

Transdisciplinary Approach to Prevent Stunting in Indonesia

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Abstract

Stunting remains a public health burden in Indonesia. National strategy and coordination of acceleration implementation for stunting reduction have been applied. The transdisciplinary approach is essential to improving the effectiveness and efficiency of all levels of participating in stunting programs. This transdisciplinary approach is expected to solve stunting problems from upstream to downstream and provide innovations based on local and national needs. In creating a stunting-free area, a transdisciplinary approach not only decreases stunting prevalence but also sustains children's health status.

Keywords: growth disorders; prevention; stunting; transdisciplinary

A high prevalence of stunting poses a severe danger to the nation's ability to attain the Sustainable Development Goals (SDGs) and its economic growth and development. The convergence of crises, led by COVID-19, climate change, and wars, has repercussions on all of the Sustainable Development Goals, including food and nutrition. By 2030, goal two aims to eradicate hunger and all types of malnutrition, including reducing stunting in children by 50% by 2030; as such, the annual rate of decline must double. There were 149.2 million children under five suffering from stunting in 2020 (UNICEF, 2021). In 2020, Asia was home to over half of all stunted children under five, while Africa was home to the other half. The results of the 2022 SSGI survey on Indonesia's nutritional status decreased from last year's 24.4% fell by 2.8% to 21.6% (The Ministry of Health of the Republic of Indonesia, 2023). The stunting reduction rate is targeted to be 3% annually; however, for 2022, it was only 2.8% due to the impact of the pandemic. The five regions with high proportions are in East Nusa Tenggara, West Sulawesi, Aceh, West Nusa Tenggara, and Southeast Sulawesi, and the high stunting numbers are in West Java, East Java, Central Java, North Sumatra, and Banten (The Ministry of Health of the Republic of Indonesia, 2023). Stunting is a serious health issue for Indonesian newborns and toddlers. The government must overcome the stunting problem because it will slow Indonesia's golden generation in 2045.

A national strategy to accelerate stunting reduction is stated in Presidential regulation number 72 of 2021 (Presidential Regulation of Indonesia, 2021). The pillar of national strategy, specific intervention services, and sensitive intervention services are explained in Figure 1. Eleven stunting-specific interventions focused on before birth and children aged 6-23 months have been evaluated. In terms of prenatal care, including anemia screening and antenatal care, 18.5% has been done in Indonesia. Monitoring of toddler growth and development was carried out on 13.7% of children aged 6-11 months and 22.4% of children aged 12-23 months (The Ministry of Health of the Republic of Indonesia, 2023). In addition, the nutrition-sensitive intervention that has had the most significant impact on the prevalence of stunting in infants between the ages of 6 and 24 months in three regencies in Indonesia during the COVID-19 pandemic is access to sufficient latrines (Sugianti & Putri, 2022). Sensitive and specific intervention programs include

