fighting stunting and malnutrition (double burden) are now suffering major losses due to the pandemic.

Largely irreversible outcome of inadequate nutritional demands and repeated bouts of infections lead to stunting, making it a marker of poor child development. It has started affecting on an individual level including diminished cognitive and physical development, frequently prone to an infectious disease, increasing the risk of degenerative diseases such as diabetes, cardiovascular problems, etc. In fact, children already suffering from such a non-communicable disease are more prone to COVID-19 death.

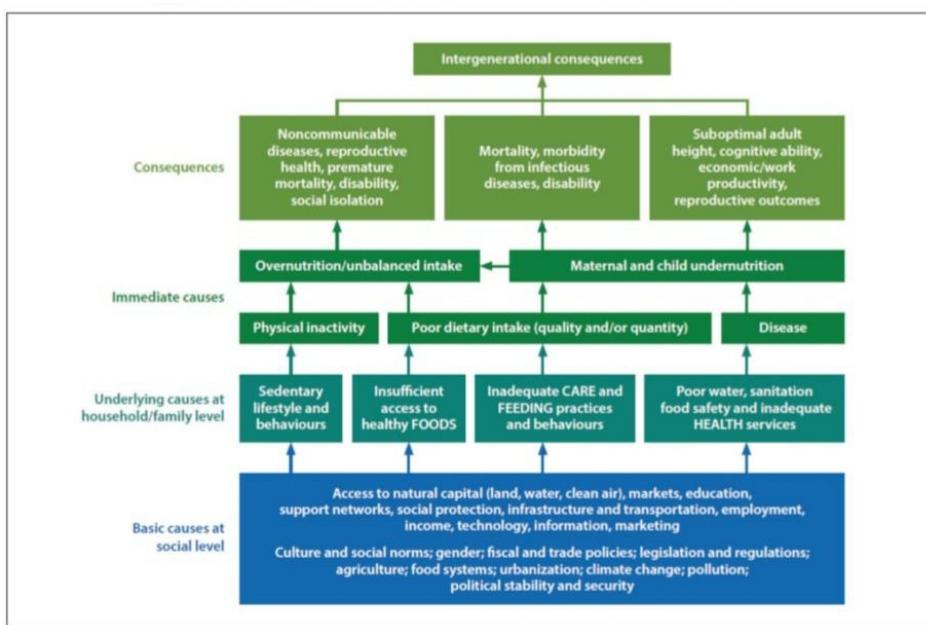
Stunting has a devastating effect on household as well as community level. For example, stunted children have less total schooling, lower test performances, lower household per capita expenditure, and the likelihood of living in poverty.

If the current trend continues, 127 million children under 5 years old will be stunted in 2025 but looking upon the pandemic condition, there is a fear of increase in numbers. According to the World Bank estimates, 1% loss in adult height is due to childhood stunting; also associated with 1.4% loss in economic productivity. Stunted children earn 20% less as adults compared to non-stunted ones. This also becomes the barrier in our GDP growth draining up to 3% of it.

Overview of existing policies:

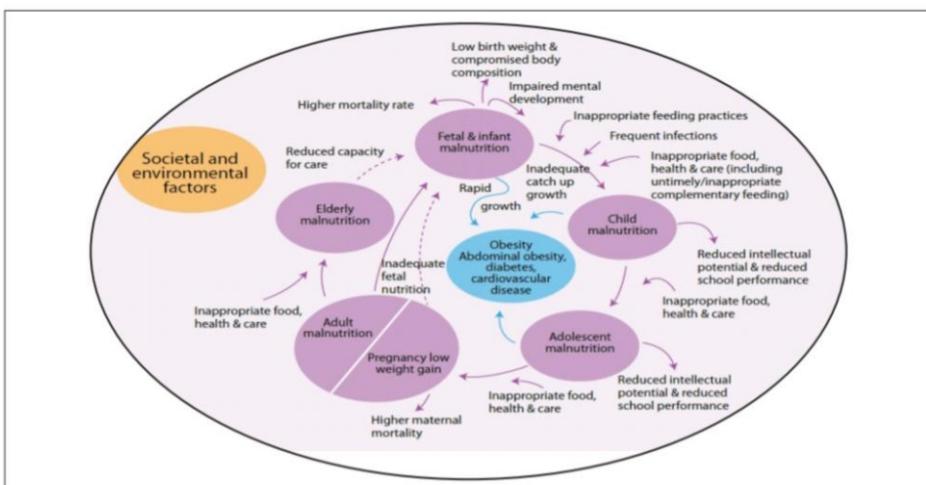
There have been various interventions by important organizations:

- Nutrition interventions in Elena
- The 2025 WHO Global Nutrition Targets policy
- Action plan for prevention and control of a non-communicable disease in South-East Asia,
- Asian UN networks on nutrition (FAO, UNICEF, & WFP) have developed a joint statement & technical note on nutrition in context of COVID-19 in Asia and the Pacific.



Outcomes of malnutrition and basic, underlying and immediate causes are included in this figure, ASEAN/UNICEF/WHO (2016) Regional Report on Nutrition Security in ASEAN, Volume 2, Bangkok, UNICEF.

Figure 1. Conceptual Framework of the double burden of malnutrition



Source: Global Nutrition Targets 2025, Childhood Overweight Policy Brief, WHO 2014.

Figure 2. The double burden of malnutrition across the life-course

COVID-19: Counter Demanding Our Anti-Stunting Goals

Global nutrition targets 2025		Indicator*
	40% reduction in the number of children under five who are stunted	Prevalence of low height-for-age in children under five years of age
	50% reduction of anaemia in women of reproductive age	Prevalence of haemoglobin <11 g/dL in pregnant women
	30% reduction in low birth weight	Prevalence of infants born <2500 g
	No increase in childhood over weight	Prevalence of weight-for-height >2 SD in children under five years of age
	Increase the rate of exclusive breastfeeding in the first 6 months up to at least 50%	Prevalence of exclusive breastfeeding in infants aged six months or less
	Reduce and maintain childhood wasting to less than 5%	Prevalence of weight-for-height <2 SD in children under five years of age
Nutrition-related targets from the WHO Global Action Plan for the Prevention and Control of NCDs*		
	A 30 % relative reduction in mean population intake of salt/sodium	Age standardized mean population intake of salt (sodium chloride) per day in grams in persons aged 18+ years
	Halt the rise in diabetes and obesity	Overweight women The prevalence of overweight in women of reproductive age

Figure 3. Global nutrition and diet - related noncommunicable disease targets and indicators

Thus, as per the following figures mentioned, we can see that the SEA countries have been really determined in decreasing the stunting and the double burden malnutrition

Challenges faced in the process of stunting alleviation

A. Before the pandemic:

In general, people were neglecting attitude towards self-hygiene and lack of higher education hence kept them unaware about various provisions regarding nutritional values. The challenges from mothers' side include increase rate of maternal depression that has led to improper infant caring and unhealthy lifestyle. Mothers also received improper care nutrition especially during post-partum. For the children, there were lack of treatment provided to children who frequent illness and have weak immunity, thus made them more prone to stunting.

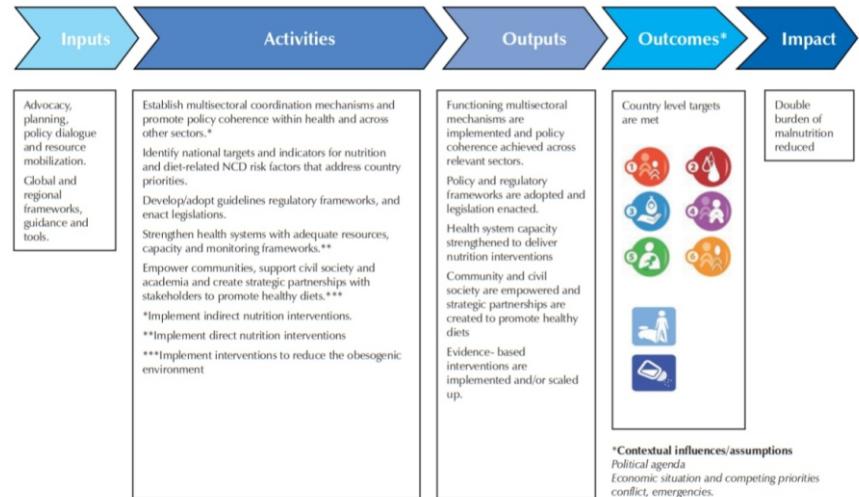
In terms of health facilities and their access, there were lack of proper training of local health care workers and lack of attention towards already stunted kids especially in remote areas. These were the results of malfunctioning of the laws and protocols due to careless attitude towards nutrition and food storage sector from the government. We also faced improper and unfair use of the funds for the nutritional programs.

Moreover, in poor areas, alleviation efforts of stunting were also challenged with natural calamity.

B. After the onset of COVID-19 Pandemic:

(In addition to the above-mentioned problems)

Increasing the gap between coverage of beneficiaries, due to global lockdown has slowed down food production drastically. Unemployed farmers have caused the crops stock run up to very high prices. Prolonged lockdown and shortage of labor have affected many big and small businesses.



Evidence-informed nutrition interventions are provided in Annex 1. Strategic directions and policy actions and linkages to the global nutrition and diet related NCD targets have been mapped (Annex 4)

Figure 4. The outcomes of the action plan are set out in the following theory of change

How can stunting and double burden of malnutrition be resolved in this pandemic?

The critical humanitarian food for the risk prone livelihoods should be preserved. Therefore, social protection schemes and community programs should help and ensure that the most vulnerable groups will be able to access nutritional foods.

Food production should be declared, marketing it as an essential service, ensuring proper training and protection to all the healthcare workers and food sector workers (especially delivery men, who go to so many homes). The poor unemployed small land farmers should be relieved from taxes, and their family should be considered as one of the most important beneficiaries of all the nutritional schemes. Access to food resources are not kept only by one and they should include the vulnerable age groups like mothers and children, sick and newborns.

A clear message about the importance of a healthy and safe diet should be communicated while limiting the consumption of food that contributes to overweight and obesity. The most vulnerable groups especially women who play key roles in the household and essential service delivery should be protected.

Food and nutritional assistance should be gathered by the potential agriculture students, to come forth and volunteer for better and smart implementation in their local areas during this lockdown. Small food non-profit distributors from various NGOs and other social workers should be expanded, recognized, and promoted.

The mental health of mothers and stunted children should be acknowledged and given more attention with the understanding that a healthy body can give rise to wealthy society. Mass micronutrient campaigns (vitamin and supplementation and deworming) should be pre-planned/postponed as per the pandemic conditions in the target areas. School meal programs should continue using alternative transfer modalities including case transfers and food deliveries. Remote mobile or web-based surveys to monitor food markets functionality, coping mechanism in case of lack of supplements, food consumption patterns and multidimensional poverty.

All governments have been working and need some additional improvement to alleviate stunting, which has become a great barrier in our economic, social, and sustainable development. Medical students also have a great responsibility by spreading awareness and volunteer work to narrow this gap of malnutrition that has been widened by COVID-19 pandemic.



Fun Facts



Tips selama #dirumahaja

FOOD PREPARING

*Food preparing adalah metode mempersiapkan bahan makanan mentah menjadi bahan siap masak atau masakan matang untuk beberapa kali waktu makan. Yuk coba metode ini selama #dirumahaja

*Food preparing is a method of preparing raw food materials into ready to cook ingredients. Let's try this method during #physicaldistancing



RENCANA*

Plan*

- Rencanakan jangka waktu yang diinginkan.
*Misal: 1 pekan
Plan the desired time period.
*For example: 1 week
- Rancang menu untuk satu pekan.
Plan the menu for a whole week
- Hitung kebutuhan bahan sesuai menu selama satu pekan. Jumlah ini bisa disesuaikan dengan jumlah yang biasa anda konsumsi.
Calculate material requirements according to the type of menu for a week. This can be adjusted to the amount you normally consume.



PERSIAPAN

Prepare

- Siapkan daftar belanja sesuai dengan rencana.
Make a shopping list.
- Untuk mengurangi mobilitas, belanja bisa dilakukan 1-2 kali/minggu.
Shopping can be done 1-2 times / week
- Manfaatkan layanan belanja online atau memesan belanjaan pada langganan.
You may choose online shopping or order to your regular seller.



Pengolahan

Process

- Pisahkan bahan makanan untuk menghindari kontaminasi silang.
Separate foods to avoid cross contamination.
- Persiapkan bahan makanan agar siap masak.
Prepare food ingredients to be ready to cook.
- Hindari FOOD WASTE!
Avoid food waste



PENYIMPANAN

Food Storage

	Lemari pendingin 4 °C	Freezer -18 °C
egg	3-5 minggu 3-5 weeks	-
meat	3-5 hari 3-5 days	4-6 bulan 4-6 months
chicken leg	1-2 hari 1-2 days	9 bulan 9 months
fish	1-2 hari 1-2 days	3-8 bulan 3-8 months



Simpan buah dan sayur yang mudah rusak (stroberi, sayuran hijau, produk siap makan, dll) dalam lemari pendingin.
Refrigerate perishable fruits and vegetables (such as strawberries, leafy greens, precut and ready-to-eat bagged produce, etc.) in the chiller.

