

The Effectiveness of Health Communication in Preventing Stunting

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Abstract

Purpose: Stunting is a chronic nutritional problem that remains a primary concern in Indonesia; it requires considerable attention and is one of the Sustainable Development Goals (SDGs). Stunting prevention is very important, and one program that can be implemented is health communication. This study aimed to evaluate, review, and criticize published articles regarding the effectiveness of health communication in efforts to prevent stunting.

Methodology: A systematic and comprehensive literature search was conducted following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines using the following databases: PubMed, ScienceDirect, and Google Scholar until September 2023.

Results: All the included studies stated that health communication has a significant positive impact on stunting prevention through three types of communication: interpersonal, group, and mass communication. The messages conveyed by communicators to communicants cover most of the important messages that must be conveyed, including exclusive breastfeeding, complementary foods, BMI and HAZ scores, and nutritional behavior. The methods used also varied, ranging from counseling methods at posyandu or integrated healthcare centers, use of flipcharts, radio, TV, support groups, home visits, mobile outreach, food production, and training of community health workers.

Limitations: According to the review, this study has limitations, including a limited number of studies, and the research population is not spread across every region in the world; consequently, the results of this review may not be able to represent all populations and races globally.

Contribution: We hope that the findings of this study can be used as a reference for further research related to stunting management using a health communication approach. In addition, this study can be used as a reference source for conducting outreach, interpersonal communication, group communication, and mass communication related to stunting, so that stunting prevention programs in Indonesia can be implemented widely and comprehensively.

Keywords: *Communication, health communication, prevention, stunting*

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1. Introduction

Stunting is a chronic nutritional issue that occurs across generations and is characterized by low body length or height according to age (Wahyuningsih et al., 2022). Stunting is characterized by a height-for-age z score (HAZ) ≤ 2 standard deviation (SD), where the HAZ is computed by subtracting the age-

and sex-matched median value of the standard population from the individual's height and dividing it by the SD of the standard population (Leroy & Frongillo, 2019). Potential causes of stunting encompass various factors such as socio-economic circumstances, limited parental education, maternal employment, birth complications, inadequate immunization, children aged 24-35 months, male gender, deprived households, exclusive breastfeeding, low birth weight, maternal age <20 years, low maternal body mass index (BMI) (<18.5), instances of diarrhea, maternal nutrition during pregnancy, children residing in rural areas, child nutrition, child infections, and environmental influences including shared toilets, water sources, and environmental impacts on fetal development (Huriah & Nurjannah, 2020; Rahayuwati et al., 2020; Suratri et al., 2023; Tahangnacca et al., 2020; Yanti et al., 2020).

Stunting remains a significant nutritional issue in Indonesia that requires considerable attention and is one of the objective of the Sustainable Development Goals (SDGs). This is evidenced by the persistently high prevalence of stunting in Indonesia in 2018 which is still high, namely 30.8% (Penelitian dan Pengembangan Kesehatan Kementerian Kesehatan RI, 2018). Based on the United Nations International Children's Emergency Fund (UNICEF) report in 2022, stunting occurs in 22.3% or more than one in five children under 5 years old worldwide who experience growth constraints (UNICEF, 2023). Additionally, according to data gathered by the World Health Organization (WHO), Indonesia ranks third among Southeast Asian countries in terms of the greatest prevalence of stunted children. From 2005-2017, the average prevalence of stunted babies in Indonesia was 36.4% (Beal et al., 2018).

Toddlers who experience stunting have a negative impact on health in the future, such as impaired cognitive abilities (Supriatin et al., 2020), delayed child development which causes low school performance (Casale & Desmond, 2016; Sudfeld et al., 2015), poor dental and oral health conditions including early childhood caries (Abdat et al., 2020; Sadida et al., 2022), increased risk of cephalopelvic disproportion (Black et al., 2013; Leroy & Frongillo, 2019), risk of developing diabetes, hypertension, dyspnea, decreased work capacity, poor reproductive outcomes in adulthood (Black et al., 2008; Dewey & Begum, 2011; Soliman et al., 2021), more susceptible to infection (Bhutta et al., 2017; Guerrant et al., 2013; Millward, 2017), and mortality (Montenegro et al., 2022). Hence, it is imperative to sustain the implementation of stunting prevention initiatives in order to diminish the prevalence of stunting.