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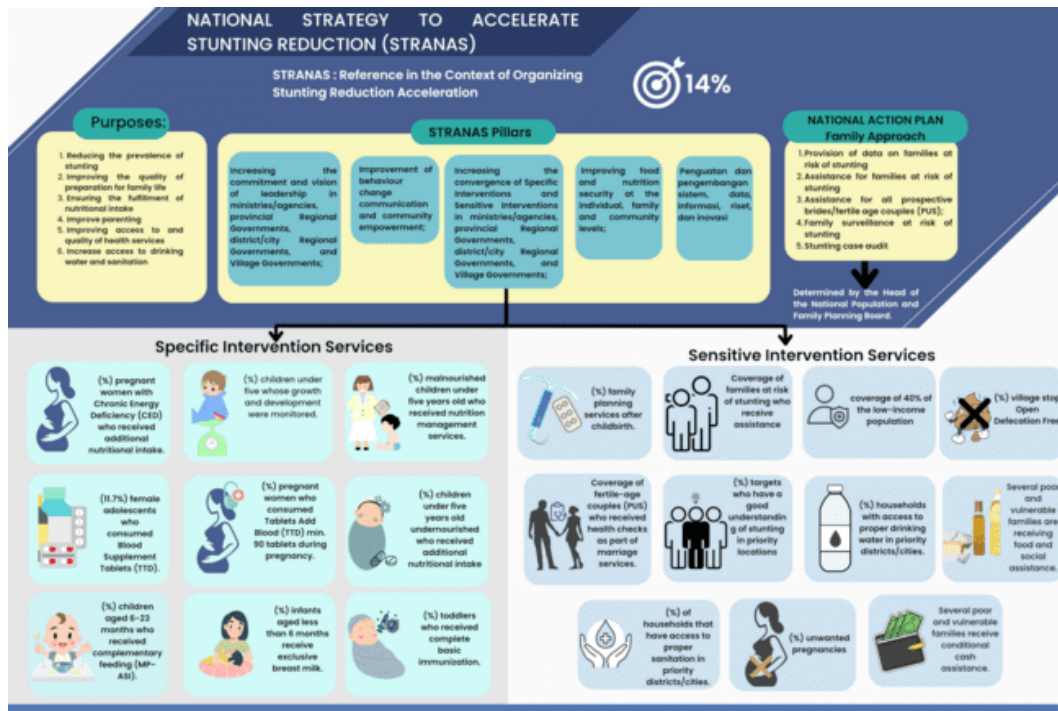


Figure 1. National Strategy to Accelerate Stunting Reduction

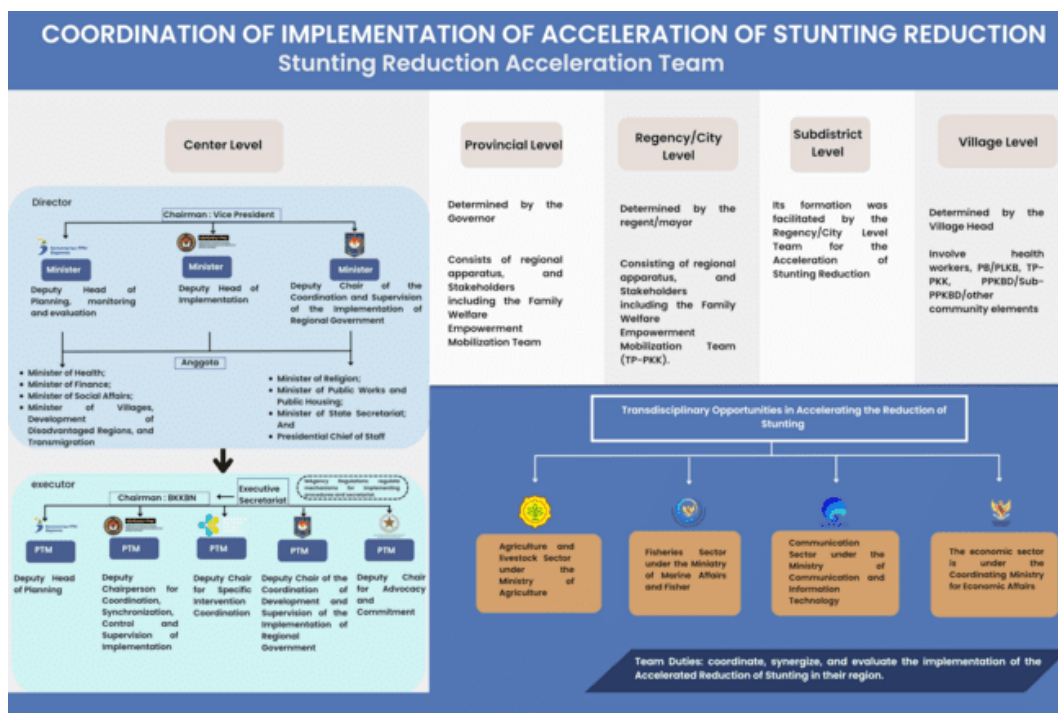


Figure 2. Coordination of Implementation of Acceleration of Stunting Reduction

strengthening supplementary feeding programs for mothers and toddlers, providing supplements to prevent toddler diarrhea, and counseling parents on parenthood and health insurance to prevent childhood stunting in Aceh (Muliadi et al., 2023). Moreover, the convergence action for one-year intervention substantially reduced stunting in 0-11 months of children but not in other age categories of children under five in Central Sulawesi (Gani et

