

Short stature and stunting in Indonesia: problems and innovative alternative solutions

Agus Rizal Ardy Hariandy Hamid



“Creativity is thinking up new things. Innovation is doing new things.” (Theodore Levitt)

Height stature, mostly influenced by genetic traits, is also influenced by environment and nutrition. There has been an increasing national average height in some countries in the last 30 years. The national average height is related to the national health care system and nutritional status. Therefore, a higher national average height is correlated with better health care, especially nutritional support. A recent study has shown that a higher height is related to a lower risk of several health traits, i.e., cardiovascular disease.¹ Togas et al² also found that children with higher height have higher cognitive value (intelligence quotient). To improve this indicator, the program can only target the high-risk population, including children and teenagers who are still in the growth phase. Based on data from NCD Risk Factor Collaboration, Indonesia has been categorized as one of the top 10 countries with the shortest average height,³ indicating the importance of improving the health care system, especially nutritional support for children and teenagers, to increase this national average height indicator.

The combination of short stature and severe malnutrition will lead to a stunting condition. Togas et al² found that stunting is associated with a lacking cognitive development. Additionally, it may cause mental disorders and chronic disease risks in the future. Therefore, programs on reducing stunting should target a wider population, including children and high-risk populations such as pregnant women and newborns. Gunardi et al⁴ found that the lower mother's educational level (less time) was the significant factor for stunting. Although the incidence of stunting in Indonesia reaches 22% in newborns, Indonesia is still one-third of countries with a high stunting condition. Gunardi et al⁴ found an irony that stunting was still found in the capital city of Jakarta in 2014. Therefore, the Ministry of Health has prioritized

stunting elimination as part of the national healthcare transformation by reducing the incidence to less than 15% in 2 years.⁵ As stunting management requires a comprehensive and multi-sectoral approach involving the health, nutrition, water, sanitation, and education sectors, the government has encouraged educational innovations and program applications for stunting screening and monitoring in high-risk population.

The most important way to solve short stature/stunting is to ensure the nutritional intake for the high-risk population in the long term. Recently, innovative ready-to-use therapeutic foods (RUTFs) containing highly dense nutrition and enriched energy have been developed to address these problems. Sjarif et al⁶ found that the daily growing-up milk (formulated milk for children aged 1–3 years), as an example of RUTFs, could decrease the risk of stunting. However, it is costly in the long term, which may not be suitable for the high-risk population with middle or low income. Thus, innovation in affordable supplemental foods for the high-risk stunting population is needed.

Indonesia, with its rich natural resources, should take this advantage to develop a potential affordable supplemental food against the stunting problem. Personally, I am really grateful to be a part of research group in the Medical Technology Cluster in the Indonesia Medical Education and Research Institute, Faculty of Medicine, Universitas Indonesia to carry out this important project. The project is expected to find alternative affordable supplemental food for high-risk populations. This alternative supplemental food thus will support the government program in reducing stunting incidence in Indonesia. I would like to thank Arindha Reni Pramesti, S.T., M.Sc, Azwien Niezam Hawalie M., S.Tr.Kes, Muhammad Suhaeri, S.Si., M.Sc., Ph.D, and Prasandhya Astagiri Yusuf, S.Si, M.T, Ph.D as a team in the Medical Technology Cluster, Indonesia

Medical Education and Research Institute, Faculty of Medicine, Universitas Indonesia.

From Medical Journal of Indonesia; Department of Urology, Faculty of Medicine, Cipto Mangunkusumo Hospital, Universitas Indonesia, Jakarta, Indonesia

pISSN: 0853-1773 • eISSN: 2252-8083

<https://doi.org/10.13181/mji.ed.236924>

Med J Indones. 2022;31:211–2

Corresponding author:

Agus Rizal Ardy Hariandy Hamid

E-mail: rizalhamid.urology@gmail.com

REFERENCES

1. Raghavan S, Huang J, Tcheandjieu C, Huffman JE, Litkowski E, Liu C, et al. A multi-population phenome-wide association study of genetically-predicted height in the Million Veteran Program. *PLoS Genet.* 2022;18(6):e1010193.
2. Togas M, Gunardi H, Sekartini R, Pudjiati SR, Hogervorst E. Comparison of a set of cognitive ability screening test for primary school-aged children in Indonesia. *Med J Indones.* 2020;29(4):392–8.
3. NCD Risk Factor Collaboration. HEIGHT. Evolution of height over time [Internet]. NCD Risk Factor Collaboration; 2017 [cited 2023 Apr 16]. Available from: <https://ncdrisc.org/height-mean-ranking.html>.
4. Gunardi, Soedjatmiko, Sekartini R, Medise BE, Darmawan AC, Armeilia R, et al. Association between parental socio-demographic factors and declined linear growth of young children in Jakarta. *Med J Indones.* 2017;26(4):286–92.
5. Publicity Department of Agency for Health Policies Development. [Two key interventions to achieve the stunting reduction target of 14% by 2024] [Internet]. Indonesian Ministry of Health: Agency for Health Policies Development; 2023 [cited 2023 Apr 16]. Available from: <https://www.badankebijakan.kemkes.go.id/dua-fokus-intervensi-penurunan-stunting-untuk-capai-target-14-di-tahun-2024/>. Indonesian.
6. Sjarif DR, Yuliarti K, Iskandar WJ. Daily consumption of growing-up milk is associated with less stunting among Indonesian toddlers. *Med J Indones.* 2019;28(1):70–6.