

IMPLEMENTATION OF STUNTING PROGRAM IN INDONESIA: A NARRATIVE REVIEW

Implementasi Program Stunting di Indonesia: Kajian Naratif

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Abstract

Background: Stunting is one of the nutritional problems in the world, especially in Indonesia.

Aims: This study aimed to describe the implementation of stunting programs in Indonesia, Related to specific and sensitive nutrition interventions in particular.

Methods: This narrative review was conducted with a meta-synthetic approach. The literature search was done on Google Scholar, PubMed, Garuda Portal, and DOAJ. The critical appraisal checklist from the Joanna Briggs Institute (JBI) was used to assess the research quality.

Results: Thirteen research articles were analyzed, and some intervention programs most commonly carried out were the provision of iron supplement tablets for pregnant women, supplementary feeding for underweight toddlers, complementary foods for breastfeeding, vitamin A provision, provision of facilities, access to drinking water, and proper sanitation.

Conclusion: The stunting program has not been implemented optimally either inside or outside the health sector. Sufficient numbers of human resources, especially nutritionists, are required to realize stunting programs.

Keywords: Child, growth disorders, Indonesia, narrative review

Abstrak

Latar Belakang: Stunting merupakan salah satu permasalahan gizi di dunia, utamanya Indonesia.

Tujuan: Penelitian ini bertujuan untuk mengetahui pelaksanaan program stunting di Indonesia, khususnya yang berkaitan dengan intervensi gizi spesifik dan sensitif.

Metode: Kajian naratif dilakukan dengan pendekatan meta-sintesis. Kualitas studi dinilai dengan menggunakan critical appraisal checklist dari Joanna Briggs Institute (JBI).

Hasil: Tiga belas artikel sampel penelitian dianalisis. Program intervensi yang paling umum dijalankan ialah pemberian tablet tambah darah ibu hamil, pemberian makanan tambahan bagi balita dengan berat badan rendah, makanan pendamping ASI, pemberian vitamin A, penyediaan sarana, akses air minum, dan sanitasi yang layak.

Kesimpulan: Program stunting belum sepenuhnya dapat berjalan maksimal dikarenakan kendala dalam maupun di luar sektor kesehatan. Sumber daya manusia yang mencukupi utamanya tenaga gizi diperlukan dalam pelaksanaan program stunting.

Kata kunci: Balita, Indonesia, stunting, kajian naratif



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Introduction

Indonesia has faced nutritional problems impacting the quality of human resources (HR). One of the malnutritions with the high prevalence in Indonesia is stunting in toddlers. Malnutritions are influenced by both health and non-health problems (Indonesia Ministry of Health, 2017). The Integrated Toddler Nutrition Status Survey (SSGBI) by the National Institute of Health Research and Development of the Indonesian Ministry of Health in 2019 showed based on the TB/U indicator, the national prevalence of stunting in 2019 was at 27.67% which was above the WHO's threshold (20%) (Ri, 2020).

In 2010, the United Nations published the Scaling Up Nutrition (SUN) program to be free from food insecurity and malnutrition (zero hunger and malnutrition). In Indonesia, a similar project so-called the National Movement for the Acceleration of Nutrition Improvement (*Gerakan 1000 HPK*) was enacted in the Presidential Decree No. 42 of 2013 (Roshia *et al.*, 2016). Stunting prevention is carried out through two interventions: sensitive and specific nutrition interventions. Specific nutrition intervention tries to address direct causes of stunting in the health sector, and it contributes to 30% reduction in stunting (National Development Planning Agency, 2018). Meanwhile, sensitive nutrition interventions are aimed at addressing indirect causes in the health sector. The sensitive nutrition programs and policies contribute to 70% of stunting interventions (Indonesia Ministry of Health, 2018). The government has set a target to reduce stunting by 2024 to 14% and has taken various efforts to deal with stunting. However, the prevalence of stunting in Indonesia was still high (Khairuzzaman, 2019).

Previous research has discussed stunting programs, one of which is research by Hossain *et al.* (2017). However, there is little research evaluating the implementation of the stunting programs, and thus this study reviewed this issue.