A Glint of Hopes in Indonesia's Integrated Healthcare Center (Posyandu) for Child Stunting Prevention during COVID-19 era

by Yuga Putri Pramesthi - Nunukan Regency, North Kalimantan, Indonesia

If we want to find out where the greatest expectation of healthcare services during this pandemic is, then we will talk about Indonesia's Integrated Healthcare Center or better known as posyandu. Especially in remote areas, Indonesia's Integrated Healthcare Center (Posyandu) has a function as the frontline in child healthcare service in the community. According to its purpose, posyandu is established to reduce the prevalence of the mortality rate of children and mothers through community empowerment. Thus, the goal of posyandu is not only for children but also for their mothers.

Posyandu's array of health services are carried out in a Public Health Service Centre or *Puskesmas* (Pusat Kesehatan Masyarakat) of a particular area.

Puskesmas plays a role as the first level health facility which is at the forefront in preventing stunting during this pandemic. There are three important keys: conducting prevention, detection, and response to prevent and control the spreading of COVID-19. *Puskesmas* must be able to manage and utilize its resources effectively and efficiently in breaking the chain of transmission, at both the individual and community level.

Sebatik *Puskesmas* has been carrying out the above mentioned functions through risk communication activities and counselling programs, providing information and education to the public about COVID-19, as well as community empowerment activities such as training of housewives to make ginger drinks to enhance the immunity of households around the *puskesmas* and to mobilize participation across sectors as volunteers in charge of checking public compliance in wearing of masks and providing clean water in every house for washing hands. The activity proves to be effective because nowadays Sebatik Island is included in the green zone and does not have COVID-19 positive cases among its residents.

The implementation of *posyandu's* activities during the COVID-19 pandemic is not going to be easy since these activities require physical gathering and personal contacts among people such as weighing and measuring toddlers. Therefore, *posyandu* in almost all of Indonesia stopped operations for a few weeks after the onset of the pandemic. However, as of now, many *posyandu* in Indonesia are back in operation with the 'new normal' condition and follow

the health protocols for COVID-19 regulated by the World Health Organization (WHO). Improvement in hygiene and sanitation is also observed in *posyandu* as one of the health protocols for COVID-19. For instance, *Posyandu Lentera Perbatasan* in Sebatik Island has already implemented the 'new normal' health protocols.

Sebatik Island is one of the islands located in Nunukan Regency, North Kalimantan in the border area, or commonly called the 3T area (Tertinggal, Terdepan, dan Terluar) – frontier, outermost, and least developed region. Sebatik belongs to two countries: Indonesia and Malaysia. As a border island, Sebatik often becomes a transit point from neighboring countries, and even many migrants from South Sulawesi pass here. This condition makes residents in Sebatik Island very vulnerable to be impacted by corona virus. Moreover, the common health issue here is the lack of hygiene and health awareness. Fortunately, during the COVID-19 pandemic, people's awareness about hygiene and health has increased.

The following is how *Posyandu Lentera Perbatasan* in Sebatik Island during the COVID-19 pandemic runs: days before the *posyandu* reopens, its cadre ensures that the *posyandu* is safe, clean, and away from the crowded area. When the activities in the *posyandu* are carried out, mothers and children enter the room one by one with their masks on, then the nurse from the *puskesmas* checks the body temperature of the mother and child. The *posyandu* cadres and mothers wash their hands using soap before doing the measurement of infants and toddlers and keep a distance from one and another. After weighing their children, the mothers wait until the *posyandu* cadre is done filling in the KMS book, which will be proceeded by giving the PMT (Pemberian Makanan Tambahan – additional food) to the child. Before leaving, the mothers and children have to wash their hands.

Stunting, or low height for age, is a complex problem focusing on child malnutrition, maternal and child under nutrition, and food security. In Indonesia, the prevalence of child stunting has increased over the past decade, approximately 37% at the national level. This percentage is the highest stunting rate in the world after India, China, Nigeria, and Pakistan.

When we talk about "what causes a child to be stunted in Indonesia?", the answer will be complicated due to the multifactorial and

inter-linked causes of stunting, connecting biological, social, and environmental spheres. The determinants of child stunting in Indonesia from biological factors include non-exclusive breastfeeding, premature birth, short birth length, and low maternal height. The most prevalent social factors include the lack of education, poor access to health care, and living in a rural area. Furthermore, the environmental factors consist of water availability and quality, sanitation, hygiene, culture, agriculture, and the food system existing in a particular community.

The national strategy for accelerating stunting prevention is through specific and sensitive nutrition interventions and improving the environments. Specific nutrition interventions have contributed to reducing stunting cases by 30%. This intervention was shown to households in the First 1000 Days of Life (HPK), carried out by the health sector, and it is short-term in nature, with results that can be recorded in a relatively short time. Meanwhile, sensitive nutrition interventions contributed to reducing stunting rates by 70%, held by non-health sectors, whose target is the public. Also, a supportive environment is aimed at fundamental factors related to nutritional status, such as government, income, and equality.



Figure 1. Weighing of children at *Posyandu Lentera Perbatasan* in Sebatik Island during the COVID-19 pandemic

A Glint of Hopes in the Indonesia's Integrated Healthcare Center (Posyandu) for Child Stunting Prevention during COVID-19

The role of *posyandu* to countermeasure stunting in Indonesia is important especially during infancy. Monitoring the growth and development of infants and toddlers is done once in a month through KMS book. Toddlers who have growth problems will be detected earlier, so they do not suffer from stunting. Children who potentially experience stunting will get an evaluation to find the causes and risks. The analysis of the causal factors requires a cross-sectoral and program role, so toddlers who have the potential of growth disorders will be given a home visit to assess the factors affecting them, including family and environmental factors.

Just as the confirmed COVID-19's patients rise worldwide including in Indonesia, threatening to crush life-saving health services, the survival of mothers and children is at a great risk. Regarding the relationship between stunting and COVID-19, new evidence reveals that the potential growth problem in maternal and child mortality in low-income and middle-income countries occurs since essential health services are disrupted due to COVID-19. One of the determinants of stunting in Indonesia is low access to health care which is worsened by the

anxiety caused by COVID-19.

Furthermore, the negative effects of COVID-19 for children are worsened not only by the risk of infection, but also of losing or being separated from family members and caregivers. Mothers and children are restricted to access healthcare services and schools, and the lack of child protection is particularly harmful to women and children in need of safety. Also, there is a concern regarding the economic impact of the pandemic knock-on effect. The global financial collapse causes reduced incomes, increased public and private debt, and reduced access to goods, which will impact many aspects of household health and nutrition.

The pandemic is certainly a once-in-a-lifetime story, but it is also a once-in-a-lifetime chance to take advantage of this existing moment. Besides all the negative effects of the pandemic mentioned above, there is always a glimpse of hope to improve the quality of Indonesia's *Posyandu*.

The World Health Organization's recommendations to prevent the spread of the coronavirus include improving hygiene and sanitation like washing our hands with the right steps with soap reinforces the

recommendation of the Ministry of Health of Indonesia in preventing stunting in all *Posyandu*. This is principally appropriate among populations where diarrhea and upper respiratory infections are frequent in children under the age of 2. This change in behavior has the potential to significantly reduce the overall rate of stunting besides diarrhea and upper respiratory infections.

Posyandu's position is not only as an effort to prevent stunting, but also as the first place in the community to continue to get used to clean and healthy living as an effort to avoid the COVID-19 pandemic. Through the *Posyandu*, there is still a hope in alleviating stunting if we focus on these several points. Firstly, we must keep children healthy and well nourished by providing supplies and protective equipment. Secondly, we must urgently prioritize funding and support for maintaining and improving water, sanitation, and hygiene. The collaboration between the government and the private sector will be required to increase the practice of handwashing across the board, tapping into local innovation and global partnerships.

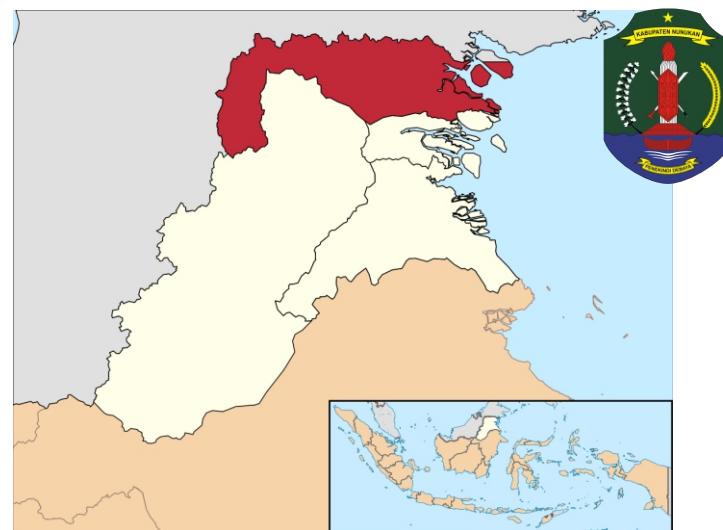


Figure 2. Map of Nunukan, Borneo, Indonesia

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The Application of UNICEF'S 2020 Conceptual Framework of Maternal and Child Nutrition in Indonesia

by Prameshti Hapsari - Universitas Jendral Soedirman, Indonesia

For many decades, stunting has been the most significant nutritional problem in Indonesia. According to a basic health survey conducted from 2007 to 2018, the prevalence of stunting was never lower than 30%, although it slightly decreased to 30.8% in 2018 (Ministry of Health of the Republic of Indonesia, 2018). Child malnutrition is a complex and vicious cycle of low nutrition, infection, and poverty. Stunting lowers children's opportunity to achieve optimal growth; this in turn, limits their opportunity to get better employment and leads to poverty. Moreover, poverty lowers a family's ability to access nutritious food and better health services (Schaible and Kaufmann, 2007). In 1990, UNICEF developed a framework of maternal and child malnutrition to provide a better understanding of the determinants and ways to overcome the problem. Thirty years later, UNICEF developed the 2020 Conceptual Framework of Maternal and Child Nutrition (UNICEF, 2019). The differences between the 1990 framework and the 2020 framework and the extent to which the 2020 framework has been applied in Indonesian context are discussed in this article.

Since the 1990s, UNICEF Framework has been used as a reference for finding the best formula to overcome the problem of child malnutrition. By showing the multisectoral factors behind malnutrition, the framework helps researchers and policy makers to analyze the causes of malnutrition and identify the most suitable actions to address the issue. It was within this framework that the Scaling Up Nutrition (SUN) movement was initiated in 2011. SUN developed nutrition strategies by using the dual nutrition intervention approaches: specific and sensitive (UNICEF, 2015). Then, in 2019, UNICEF decided to modify the framework to give more emphasis on what constitutes good nutrition. The 2020 framework aims not only to underline the benefit of providing adequate food and healthy environment for children and women, but also to promote social and political commitment to securing people's right to adequate nutrition. These changes in terms and narratives reflect great commitment to improving the nutrition of our children, young people and women, as well as providing them with an opportunity to access nutritious food (UNICEF, 2019).

Unlike UNICEF's 1990 framework, the 2020 framework uses more positive narratives and different terms. As part of a marketing strategy, positive narratives correlate with better brand consumer engagement (Riva, Graffigna, and Gambetti, 2015). This indicates that the narratives used in the 2020 framework were deliberately chosen to increase people's engagement—not only mothers and children, but also all parties involved (i.e. the government and nutritional experts)—in addressing the problem of malnutrition. By using different terms, the 2020 framework focuses on inviting the contributors to improve maternal and child nutrition. The use of the term "determinants" in the 2020 framework aims to emphasize their important roles in helping mothers and children to achieve good nutritional status by giving proper nutrition intervention. Besides that, the change from the word "basic" to "enabling" when explaining the role of social norms, economic regulations, and government policies aims to highlight the importance of maintaining social and political commitments to supporting actions designed to provide good food for children and mothers.

The concept of "enabling determinants" refers to good governance, positive norms, and sufficient resources. A report on countries' progress in reducing the prevalence of stunting show that countries with medium or high stunting prevalence ($\geq 20\%$) were more likely to have a relevant policy environment (i.e. policies, coordination, capacity, and actions that support stunting reduction) than countries with lower prevalence of stunting. This finding emphasizes the role of government policy in influencing and improving the determinants, which are the foundations of a successful stunting reduction. Furthermore, the policy review stresses great opportunity for creating better public policies on nutrition in certain areas, such as policy review, inter-sector coordination, personnel capacity building, all-stage-life health facility and services, school-based nutrition program, and specific programs on micronutrients and healthy diets for non-communicable diseases prevention .

In conclusion, the first conceptual framework was modified to serve two main purposes. The first was to increase and strengthen inter-sector collaboration in stunting reduction program, particularly in terms of policy. The second was to underline the role of government in the formulation of sustainable and nutrition-friendly policies, particularly those designed to promote healthy diets at all stages of life.

The black arrows show that the consequences of undernutrition can feed back to the underlying and basic causes of undernutrition, perpetuating the cycle of undernutrition, poverty and inequities.

Source: Adapted from UNICEF, 1990.

