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## ENHANCING MOTHER'S KNOWLEDGE OF COMMUNITY-LED TOTAL SANITATION PRACTICES THROUGH HEALTH EDUCATION INTERVENTIONS IN JUMPUTREJO VILLAGE, SIDOARJO

Serlly Frida Drastyana<sup>1\*</sup>, Anif Prasetyorini<sup>1</sup>, Amir Ali<sup>2</sup>, and Diah Wijayanti Sutha<sup>2</sup>

<sup>1</sup> Hospital administration study program, STIKES Yayasan Rumah Sakit Dr Soetomo, Surabaya, Indonesia

<sup>2</sup> Medical records and health information study program, STIKES Yayasan Rumah Sakit Dr Soetomo, Surabaya, Indonesia

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### CONTACT

Serlly Frida Drastyana

[Serlly\\_frida@stikes-yrsds.ac.id](mailto:Serlly_frida@stikes-yrsds.ac.id)

Hospital administration study program, STIKES Yayasan Rumah Sakit Dr Soetomo, Surabaya, Indonesia

### ABSTRACT

**Introduction:** The report shows a decrease in stunting prevalence at the national level by 6.4% over 5 years. The problem of stunting in the future directly affects prospective mothers. The aim of health education is to increase the knowledge of mothers of stunted infants and toddlers about environmental factors as the cause of stunting.

**Methods:** The method of implementation in the health education program is through providing knowledge on stunting to mothers of stunted babies and toddlers in the Jumputrejo Village. The participants are mothers of infants and toddlers in Jumputrejo Village, totaling 18 people. The method for education to increase the knowledge of mothers of stunted infants and toddlers about personal hygiene, mothers of stunted infants and toddlers about environmental sanitation, and increase the knowledge of mothers of stunted infants and toddlers about environmental factors that cause stunting. Variables of this community services are knowledge before and after giving health education. Instrument of this study using questionnaire and data analysis using t test.

**Results:** The knowledge increase before and after giving assistance, counseling, and health education about community-based total sanitation. The results of community service found that there was a difference between the knowledge pretest and post-test with a significance of 0.000.

**Conclusion:** Knowledge about community-based total sanitation increased because they received proper education, awareness campaigns, and hands-on training on sanitation practices. Mothers of young children received health education, and afterward, community-led sanitation was covered through a question-and-answer format. Further evaluation can be done to measure the extent to which the increase in knowledge brings changes in the sanitation behavior of the local community and the prevention of stunting.

### KEYWORDS

community; knowledge; sanitation.

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## 1. INTRODUCTION

Stunting is a condition in a person who has less length or height when compared to their age. A person with stunting is one who is shorter or shorter than average for their age. A person is said to be stunted if their height is lower than that of other persons their own

age or in general. Stunting is not limited to Indonesia, it is a global issue. A type of growth failure known as growth faltering, stunting results from a build-up of malnutrition and lasts from pregnancy to 24 months of age. Anthropometric measurements such as height can be used to determine an individual's nutritional

condition. Stunting is a sign of chronic malnutrition, or inadequate nutritional status over an extended period of time (Hoffman et al., 2000; Bloem et al., 2013; Atikah Rahayu, Fahrini Yulidasari, Andini Octaviana Putri, 2018; Mutika and Syamsul, 2018; Oktavia, 2020).

The government of Indonesia has not yet adequately addressed the health issue of malnutrition. The frequency of severe stunting (extremely short) in Indonesia is 19.3%, which is higher than in 2013 (19.2%) and 2007 (18%), according to survey and study data. The overall prevalence of stunting—both severe and mild—was found to be 30.8% (short and extremely short). According to the research, the prevalence of stunting decreased nationally over a five-year period, from 37.2% (2013) to 30.8% (2018), a decrease of 6.4%. The proportion of short and very short nutritional status in a person reached 29.9% or higher than the 2019 national medium-term development plan (RPJMN) target of 28%. From the results of the Indonesian nutritional status study (SSGI) conducted in 2019, the prevalence of stunting in Indonesia was 27.6%. Meanwhile, in Bali Province, it is 14.4% and if you look at the percentage of stunting in Bali province in 2020 it is 6.1%, the percentage in Jembrana district (2.3%), Tabanan (8.0%), Badung (6.1), Gianyar (4.8), Klungkung (7.3%), Bangli (6.3%), Karangasem (10.8%), Buleleng (7.2%), and Denpasar (1.5%). The percentage of stunting in Bali province has decreased when compared to the results of the 2018 Riskesdas and the 2019 Indonesian nutritional status study (SSGI) (Tim Riskesdas, 2018).

