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Original Research Article

PREVENTION AND INTERVENTION OF STUNTING IN INDONESIA: A SCOPING REVIEW

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ABSTRACT

Introduction. Stunting manifests chronic nutritional deficiency that can begin in the baby in the womb and after birth. This study identifies and describes various stunting prevention and management efforts reported in the literature in Indonesia. This study was to obtain an overview of the prevention and efforts to treat stunting; it is hoped that it will produce the best efficacy information and can be scientifically accounted for so that it can be applied as a national policy in Indonesia.
Methods. We reviewed Indonesian and English articles published between 2018 and 2022 through ProQuest, PubMed, and Google Scholar search data engines. The search generated 2,454 articles. All selected studies were systematically evaluated and screened based on title, open access, and full text related to the research objectives. Finally, 10 articles were included in the learning. Stunting prevention and intervention efforts are identified from the selected articles and presented in the extraction table. The final conclusion is made based on the types of intervention from the articles obtained.
Results. The results showed that there were 2 types of interventions to overcome stunting in toddlers, namely preventive and curative. Preventive intervention is carried out by conducting health education, mentoring and counselling for families, mothers, and caregivers of stunting toddlers, while curative interventions are provided by improving food intake and adding nutrients.
Conclusion. This study describes a variety of stunting prevention and interventions that have been reported in the literature. Further research on the management of stunting with comorbidities is needed because stunting children are a population at risk for complications.

Keywords: Intervention, Stunting, Indonesia

INTRODUCTION

Stunting is a chronic malnutrition problem caused by inadequate nutritional intake for a relatively long time due to feeding that is not following nutritional needs. Stunting is indicated when the fetus is still in the womb and will appear when the child is two years old. The United Nations International Children's Emergency Fund (UNICEF) estimates that the number of children with disabilities under the age of five will reach 149.2 million in 2020 (UNICEF, 2021). The World Health Organization states that based on the data on the prevalence of stunting under five that have been obtained, Indonesia ranks third for stunting cases (Portal Informasi Indonesia, 2019) with the fifth-highest prevalence in the South-East Asia Regional (SEAR) with an average prevalence of 37% (Kemenkes RI, 2019). Survey and research data such as the 2018, Basic Health Research (RISKESDAS) in Indonesia state that the

prevalence of severe (very short) stunting in Indonesia showed an increase from the previous year, namely 19.3%, higher than 2013 (19.2%). The overall prevalence of mild and severe stunting (short and very short) is 30.8%. The latest data in 2022 shows that around 24% or around nine million children's growth in Indonesia is not optimal, meaning that one in three children in Indonesia is stunted (Kementerian Kesehatan Republik Indonesia, 2022).

Basic Health Research (RISKESDAS) in West Java in 2018 reported the prevalence of nutritional status based on height per age in children aged 0-23 months of around 13.2% of very short children, 15.9% of children with very short bodies and 70.9% children with a normal body. Meanwhile, in children aged 0-59 months, around 11.7% of children with very short bodies, 19.4% of children with short bodies, and 68.9% with normal bodies. In 2022 there will be an increase in cases compared to the previous year (Haryanto, 2021). This condition is due to the emergence of the prolonged Covid-19 pandemic. Some of the factors that caused the increase in stunting cases during COVID-19 were because many community-based public health (UKBM) programs, especially posyandu, had stopped, so they could not control the growth and development of toddlers; besides that, this was also because the average education was only junior high school and economic problems, many residents who are laid off, so the incidence of stunting increases.

The causes of stunting consist of several factors, including direct causes, indirect causes and basic causes. Based on direct causes, stunting is caused by a lack of nutrition and infectious diseases. Indirect causes consist of family food security, parenting and family eating patterns, environmental health, and health services. While the basic causes consist of education, employment, poverty, government policies, politics and socio-culture (Agustina, 2020). The problem of stunting, if not prevented, will cause bad impacts, including; in the short term, children will experience impaired physical growth, impaired brain development, decreased intelligence and impaired body metabolism. At the same time, the long-term impact of stunting is that it can decrease cognitive abilities and learning achievement in children, decrease immunity so that children get sick easily, and have a risk of developing diabetes, obesity, heart disease, stroke and disability in old age (Ekholuenetale et al., 2020) and can have an impact to low quality of human resources in Indonesia (Mustakim et al., 2022).