Figure 1. UNICEF's 1990 Conceptual Framework of Maternal and Child Malnutrition¹ (UNICEF, 2015)

The Application of UNICEF'S 2020 Conceptual Framework of Maternal and Child Nutrition in Indonesia

The next question now is the extent to which the modified version of the framework has been applied in Indonesian context.

As mentioned earlier in the first paragraph, stunting has been a significant public health problem in Indonesia for many decades. By joining the SUN movement, Indonesia has taken part in an international effort to achieve global nutrition targets, one of which is a 40% reduction in the number of children under-five who are stunted by 2025 worldwide. However, by 2018 the reduction in the prevalence of stunting has only reached 18%, compared to the 40% target. In order to achieve the target, various other problems behind the stunting phenomenon should be tackled in a more effective way. However, based on a 2018 national survey, the prevalence of anemia in pregnant women had increased by around 31.8%, compared to 2013 data. In line with this, the number of low birth weight babies also increased steadily from 5.4% in 2007 to 6.2% in 2018. A report on stunting prevention programs such as iron folic acid supplementation (IFAS) and exclusive breastfeeding also shows similar findings, i.e. only 73.2% of pregnant women received IFAS (the 2018 target was 95%) and only 37.3% of under-five children were exclusively breastfed (the 2018 target was 45%) (Ministry of Health of the Republic of Indonesia, 2018). The above national survey results indicate the ineffectiveness of current stunting prevention programs. Therefore, in

2018, the Indonesian government formulated a set of strategies to accelerate the 40% reduction program, and this target is projected to be achieved in 2024.

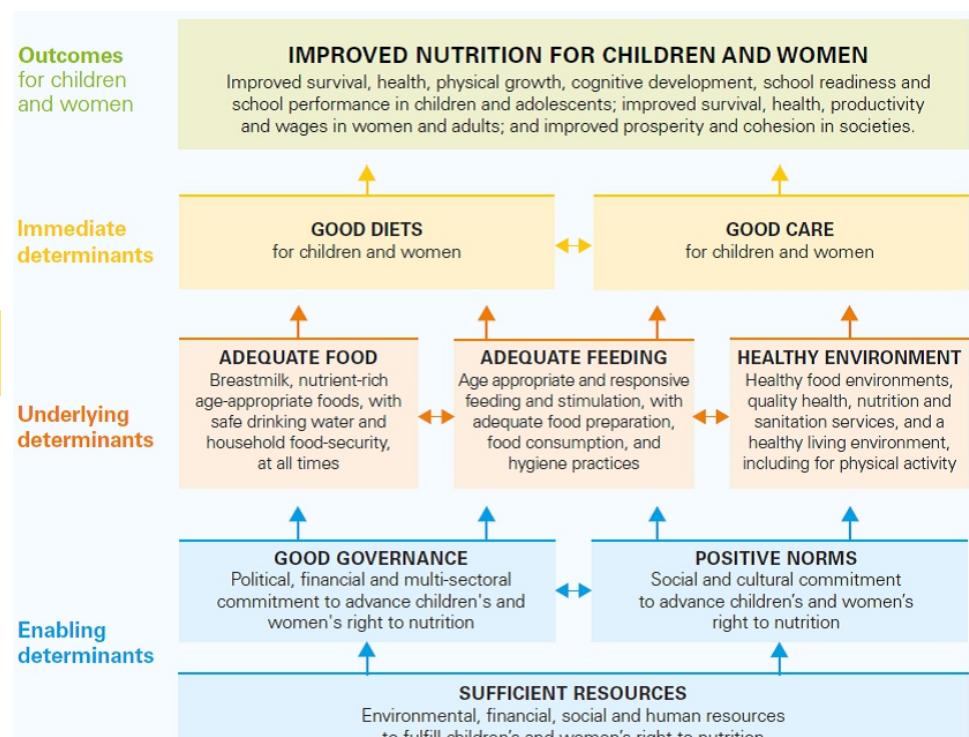
Indonesia has identified four limitations in its current nutrition program. First, the classic problem of inter-sector coordination at every level of the government has always had negative impacts on the effectiveness of stunting prevention program. Such problems occur at each stage of nutrition program management, from planning to monitoring and evaluation. In terms of resources, there are also problems related to budget allocation and utilization for the purpose of carrying out the program. Besides that, the limited number of health workers and their low capacity further reduce the quality of the program and its implementation. Lastly, Indonesia also lacks an effective stunting prevention campaign for informing the general public about the magnitude of the problem and for disseminating the government's prevention program. In consideration of these limitations, Indonesia has formulated five pillars of stunting prevention (Sekretariat Wakil Presiden Republik Indonesia, 2018).

The focus of the 2018 stunting reduction program was pregnant mothers and under-five children in 1,000 priority villages plagued with stunting. Then, the program was gradually expanded to cover all villages in 2020. The five pillars of stunting prevention

address the root causes and optimize the above limitations on the government's nutrition program. The first pillar is political commitment, which is reflected in the national long-term development program and has been translated into policies at national and local levels with the help of private-public partnership. The second pillar is campaign program, which is organized in order to increase public awareness of stunting prevention program. The third pillar is clear guidelines on budget allocation in order to increase the synergy between national and local governments. In order to secure food availability at household level, the Ministry of Health and the Ministry of Agriculture are charged with food fortification, while conditional cash transfer also strengthens the regulation of convenience food claims. Lastly, regular monitoring and evaluation are also carried out to ensure the effectiveness of the program (Sekretariat Wakil Presiden Republik Indonesia, 2018).

The application of UNICEF'S 2020 framework by Indonesia in the form of many nutrition programs and initiatives demonstrates the country's strong commitment to overcome malnutrition. However, more rigorous monitoring should be performed to keep Indonesia on the right track for stunting reduction. If everything goes as planned, 2025 will mark the end of stunting in Indonesia.

Figure 2. UNICEF's 2020 Conceptual Framework of Maternal and Child Nutrition """(UNICEF, 2019)



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The Urgency of Tobacco Control in Stunting Alleviation in Indonesia

by Renny Nurhasanah, Suci P Ratih, Faizal R Moeis, Aryana Satrya - School of Strategic and Global Studies Universitas Indonesia

Tobacco consumption is one of the leading contributors to the proliferation of non-communicable disease in developing countries, including Indonesia. Data from the Indonesia Basic Health Research (Risksesdas) (2018) show that smoking prevalence in Indonesia remains high. It significantly rose from 27% in 1995 to 36.3% in 2013. The recent data of Riskesdas showed a slight decrease in the prevalence of tobacco consumption to 33.8% in 2018. However, smoking prevalence in Indonesia is still the highest in Southeast Asia, as reported by Southeast Asia Tobacco Control Alliance or SEATCA (2017). The report revealed that smoking prevalence is 19.1% in Thailand, 22.8% in Malaysia, 12% in Singapore, 26.1% in Myanmar, 27.9% in Lao PDR, 19.9% in Brunei Darussalam, 22.5% in Vietnam, 28.3% in The Philippines, and 16.9% in Cambodia.

Meanwhile, the prevalence of stunting in Indonesia remains high. In 2018, the

prevalence of stunting in Indonesia was 30.8% among toddlers and 29.9% among babies under two years old. In addition, the report shows that the proportion of low birth weight babies (<2500 gram) increased slightly from 5.7% in 2013 to 6.2% in 2018, and the proportion of babies with a birth length of <48 cm increased from 20.2% in 2013 to 22.7% in 2018.

Smoking behavior among parents is closely associated with stunting among children (Dartanto et al., 2018). The authors explained that the high number of cigarettes consumed per day is negatively correlated with the expenditure on nutritious food. The authors added that stunting among children is a leading factor that determines those children's cognitive skills and abilities (logic and math), which more or less will affect their future. Moreover, the Corona Virus Disease 2019 (COVID-19) pandemic has led to an increase in poverty, which results in food and nutrition insecurity, because people are facing dwindling access to food

and shortages of food products (Kinsey et al., 2020). Fulfilling the nutritional need of children in an adequate manner is very important. If households' daily expenditure for cigarettes is still high, it might increase the difficulty of fulfilling the children's nutrition need in a proper way.

Smoking behavior not only affects one's health but also one's socio-economic condition. Thus, reducing smoking consumption through tobacco control efforts is critical to protect all members of the society, especially the children and youths, from the harmful effect of smoking. Furthermore, Indonesia is predicted to reach its highest demographic dividend between 2020 and 2030. Therefore, increasing the quality of life of the current generation of children should be the society's priority for a healthy-secure future.

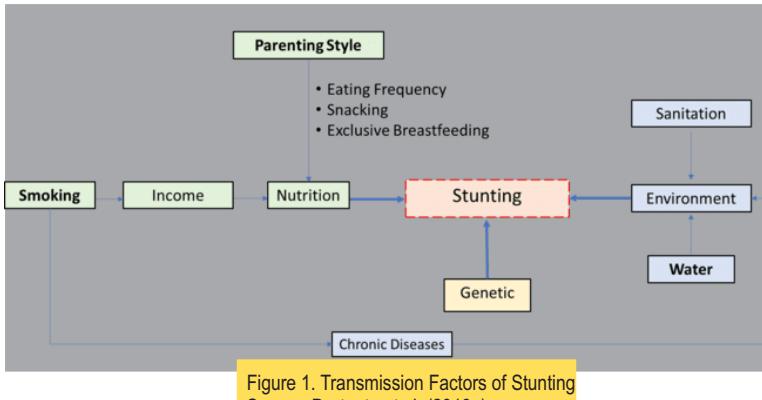
Correlation between Smoking and Stunting

Stunting is a multi-factor issue where nutrition, environment, and genetics play a role in affecting the normal growth of children (Semba et al., 2016). One of the risk factors that contribute to stunting is smoking. Smoking increases children's chances to suffer from stunting through nutrition and environment risks. Figure 1 shows the transmission factors that cause stunting. Dartanto et al. (2018) and Dartanto et al. (2019a) show that parents who smoke increase the probability of a stunted growth in their children. One of the transmission factors is nutritional intake. Smoking tends to crowd-out other expenditures such as food and health expenditure, thus, the child will have lower nutritional intake due to the income being allocated for smoking. Another

explanation from Dartanto et al. (2019a) is that smoking also exposes children to second-hand smoke, which increases their probability of having chronic diseases and affects their growth, which will lead to stunting.

We took a closer look at how smoking may cause stunting through the experience of Mrs. X who lives in Bunderan Village, Demak. Mrs. X is a housewife in a relatively poor household with three children. Her last child is considered stunted (Figure 2.). One of the factors may be due to smoking, which is a necessity in her household. She said, "If we have to choose between reducing essential needs spending and reducing cigarette spending, it's better to reduce essential needs spending. The important

thing is to have one pack per day..." This shows that the household sacrifices food and other essential needs to fulfill the smoking urges of the husband, and considering the fact that this is a poor household, it puts more strain on the budget for essential needs. The child also easily gets sick, which may be due to complications caused by low nutritional intake and exposure to cigarette smoke. The child was said to catch fevers easily and cough frequently, and even after recovering, he will be sick again in just one day. Therefore, there is a strong indication that parental smoking causes stunting, both directly and indirectly.



Informant's Average Expenditure Proportions

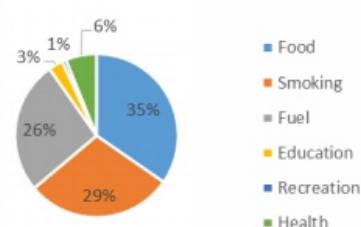


Figure 2. Mrs. X and Her Stunted Child (left); Respondents' Average Expenditure Proportions (right)
Source: Dartanto et al. (2019a)

The Urgency of Tobacco Control in Stunting Alleviation in Indonesia

Choosing Cigarette or Food?

Cigarette consumption has become a dominant feature among low-income households in Indonesia. Based on the Indonesia Socio-economic Survey or Susenas (2018), the monthly expenditure of the poorest population in rural areas shows that 15.05% households buy cigarettes, 9.07% buy vegetables, 8.17% buy fish, and 4.68% buy milk and eggs. Data in urban area also shows something similar. About 9.3% of households buy cigarettes, 7.32% buy vegetables, 7.32% buy fish, and 6.17% buy milk and eggs. Therefore, there is an urgency to control smoking in low-income families, especially because the smokers are mostly at productive age. At this stage, families need to buy nutritious foods to improve their children's development.

The government of Indonesia provides social assistance in order to increase the quality of its human capital. Additional help can also be provided to increase their purchasing power to buy food and household necessities. However, this is problematic because the recipients may use the money to purchase unnecessary things rather than nutritious food that they really need.

Dartanto et al. (2019b) shows that recipients of social assistance tend to consume even more cigarettes. Recipients who smoke also have lower consumption of calories, protein, fat, and carbohydrates compared to recipients who do not smoke. This also has impacts on their children's educational attainment, increasing the dropout rate and sick period period that hinders them to attend school classes.