Stated that stunting is a health problem that must be considered and addressed early because it has a very long impact on a person's life. The incidence of stunting is a cumulative process that occurs since pregnancy, childhood, and throughout the life cycle. Stunting will also increase the risk of degenerative diseases in adulthood. Some studies show the impact of stunting is a decrease in academic achievement, an

increased risk of obesity, more susceptibility to non-communicable diseases, and an increased risk of degenerative diseases. Stunting can have an impact on a person's life, especially the risk of physical and cognitive developmental disorders if not handled properly (Boucot, A.J., & Poinar Jr., 2010; Torlesse et al., 2016; Nirmalasari, 2020).

Evidence and experience from around the world demonstrate that it can impede economic expansion and lower labor market productivity, which can lead to a loss of 11% of GDP (Gross Domestic Product) and a 20% reduction in adult workers' pay (Atikah Rahayu, Fahrini Yulidasari, Andini Octaviana Putri, 2018). Prevention of stunting is important to do as early as possible to avoid adverse long-term impacts. Early stunting prevention efforts must be carried out so that women of childbearing age will prepare for pregnancy so that the first 1000 days of life (HPK) of children are well prepared (Fauziatin et al., 2019).

Stunting prevention efforts that can be done for young adults are as follows, conducting early detection of diseases (infectious diseases and non-communicable diseases), and increasing counseling on clean and healthy living behavior (PHBS). As well as efforts that can be made to reduce the prevalence of stunting include the following, namely, increasing knowledge, taking blood supplement tablets if you experience symptoms of anemia, improving diet (diet concerning the type, amount, and frequency of food), conducting health education, measuring body mass index (BMI) and taking blood supplement tablets (TTD) 1 time per week for 52 weeks. Research was also conducted that providing multimicronutrient supplements since pre-conception can reduce neonatal incidence (Jayarni and Sumarmi, 2018).

The problem of stunting in the future directly affects the condition of prospective mothers, posture, weight, height, and nutritional adequacy of prospective mothers are some of the factors that influence the occurrence of stunting. This shows that providing the right education or intervention to

prevent stunting is when someone will prepare for their pregnancy, therefore young adults who will become prospective mothers are the right target. The aim of health educations to increase the knowledge of mothers of stunted infants and toddlers about environmental factors as the cause of stunting.

## 2. MATERIAL AND METHODS

The method of implementation in the community service program is through providing counseling on stunting to mothers of stunted babies and toddlers in the Sukodono Puskesmas area. The targets or participants in this activity are mothers of infants and toddlers in the Sukodono Health Center area. The method was chosen for counseling activities by presenting counseling material by the previously set objectives, namely to increase the knowledge of mothers of stunted infants and toddlers about personal hygiene, increase the knowledge of mothers of stunted infants and toddlers about environmental sanitation, and increase the knowledge of mothers of stunted infants and toddlers about environmental factors that cause stunting. Variables of this community services are knowledge before and after giving health education. Instrument of this study using questionnaire and data analysis using t-test.

The stages of implementing community service activities include activities namely counseling on stunting and its causative factors and environmental sanitation, then continued with anthropometric measurements, and ended with a post-test to measure mothers' knowledge after counseling in this community service activity. In this activity, counseling is carried out to increase the knowledge of mothers of stunted infants and toddlers by involving a holistic and participatory-based approach. The first step taken by the activity implementer is to identify the target group/participants first by paying attention to demographic and social aspects so that counseling can be tailored to the needs of the participants. The preparation of counseling materials

is also adapted to local cultural values. This is expected to facilitate the acceptance and application of the information provided.

Extension activities are accompanied by interactive discussions between the implementer and the target to help reinforce the message and get the target more involved. The implementers also encourage active participation from the targets by asking questions and asking the targets to share experiences and solve problems together. This can create a collaborative learning environment.

This activity ended by measuring the level of knowledge through a post-test and a second session of question and answer session. The purpose of this evaluation stage is to measure the extent to which the knowledge of mothers of infants and toddlers about stunting has increased after participating in counseling activities, the results of the post-test will be an indicator of the effectiveness of counseling activities that have been carried out in the Sukodono Community Health Center area. This post-test is not only a final assessment but also a basis for assessing the extent to which the information conveyed during counseling can be understood and remembered by participants, the results of the post-test will provide a clearer picture of the areas of knowledge that need more attention or improvement in subsequent counseling activities.