In addition, stunting is also caused by multi-dimensional factors, including poor parenting practices, limited health services, including ANC (ante natal care) services, post natal care, lack of access to nutritious food, and lack of access to clean water and sanitation. The most decisive intervention was the intervention performed at 1,000

HPK (first 1000 days of life). Consumption of nutrients that are not sufficient in the first 1000 days of life is one of the causes of nutritional problems that have an impact on growth disorders in children. The deficiency of macronutrients impacts decreasing nutritional status in a short time, but micronutrients (vitamins and minerals) impact decreasing nutritional status over a longer period (Candra, 2020).

The Government of Indonesia has launched the National Strategy for the Acceleration of Stunting Prevention 2018-2024, which emphasizes convergence activities at the national, regional and village levels, to prioritize specific nutrition and nutrition-sensitive intervention activities in the First 1,000 Days of Life up to the age of 6 years. Ideally, this is also done through various development activities outside the health sector and contributes to 70% of Stunting Interventions. The target of the specific nutrition intervention is the general public and not specifically pregnant women and toddlers in the First 1,000 Days of Life (HPK), where one of the activities is to provide parenting education (Satriawan, 2018). This condition causes the national medium-term development plan (RPJMN) in 2024 to focus on reducing stunting rates to 14% (Satriawan, 2018). The problem of malnutrition in Indonesia is a health problem that the government has not fully resolved. This fact is shown by the large number of children under five in Indonesia who experience chronic malnutrition, and government programs that have been carried out for years have not succeeded in overcoming this problem (Candra, 2020).

To carry out a program, the government certainly cannot rely on the results of one study. Therefore, a review of similar research is needed if there have been many studies on the prevention and treatment of stunting. This review will be useful for policymakers to obtain a more precise and efficient stunting prevention program. The review aims to find ways to prevent stunting in children under five (toddlers) by obtaining data on the efficacy of macronutrients or micronutrients in preventing stunting in infants and children under five. The success of stunting prevention efforts depends on the research design, the material and dose of the intervention carried out and the duration of nutrition. By reviewing the research articles on prevention and efforts to treat stunting, it is hoped that it will produce the best efficacy information and can be scientifically accounted for so that it can be applied as a national policy in Indonesia.

METHOD

We used the scoping review method described by Arksey and O'Malley to address the proposed aims and objectives study. Includes six stages: (1) identifying research questions, (2) searching for relevant studies, (3) selecting studies, (4) mapping data, (5) compiling, summarizing and reporting the results and (6) consultation (Arksey & O'Malley, 2007). The study will cover all government

interventions to prevent and treat stunting in Indonesia. The scoping review includes original articles, case studies, and gray literature. We followed the Item Choice Report for systematic review and the Meta-Analyses extension for the Scoping Review checklist (PRISMA-ScR) at all stages.

Stage 1: identify research questions

We develop research questions through an iterative process and consultation held by the team until all teams agree. This study aims to identify the most successful interventions or management in accelerating stunting reduction in Indonesia.

Stage 2: search for relevant studies

At this stage, we considers and decides on the criteria for eligibility, the database to search for and formulates the search strategies and key terms. We use three electronic databases: PubMed, ProQuest and Google scholar, to get more diverse articles. For the gray literature, we looked for publications from organizations or websites of institutions that support stunting eradication, such as: report by WHO and the Minister of Health of the Government of Indonesia. The search strategy used keywords related to stunting and interventions carried out in Indonesia as our primary screening method, and all researchers agreed with this approach. Meanwhile, when using the PubMed database, the search strategy uses certain Medical Subject Title terms. The search format used PEO (population, exposure, outcome).The keyword search term would include: P: mother and children, E: Intervention ; O : Stunting, Indonesia). Then we will use 'English and Indonesia' as the language filter '1 January 2018' and '30 May 2022 as the start and end time filters . The following eligibility criteria will be used to guide: search and review of published articles and gray literature: (1) all primary, quantitative, qualitative studies and published articles, (2) gray literature such as project and program reports, government documents or documents from the ministry's website from cities in Indonesia and documents from local government efforts to reduce stunting incidence (3) study locations in the Indonesian (4) Empirical Reseach (5) data collection in last 5 years (from 1 January 2018 to 31 June 2022) and (6) articles have written in Indonesian and English (7) Available full text and open access .