al., 2021). The convergent action policy's district-level implementation outcome factors worked effectively due to the central government's proper regulation, control, and budget (Herawati & Sunjaya, 2022). However, sub-district and village levels solely assessed intervention acceptability, appropriateness, and coverage, and the village acceptance was low. Commitment, staff capability, and coordination were sub-district and village

impediments. Stunting reduction duty returned to the health sector due to superficial understanding and capacity issues, and village politics affected implementation. Therefore, a transdisciplinary approach will help this issue.

Stunting is an indicator of the child's long-term development and intellectual potential and is a reflection of the child's diet and environment. UNICEF emphasizes diet and care as immediate determinants of child nutrition. In contrast, food, nourishment, and the environment are highlighted as underlying determinants, and resources, norms, and governance as enabling determinants (UNICEF, 2020). Therefore, programs must strengthen the capacity and accountability of five critical systems, namely food, health, water and sanitation, education, and social protection, to provide children with nutritious diets, essential nutrition services, and positive nutrition behaviors (UNICEF, 2020). For example, improving nutrition for children cannot be carried out by one institution or one profession because this improvement in nutrition must get a contribution to the food supply whereby food provision must be at a level of food security so that, sustainably, it will be able to provide the food needs of these children. Therefore, fulfillment of nutrition for children is generally worked on by the fields of medical health, nursing, public health, and nutrition. However, the completion of nutrition related to food sources and food security must involve other disciplines, such as agriculture, fisheries, animal husbandry, economics, and communication on managing existing materials to meet nutrition needs, including management and administration. Food security ensures good children's nutrition, and the central pillar to achieve sustainable results is food security. A previous study found that stunting and severe stunting were connected with moderate and severe household food insecurity, and special attention in interventions should be given to children who did not attend the monthly growth monitoring sessions, male children, and households with moderate to severe food insecurity (Agho et al., 2019). Food security is one of the transdisciplinary problems requiring transdisciplinary solutions. At the implementation level, the drawback is collaboration.

In order to combat stunting in Indonesia, a systematic approach and multi-professional teamwork are required. There are several orders of cooperation in the scientific field, namely multidisciplinary, interdisciplinary, and transdisciplinary. Multidisciplinary refers to combining multiple disciplines with individual goals with multiple professions, while interdisciplinary refers to work between several professions with common goals (Choi & Pak, 2006). Transdisciplinary refers to work across and beyond multiple disciplines that have shared goals and skills (Choi & Pak, 2006). For example, food security is the responsibility of agriculture and is related to health, such as pregnant women and children. Therefore, transdisciplinary has to focus on the objectives of one program and

research so that they complement each other. For example, conducting an expedition to the Osing ethnic group about how to take advantage of local traditions to increase the capacity of Posyandu in handling stunting - in the various fields of sociology, anthropology, public health, and technology, they immediately fill in several areas of knowledge to solve problems and find the best solutions.