To prove this, let us take a closer look at a specific case. A qualitative study in Malang and Kediri area, East Java reveals that low-income families, who also receive social assistance from the government, prefer buying cigarette than food (Nurhasana et al., 2019). The smokers continue to smoke, while their families still have to endure economic burden. Figure 3 shows an example of a low-income family's house. This study involved mostly non-permanent informal workers with low education level with more than 2 (two) children. Respondents said that they have high cigarette consumption, which dominates the family expenditure (Figure 4). The cigarette spending is about US\$ 0.4 to US\$ 2.1/family/day. More than half of the

household's income is spent on cigarettes, reducing their ability to purchase nutritious food, which will have an impact on the family members' health in the long term.

These households can only afford to buy protein sources such as tempe (soybean cakes), tofu, and eggs. They cannot afford to buy fish, meat, or expensive vegetables, let alone fruits. A respondent said, "We rarely eat fruits, maybe once in a month. We eat vegetable often... if it is possible to eat it for the next day, we do it (to save money)." Another respondent said, "Cigarette reduces our food spending. Cigarettes cost about US\$ 2.1/day, while food only costs about US\$ 1.4/day. Education expenses are also affected." The study stresses the importance of promoting tobacco control in low-income households to break the cycle of intergenerational poverty, improving health, and investing in human capital for a better future.



Figure 3. The house of a low income family (Kediri, East Java) which struggles from cigarette addiction.

Source: Nurhasana et al. (2019)

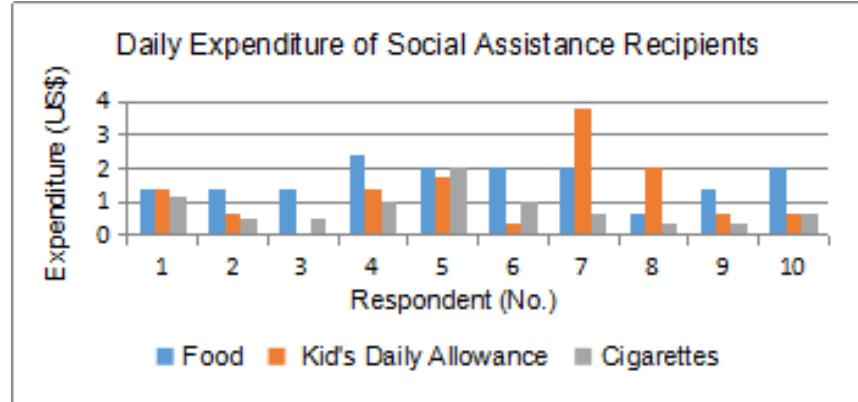


Figure 4. Daily expenditure of Social Assistance Recipients. Source: Nurhasana et al. (2019)

Conclusion

Smoking behavior has become a daily habit that is considered normal in Indonesia. Most households are accustomed to not fulfilling their children's need for nutritious food because the budget is allocated for cigarettes. Even during economic crises, many low-income families still spend money to buy cigarettes while the rest of the household members, mostly women and children, must give way to the smoking habit

of the smokers within their family. Tobacco expenditure will crowd-out other important expenditures such as food, education, and medical services. These expenditures are important for the development of all household members, especially the children who are still in their early life stages. Smoking behavior affects not only the smokers' health, but also the health of their family members, and their socio-economic

conditions. Moreover, it also perpetuates the violation of women's and children's rights. Smoking increases children's chances of suffering from stunting due to nutrition and environmental risks. It also increases the probability of children's having chronic diseases caused by exposure to second hand smoke and affects their growth, which will lead to stunting.

The Urgency of Tobacco Control in Stunting Alleviation in Indonesia

Health is a human right which every child must be entitled to. Failure to fulfill these rights due to smoking behavior is a form of human right violation. This requires decisive action from the government as the party responsible for ensuring the fulfillment of their citizens' rights. One of the things that can be done by the government is to implement effective tobacco control efforts such as raising cigarette excise as high as possible, so that cigarettes become unaffordable. This effort must be accompanied by other efforts, such as educating the public about the dangers of smoking. The community must be made aware that smoking is not only bad for the

smokers but also for their family members and people around them, and that it can have long-term impacts, such as stunting and poverty.

However, the idea of raising tobacco excise is neither widely accepted nor followed by all policy makers, academics, and experts yet. The general public nevertheless agree that the price of cigarettes should be raised to protect children from the dangers of smoking. A study conducted by the Center for Social Security Studies of Universitas Indonesia (2018) shows that 88% of the people and even 80.45% of smokers support an increase in cigarette prices. It

indicates that most members of the society want children to be protected from the dangers of smoking. They want our young generation to grow into high quality and productive individuals in the future. Therefore, the government, together with the community, should work together to reduce cigarette consumption, starting from the smallest social unit, i.e. the family.

Therefore, there is an urgency for effective tobacco control to help reduce stunting in Indonesia.

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Fun Facts



The world now has more young people than ever before. Around 1.2 billion of these young people are adolescents aged between 10 and 19 years.

 More than 2.6 million young people aged 10 to 24 die each year in the world, mostly due to preventable causes. [WHO, 2015]



Worldwide, 7% of all deaths of young people between the ages of 15 and 29 are attributable to alcohol use. [WHO, 2014]



Globally, 1 in every 10 girls and 1 in every 5 boys aged 13–15 years use tobacco. In Indonesia, the prevalence of smoking aged 12–15 reaches 18–47% [WHO, 2014; RECFON, 2020]



Globally, 81% of adolescents aged 11–17 years were insufficiently physically active [WHO, 2010]



Nutritional Recommendation for Adolescent

- Eat 3 meals a day, with healthy snacks.
- Increase fiber in the diet
- Drink water. Try to avoid drinks that are high in sugar at balanced meals.
- Make sure your adolescent watch sugar, salt, and fat intake
- Eat fruit or vegetables for a snack.
- Protect the adolescent from smoking



Recommended Physical Activity for Adolescent

- Children and youth aged 5–17 should accumulate at least 60 minutes of moderate – to vigorous-intensity physical activity daily.
- Most of the daily physical activity should be aerobic. Vigorous-intensity activities should be incorporated, including those that strengthen muscle and bone, at least 3 times per week



Investing in Nutrition Literacy to Reduce Stunting in Indonesia

by Nurbaya, S.Gz.,M.Gz - Poltekkes Kemenkes, Mamuju, Indonesia

Literacy is the gateway to the knowledge and skills necessary for students to build their character. According to the Comprehensive Dictionary of the Indonesian Language (KBBI) and the Cambridge Dictionary, literacy simply means the ability to read and write. UNESCO also defines a literate person as a person who can understand, read, and write short simple statements in his/her everyday life. The development of a country cannot be separated from the literacy level of its citizens. Unfortunately, studies reported that literacy rate in Indonesia is still very low.

The 2015 Program for International Student Assessment (PISA) survey indicated that Indonesia ranked 64th (or 10th lowest) out of 72 countries in terms of children literacy

(Kementerian Pendidikan dan Kebudayaan, 2019). Even UNESCO stated that only one out of 1,000 Indonesians is literate (Ramadhani and Yuwinanto, 2020). This condition has raised high concern.

Today literacy is no longer only about reading and writing skills. Its range of meaning continues to grow, and now it is commonly associated with the terms 'knowledge' and 'skills' in various fields of life. For example, financial literacy refers to the set of knowledge and skills that allows an individual to manage and make effective decisions regarding all of their financial issues.

In the context of nutrition, financial literacy at the household level is very important. Financial literacy means the ability of a

household to make financial decisions, which manifests in an ability to budget basic family expenses (especially those for food) or manage family incomes for savings purposes.

The research conducted by Carman and Zamarro (2016) stated that household food insecurity is not only caused by insufficient income but also due to a lack of financial literacy. Households that lack knowledge about basic financial skills such as income management are more likely to experience food insecurity. Conversely, households that have good financial literacy are more likely to be able to manage savings that can protect them from food insecurity (Carman and Zamarro, 2016).

The Vicious Circle of Stunting and Low Literacy Rate

Stunting is the consequence of a range of factors. Based on the UNICEF Conceptual Framework on Childhood Malnutrition, there are three underlying causes of stunting among children: (1) household food insecurity, (2) inadequate childcare, and (3) poor access to health care and unhealthy environment, while the root cause of this complex interaction of factors is poverty.

Like low literacy rates, a high prevalence of stunting in Indonesia is a serious problem that needs to be addressed because they are connected to each other. Studies showed that stunting is associated with poor literacy and numeracy skills. Their impacts are closely associated with high rates of school dropout,

unemployment, and poverty that indicate low human development index. Moreover, the Indeks Aktivitas Literasi Membaca 2019 (Reading Literacy Activity Index 2019) also confirmed that poverty is associated with low literacy rate in Indonesia. Students from poor families have limited access to books, public libraries, and schools (Kementerian Pendidikan dan Kebudayaan, 2019).

Stunting is a major public health problem, and it is a cyclical process, which is shown in Figure 1. As an illustration, a woman who is stunted in her childhood tends to have a stunted child. Then, this stunted child is more likely to grow as a woman who has a low cognitive level, suffers from malnutrition, and

has a poor health status. Thus, maternal nutritional status before, during, and after pregnancy will influence a child's early growth, and these mothers are more likely to give birth to low birth weight (LBW) babies that might grow to be stunted children. Therefore, stunting and low literacy rate is a vicious circle that has economic consequences on both sexes at the individual, household, and national level. One intervention measure to cut this vicious cycle is women empowerment, which can be achieved by improving their literacy, especially nutrition literacy.

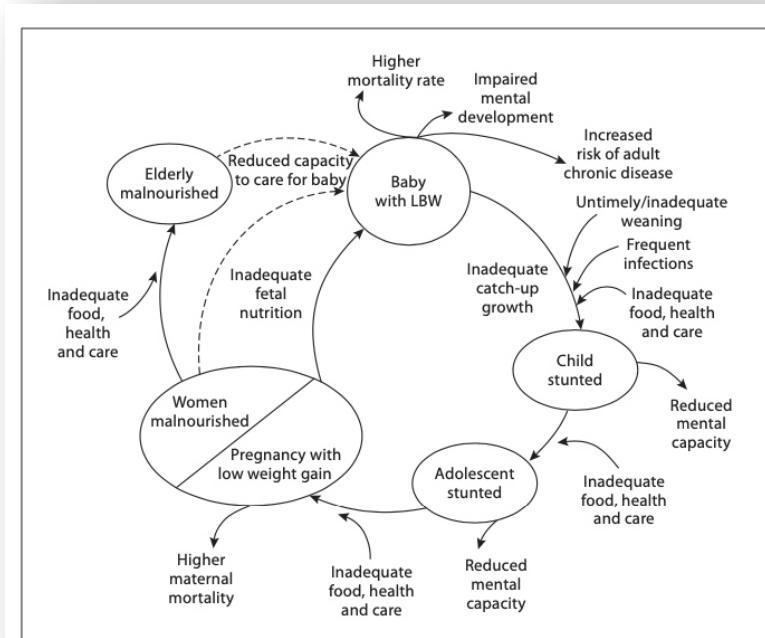


Figure 1: Nutrition throughout an individual's life cycle
(Ahmed et al., 2012)

Nutrition Literacy and Stunting

Nutrition literacy is defined as an individual's ability to have the capacity to obtain, process, and understand nutritional information and acquire nutritional skills needed in order make proper nutrition decisions in their lives (Gibbs et al., 2019; Joulaei et al., 2018). Increasing nutrition literacy is one of the important keys to increase maternal health and to reduce stunting.

The above definition of nutrition literacy emphasizes an individual's cognitive capacities which are related to basic literacy and numeracy skills required to understand information about nutrition. With nutrition literacy, people can access, analyze, and practice their nutrition knowledge (Krause et al., 2016).

Studies found that there is a strong relationship between the nutrition knowledge of the mothers and the nutritional status of their children (Christian et al., 1988). Maternal

literacy has a significant association with malnutrition among under-five children. Low literacy among mothers can lead to poor understanding of childcare and health problems. This finding is similar to that of a study conducted in Indonesia, which found that households who had stunted children and an overweight or obese mother had significantly lower maternal nutrition literacy (Mahmudiono et al., 2018).

Strengthening nutrition literacy is one of the nutrition-specific interventions that could work together with promoting and supporting pregnant and lactating women, and promoting optimal infant and young child feeding. Therefore, strategies to improve and promote nutrition literacy are urgently needed in regions with high prevalence of stunting. It is important to persuade and encourage all members of communities, especially women, to increase their nutrition literacy.

Figure 2 describes the effect of increasing health literacy on the use of health services and their outcomes, such as increasing the quality of life. This outcome is in line with nutrition literacy that will affect people's knowledge and perspective, which leads to improved behaviors and attitudes.

Poor nutrition literacy poses an obstacle for an individual to understand and interpret nutritional information as well as to demonstrate good nutrition practices and healthy lifestyle in his/her daily life. Meanwhile, good nutrition literacy is associated with better quality of diet and disease management. Optimum nutritional status will help people to achieve high quality of life. Therefore, we need to invest in nutrition literacy.