Stage 3: study selection

All retrieved papers are saved to reference management software (Mendeley). After that, we did two-level filtering. First, an independent reviewer will review the title and abstract to determine eligibility based on the inclusion and exclusion criteria. The second part of the selection process will include two reviewers on compliance with the PCC (Population, concept, context) table. For studies with multiple publications, we use all publications with different results. The next stage of the study selection process is a full-text review. Each reviewer assesses

whether the article meets the eligibility criteria at this stage. This study took articles that meet the criteria for review.

Stage 4: mapping the data

Two independent reviewers performed data extraction in the excel file. As agreed by all researchers, the title of data extraction should at least contain the following: (1) author's name; (2) publication date; (3) study location; (4) type of population; (5) number of samples (n); (6) study design; (7) types of intervention; (8) duration and (9) results, after that mapped data from all the included literature studies.

Stage 5: compiling, summarizing and reporting results.

For our scope review, this studies identified were analyzed using qualitative and quantitative methods. We used the PRISMA-ScR checklist to summarize the data. The research picture is shown through all the findings (Tabel 3).

This study has received ethical permission from the ethics committee from faculty of Health Science and Technology Universitas Jenderal Achmad Yani (Number: 57/KEPK/FITKes UNJANI/VI/2022).

RESULT

A total of 2.454 articles were identified, 2.444 has been removed because the title is not related, was not published between 2018 - 2022, was not an empirical study, not an intervention carried out on mothers or toddlers with stunting, not open acces, not available full text and was not In Indonesia, was not in English (18.8%) or Indonesian so a total of 10 articles were taken for full-text review.

Table 1. Number of Articles by Type of Stunting Prevention Efforts

No	Effort	Number of Articles
1	Preventive	4
2	Curative	6

Table 1 shows that there are 2 types of preventive and curative interventions from the selected journals. Preventive intervention is a form of intervention to prevent stunting in the form of promotion and health education, health and supplements for pregnant women to increase the weight and length of the baby to be born. The second intervention is the handling of stunting that has already occurred. Interventions are carried out by providing nutrition, vitamins, protein intake, improving plasma Malondialdehyde (MDA) for toddlers where MDA levels are an indicator of metabolic stress, so that nutrient absorption is not perfect, as well as interventions to increase the haemoglobin value of children with stunting because if red blood cell formation is not optimal, then nutrient delivery and oxygen throughout the body becomes blocked.

Table 2. Number of Articles by Type of Intervention

No	Type of Intervention	Number of Articles
1	Health Education with	2

No	Type of Intervention	Number of Articles
2	Apps /Coaching/Direct mentoring Giving multivitamins/supplementary food	8

Table 2 shows that there are 2 types of interventions from the selected journals, namely Health Education with mobile phone applications and education by providing direct assistance to families with stunting. The second intervention is the intervention of providing food / nutritional supplements.

Table. 3 Research Characteristics Interventions in preventing and treating stunting in Indonesia

No	Authors	Year	Place	Type population	n	Design	Type of Intervention	Duration	Result
1	Ervin Rufaindah, Patemah (2021)	2021	Malang City, Indonesia	Mother and Toddlers Ages 0-36 Months	38	Pre-experimental design, One Group Pretest-Posttest Design	Nutrition Education using Android Apps	4 weeks	For knowledge: It shows that there is a difference in knowledge before and after using the android application with a value obtained from the Wilcoxon analysis, which is 0.00 (<0.05). For nutritional status: It shows no difference in nutritional status before and after using the application with the value obtained from the Wilcoxon analysis, which is 0.317 (> 0.05). This result shows that the application in the smartphone has not been able to help statistically change the nutritional status
2	Demsa Simbolon, Beatrix Soi, Ina Debora Ratu Ludji, Mareta Bakale Bakoil (2022)	2022	Bengkulu, Kupang	mothers who have stunting children aged 6-24 months	120	quasi-experimental design with prepost with control group	Specific nutrition assistance by conducting health education and nutrition counselling during home visits.	6 months	Knowledge : There was an increase in knowledge between the intervention group and the control group after specific nutrition assistance (p=0001) Attitude There was a significant increase in attitude after specific nutrition assistance was carried out (p=0.001) action score There was a significant increase after providing specific nutrition assistance (p=0.023)
3	Ummi Kalsum Marwan (2019)	2019	South Sulawesi Province	The samples were 6-24 month-old children,	675	Quasi Eksperimental Design	Giving Taburia multivitamins for 150 days in children aged	150 days	The results showed that children under five who received multivitamins experienced an average weight gain of 0.45 kg and an average length of 1.43 cm from T0 to T4. There was a significant