Risk factors for stunting have been identified, including individual, family, and environmental factors (Yani et al., 2023). Family participation is essential for stunting coordination, integration, socialization, and education (Nuriyanto et al., 2022). Prevention and socialization are essential to prevent stunting as early as possible among children (Setiawan et al., 2022; Yohana et al., 2022). Coordination of implementation of acceleration of stunting reduction is explained at all levels (Figure 2). Transdisciplinarity in healthcare entails bridging disciplinary divides, sharing knowledge, expertise, and decision-making, emphasizing practical issues, and involving numerous stakeholders, including patients, their families, and communities (Van Bever, 2017). A transdisciplinary approach can offer an organized, thorough theoretical framework to define and analyze the social, economic, political, environmental, and institutional aspects influencing human health and well-being (Rosenfield, 1992). Transdisciplinary, revolutionary research combines analytical, strategic, and normative methods. Scientific analysis and stakeholder engagement are needed to create sustainable development strategies and action plans (Smetschka & Gaube, 2020). Problem- and context-driven transdisciplinary research incorporates academic and non-academic collaboration. Transdisciplinary strategies boost public engagement, scientific productivity, and knowledge integration (Grigorovich et al., 2019). Transdisciplinarity shares power, connects knowledge holders and the field of practice and leads to problem-solving and action. This method's transdisciplinarity comes from focusing on various disciplinary problems and seeks to understand a problem space from multiple perspectives to evaluate and solve it (Knapp et al., 2019). Most studies found improvements in time efficiency, care quality, and how stakeholders felt about the program. Transdisciplinary collaborations are transitions toward sustainable solutions motivated by the pursuit of collective benefits (Hölsgens et al., 2023). The authors divided the things that help and hurt transdisciplinary teams into four groups: person/interpersonal, workflow, organizational, and implementation factors (Martin et al., 2023). Although building a transdisciplinary strategy is a challenge, when all barriers can be overcome, results will be more efficient, effective, and safe for human health and welfare.

Declaration of Interest

We have no conflict of interest.

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Data Availability

The data are easily available.