Method

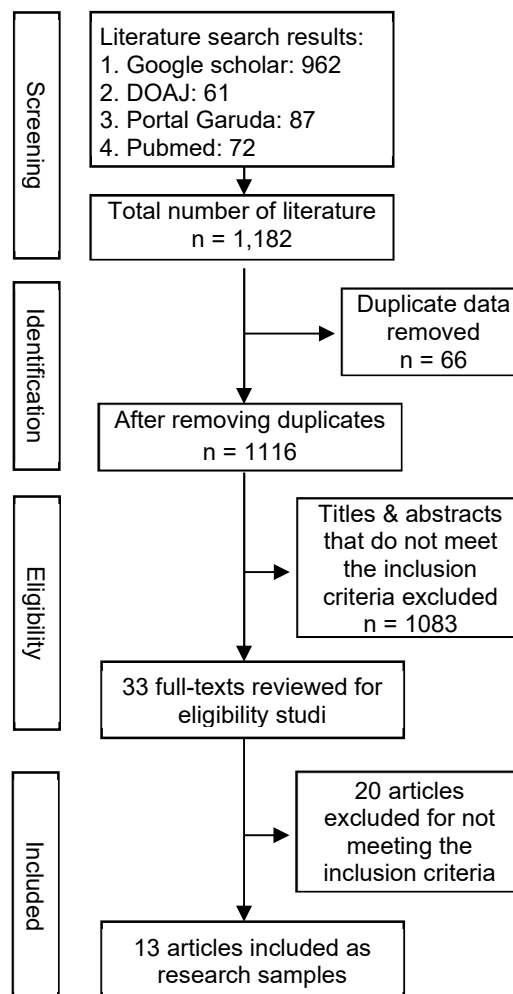


Figure 1: Literature selection phases

This study was a qualitative narrative review with a meta-synthetic approach. The focus of this research is finding out obstacles in the implementation of stunting programs. Literature search was conducted on Google Scholar, DOAJ, Garuda Portal, and PubMed using some keywords i.e., *implementasi, evaluasi, program stunting, intervensi gizi, stunting balita, penanggulangan stunting, indonesia, child nutrition disorders, stunted, growth disorders, and nutrition interventions* with Boolean operators (AND, OR) tailored for each database. Research articles were included if they were published in 2010-2020, conducted in Indonesian regions, aimed to qualitatively discuss the implementation of stunting programs in Indonesian, and written in English full text. Those which are not open access or paid

articles were excluded. The stages of literature selection follow the PRISMA diagram (Figure 1), and the research quality was assessed by two reviewers (SZ and SAP) using the critical appraisal checklist from the Joanna Briggs Institute (JBI).

A total of 1,182 articles were obtained, and 66 duplicates were removed. Those which did not meet the inclusion criteria were 1,083 titles and abstracts. The remainder, 33

studies were screened again, and there were three non-open-access articles, five non-research articles, one paid article, and 11 irrelevant articles with a different focus. The remainder, 13 research articles from 2010 to 2020, were assessed for their quality by two reviewers using the critical appraisal checklist from the Joanna Briggs Institute (JBI). Since they were scored above 50%, they were sampled in this study.

Table 1. Description of stunting program implementation

| Authors | Stunting programs implemented | Categories |
|--|--|---------------------------------|
| (Hermawati and Sastrawan, 2020) (Saputri, 2019) (Sugiyanto, Sumarlan and Hadi, 2020) (Yulyanti, Putri and Fauzi, 2018) (Muthia, Yantri and Edison, 2019) (Ridua, Miagina and Djurubassa, 2020) (Nurlatif and Priharwanti, 2019) | Distribution of iron (Fe) tablets to pregnant women | specific nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Yulyanti, Putri and Fauzi, 2018) (Muthia, Yantri and Edison, 2019) (Khoeroh and Indriyanti, 2017) | Provision of iron supplement tablets for pregnant women with chronic energy deficiency | specific nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Sugiyanto, Sumarlan and Hadi, 2020) (Muthia, Yantri and Edison, 2019) (Khoeroh and Indriyanti, 2017) (Maulina, 2020) (Ridua, Miagina and Djurubassa, 2020) (Nurlatif and Priharwanti, 2019) (Syafrina, Masrul and Firdawati, 2019) | Advocacy and counseling on breastfeeding (early initiation of breastfeeding and exclusive breastfeeding) | specific nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Sugiyanto, Sumarlan and Hadi, 2020) (Yulyanti, Putri and Fauzi, 2018) (Muthia, Yantri and Edison, 2019) (Maulina, 2020) (Syafrina, Masrul and Firdawati, 2019) (Ridua, Miagina and Djurubassa, 2020) (Nurlatif and Priharwanti, 2019) (Soesanti <i>et al.</i> , 2020) | Provision of complementary foods for children | specific nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Muthia, Yantri and Edison, 2019) (Ridua, Miagina and Djurubassa, 2020) (Rosha <i>et al.</i> , 2016) (Nurlatif and Priharwanti, 2019) (Saputri, 2019) | Provision of complete basic immunizations for children | specific nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Sugiyanto, Sumarlan and Hadi, 2020) (Yulyanti, Putri and Fauzi, 2018) (Muthia, Yantri and Edison, 2019) (Khoeroh and Indriyanti, 2017) (Maulina, 2020) (Rosha | Distribution of complementary foods for underweight toddlers | specific nutrition intervention |