Furthermore, the results of the post-test will also be the basis for consideration to determine the right intervention in dealing with the problem of stunting in the Sukodono Health Center area. By knowing the level of knowledge that is still lacking or the focus areas that need to be improved, the implementer can design interventions that are more specific and by the needs of the local community. Thus, the post-test evaluation stage does not only serve as a final assessment, but also as a basis for future program improvement and development.

### 3. RESULTS

Based on data from the Sukodono Health Center, it was found that the most stunting cases were in the Jumputrejo sub-district. Therefore, we as lecturers of STIKES Yayasan RS. Dr. Soetomo took the initiative to conduct counseling on environmental factors that affect the nutritional status of infants and toddlers. This counseling is expected to increase the knowledge of mothers of stunted infants and toddlers related to environmental factors as one of the causes of stunting and how to keep the environment healthy.

The pre-test and post-test each consisted of 10 questions with true or false answer choices. The knowledge criteria for knowledge about community-based total sanitation were categorized into three levels: high, moderate, and low. Table 1 presents the statements used to assess mothers' knowledge regarding community-based total sanitation, while Table 2 compares the pre-test and post-test results. The findings indicate that the average knowledge level of mothers regarding community-based total sanitation improved following the provision of assistance and health education on the subject.

From the results of the pre-test conducted the average who answered correctly was 81.67%. While the average who answered wrong was 18.33%. The dominant correct knowledge is related to "Poor environment can cause disease" and "There are 5 important times to wash hands with soap" by 100%. The dominant incorrect knowledge was on "Infiltration wells are not household wastewater management" by 88.89%. It can be concluded that most mothers of stunted infants and toddlers know that the environment can cause disease transmission, but how to handle wastewater is still lacking.

In this activity, outreach is carried out to increase the knowledge of mothers of stunted babies and toddlers by involving a holistic and participatory-based approach. The first step taken by the activity implementer is to identify the target group/participants first by paying attention to demographic and social aspects so that counseling can be tailored to the participants' needs. The preparation of outreach materials is also adapted to local cultural values. It is hoped that this will make it easier to receive and apply the information provided (Figure 1).

Table 1. Pretest and posttest statements

No	Statement
1.	Poor environment can cause disease Statement
2.	Defecating in a toilet without a septic tank does not cause disease
3.	Viruses, bacteria that cause disease can come from human feces
4.	Use of healthy latrines can break the chain of disease
5.	There are 5 important times to wash your hands with soap
6.	Boiling is one of the best ways to manage drinking water
7.	Eating food immediately after processing can prevent food contamination
8.	Open and accumulated garbage can cause leptospirosis
9.	One of the best ways to dispose of waste is by using the composter method
10	Infiltration ponds are not household wastewater management

Table 2. The Cross-Tabulation of Mothers' Knowledge of Community-Based Total Sanitation Before and After the Intervention

Level of Mothers' knowledge	Pre-test		Post-test	
	f	%	f	%
High	7	39	15	83
Mild	8	44	3	17
Low	3	17	0	0
Total	18	100	18	100
p-value	0.000			



Figure 1. Health Education Process about Environmental Sanitation

After assistance, counseling, and health education, a post-test was conducted again with the assistance of students. The post-test results are as the average who answered correctly was 93.33%. While the average who answered wrong was 6.67%. The dominant knowledge is wrong in the knowledge of "Infiltration wells are not household wastewater management" by 27.78%. It can be concluded that most mothers of stunted infants and toddlers know that the environment can cause disease transmission, but how to handle wastewater is still lacking. It can be seen that there is an increase in the knowledge of mothers of stunted infants and toddlers after counseling.

After conducting the pre-test and post-test, knowledge levels were categorized before and after the intervention, which included assistance, counseling, and health education. The results were then analyzed and presented in Table 2.

Based on Table 2, a cross-tabulation was performed to compare mothers' knowledge of community-based total sanitation before and after the intervention. The analysis revealed that the average knowledge level of mothers regarding community-based total sanitation increased following the provision of assistance and health education. Furthermore, the results of the comparative analysis using the t-test indicated a statistically significant difference in mothers' knowledge before and after the intervention, with a p-value of 0.000.