Stunting prevention programs are strategically designed to specifically target priority groups, determine priority locations, and implement prioritized interventions. Stunting prevention is very important and can be addressed effectively through a multisectoral approach that involves coordination and alignment of national, local and community programs at both the central and regional levels. One program that can be applied is through health communication. Health communication through outreach plays an important role in increasing community knowledge and skills in overcoming stunting. This communication activity includes a process where individuals who receive counseling gain knowledge, understand it, adhere to it, and then apply it in daily life (Mustafa & Kusyati, 2018). Thus, the importance of effective communication in facilitating the success of counseling efforts becomes clear.

Based on the background presented, the objective of this review is to evaluate, review and criticize research that has been published regarding the effectiveness of health communication in efforts to prevent stunting, using the literature review method on published articles in the last 10 years.

2. Literature Review

According to Lasswell, communication is the process of conveying a message by the communicator to the communicant through the media and is expected to have a certain effect with the concept of who is explaining, explaining what, with what media, to whom, and with what results (Ramli et al., 2022; Ridho & Fauzan, 2023). Communication can be divided into intrapersonal communication, interpersonal communication, group communication, public communication, organizational communication, and mass communication (Karyaningsih, 2018). Communication itself has the function of conveying messages or information and disseminating it to other people with the aim of increasing a person's knowledge regarding a matter, providing instructions to the communicant, and influencing and changing the attitude of the communicant (Fauzi & Islamiah, 2022).

Parents who have limited knowledge regarding nutrition in children's food have an impact on increasing the incidence of stunting in children. Therefore, health communication is essential to disseminate information to prevent a disease or event (Ashikin et al., 2022; Yuliana, 2023), in this case related to preventing stunting. Health communication can be said to be persuasive communication because it has the aim of influencing other people and changing behavior. Health communication plays an important role in efforts to prevent and reduce the prevalence of stunting because it has roles including increasing knowledge and awareness, increasing beliefs, perceptions and attitudes, increasing effectiveness in preventing and promoting related stunting, and improving the current bad situation (Ardina, 2021).

3. Methods

This study used a literature review method following the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. A systematic and comprehensive literature search was conducted until September 2023 on several databases, including PubMed, ScienceDirect and Google Scholar, using the keyword combination: [(communication) OR (health communication)] AND [(stunting)]. In literature selection, inclusion criteria were applied, including publications in the last 10 years, articles based in Indonesian and English, primary research articles, and full text articles.