No	Authors	Year	Place	Type population	n	Design	Type of Intervention	Duration	Result
							6-24 months		increase from T0 to T4 for body weight and length ($p<0.05$). The growth rate of body weight and length was higher in toddlers who adhered to taking multivitamin Taburia than those who did not take multivitamin Taburia after giving taburia for 120 days. The response occurred at month 3 for the acceleration of body weight and length after administration of Taburia by consuming 36 packs (cut-off point 60%).
4	Rizka Rahmayanti (2018)	2018	Medan	Under-five children with malnutrition/stunting aged 12-59 months,	26 Children	Quasi Experiment	The intervention given to the respondent is leaf flour cookies Moringa to increase albumin levels and protein intake in undernourished toddlers for 3 weeks in a row	3 weeks	Protein intake: showed that there was a difference in protein intake before and after the intervention of Moringa leaf flour cookies ($p = 0.024$), Albumin level showed no difference in albumin levels before and after the intervention of Moringa leaf flour cookies ($p=0.351$)
5	Devi Pramita Sari, Nabilatul Fanny, Aura Lisa Pradany (2020)	2020	Sukoharjo Regency	Mother toddler under two years	38 mother	Pre-experimental study with one group pretest-posttest design	Providing education using the brainstorming method by asking questions about one problem, namely stunting. After	1 day	There is an effect of stunting prevention education on one pillar of access to nutritious food with the brainstorming method on the knowledge of mothers under two in Taman Sari Timur

No	Authors	Year	Place	Type population	n	Design	Type of Intervention	Duration	Result
							the problem is presented, each participant provides answers and responses. The tools used in the brainstorming method are power points and pocketbooks on the causes and methods of stunting prevention.		
6	Khairun Nisa, Muhartono, TA Larasati (2021)	2021	South Lampung	Stunting toddler, aged more than 24 months	30	Analytical surveys and laboratory experiments	Stunting toddlers get a dose of 5 ml of VCO, which is given once a day in the morning and is controlled by a food recall given by the researcher.	30 days	Giving VCO significantly increased the height and Hb levels of stunting toddlers. This study showed a significant decrease in MDA levels in stunting toddlers who were given VCO.
7	Delima Citra Dewi Gunawan, Endri Yuliati (2019)	2019	Yogyakarta	children under five	44 children	quasi-experimental study used a non-randomized	Fortyfour children under five were divided into 2	3 months	There was a significant difference in body weight for age between the two groups, both before and after the intervention ($p<0.05$). However, the difference in body weight for an age before and after the

No	Authors	Year	Place	Type population	n	Design	Type of Intervention	Duration	Result
						pre and post-test with a control group design	groups; the intervention group received the nutrition care process for 3 months, while a control group received a leaflet		intervention in each group was insignificant (p=0.184 and p=0.130). The increase in haemoglobin concentration before and after the intervention group intervention was statistically significant (p=0.008). On the other hand, there was a significant decrease in haemoglobin concentration in the control group (p=0.003). There was an increase in subjects who had appropriate development, from 9 to 15 subjects in the intervention group. The development before and after the intervention was significantly different (p=0.03) but not in the control group (p=0.78).
8	Devi Savitri Effendy, Pattaneeya Prangthip, Ngamphol Soonthornworasiri, Pattanee Winichagoon Karunee Kwanbunjan (2020)	2020	Kendari, SE Sulawesi Province, Indonesia.	mothers or caregivers of children aged 6–17 months	126 in the intervention and 116 in the control groups.	a cluster randomized pretest–posttest control group design.	The participants in intervention groups received standard health and nutrition care plus nutrition education intervention, whereas the participants in control groups only received standard health and nutrition care from the Posyandu.	6 months	There was an increase in the prevalence of stunting from 28.4% to 36.2% in the control group, while in the intervention group, it remained stable (19.8%). The intervention and control groups showed a reduction in the prevalence of underweight (14.3% to 7.1% vs 20.7% to 16.4%, respectively). At the end of the study, the prevalence of stunting and underweight was lower in the intervention group than in the control group (P = 0.004 and P = 0.025).
9	Lili Rohmawati,	2021	Bandung; Indones	Pregnant mother	71	Pre-test/post-test	They were divided	12 weeks	Maternal serum zinc levels had a significant positive correlation with umbilical