| | | |
|--|---|----------------------------------|
| <i>et al.</i> , 2016) (Nurlatif and Priharwanti, 2019) (Saputri, 2019) (Syafriana, Masrul and Firdawati, 2019) | | |
| (Hermawati and Sastrawan, 2020) (Yulyanti, Putri and Fauzi, 2018) (Muthia, Yantri and Edison, 2019) (Khoeroh and Indriyanti, 2017) (Maulina, 2020) (Rosha <i>et al.</i> , 2016) (Nurlatif and Priharwanti, 2019) (Saputri, 2019) (Syafriana, Masrul and Firdawati, 2019) | Administration of vitamin A | specific nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Muthia, Yantri and Edison, 2019) (Ridua, Miagina and Djurubassa, 2020) (Nurlatif and Priharwanti, 2019) (Saputri, 2019) | Zinc supplementation | specific nutrition intervention |
| (Sugiyanto, Sumarlan and Hadi, 2020) (Yulyanti, Putri and Fauzi, 2018) (Khoeroh and Indriyanti, 2017) (Maulina, 2020) (Ridua, Miagina and Djurubassa, 2020) (Rosha <i>et al.</i> , 2016) (Nurlatif and Priharwanti, 2019) | Child growth monitoring | specific nutrition intervention |
| (Khoeroh and Indriyanti, 2017) | Taburia provision | specific nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Muthia, Yantri and Edison, 2019) (Ridua, Miagina and Djurubassa, 2020) | Administration of medicine for deworming | specific nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Probohastuti and Rengga, 2019) (Ridua, Miagina and Djurubassa, 2020) (Rosha <i>et al.</i> , 2016) (Nurlatif and Priharwanti, 2019) (Syafriana, Masrul and Firdawati, 2019) | Environmental Interventions (Provision of proper drinking water and sanitation facilities and access) | sensitive nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Probohastuti and Rengga, 2019) (Ridua, Miagina and Djurubassa, 2020) (Nurlatif and Priharwanti, 2019) (Rosha <i>et al.</i> , 2016) | Increasing access to health services and reducing poverty | sensitive nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Probohastuti and Rengga, 2019) (Ridua, Miagina and Djurubassa, 2020) (Rosha <i>et al.</i> , 2016) (Nurlatif and Priharwanti, 2019) | Health education and nutrition education to the community | sensitive nutrition intervention |
| (Hermawati and Sastrawan, 2020) (Probohastuti and Rengga, 2019) (Nurlatif and Priharwanti, 2019) | Increasing access to nutritious food | sensitive nutrition intervention |

They were then summarized into a table containing the author's name, year of publication, research design, objectives, targets, informants, and results. Table 1 shows the summary of the stunting programs according to types of intervention given. Further, Table 2 displays research articles with common obstacles in the stunting programs.

Result and Discussion

Overview of stunting program implementation

From the results of the analysis, several stunting prevention programs have been implemented and differentiated based on specific and sensitive nutrition interventions. The programs that have been summarized from each category can be seen in Table 1.

The studies brought two forms of programs: specific nutrition interventions and sensitive nutrition interventions. In the category of specific nutrition intervention, several programs are giving iron supplement tablets to pregnant women (seven articles), providing iron supplement tablets for pregnant women with chronic energy deficiency (four articles), breastfeeding advocacy and counseling (early initiation of breastfeeding and exclusive breastfeeding) (eight articles), giving complementary foods for toddlers (nine articles), giving complete basic immunizations to toddlers (six articles), giving complementary foods for underweight toddlers (10 articles), giving vitamin A (nine articles), zinc supplementation (five articles), child growth monitoring (seven articles), taburia administration (one article), and providing deworming medication (three articles). Meanwhile, the sensitive nutrition interventions include environmental interventions (providing facilities and access to proper drinking water and sanitation) (six articles), increasing access to health services and alleviating poverty (five articles), providing health education and nutrition education to children and the community (five articles), and increasing access to nutritious food (three articles).