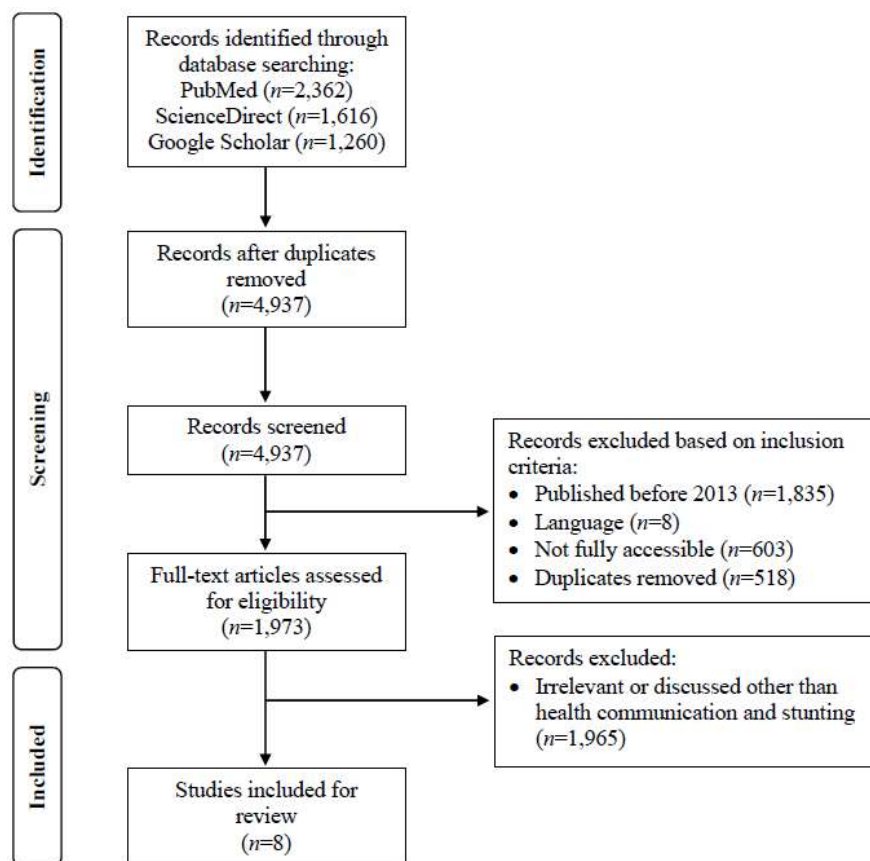


Figure 1. PRISMA flowchart

4. Results and Discussion

Health communication is a form of positive effort that functions to influence public health behavior by using various communication principles and methods, including interpersonal communication and mass communication. Health communication encompasses the spread of information related to disease prevention, health promotion, health care policy, and business regulations within the health sector. These efforts aim to enhance the well-being and overall quality of life for individuals within a society (Harahap & Putra, 2019). One of the functions of health communication is to convey or disseminate information about health so as to influence and change the attitude of the recipient of the message from

the communicator (Fauzi & Islamiah, 2022). In this case, conveying information by communicators regarding stunting prevention is carried out to, hopefully, accelerate stunting prevention.

Table 1. Summary of the included studies

Reference	Method/Design	Intervention	Participant	Results
(Starkweather et al., 2020)	Cross-sectional	Interpersonal communication	1,734 mothers	Interpersonal communication was correlated with higher maternal knowledge regarding feeding practices ($p<0.0001$), which was associated with the adoption of recommended behavioral practices, including meeting the minimal meal frequency ($p=0.019$), food variety ($p=0.013$), and maintaining acceptable eating patterns ($p<0.001$).
(Maulida & Suriani, 2021)	Cross-sectional	Group communication	38 cadres	There was a significant influence between communication and efforts to prevent stunting ($p=0.001$; OR=18.4; 95% CI=2.9-114.3).
(Moffat et al., 2021)	Cross-sectional	Interpersonal and mass communication	1,734 mothers with children under 2 years old	Media messages and interpersonal communication interventions were significantly related to knowledge of the importance of nutrition in the first 1000 days of life and knowledge about stunting. Both, the media message of the national nutrition communication campaign and the interpersonal communication strategy, appeared to be equally effective.
(Moffat et al., 2022)	Cross-sectional	Interpersonal and mass communication	3,082 men and 4,996 women	There were various factors that were significant in influencing exposure to large-scale communication campaigns, so that both mass media and interpersonal communication were important in health communication campaigns.
(Umrah et al., 2022)	Quasi-experimental – one group pretest-posttest	Interpersonal communication	20 people	Effective communication was effective in increasing macronutrient intake in stunted toddlers ($p<0.05$).
(Wahyuni & Putri, 2022)	Quasi-experimental – one group pretest-posttest	Group communication	21 people	Two-way communication through counseling resulted in an increase in knowledge from 53.33 in the pre-test to 67.02 in the post-test ($p=0,025$).