No	Authors	Year	Place	Type population	n	Design	Type of Intervention	Duration	Result
	Dina Keumala Sari, Makmur Sitepu, Kusnandi Rusmil (2021)		ia	s and their newborns		control groups and double-blind randomization	into two groups of 35 and 36 patients, the supplementation (20 mg/day) and placebo groups, respectively for 12 weeks.		cord blood osteocalcin and neonatal birth length after zinc supplementation: r=0.434 (p=0.001) and r=0.597 (p=0.001)
10	Trias Mahmudiono, Abdullah Al Mamun, Triska Susila Nindya, Dini Ririn Andrias, Hario Megatsari and Richard R. Rosenkranz (2018)	2018	Randomly allocated di indonesia in urban Indonesia	overweight/obese mothers with stunted children aged 2 to 5 years old	71	Randomized Controlled Trial	71 mother-daughter pairs were randomly assigned to receive nutrition education or printed educational materials for 12 weeks	12 weeks	No significant effect was observed in the time-linear-group trend interaction for any of the child health outcomes. However, there was a significant time effect for the child's weight (p-value = 0.023) and child's height (p-value = 0.001). There was a significant increase in children's weight (p-value < 0.001) and height (p-value < 0.001) for all groups in the pairwise comparison from baseline to 3 months after the initial evaluation. It can be concluded that there is a significant effect of time on children's height and weight but no significant difference was observed between the groups.

DISCUSSION

Age 0-5 years is a golden period (golden age) for the growth and development of children because, at that time, there was very rapid growth. Likewise, the first 1000-day period is often called the window of opportunities or golden period. This fact is based on the fact that during the fetal period until the child is two years old, a very rapid growth and development process occurs and does not occur in other age groups. Failure to thrive or stunting during this period will affect nutritional and health status in adulthood. Therefore, it is necessary to overcome this stunting problem considering the high prevalence of stunting in Indonesia. The results of the study on interventions in the context of preventing and managing stunting in children under five obtained 10 articles. There are 2 types of interventions to overcome stunting in toddlers,

preventive and curative. Researchers carry out preventive intervention by conducting Health Education, while curative intervention is provided by improving food intake and adding nutrients. Interventions with nutrients gave varied results in increasing body length.

The intervention by giving Taburia multivitamins showed that children under five who received multivitamins gained an average weight of 0.45 kg and an average body length of 1.43 cm from the first month (T0) to the fourth month (T4). Likewise, the administration of VCO (Nisa et al., 2021) showed that the intake of stunted toddlers at a dose of 1/6-1/4 of the adult dose showed a decrease in MDA. MDA levels are one of the markers of oxidative stress that occurs in stunting toddlers; oxidative stress causes nutrients not to be fully absorbed by the body. This study showed a significant decrease in MDA levels in stunting toddlers who were given VCO. VCO intake given orally as much as 5 ccs per day in the morning can improve the metabolic function of stunting toddlers, which is characterized by improvements in anthropometric profiles with an increase in height from 85.83 ± 6.04 cm to 87.61 ± 5.96 cm, improvement in levels of Hemoglobin from 12.41 ± 1.45 g/dl to 13.07 ± 1.78 g/dl, and decreased metabolic stress indicators with a decrease in plasma MDA from 1.94 ± 0.36 mol/L to 1.16 ± 0,14 mol/L, also showed significant results (Marwan & Kalsum, 2019).

The same thing happened to toddlers who were given Moringa leaf flour cookies. Researchers gave Moringa leaf flour cookies to undernourished toddlers for 21 days. Cookies given are 6 pieces per day; each piece weighs 10 grams. The results showed a difference in protein intake before and after the intervention, which was obtained ($p = 0.024$). Citra Et Al., (2019) carry out nutritional management based on PAGT, a systematic problem-solving method in dealing with nutritional problems, including assessment, diagnosis, nutritional intervention according to nutritional needs, and monitoring evaluation. Nutritional management carried out for 3 months also showed differences in growth and development before and after treatment in the treatment group ($p = 0.03$). These results indicate that treatment with nutritional management using standardized nutritional care guidelines can improve the growth and development of stunted toddlers compared to the control group.