Specific nutrition interventions

Specific nutrition interventions targeting pregnant women include giving iron supplement tablets (Fe) to pregnant women, providing supplementary food for pregnant women, and giving deworming drugs to pregnant women. However, the programs did not meet the strategic planning targeted. All programs are enacted in the government's regulation, addressing the minimum consumption of iron supplement tablets as many as 90 tablets during pregnancy (Indonesia Ministry of Health, 2014). In this study, the administration of Fe tablets was distributed properly based on the standard. However, no monitoring was carried out to confirm the intensity of tablet consumption. During the complementary feeding program, gifts such as biscuits and milk are given to participating mothers. However, some areas are difficult to reach and thus late in receiving complementary foods. The standards also do not recommend using the village budget on this matter.

Second, the program targets breastfeeding mothers and children aged 0-23 months through breastfeeding advocacy such as early initiation of breastfeeding and exclusive breastfeeding. Education for pregnant and lactating mothers is important to increase their knowledge about early initiation of breastfeeding and exclusive breastfeeding. This study found that the complementary feeding program has not fully been effective due to the lack of public knowledge about proper complementary feeding, such as feeding children above six months old with a proper frequency. Wrong assumptions about complementary feeding in babies also became the obstacle in the stunting prevention program. Besides, the other obstacles include the absence of anthropometry, trained personnel, and data on the administration of zinc to children.

Sensitive nutrition intervention

Sensitive intervention programs implemented include environmental intervention programs. In this study, some clean water and proper sanitation programs were carried out by the Environment Service (LH), the Public Development Office and the Housing, Settlement and

Transportation Service, and PAMSIMAS (water supply) program. Meanwhile, to overcome open defecation, the Community Sanitation (STBM/ *Sanitasi Total Berbasis Masyarakat*) program and fund allocation for latrines in villages were performed although the implementation was ineffective. Many people lack access to proper clean water, have poor hygiene behavior, knowledge, and economic status.

Increasing access to health services and reducing poverty are done through provision of access to family planning health services, National Health Insurance (JKN), and assistance for underprivileged families. However, these programs were not fully effective. For instance, the National Health Insurance appeared to have invalid participant data, covering non-targeted participants.

Table 2. Barriers in the stunting program implementation

| Authors | Obstacles |
|---|---|
| (Hermawati and Sastrawan, 2020) (Sugiyanto, Sumarlan and Hadi, 2020) (Yulyanti, Putri and Fauzi, 2018) (Maulina, 2020) (Khoeroh and Indriyanti, 2017) (Probohastuti and Rengga, 2019) (Muthia, Yantri and Edison, 2019) | Lack of human resources |
| (Maulina, 2020) (Hermawati and Sastrawan, 2020) (Khoeroh and Indriyanti, 2017) (Yulyanti, Putri and Fauzi, 2018) | No special team and unclear main roles by competence |
| (Sugiyanto, Sumarlan and Hadi, 2020) (Yulyanti, Putri and Fauzi, 2018) (Syafrina, Masrul and Firdawati, 2019) (Probohastuti and Rengga, 2019) (Ridua, Miagina and Djurubassa, 2020) | Lack of public participation and awareness |
| (Ridua, Miagina and Djurubassa, 2020) (Probohastuti and Rengga, 2019) (Syafrina, Masrul and Firdawati, 2019) (Hermawati and Sastrawan, 2020) | Lack of socialization to the community |
| (Sugiyanto, Sumarlan and Hadi, 2020) (Yulyanti, Putri and Fauzi, 2018) (Khoeroh and Indriyanti, 2017) (Probohastuti and Rengga, 2019) (Maulina, 2020) | Limited availability of facilities and infrastructure |
| (Hermawati and Sastrawan, 2020) (Syafrina, Masrul and Firdawati, 2019) (Probohastuti and Rengga, 2019) (Muthia, Yantri and Edison, 2019) | Ineffective budget |
| (Saputri, 2019) (Ridua, Miagina and Djurubassa, 2020) (Syafrina, Masrul and Firdawati, 2019) | Incomplete data collection |
| (Sugiyanto, Sumarlan and Hadi, 2020) (Saputri, 2019) | Non-optimal program monitoring |
| (Hermawati and Sastrawan, 2020) (Ridua, Miagina and Djurubassa, 2020) (Sugiyanto, Sumarlan and Hadi, 2020) | Poor coordination between the program implementers |
| (Sugiyanto, Sumarlan and Hadi, 2020) | Unstrategic geographical conditions |