(Hidayat et al., 2023)	Quasi-experimental – one group pretest-posttest	Interpersonal communication	120 families	The findings of this study concluded that efforts to increase family knowledge in preventing stunting can be done through an interpersonal communication approach and this method has proven to be effective.
(Sari et al., 2023)	Pre-experimental – one group pretest-posttest	Interpersonal communication	18 mothers with stunted children	There was an increase in the mean between before and after the intervention was given ($p<0,005$). The increase occurred due to strategies in implementing therapeutic communication in the group.

Several studies that conducted interpersonal communication interventions concluded that there was an influence on various forms of stunting prevention efforts, stating that interpersonal communication had a positive impact in the form of increasing the maternal level of knowledge regarding feeding babies and children ($p<0.0001$) (Starkweather et al., 2020), positively related to the level of knowledge of exclusive breastfeeding ($p<0.001$; OR=1.78; 95% CI=1.37-2.30), understanding of the importance of nutrition in the first 1000 days of life ($p<0.001$; OR=3.02; 95% CI=2.40-3.80), and the level of knowledge regarding the benefits of exclusive breastfeeding to prevent stunting ($p<0.001$; OR=3.05; 95% CI= 2.33-3.98) (Moffat et al., 2021), significant relationship with the receipt of antenatal services ($p<0.001$; OR=1.97; 95% CI=1.551–2.499), receipt of money ($p=0.003$; OR=1.26; 95% CI=1.086–1.471), number of pregnancies ($p<0.001$; OR=1.11, 95% CI=1.049–1.168) (Moffat et al., 2022), increasing macronutrient intake in stunted toddlers ($p<0.05$) (Umrah et al., 2022), increasing the level of knowledge and attitudes of families in preventing stunting ($p<0.001$) (Hidayat et al., 2023), and significantly improve maternal behavior in managing stunting ($p<0.005$) (Sari et al., 2023).

There are two studies that carry out interventions in the form of group communication, and they state that group communication is effective in stunting prevention, namely in the study that states that cadre communication has a significant influence on stunting prevention ($p=0.001$; OR=18.4; 95% CI=2.9-114.3) (Maulida & Suriani, 2021) and group communication in the form of counseling significantly increases knowledge about stunting ($p=0.025$) (Wahyuni & Putri, 2022).

Meanwhile, in research that carried out mass communication interventions, there were two studies, namely (Moffat et al., 2021) which states that mass media intervention is significantly related to knowledge about exclusive breastfeeding ($p=0.043$; OR=1.56; 95% CI= 1.10-2.19) and understanding of the importance of nutrition in the first 1000 days of life ($p<0.001$; OR=1.90; 95% CI=1.43-2.52). Meanwhile, in research conducted (Moffat et al., 2022) who said that radio exposure was significantly related to receipt of antenatal care (OR=1.686; 95% CI=1.413–2.011), receipt of money (OR=1.174; 95% CI=1.020–1.346), and increasing education (OR=1.352, 95% CI=1.202–1.521), while exposure to campaigns about stunting on TV was significantly related to receipt of antenatal care (OR=1.42, 95% CI=1.121–1.798).

In health communication related to stunting prevention, there are several important messages that must be conveyed, including the frequency and duration of exclusive breastfeeding, appropriate complementary feeding, BMI and HAZ scores at 12 and 24 months of age, children's nutritional behavior and daily activities, cost effectiveness, and feasibility and acceptability of the intervention (Wen et al., 2017). This aims to increase public knowledge regarding stunting prevention, so that people can change behavior regarding stunting prevention. This is in accordance with the aim of health communication, namely as persuasive communication because it has the ability to influence the audience (Ardina, 2021).