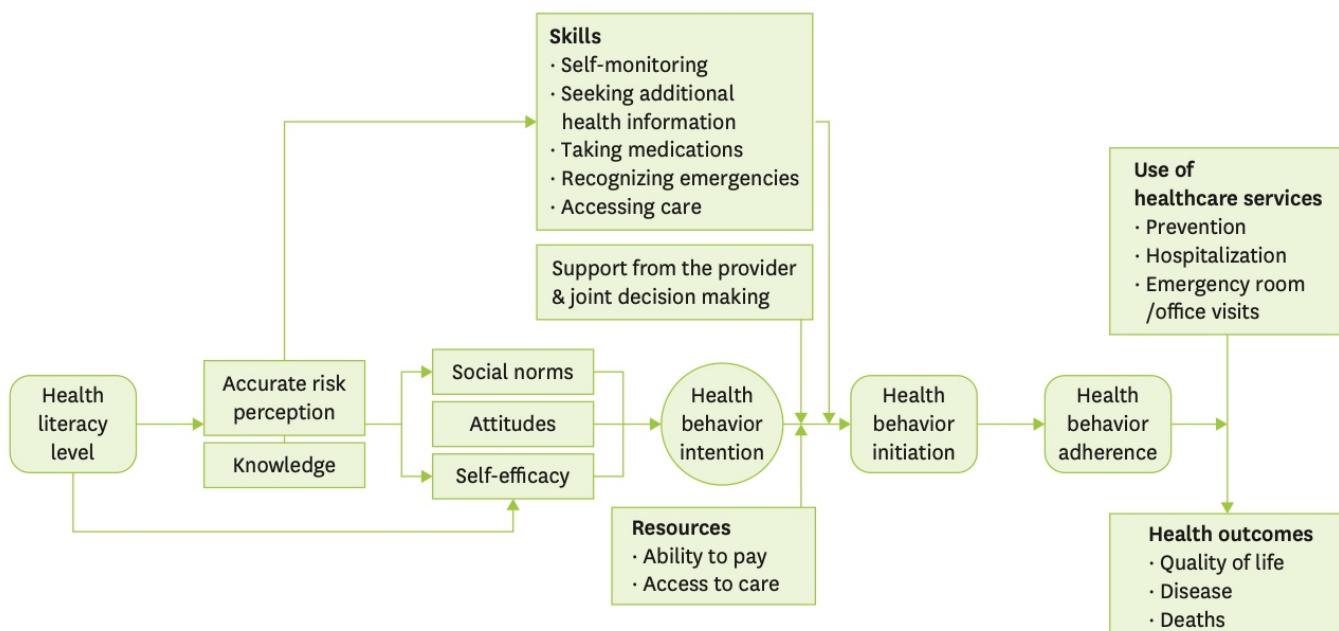


Figure 2: Impacts of health literacy on health (Vettori et al., 2019).

Investing in Nutrition Literacy: A Youth Movement

The Indonesian society was born based on oral tradition. Thus, it is quite a challenge for the country to increase its people's interest in reading. Fuad Hasan proposed three components of a concerted effort to increase people's interest in reading, which consist of reading ability, reading sources availability, and fostering of reading habits (Kementerian Pendidikan dan Kebudayaan, 2019). These three factors have an important and interrelated role in improving people's interest in reading, which will improve nutrition literacy among the Indonesian people. Nutrition literacy must be recognized as an essential life skill.

Today, the Internet is the most popular source of various pieces of information, including those related to nutrition and health. Other studies also mentioned that, besides the Internet, family members and books also serve as alternative sources of information about food and nutrition (Joulaei et al., 2018).

However, the internet provides us with a huge amount of scientific and non-scientific information and even presents a lot of hoax news about health. This is an opportunity for us as academicians and nutritionists to deliver reliable information to increase people's nutrition literacy. It is also a challenge for us to provide valid information to counter hoaxes and misleading news that

spread quickly every day. In order to address this situation, a group of Indonesian young people made the initiatives and efforts to improve the nutritional literacy of the Indonesian people. The following are a few examples of initiatives that they have taken to provide accurate and up-to-date information about health and nutrition: Edugizi (<https://www.edugizi.id>), Lini Sehat (<https://linisehat.com>), Zywielab (<https://zywielab.com>), Dietisien (<https://dietisien.id>), Nutricare (<https://nutricare.id>), Ahli Gizi (<https://ahligizi.id>), and many more.

If we examine more deeply the definition of nutrition literacy as previously explained, it turns out that nutrition literacy does not only mean the ability of individuals to access and process nutrition information. It also means the degree to which they are able to practice or carry out what they have known. By providing good quality reading materials for people, those young people hope that they will be able to bring benefits to the people (see Figure 3).

Figure 3 shows us the framework of nutrition literacy that could increase diet quality and healthy eating behaviors. The black and grey areas are the antecedents of nutrition literacy such as public health nutrition policy and intervention, education and literacy, media

use or smartphone apps, source of nutrition information, and so on.

These young people are working in the black and grey areas. They provide Internet-based nutrition information sources that are accessible and easily disseminated. They also provide online consultation to encourage more people to discuss about their daily health and nutrition problems. In the era of COVID-19 pandemic, they also provide reliable information about COVID and nutrition.

However, this is just one of the antecedents to reach the white area, which represents the consequences of nutrition literacy. As Fuad Hasan said, the fundamental way to increase people's literacy is increasing their basic reading ability (Kementerian Pendidikan dan Kebudayaan, 2019). Increasing children's cognitive skills must be done by increasing their nutritional status. Therefore, much work remains to be done together by all relevant parties to cut the vicious cycle of stunting.

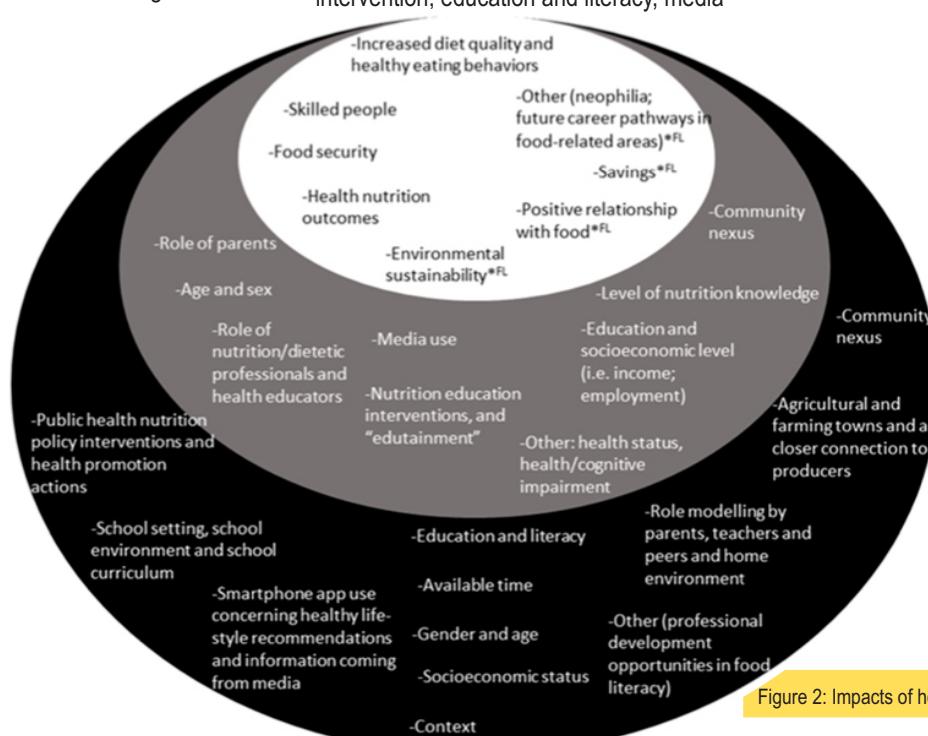


Figure 2: Impacts of health literacy on health (Vettori et al., 2019).

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The End of the Silver Bullet: A Holistic Approach to Stunting Research

by Alessia Gasco - Communication Manager UKRI GCRF Action Against Stunting Hub

Stunting is a significant worldwide public health problem. In 2019, over 144 million children under the age of five were stunted. In 2015, WHO's World Health Assembly set up the ambitious target of reducing the number of stunted children by 40% by 2025. This target was later adopted by the Sustainable Development Goals that aims to end all forms of malnutrition by 2030. Against the backdrop of the current COVID-19 pandemic, it becomes more and more unlikely that the 2025 goal will be reached. The most recent WHO report indicates that numbers are on the rise again.

Over the past three decades, there has been a one-sided focus on searching for the 'silver bullet' or the specific driver to solve stunting; the only key element that, if addressed, could explain the insoluble problem. This has weakened praxis. Although there have been some encouraging results, this approach has not been fully successful. It has also ignored the need to merge different disciplinary advances.

The **UKRI GCRF Action against Stunting Hub** is a program that aims to challenge and redefine the existing paradigm of child stunting research. The Hub believes that we need to rethink stunting: child under-nutrition is a mosaic, where different individual elements play a role in creating the picture. What we need to end stunting globally is a holistic, pan-disciplinary understanding of the problem. For example, we have to take into

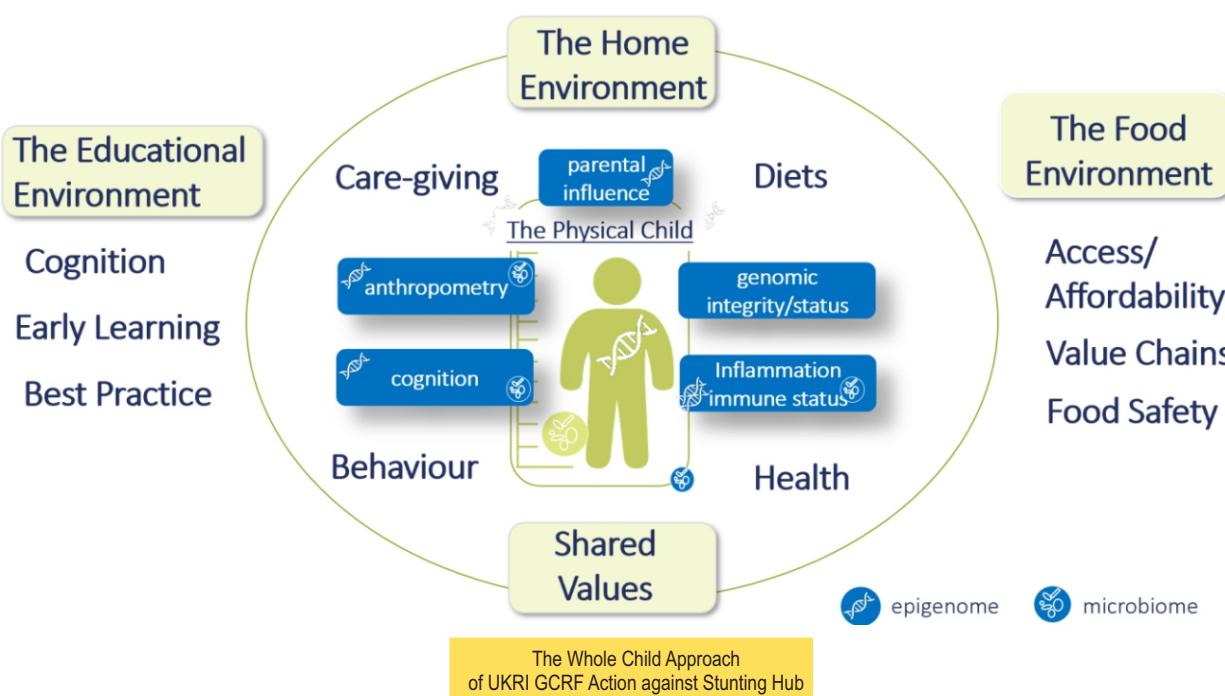
account that children who are stunted often have an immature gut microbiome, which enhances the likelihood of catching infectious agents, ranging from viruses and bacteria to protozoa and helminths. Food-borne toxins also have an impact on stunting. On the other hand, we need to research the elements that we believe can prevent stunting from happening, including behavioral elements, dietary choices such as feeding animal source foods (ASF), feeding practices, and improvements to water, sanitation, and hygiene (WASH).

If we want to stop considering under-nutrition as 'silero' and non-relational (Perkins et al., 2017), we need to grasp the shape and structure of the mosaic and the synergies between the components. What is the cascade of factors driving child stunting? What are the synergies and inter-relationships between drivers? What are the critical points along this cascade where healthy linear growth diverges to slow or has no growth?

To answer the questions, the Hub has developed a new approach that aims to shift the focus from the single parts to the "whole child". We call this the **Whole Child Approach**. The priority is to understand the biological, social, environmental, and behavioral context in which stunting occurs, and the synergies and inter-relationships between drivers. In other words, we aim to understand the 'bio-developmental' niche

governing child growth, focusing on the interaction between the biological, physical, and social environment of the child. Once the primary paradigm is set, we can now argue that child under-nutrition is an outcome of four inter-linked 'environments' radiating from the physical to the immediate/home environment, to the educational and broader food system. These domains, however, are linked by the social values which directly shape a child's living experience. In applying this paradigm, the path ahead is clear: we must radically change our perspective from the related parts to the Whole Child.