Health education and nutrition education to the community, especially mothers, are usually done through maternal classes or during activities held by integrated health posts. In addition, the Toddler Family Development group (BKB/ *Bina Keluarga Balita*) which is integrated with pre-schools and integrated health posts revitalize the function of integrated health post, give premarital guidance to young couples, holds Youth Counseling Information Center (PIK-R/ *Pusat Informasi dan Konseling Remaja*) which provides Generation Planning (GENRE/ *Generasi Punya Rencana*) program. However, all of these services were not effectively conducted.

The Sustainable Food House Area (KRPL / *Kawasan Rumah Pangan Lestari*) program, moreover, was conducted by the Department of Agriculture and Food Security. However, obstacles sometimes still occurred. During the dry season, access to water becomes more difficult, and the quality of human resources is lacking.

Barriers in the Implementation of Stunting Programs

After synthesizing a sample of the found articles, several obstacles were found in the implementation of the stunting program, as shown in Table 2.

According to Table 2, stunting programs are hampered by some obstacles, i.e., lack of human resources (seven articles), absence of special team and unprecise main roles by competencies (four articles), lack of public participation and awareness (five articles), lack of community advocacy (four articles), limited facilities and infrastructure (five articles), Ineffective budget (four articles), Incomplete data (three articles), non-optimal program monitoring (two articles), poor coordination between implementers (three articles), and unstrategic geographical conditions (one article).

Human resources (HR), especially nutritionists are the major problem in stunting prevention measures. With an abundant workload, few staff could not perform well. More importantly, in a Balanced Nutrition Program, nutritionists

should be sufficiently available since they are the driving force of nutrition intake. Besides, a lack of public participation and awareness, low economic status, and education level are among the obstacles. Limited facilities, infrastructure, and budgeting hamper the programs as well. Budgeting allocated from the Special Allocation Fund (DAK / *Dana Alokasi Khusus*) has been regulated in the Indonesian Ministry of Health No. 12 of 2021. Incompatible roles by competence, lack of community advocacy, incomplete data, non-optimal monitoring program, poor cooperation between implementers, and unstrategic geographical conditions lead to ineffective stunting program implementation.

Conclusion

Some obstacles were found to distract the implementation of stunting programs. Specific nutrition interventions including the complementary feeding program, basic immunization, administration of vitamin A had inadequate quality and quantity in terms of human resources, facilities and infrastructure, and budget. Moreover, public knowledge affected the implementation as well. In the sensitive nutrition interventions, environmental interventions, health services, provision of education, food supply, coordination between implementers, public knowledge and awareness, and unstrategic geographical conditions were the main obstacles.

The government should hire more human resources, especially nutritionists, to be assigned in implementing stunting programs.

Abbreviations

SSGBI: Toddler Nutrition Status Survey, SUN: Scaling Up Nutrition, HPK: First Days Lived, JBI: Joanna Briggs Institute, STBM: *Sanitasi Total Berbasis Masyarakat*, JKN: *Jaminan Kesehatan Nasional*/ National Health Insurance, BKB: *Bina Keluarga Balita*/ Toddler Family Development group, KRPL: *Kawasan Rumah Pangan Lestari* / Sustainable Food House Area, HR: Human Resources, DAK: *Dana Alokasi Khusus* / Special Allocation Fund.

Declaration

Ethics approval and participation consent

This study has passed the ethics review from the Ethics Commission of Faculty of Public Health, Sriwijaya University. Number : 168/UN9.FKM/TU.KKE/2021.

Conflict of interest

There is no conflict of interest in this study.

Availability of data and materials

Data and materials are available upon request.

Author contribution

SZ for creating the study design and HI for writing the original draft of the manuscript.

Acknowledgment

Not applicable

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