Based on the research results, we reviewed all 8 included studies and concluded that there are 5 studies that conveyed the message about exclusive breastfeeding (Maulida & Suriani, 2021; Moffat et al., 2021, 2022; Sari et al., 2023; Starkweather et al., 2020), 5 studies that conveyed message regarding giving complementary food (Maulida & Suriani, 2021; Moffat et al., 2021, 2022; Sari et al., 2023; Starkweather et al., 2020), 4 studies provided communication message regarding sanitation and hygiene (Maulida & Suriani, 2021; Moffat et al., 2022; Sari et al., 2023; Starkweather et al., 2020), 6 studies that focused on providing messages regarding balanced nutritional intake and preventing malnutrition related to stunting (Hidayat et al., 2023; Moffat et al., 2021, 2022; Sari et al., 2023; Umrah et al., 2022; Wahyuni & Putri, 2022), 2 studies conveyed message regarding monitoring early childhood development, which was associated with knowledge of BMI and HAZ scores (Moffat et al., 2022; Sari et al., 2023), and 2 studies that provided messages on how to overcome children's health problems (Sari et al., 2023), including treating diarrhea in children (Moffat et al., 2022).

The messages conveyed in the communication strategy for preventing stunting are sufficient to include important messages for preventing stunting. However, there are several messages that we have not found explicitly in these studies, including regarding children's daily activities, cost-effectiveness, and the feasibility and acceptability of interventions, as described by (Wen et al., 2017). However, overall these studies have been very effective in conveying messages related to stunting prevention, this can be seen from the results which state that there is a positive impact on a significant increase in knowledge and attitudes in preventing stunting. This is in accordance with the main aim of health communication, namely providing health information, in this case regarding stunting, and carrying out health promotion through increasing knowledge to communicants regarding, in this case, preventing stunting (Harahap & Putra, 2019).

In conveying messages from communicator to communicant, models and media are needed to convey the message. This determines that the message from the communicator can be effectively conveyed to the communicant, so that the goal of stunting prevention can be achieved. In Indonesia, *posyandu* or integrated healthcare center are used as the main place to carry out interpersonal communication interventions, as in research conducted by (Starkweather et al., 2020). Apart from that, several studies use counseling methods which are also often carried out in the community to disseminate information related to stunting prevention (Maulida & Suriani, 2021; Sari et al., 2023; Wahyuni & Putri, 2022). In research conducted by (Hidayat et al., 2023), the method of providing education through flipchart media is also quite effective in preventing stunting. This is as effective as the method used by (Umrah et al., 2022) where they use effective communication methods by providing communication, education and information to communicants.

Study conducted by (Moffat et al., 2021), they use two types of communication, namely interpersonal communication using mother's class methods or support groups that share experiences, discussions and provide mutual support for the health of mothers and children. Meanwhile, in mass communication, a method is used where interviewers show video clips from commercial TV or images from print media or social media. Meanwhile, in research conducted by (Moffat et al., 2022), in mass communication, they use radio and TV campaign methods, support groups, home visits, home food production, mobile outreach, and training of community health workers. As with interpersonal communication interventions, they use home visit methods and support groups for mothers.

According to the findings of the review conducted, there are limitations in this research. These include a limited research taken, the research population is not spread across every region in the world, consequently, the results of this review may not be able to represent all populations and races globally. However, this review has advantages such as there are several studies with large-scale populations, which can show that the effectiveness of health communication in preventing stunting can be considered quite effective. Furthermore, there are three types of communication interventions studied in this review, namely interpersonal, group and mass communication, so that it can assess the effectiveness of health communication in various forms of intervention and methods used.

5. Conclusion

In conclusion, we conclude that health communication provides a significant positive impact, as evidenced by the results of reviewing the included studies which conclude that there is a positive and significant association between providing good health communication and increasing efforts to prevent stunting through providing educational programs regarding exclusive breastfeeding, appropriate complementary feeding, BMI and HAZ scores, and nutritional behavior. However, this review requires further research on interventions other than health communication.

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