References

- Agho, K. E., Mukabutera, C., Mukazi, M., Ntambara, M., Mbugua, I., Dowling, M., & Kamara, J. K. (2019). Moderate and severe household food insecurity predicts stunting and severe stunting among Rwanda children aged 6-59 months residing in Gicumbi district. *Maternal & Child Nutrition*, 15(3), e12767. <https://doi.org/10.1111/mcn.12767>
- Choi, B. C. K., & Pak, A. W. P. (2006). Multidisciplinarity, interdisciplinarity and transdisciplinarity in health research, services, education and policy: 1. Definitions, objectives, and evidence of effectiveness. *Clinical and Investigative Medicine. Medecine Clinique et Experimentale*, 29(6), 351–364.
- Gani, A. A., Hadju, V., Syahrudin, A. N., Otuluwa, A. S., Palutturi, S., & Thaha, A. R. (2021). The effect of convergent action on reducing stunting prevalence in under-five children in Banggai District, Central Sulawesi, Indonesia. *Gaceta Sanitaria*, 35 Suppl 2, S421–S424. <https://doi.org/10.1016/j.gaceta.2021.10.066>
- Grigorovich, A., Fang, M. L., Sixsmith, J., & Kontos, P. (2019). Defining and evaluating transdisciplinary research: Implications for aging and technology. *Disability and Rehabilitation: Assistive Technology*, 14(6), 533–542. <https://doi.org/10.1080/17483107.2018.1496361>
- Herawati, D. M. D., & Sunjaya, D. K. (2022). Implementation outcomes of national convergence action policy to accelerate stunting prevention and reduction at the local level in Indonesia: A qualitative study. *International Journal of Environmental Research and Public Health*, 19(20). <https://doi.org/10.3390/ijerph192013591>
- Hölskens, R., Wascher, E., Bauer, C., Boll, J., Bund, S., Dankwart-Kammoun, S., Heese, I., Schrot, K., Schultze, J., & Tenambergen, R. (2023). Transdisciplinary research along the logic of empowerment: perspectives from four urban and regional transformation projects. *Sustainability*, 15(5), 4599. <https://doi.org/10.3390/su15054599>
- Knapp, C. N., Reid, R. S., Fernández-Giménez, M. E., Klein, J. A., & Galvin, K. A. (2019). Placing transdisciplinarity in context: A review of approaches to connect scholars, society and action. *Sustainability (Switzerland)*, 11(18). <https://doi.org/10.3390/su11184899>
- Martin, A. K., Green, T. L., McCarthy, A. L., Sowa, P. M., & Laakso, E.-L. (2023). Allied health transdisciplinary models of care in hospital settings: A scoping review. *Journal of Interprofessional Care*, 37(1), 118–130. <https://doi.org/10.1080/13561820.2022.2038552>
- Muliadi, T., Ahmad, A., Nur, A., Marissa, N., Marisa, Junaidi, Reynaldi, F., Fitriyaningsih, E., Husnah, Naufal, I., Damanik, M. R. M., Adji, A., Arifin, S. R., & Annisa, D. (2023). The coverage of indicators of sensitive and specific intervention programs and prevalence of stunting under-five children: A cross-sectional study in Aceh Province, Indonesia. *Nutrition and Health*, 0(0)(1–9), 2601060231164664. <https://doi.org/10.1177/02601060231164664>
- Nuriyanto, A., Rahayuwati, L., & Lukman, M. (2022). Analysis of family functions factor on child growth and development care in West Java Province as a strategy for the development of family nursing intervention. *Malaysian Journal of Medicine and Health Sciences*, 18, 12–18. <https://www.scopus.com/inward/record.uri?eid=2-s2.0-85125933380&partnerID=40&md5=bec66b6d0b49c7ce28fdac11dce03c0b>
- Presidential Regulation of Indonesia. (2021). Accelerate the reduction of stunting (No. 72). <https://peraturan.bpk.go.id/Home/Details/174964/perpres-no-72-tahun-2021>
- Rosenfield, P. L. (1992). The potential of transdisciplinary research for sustaining and extending linkages between the health and social sciences. *Social Science & Medicine*, 35(11), 1343–1357. [https://doi.org/10.1016/0277-9536\(92\)90038-R](https://doi.org/10.1016/0277-9536(92)90038-R)
- Setiawan, A. S., Indriyanti, R., Suryanti, N., Rahayuwati, L., & Juniarti, N. (2022). Neonatal stunting and early childhood caries: A mini-review. *Frontiers in Pediatrics*, 10. <https://doi.org/10.3389/fped.2022.871862>
- Smetschka, B., & Gaube, V. (2020). Co-creating formalized models: Participatory modelling as method and process in transdisciplinary research and its impact potentials. *Environmental Science & Policy*, 103, 41–49. <https://doi.org/10.1016/j.envsci.2019.10.005>
- Sugianti, E., & Putri, B. D. (2022). The effect of nutrition-sensitive interventions on stunting incidents among toddlers aged 6-24 months during Covid-19 pandemic. *Amerta Nutrition*, 6(1SP), 184–193. <https://doi.org/10.20473/amnt.v6i1SP.2022.184-193>
- The Ministry of Health of the Republic of Indonesia. (2023). Pocket Book Results of the 2022 Indonesian Nutrition Status Survey. The Ministry of Health of the Republic of Indonesia. https://drive.google.com/file/d/1NejY10eGIUd9e-v-BCT1o8BYOrU6Rz_1/view
- UNICEF. (2020). Nutrition, for every child: UNICEF Nutrition Strategy 2020–2030. In UNICEF, United Nations Children's Fund. <https://www.unicef.org/media/91741/file/UNICEF-Nutrition->

- [Strategy-2020-2030-Brief.pdf](#)
- United Nations Children's Fund (UNICEF), World Health Organization, & International Bank for Reconstruction and Development/The World Bank. (2021). Levels and trends in child malnutrition: Key findings of the 2021 edition of the joint child malnutrition estimates. World Health Organization.
- Van Bower, V. (2017). Transdisciplinarity in health care: A concept analysis. *Nursing Forum*, 52(4), 339–347. <https://doi.org/https://doi.org/10.1111/nuf.12200>
- Yani, D. I., Rahayuwati, L., Sari, C. W. M., Komariah, M., & Fauziah, S. R. (2023). Family household characteristics and stunting: An update Scoping review. *Nutrients*, 15(1). <https://doi.org/https://doi.org/10.3390/nu15010233>
- Yohana, S., Indriyanti, R., Suryanti, N., Rahayuwati, L., Juniarti, N., & Setiawan, A. S. (2022). Caries experience among children with history of neonatal stunting. *European Journal of Dentistry*. <https://doi.org/10.1055/s-0042-1750775>