However, working collectively does not mean that individual elements of the Hub will not be innovative and groundbreaking. For example, the Epigenetics work stream will address the biology of stunting, looking beyond the simple height-for-age definition to develop better methods of defining and identifying stunting type based on epigenetic status. Here, we will define epigenetic markers that can be used to identify the children and pregnancies that have a high risk of stunting. A full understanding of the epigenetic changes will, along with the outputs of the other work streams, help the study to predict the ability of stunted children to respond to specific interventions based on the 'type' of stunting involved.



The End of the Silver Bullet:

A Holistic Approach to Stunting Research

The Hub will use two epigenetic methodologies: 1) a targeted hypothesis-driven analysis of selected regions of the genome using Next Generation Bisulphite Amplicon Sequencing (BSAS) and 2) a genome-wide analysis of epigenetic states using the Illumina Infinium Methylation EPIC 850k Bead Chip (EPIC array). The EPIC array measures the epigenetic state of a large number of genes. This capability makes the EPIC method useful for drawing interdisciplinary comparisons with multiple work streams across the Hub. However, it is limited in genomic coverage, and it does not include key regions critical to stunting. The ability of the BSAS method to target specific regions within the genome allows The Hub to focus on specific epigenetic markers of birth anthropometry, adult stature, metabolic state, and cognitive ability. All samples will be analyzed using BSAS in targeted regions of the genome. The EPIC array will be used for selected samples from within the core cohort study.

To test and put the Whole Child Approach into action, The Hub works in over 50 communities across three countries: India, Indonesia, and Senegal. We aim to decrease stunting by up to 10% in these communities. Throughout the project, we expect to positively impact the lives of up to 1 million children. The Hub consists of 17 partner organizations in six countries coordinated by London International Development Centre (LIDC) and London School of Hygiene Tropical Medicine. Professor Claire Heffernan

(LIDC) is the Principal Investigator (PI), and Professor Paul Haggarty (Rowett Institute of Nutrition and Health at the University of Aberdeen - UK) is the Deputy Principal Investigator.

For each country, the Hub has identified a leading institution in Indonesia; SEAMEO RECFON is the chosen partner. The Indonesian Hub comprises of interdisciplinary researchers chaired by Dr. Umi Fahmida as the Country Lead. The team consists of senior and early career researchers in diverse disciplines, i.e. nutrition, medicine, biomedicine, food safety, agriculture, psychology, and education. The RECFON's team is also supported by SEAMEO CECCEP for the educational component.

As our PI Professor Claire Heffernan noted: 'To change the frame around child stunting requires our Hub to be a true collaboration which leverages our collective expertise. RECFON has been a brilliant partner, and the whole Hub has gained Umi and her teams' extensive experience in best practice around data collection and management.'

The Hub also aims to impact the academic community. The Whole Child Approach will change the 'frame' by which our historical understanding of stunting is based. The new conceptual understanding of stunting and the related typology will benefit the academic community in different ways. First, new perspectives on stunting will open up to innovation processes. Second, by embedding the findings in the programmatic priorities of

multilateral institutions, non-governmental organizations, and civil society, we will be serving the wider stakeholder community. The interdisciplinarity of the project ensures that the direct beneficiaries of this work intersect eight disciplines: biology, clinical medicine, psychology, sociology, veterinary medicine, nutrition, economics, and anthropology. On top of this, by leveraging networks across the UK and internationally, we will be able to engage with an even bigger academic community.

Finally, during the lifetime of The Hub, we will produce an interdisciplinary data set that will be a unique resource for researchers working on issues relating to child under-nutrition. The data will underpin the development of a decision support tool that will be freely available to the academic community and policymakers. In addition to generating solutions based on the core Hub hypotheses, this rich and extensive data set will make possible the second wave of discovery by allowing cross-disciplinary suggestions arising in one center to be tested using the data from another.

Ultimately, all of the activities taking place across The Hub and all the data generated are contributing to our ambitious overall goal: to fundamentally change the landscape of child stunting for millions of affected children globally based on the 'type' of stunting involved.

Who We Are

INDONESIA TEAM



Min Kyaw Htet
Theme Lead of Physical Component



Umi Fahmida
Country Lead,
Theme Lead of Home and Food Component



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Theme Lead of Education and Cognition Component



Dwi Yanti
Epigenetics



Sari Kusuma
Gut Health



Dewi Shinta
Nutrition & Genetics



Indriya L. Pramesthi
Home Environment



Dwi Priyono
Learning Tool Kits



Irwan Gunawan
Learning Environment



Arienta R.P. Sudibya
Hub Manager,
Food Safety



Ahmad Muzhar
Food Market

UKRI GCRF Action against Stunting Hub Indonesia

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Empowering the Elderly as “Actors” in Stunting Alleviation

by Purnawati Hustina Rachman, Prof Clara M Kusharto - IPB University

The elderly, senior citizens, the old generation, whatever you want to call them, have always been underestimated by the society, mainly due to the prevailing stereotype that they need to be assisted and are incapable of doing many things independently. Although this may be true for some of them, there is also a large proportion of elderly people who are quite active and independent, and therefore have the potential for serving as “actors” rather than “objects” in health programs and interventions.

The good news is that among the current 10% of older people in Indonesia, the majority of them are categorized as independent, meaning that they are capable of assisting themselves and to some extent even assisting others. These seniors prove that they too can be productive and active in the community. This not only brings relief to the health care system but also demonstrates that these seniors can serve as a possible solution to other health and nutrition problems faced by the community.

Indonesia has also long been facing the problem of stunting, which is a public health concern. In 2019, the government reported that the prevalence of stunting hovers at a staggering figure of 27.7% among children under the age of five. Nevertheless, it is considered quite an achievement for Indonesia to have the figure reduced by 3.1% in only one year. Continuous commitment and determination is apparent from the government efforts that strive to bring the figure down to 14% by the end of 2024. Thus, in order to reach this ambitious number, all-hands-on-deck participation is required. This involves multisectoral and cross-ministerial efforts as well as all those other potential resources, including the elderly, to contribute in the reduction of stunting.

Independent and productive senior citizens are highly potential actors in stunting prevention. Indonesian statistics show that 38% of the elderly live with their families, while 24% of them live with their children and grandchildren (three generations) within the same household (TNP2K 2017). Moreover, it is very common that the caring and feeding of children are highly influenced by what the grandparents say. Unfortunately, these hands-me-down feeding recommendations may not always be in line with the current health and nutrition recommendations, which have come to be considered as food taboos. Food taboos are still an issue in several regions in Indonesia. Among the most common food taboos in Indonesia include fish consumption during pregnancy, which is wrongly thought to cause babies to smell like

fish after birth, while others apply honey on the lips of newborn babies to prevent dry lips. Many insist on giving the babies water after breastfeeding them to avoid stickiness in the throat. Early introduction of food, such as mashed banana (even as early as one week), is still quite common. In addition, family members are usually the first to insist on giving formula milk when the breastmilk is considered insufficient. In many cases, these practices are the leading causes of stunting, and they get worse in some regions when the babies reach the age of complementary feeding at 6 months. The common diet for these babies only includes rice porridge and soup without any protein and vegetables. When the origins of these food taboos are traced back, it turns out that many of them come from the older generations. Therefore, it is critical that these senior citizens understand the correct health and nutrition practices in the family.



Considering the important roles of the elderly within their communities and families in preventing the proliferation of stunting, the Directorate of Family Health of the Ministry of Health, Republic of Indonesia, together with the Department of Community Nutrition, Faculty of Human Ecology of IPB University, collaborated to identify the existing programs and policies whose objectives are to improve the health and welfare of the elderly in Indonesia. The study was conducted in five provinces in Indonesia through focus group discussions at the district level and by involving multiple stakeholders. The lessons learned from the study were then used to formulate a solution aimed to empower the elderly to take part in stunting prevention in their communities.

In this study, we learned that ample efforts from the health, social, and government sectors are already in place at the district level. Community Health Centers are encouraged to develop innovative programs for the elderly, which aims to increase their involvement as health advocates in their families. Most of those programs were given intriguing names, which make them easy to remember by the community. For example, in

Bogor, one of the programs is called *Antariksa (Antar dan Periksa)*. In Indonesian, *antariksa* means ‘outer space’, while *antar dan periksa* means ‘bring in and check’. Hence, the aim of the program is to increase the elderly participation to bring in and accompany pregnant mothers to the Community Health Centers for a regular health checkup. Bogor also has another program called *Si Dulan (Si Duta Lansia)* or ‘Elderly Role Model’. In Banyuwangi, the social programs for the elderly include *Rantang Kasih* or ‘Basket of Care’, which provides nutritious food for the elderly who live alone. In Padang, they have a program called *Nekermen (Nenek Kakek Keren)* or ‘Cool Grandma and Grandpa’, which is a program to educate the elderly to help prevent stunting in the family. In Tomohon District, one of the programs is called *Martabak Manis (Mari Datang dan Periksa, Oma Opa Nikmati Usia Senja)*. In Indonesian, *martabak manis* is a sweet pancake-like delicacy, while the program itself is aimed to encourage the elderly to come (to health services) and check their health condition. In Wajo, they have a program called *Ojol (Ojek Lansia)*, which seeks to accompany and take the elderly to integrated health posts when they cannot come on their own. All of these programs are administered by the local Community Health Centers and implemented together within the community.

Despite the positive progress found in the field, problems related to funding and priority remain an issue in several districts. Lack of coordination between the sectors is also a problem: some programs overlap each other and lack synchronization. Furthermore, the absence of a coordinating body (i.e. the Elderly Regional Commission) in many districts is also hampering the effort to promote elderly-related issues as a priority. Moreover, in some areas, many elderly people are reluctant to come to the available services, thinking that the services are only for the poor. This is quite common among the male elderly.

To tackle the lack of synchronization between related government sectors and to increase elderly participation, a community college for the elderly was established and tested in one of the working areas in Jampang Community Health Center, Bogor, Indonesia. The program was aimed to empower the elderly as health and nutrition advocates through the concept of lifelong learning. Weekly sharing sessions were held for six weeks in one of Integrated Development Posts, which were attended by 51 elderly participants.

The main curriculum was developed to include aspects on nutrition and health issues throughout the life cycle from pregnancy, children under five years old, school-age children, adolescents, adults, and elderly. During these sessions, the elderly would be divided into small groups based on whom they live with from the six age categories mentioned above. Moreover, to make it more interesting, each session also includes enrichment activities, such as planting herbs, cooking healthy snacks for children and the family, and also doing simple exercises such as tongue and brain exercises. These activities were eagerly awaited by the participants.

Several stakeholders were also involved as speakers in the sessions, such as the *Yayasan Indonesia Ramah Lansia* (Indonesian Elderly-Friendly Foundation); Food Security Office of Bogor; Women's Empowerment, Child Protection, Family

Planning, and Population Control Office of Bogor; and Dahlia Posbindu in Depok. At the end of the program, there was a graduation ceremony as a token of appreciation for the strong commitment and active participation of the elderly.

The concept of “school” was well received by the elderly group in Jampang, as demonstrated by a high participation rate of 94% throughout the program. Participants were eager to learn something new every week and actively participate in the sessions. As a follow up of this program, participants of the Community College for Elderly are now enthusiastic to join an educational program named online Talk Show Series with Elderly organized by IPB University which consists of 20 online sessions up until December 2020. It is proven that age does not limit elderly to become tough individuals who are willing to learn to serve and not only to be served.

This gave great hope for program implementers that the elderly can give many contributions to the community, including becoming health advocates in the fight to reduce stunting in their immediate neighborhood. This act of empowerment can also help bolster their confidence that they too can contribute in this battle to reduce stunting through the process of lifelong learning by acquiring and distributing their knowledge, starting from their very own families.



From the research bench

Opportunities and Challenges of Stunting Prevention in Islamic Boarding Schools in Indonesia

by Purnawati Hustina Rachman, Reisi Nurdiani - IPB University

Adolescents – a window of opportunity

Amidst the rebellious, emotional roller coaster and undecisive traits of adolescents, as challenging as they can be, they hold an important role in shaping the nutritional status of the next generation. During this important stage of life, adolescents go through rapid growth where they experience significant physical and emotional changes called puberty. Without sufficient nutritional support, adolescents may not be able to reach their potential during this window of opportunity.

Adolescent girls have received a lot of attention over the past few years as more and more people acknowledge the importance of investing in optimal nutrition during this stage. Although the first 1000 days of life remain a high-priority period, many agree that nutritional interventions during adolescence will lead to positive outcomes in future pregnancy. Unfortunately, many adolescents underestimate the importance of achieving a balanced diet. High snacking habit, little

consumption of fruits and vegetables, and also skipping meals are found in many adolescents. Many of these are related to environmental factors, such as peer influence and limited access to healthy snacks and meals. In addition, the prevalence of teen marriage is also quite high in some regions, thus increasing the risk of stunting and malnutrition in the next generation.