Educational interventions and nutrition education programs are provided with two approaches: nutrition classes and micronutrient home visits (MMN). The nutrition class was held in June 2018 for four sessions. The nutrition class consists of educational lessons with a lecture method using pictures and videos as media and discussion sessions to improve participants' understanding and cooking practices from start to finish. The results showed an increase in the prevalence of stunting in the control group, from 28.4% to 36.2%, while the intervention group remained stable (19.8%). In addition, the

intervention and control groups showed a decrease in the prevalence of underweight from 14.3% to 7.1% vs 20.7% to 16.4%, respectively. At the end of the study, the prevalence of stunting and underweight was significantly lower in the intervention than in the control group (P = 0.004 and P = 0.025). However, the nutrition education study conducted for 12 weeks showed no significant effect was observed in the interaction of group-by-linear trends for any of the child health outcomes, but the results showed that there was a significant effect of the time effect on children's weight (p = 0.023) and the child's height (p-value = 0.001). After 3 months of intervention, there was a significant increase in children's weight (p-value <0.001) and height (p-value <0.001) for all groups (Mahmudiono et al., 2018).

Stunting prevention measures are carried out by education by providing education with the brainstorming method which is done by fishing with one problem then each participant gives answers or responses (Sari et al., 2020) the results of the study show that brainstorming is effective in increasing knowledge. Simbolon et al. (2022) provided nutritional assistance to mothers with stunting children. The results showed a significant increase in knowledge, attitudes and actions of mothers about eating and health care for stunted children, but this study did not look at the impact of behavioural changes on stunting toddlers themselves. Education is also carried out by utilizing the "Stunting Prevention" application that mothers can use to increase knowledge about how to prevent stunting (Rufaindah & Patemah, 2021) which is carried out for 4 weeks. The results also showed that there was a difference in knowledge before using the application and after using the application, but it did not show a difference in the nutritional status of stunted children before using the application, and after using the application; the value obtained from the Wilcoxon analysis was 0.317 (> 0.05). This result shows that smartphone applications have not been able to help statistically change the nutritional status of children. Furthermore, Rohmawati et al. (Rohmawati et al., 2021) gave zinc intake to pregnant women at a dose of 20 mg/day for 12 weeks and found a positive relationship between maternal serum zinc levels and umbilical cord blood osteocalcin levels as a marker of bone growth and neonatal birth length after 12 weeks of zinc supplementation.

Several studies have shown a significant increase in body length, weight and behavioural changes after 1-6 months of intervention (Citra et al., 2019). The nutritional intervention above is called Taburia or sprinkle, which is an intervention material to overcome the problem of micronutrient deficiency in children under five (Marwan & Kalsum, 2019). Taburia Supplement is one of the national programs to overcome stunting problems that can increase children's height in Indonesia. The existence of differences in the design, dose and duration of intervention affects the results measured.

The number of samples and the initial conditions of the sample can be one of the differences. Despite the absence of a significant increase in body length, there is no doubt that nutritional interventions have an advantage in improving micronutrient status or infant health in general. Vitamins A and Fe are known to have a role in children's immunity levels, while Zn plays a role in children's growth (Citra et al., 2019). Child growth is a product of multi-factors, both nutritional and environmental factors. The period of pregnancy until the child is 5 years old is said to be a critical period or a sensitive period because if a problem occurs during this period, it cannot be repaired or cannot grow optimally . In general, it can be said that interventions for infants in the context of overcoming stunting problems by providing a single nutrient up to a combination of 2-3 nutrients, health education, counselling, and couching, have been widely carried out, and although few can prevent and improve stunting children's height and weight. Besides nutritional supplementation and health education, increasing exclusive breastfeeding, training to make complementary foods for breastfeeding, and counselling during pregnancy and adolescence must also continue (Simbolon et al., 2022). In addition several research results have found that the growth of stunting in children is associated with parental education, incomplete child immunization status, parental economy, diversity of food and sources of drinking water (Nazirullah et al., 2022).

CONCLUSION

There are 2 types of interventions in stunting prevention efforts: preventive and curative. Preventive efforts include Health Education, mentoring, and counselling for pregnant women directly or can also be done with the application. The second intervention is a curative effort by providing additional nutrition, vitamins, protein intake, decreasing levels of MDA and increasing haemoglobin value to increase the weight and height of children with stunting. Interventions in infants by providing nutrition have varied results but affect increasing body length or growth of infants or children. From the analysis results, it is recommended that nutritional interventions pay attention to the dose, frequency, and duration of administration by paying attention to the MDA level of stunting children, which causes metabolic stress, so that nutrient absorption is ineffective. In addition, the nutrition provided also pays attention to local culture so that this program can be sustainable. Furthermore, stunting prevention efforts must also begin during the period of pregnant women or adolescents preparing for marriage so that it can be anticipated earlier in eradicating stunting in Indonesia.

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