Figure 2. Outreach Activities and Providing Education Regarding Environmental Sanitation

#### 4. DISCUSSION

Most mothers of stunted infants and toddlers know that the environment can cause disease transmission, but the way wastewater is handled is still lacking. Education can help mothers know more about how to prevent stunting. Increased knowledge, attitude, and motivation are caused by the mother's desire to participate and know the benefits of education. A person is usually subject to people who are considered important. A person's personal experience and the influence of others will influence their efforts to prevent stunting (Fauziatin et al., 2019). Stunting in children has frequently been linked to community and societal conditions, especially living in rural regions and having limited access to health care. There aren't many published studies on the relationship between child stunting and the environment, water, sanitation, and sanitation practices; agricultural and food systems; society and culture; and education. This thorough review of the literature on the factors that contribute to stunting in children in Indonesia identifies the most susceptible groups, the most effective therapies, and the areas in need of more study to close knowledge gaps (Beal et al., 2018).

Most mothers of stunted infants and toddlers know that the environment can cause disease transmission, but how to handle wastewater is still lacking. It can be seen that there is an increase in the knowledge of mothers of stunted infants and toddlers

after counseling. Lack of maternal knowledge about complementary food is also a driving factor for mothers who are less diligent in providing complementary food. Therefore, the implementer of the activity held a Pregnant Mother Motivation activity as an alternative solution to the cause of the existing problems. This activity has an indicator of success which is measured by giving an initial test and a final test to the target of the activity (Sasmita, 2021).

Mothers' knowledge about stunting prevention is very important because they have a key role in the care and maintenance of their children's health. The following are several reasons why maternal knowledge is vital in preventing stunting. Proper knowledge about the nutrients required for a child's growth and development is essential. Mothers who understand the importance of balanced nutritional intake and a varied diet are more likely to provide adequate and nutritious food to their children. Mothers who are educated about stunting will find it easier to recognize the symptoms. They will pay better attention to their children's growth and development and can seek medical help immediately if necessary. Mothers' knowledge of good nutritional practices, such as exclusive breastfeeding for babies, timely complementary feeding, and giving nutritious food to older children (Dukuzumuremyi J P C, Acheampong K, 2020), can help prevent stunting. Mothers often act as intermediaries between children and health services. Proper knowledge allows them to take appropriate steps, such as seeking medical advice or following stunting prevention programs available in the community. Mothers' knowledge can be used to educate other family members, neighbors and society in general about the importance of good nutrition and preventing stunting. They can also be strong advocates in fighting for better access to health and nutrition services for children in their communities. With adequate knowledge, mothers can play a very important role in efforts to prevent and overcome stunting, helping to ensure optimal growth

and development of their children and the children around them.

There is an increase in knowledge after counseling is carried out. This is in line with research the results of statistical tests show an increase in knowledge of prospective brides, with a value of  $p = 0.000$ , which indicates that there is a difference between the pretest and post-test results of prospective brides regarding stunting control. Counseling has been shown to increase a person's knowledge (Fauziatin et al., 2019). Counseling has been shown to increase a person's knowledge by providing personalized guidance and information tailored to their specific needs and circumstances. During counseling sessions, individuals receive expert advice, educational resources, and practical strategies that enhance their understanding of particular issues. This process involves active engagement, where counselors listen to concerns, clarify misconceptions, and offer evidence-based insights, leading to a deeper and more comprehensive grasp of the subject matter. Consequently, individuals are better equipped to make informed decisions and adopt effective practices, ultimately improving their overall well-being and addressing specific challenges they may face (Ridley et al., 2021; Shapu et al., 2022; Prasetyo, Permatasari and Susanti, 2023).

## 5. CONCLUSION

It can be concluded that this activity aims to increase mothers' knowledge about community-based total sanitation in stunting prevention. Community-based total sanitation and stunting prevention efforts are the focus of counseling because they are expected to be preventive steps in preventing disease transmission and stunting. Through this activity, it is hoped that mothers of infants and toddlers can understand the importance of good sanitation practices in their environment. Improved knowledge is expected to encourage behavioral changes in terms of sanitation and stunting prevention, such as clean water management, proper waste disposal, and

environmental hygiene. A follow-up evaluation can be conducted to measure the extent to which the increased knowledge brings changes in the sanitation behavior of the local community and stunting prevention.

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