Islamic Boarding Schools in Indonesia – an Overlooked Potential

Indonesia holds the first rank as the largest Muslim population in the world with 203 million Muslims, representing 86.1% of Indonesia's population (<http://en.reingex.com/Muslim-population-countries.asp>). This large number is supported by several religious institutions, including the education sector. Pesantren or Islamic Boarding School (IBS) is an Islamic education institution in Indonesia which provides a non-classical method of learning religion for adolescents and adults starting from junior high school level. Recent data

from the Ministry of Religious Affairs, Republic of Indonesia, show that the number of IBS in Indonesia reached 26,966 in 2019 and is projected to increase. The number of students reached 2,647,855 with more than 54% of them living in dormitories within the school ground. These IBS provide religious education beyond the formal school hours and often have strict rules for going off-campus. In turn, the schools provide all the necessities for the students. This includes three meals per day, convenient shops, a sports area, extracurricular clubs, a library,

shared dormitories, and bathrooms. In most schools, students must stay at IBS for a full semester. Parents and relatives are only allowed to visit once a week. In addition, students are usually not allowed to bring mobile phones. Although it may seem quite difficult for these young adolescents to be away from home with some restrictions, this method of education is thought to be most effective in raising strong and independent children to focus on their religious and academic studies.

Opportunities and Challenges of Stunting Prevention in Islamic Boarding Schools in Indonesia

This unique condition allows the schools and teachers to take full responsibility for the students' wellbeing, replacing the roles of parents during their time at IBS, including providing the meals for the students. Unfortunately, not all schools have the resources and capacity to plan three nutritionally balanced meals per day, let alone to provide them. This is commonly found in a relatively new and small IBS, mostly funded by donations. In such schools, the common dish would consist of all-you-can-eat rice, a portion of tofu or tempeh and vegetables.

Many lack animal protein and fruit in the diet. Due to limited dorm space and shared facilities related to poor hygiene and sanitation, seasonal colds and coughs are commonly found among the students. Moreover, IBS is often overlooked in terms of government health programs which often target public schools. Although in conditions where the environment is strictly supervised such as at IBS, access towards health and nutrition programs and information remains a challenge.

This different environment requires a different approach to ensure that the health and nutritional status of adolescents can reach its maximum potential. Therefore, the Department of Community Nutrition, Faculty of Human Ecology, IPB University, supported by PT Ajinomoto Indonesia, has organized a School Lunch Program (SLP) in Bogor, Indonesia since 2018.

Creating supply and demand

SLP was designed to address the health and nutrition problem of adolescents through a supply and demand approach. On the supply side, SLP provided daily nutritious lunch throughout the period of one year (SLP 2018) and 6 months (SLP 2019). This was to ensure that students were provided with sufficient nutrition that is needed for their growth and development. Although our program only provided balanced lunch meals, sufficient training was given to school's food handlers on how to prepare and process food in a safe way. Training was also provided for management staff on how to allocate an appropriate budget for food supplies, prepare menu cycles, and also regulate the kitchen flow to ensure the sustainability of the program. Hence, the school was also encouraged to restructure its menu cycle in the morning and also at evening meals to make it more balanced.

Meanwhile, from the demand side, SLP provided nutritional education for students on a weekly and bi-weekly basis throughout the program. Teachers were highly involved in the preparation, and the delivery of nutrition education and training was provided for teachers early before the program. Teachers were asked to arrange schedules and create a team of volunteers who were willing to deliver an educational program weekly with the support of IPB University. The nutritional education topics ranged from health and nutrition problems in adolescents to balanced nutrition, food labels, clean and healthy lifestyle, and also physical activities. What is unique in the method of delivering the nutritional education at IBS is that there are ample opportunities to hold sessions beyond academic hours. As they stay in dormitories and live within the school, the teachers are more comfortable delivering nutrition education sessions in the evening.

These were often held in the hallways of the dorms or sometimes in the mosque. Some topics related to physical activities were held in an open hall in small groups. Furthermore, related health and nutrition posters were also posted in bedrooms, kitchen, classrooms, washing sinks, and many other areas throughout the school to increase exposure.

The results of SLP were positive in several aspects. After the program, the prevalence of anemia decreased and nutritional status also improved. Both overweight and underweight fell to normal nutritional status. Knowledge, attitudes, and practices of students' health and nutrition also improved significantly even though the increment in practices was not as high as those in knowledge and attitudes.

Challenges and future ways

Despite the positive effects of SLP, we also found that focusing on one single meal(lunch) caused more skipping other meals, especially dinner. Many students felt that a balanced lunch could compensate for their dinner which was held either too late (8 pm during SLP 2018) or too early (5 pm during SLP 2019) by the school. Therefore, a strong commitment is needed from the schools to schedule dinner at the right time for students to enjoy the meal. This may be a challenge as dinner usually overlaps with prayer times and religious activities.

The Program also generated a valuable lesson on the importance of advocacy and commitment from the top level management of IBS to implement such a program. In a relatively smaller and developing IBS, where the organizational structure is quite simple, it is sufficient and effective to advocate the *Kiyai*, as solely the top leader of the school as well as the management that is highly respected and obeyed by all staff members

and students. The advocacy with the *Kiyai* was very effective which resulted in the delegation of staff and resources to support our program. This resulted in joint investments by the school such as the provision of new equipment in the kitchen and also dinner plates for all students. Furthermore, the school restructured its organization and created a special division for kitchen affairs (including meal planning and nutritional education). In schools that are more established in terms of management, challenges arise in the communication and commitment as the hierarchy of the schools and the foundation are separated; hence, they required multiple levels of approvals and plans of action during the implementation of the program.

The two School Lunch Programs reveal that IBS requires guidance on how to provide nutritious meals and nutritional education to ensure the nutritional and healthy wellbeing of adolescents attending their schools. If

such guidance can be provided in all IBS throughout Indonesia, we can ensure that 1.4 million adolescents will receive adequate nutrition for optimum growth and also the knowledge needed to maintain their health. However, maintaining positive impacts is an entirely new challenge, where it takes two to mingle, meaning the cooperation and commitment from both the school as well as the program implementers are needed. Nevertheless, it is an effort worth striving for in order to open the window of opportunity of adolescence and future generations to come.



Gastro-Tourism and Gastro-Diplomacy as Potential Approaches to Prevent Stunting in Southeast Asia

by Repa Kustipia - Center for Study Indonesian Food Anthropology

Gastronomy has recently become a prominent attraction in the tourism business all over the world. According to the most famous food philosopher, Brillat Savarin, in his book *The Physiology of Taste* first published in 1825, gastronomy covers eating habits, the preparation of food ingredients, food processing, food history and legends, food culture, food pleasure, the benefits of food, and everything else related to food. Thus, the term gastro-tourism has emerged and been used in promoting a particular tourism destination. Gastro-tourism is sometimes interchangeably referred to as food tourism or culinary tourism by some people.

Gastro-tourism programs highlight activities related to enjoying food from a certain locality that involves all our senses in interacting with various culinary products. Unfortunately, the gastronomic aspect of this tourism concept is often neglected. In most cases, gastro-tourism is reduced to just eating the food prepared by local people in a certain destination without knowing and appreciating the history and culture behind the preparations.

An example of gastro-tourism in Indonesia can be seen in Bogor, West Java, where tourists can visit local paddy fields and the surrounding tourist villages to see the process of preparing the rice that they will eat. They are also invited to participate in farmers' activities during the day to try their hand at farming. Then, after the foods have been processed, the tourists are actually creating the food that will be served and finish their meal without wasting anything, as they become aware of the contribution of the agrobiodiversity of gastro-tourism program.

Another term that has recently appeared in food and tourism as well as in other development discourses is gastro-diplomacy. In 2012, Paul Rockower coined the term gastrodiplomacy referring to the "concerted and sustained campaigns of public relations and investment by governments and states, often in collaboration with non-state actors, to increase the value and standing of their nation brand through food." In short, food is used to achieve diplomatic goals and establish a nation's identity or brand. It can

create a good image among tourists about a particular country they travel to and eventually provide them with positive experiences.

As a region, Southeast Asia possesses abundant natural resources that contribute to the numerous exquisite dishes from among the countries within. Each country is known for its specific dishes. This diversity in dishes has led to an interaction, "migration" as well as exchanges of recipes between and among countries through the years either by mixing and adapting traditional recipes with contemporary ones. Thus, if Southeast Asian countries effectively adopt gastrodiplomacy, it could promote the region's overall cultures, particularly from culinary and gastronomical points of view. Therefore, when offering a menu whether in a social occasion or as part of an educational program on food ingredients or recipes, one has to encounter a wide selection of culinary items which are imbued with diverse cultural values. Having diverse food sources and dishes could also mean diverse sources of nutrients that are essential in building a healthy citizenry.

The United Nations Economics and Social Council (ECOSOC) in its Tourism Futures in the 2030 Agenda: Innovation and Sustainability states that in the new era of normality, gastro-tourism may play a role in alleviating various social, health, and even food-related problems. A Stunting Prevention Education intervention, when packaged as a gastro-tourism program, could greatly affect the public's view on the importance of preparing healthy food considering its socio-cultural contexts as well as being a source of generating income by the local people involved from tourists visiting their communities. Poverty is one of the contributing factors to stunting incidents in most countries in the region. Further, the health dimension of gastro-tourism may need to be strengthened to raise public awareness of the vulnerability of some groups of young people, especially in rural areas, who are experiencing nutritional problems such as stunting which could be caused by inadequate intake of nutritious food.

The implementation of nutrition and health education programs for stunting prevention through a gastro-tourism perspective in the 11 countries of Southeast Asia could be a promising one. Government of these countries may need to implement clear gastro-diplomacy policies and programs that could prove valuable to raise community awareness on the importance of culinary perspectives and healthy food consumption using available natural resources to help solve stunting at the regional level..



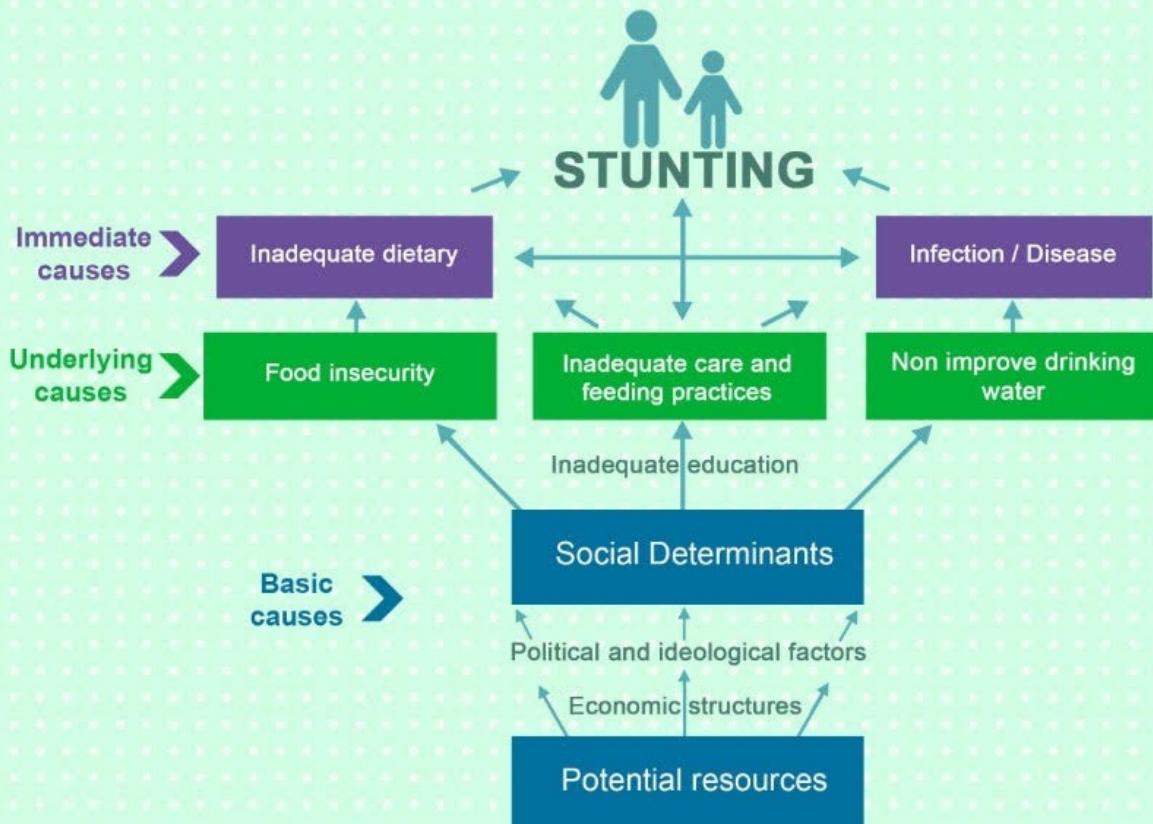
Infographic

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For more info contact : information@seameo-recfon.org

STUNTING

is a condition where a child is shorter than their peers. In 2006, WHO issued growth standards that can be used to determine the ideal height of a child according to their age.

UNICEF Conceptual Framework of the Determinants of Child Undernutrition



Death



Frequent
Illness



Disability

Short-term Consequences of Stunting



Long-term Consequences of Stunting



Adult with
short stature



Decrease
cognitive



Economic
productivity



Decrease reproductive
performance



Cardiovascular &
metabolic disease

Sources:

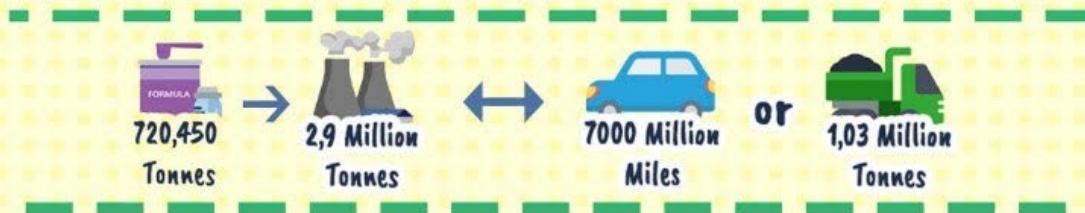
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World Breastfeeding Week 2020

1-7 August 2020



Breastmilk is a natural, renewable food that environmentally safe: produced and delivered without pollution, packaging, or waste.



720,450 tonnes of formula sold annually in 6 countries* generated almost 2.9 million tonnes of green house gas. This equivalent with nearly 7000 million miles driven by average passenger vehicle or 1.03 million tonnes of waste sent to landfill site



*) Australia, China, India, Malaysia, Philippines, South Korea

The Benefits of Breastfeeding



For Baby

- A lower risk of acquiring urinary tract infections
- Helps to prevent atopic disease, including atopic eczema, food allergies, and respiratory allergies -- throughout childhood and adolescence.
- Breastfed babies produce higher level of antibodies in response to childhood immunizations.



For Mother

- Reduces the risk of breast & ovarian cancers, anemia & osteoporosis.
- Provides emotional benefits for mother and children.
- Exclusive breastfeeding enhances birth spacing, giving women more time to recover from childbirth, care for their newborn children and contribute to the food security



"SEAMEO RECFON support WHO's regulation on marketing breastmilk substitute"

Know more about breastfeeding to the children

<https://youtu.be/n1xECdPqMJ4>

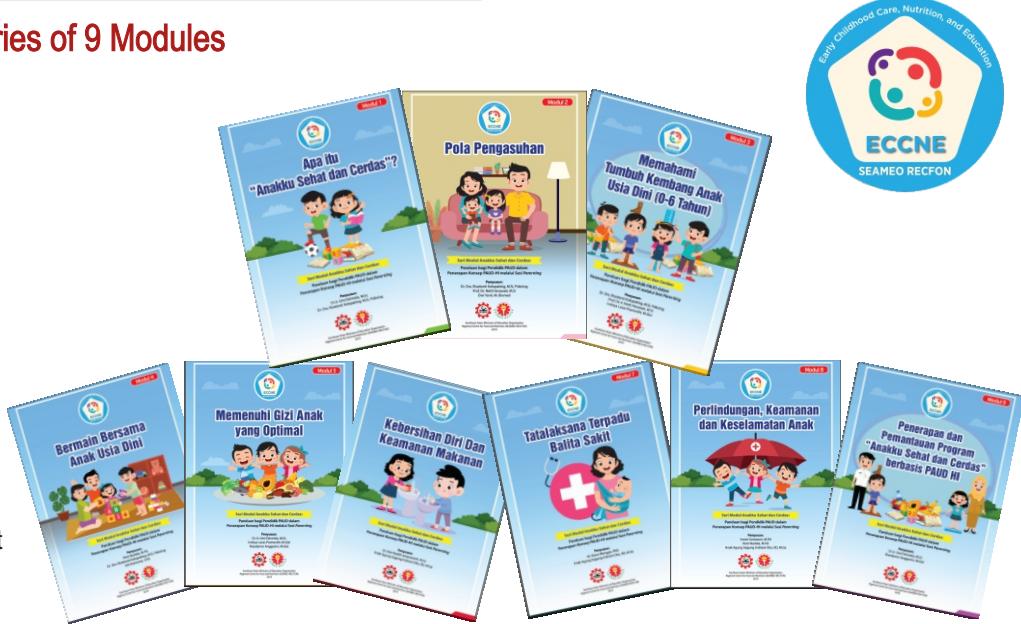
This section of the magazine will feature news tidbits on SEAMEO RECFON's two flagship programs, namely: Nutrition Goes to School (NGTS) and Early Childhood Care, Nutrition and Education (ECCNE). It will include completed and forthcoming activities as well as publications of the two programs).

ECCNE Program Produces a Series of 9 Modules

A series of nine modules on Holistic Integrative Early Childhood Care Education can now be accessed at SEAMEO RECFON website (<http://www.seameorecfon.org/books/module/eccne-modules/>)

These modules are meant to facilitate the teaching-learning process on ECCNE among early childhood education teachers in Indonesia. All written in Indonesian language, the modules cover the following topics :

1. Introduction of Early Childhood Care, Nutrition and Education concept
2. Parenting
3. Understanding growth and development of young children (0-6 years old)
4. Playing session with young childhood
5. Adequate nutrition for young children
6. Personal Hygiene & Food Safety
7. Integrated management for sick children
8. Child protection, security and safety
9. Implementation and monitoring of ECCNE program



The publication of the nine modules was made possible through the efforts of the Indonesian ECCNE Working Group that consists of staff of SEAMEO RECFON, SEAMEO CECCEP, Indonesian ECE Teacher Association (Himpunan Pendidikan dan Tenaga Kependidikan Anak Usia Dini – HIMPAUDI) and Academic Partners.

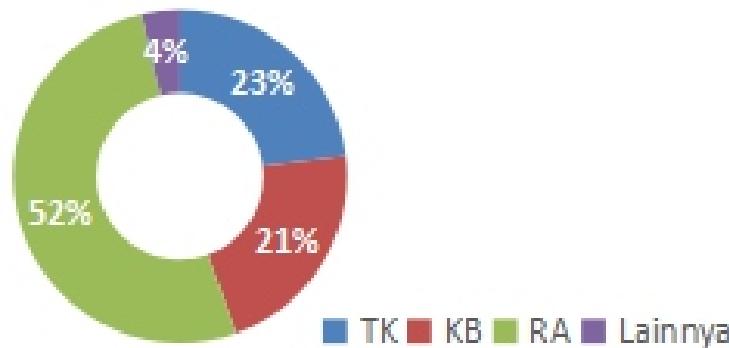
The 1st batch of ECCNE Online Training for Indonesian ECE teachers

To support the needs for capacity building of ECE teachers on early childhood care, nutrition and education, SEAMEO RECFON initiated the first batch of ECCNE Online Training in 2020 in collaboration with The Ministry of Education and The Ministry of Religious Affairs of Indonesia. The training was designed to deliver 9 ECCNE modules for 10 weeks with total learning hours of 112 hours (2 credit points from Directorate of ECE Teachers and School Personnel).

The training was aimed to enable the participants to (1) understand the concept of holistic and integrative ECE, (2) deliver messages related to child care, health and nutrition to parents via parenting session in ECE centers, (3) develop action plan to implement ECCNE in their ECE centers.

The first batch of ECCNE online training was conducted in April 1st – May 15th 2020 and attended by 808 participants from 50 stunting prioritized districts in Indonesia. Active participation and completion rates were 71% and 65%, respectively. This initiative is also planned to be offered to ECE teacher in Southeast Asia next year.

PARTICIPANTS OF THE 1ST BATCH OF ECCNE ONLINE TRAINING 2020



NGTS Compilation Books, Infographics and Microsite About School-Based Nutrition Promotion in Indonesia to be available soon

Five compilation books and five infographics on school-based nutrition promotion (SBNP) programs in Indonesia and a microsite for sharing the SBNP tools will soon be available for the general public before the end of 2020.

The compilation books and infographics are targeted for academicians, policy makers, program implementers, school community, the general public and the media. Written in both English and Indonesian versions, these publications will be accessible at the the SBNP-Indonesia microsite lodged at SEAMEO RECFON website.

The publications and the microsite were made possible through the funding support from the Global Alliance for Improved Nutrition-Indonesia and through the efforts

of the members of the Indonesian SBNP Working Group as part of the NGTS activities.

For more info visit : <http://sbnp.seameo-refcon.org/>



High School Teachers and Principals Participate in Online Training on Adolescent Nutrition



A two-month online training on Adolescent Nutrition is now ongoing for nearly 1200 school teachers and principals from 482 high schools/madrasah in 141 districts in 34 provinces in Indonesia since August 2020.

This online training is aimed at increasing the awareness of the participants on the importance of nutrition and building the capacities their to integrate it effectively in school classroom and extra-curricular

activities. It covers the topics on nutrition education, healthy school canteen, school gardening as a nutrition education medium, and hygiene and sanitation.

The participants are expected to formulate lesson plans related to the topics as well as a general plan of action to implement them in their respective schools/madrasah after the training.

Information Sharing on School-Based Nutrition Promotion Implementation through Online

This year, SEAMEO RECFON has lined up a series of online information sharing sessions on school-based nutrition promotion (SBNP) for both Indonesian and Southeast Asian audiences.

The series of online information sharing sessions for Indonesian school teachers called NGTS SOLUTIONS (Strengthening via Online Lecture Updates and Teachers' Interaction on Nutrition Series) started in July 2020.

This series consists of five sessions and will culminate in November 2020. Each session features the experiences of selected school teachers as resource persons in implementing the different components of NGTS. The NGTS components include nutrition education, promotion of variety of food consumption, healthy school canteen,

school garden, and sanitation and personal hygiene.

For the Southeast Asian audience, SEAMEO RECFON will, for the first time, bring practitioners in school-based health and nutrition programs from both education and health sectors in the region and beyond as resource persons. The webinar series serves as a forum to share and discuss best practices and lessons learned in the implementation of school-based nutrition and health programs. For this year, the webinar series will be held in October and November, featuring four thematic sessions dealing with Nutrition Promotion at School, School Feeding Program, School Canteen, and School Garden and Sanitation.

Detailed information about this webinar series can be obtained from SEAMEO RECFON social media accounts.

SEAMEO RECFON LABORATORY

*Accredited by



IS 17025
ACCREDITED LABORATORY

Our Services



Biochemical Assessment

Zinc* (300uL) | Vitamin A* (40uL) | Vitamin E* (40uL) |
Beta carotene* (40uL) | Vitamin D-25OH* (450uL) |
Vitamin C (300uL) | Ferritin (450uL) | Hematologic profile** (3mL)
The numbers above are the minimum volume of sample needed
for analysis. **) Whole blood, while the others are serum/plasma



Food Analysis

Borax †| Formaldehyde# | Nitrate-Nitrites†
Rhodamine†| Methanil Yellow †|
Cyclamate†| Mercury # |
Escherichia Coli | Total Coliform | Physic

† Semi Quantitative; # Qualitative



Dietary Assessment

1. Interview and Analysis on Food Frequency Questionnaire (FFQ), Semiquantitative Food Frequency Questionnaire (SQFFQ) and 24-h Food Recall.
2. Analysis on standard nutrients, additional nutrients, additional food intake by food group/ sub group/ food intake.



Freeze Dry Services

Primary applications of freeze drying include biological (e.g. bacteria and yeasts), biomedical (e.g. surgical transplants) and food processing (e.g. coffee). The quality of the product is excellent and nutritional content generally remain unchanged.



Genetic Analysis

SNP Detection |
Gene Expression Analysis



Anthropometry and Body Composition Assessment

- Anthropometric measurements (Weight, Height, Length, & mid-upper arm circumference)
- Body composition assessment (Skin folds & Bioelectrical Impedance Analysis (BIA))

Assessment Packages

Risk of Metabolic Syndrome

- Count
- Blood Glucose
- Blood Cholesterol
- Blood Uric Acid
- Bioelectrical Impedance analysis
- Blood pressure

Risk of Anemia

- Complete Blood Count
- Ferritin
- Zinc
- HsCRP
- Dietary Assessment

Oxidative Stress

- Vitamin A
- Betacaroten
- Vitamin C
- Vitamin E
- Dietary Assessment

Vitamin D Deficiency

- Vitamin D
- Dietary Assessment

Healthy Canteen

- | | |
|------------------------|-------------------------------|
| Chemical Contaminants: | Microbiological Contaminants: |
| - Borax | - Total Coliform |
| - Formaldehyde | - E. coli |
| - Nitrates - Nitrites | - Staphylococcus |
| - Rodhamine | |
| - Methanil Yellow | |
| - Cyclamate | |
- Healthy Canteen Checklist

SEAMEO RECFON Laboratory aims to support research in food and nutrition by providing biochemical assessment, dietary assessment, anthropometry assessment, food analysis, genetic analysis, freeze dry services and panel of laboratory tests. Accredited by ISO/IEC 17025:2017, the laboratory committed to assure quality and serve the best for you.

Our Facilities



HPLC Waters
Alliance E2695



AAS GBC 932AA



Hematology Analyzer



Chemiluminescence
immunoassay
(CLIA) Analyzer



StepOne™ Real-Time
PCR System



MaestroNano Pro,
Micro-volume
Spectrophotometer



BIA Analyzer



Freeze Dryer

Other Equipments



Hemocue 201



Shorrboard
(Shorr)



Body Weighing
Scale (Seca 876)



Microtoise



Food Model



Measuring Tape
(Seca 201)



Knee Height
Caliper (Shorr)



Baby Length
Board



Skinfold Caliper
(Holtain)



Food Weighing Scale

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