

CHILDREN'S FUTURE STARTS WITH GOOD NUTRITION TO PREVENT STUNTING EARLY: KKN GROUP 302 UIN SUNAN KALIJAGA YOGYAKARTA

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Abstract – *Stunting is one of the most serious health problems in Indonesia, affecting children's physical growth and cognitive development. The main cause of stunting is the lack of adequate nutrition during the first 1000 days of life, which starts from pregnancy until the child is two years old. Therefore, it is important to raise public awareness of the importance of good nutrition in stunting prevention. The KKN 302 UIN Sunan Kalijaga Yogyakarta Work Program aims to educate the community about the importance of early nutrition as a preventive measure to reduce the prevalence of stunting. Through various socialization activities, counseling, and nutrition interventions carried out in the village, this program succeeded in increasing the knowledge of pregnant women and nursing mothers about the importance of balanced nutrition for child growth. The results of these activities show an increase in community awareness of the importance of good nutrition and the potential for reducing stunting cases in the target area. Therefore, sustainable nutrition education and intervention efforts are essential in order to realize a healthy and productive generation in the future.*

Keywords: *Stunting, Nutrition, Prevention, KKN, UIN Sunan Kalijaga*

1. INTRODUCTION

Stunting, or failure to thrive in children due to chronic malnutrition, is a serious health problem in Indonesia. The impact is not only seen in the shorter height of children compared to their age, but also affects cognitive development, academic achievement, and quality of life in the future. Therefore, addressing stunting from an early age is crucial to ensure a better future for future generations. Good nutrition is the main foundation for children's growth and development. Malnutrition in the golden period of the first 1000 days of life can cause permanent growth disorders.

The efforts made by the government to address stunting through Posyandu, or Integrated Health Centers are not ideal as they do not cover all aspects of the community. Cadres and midwives are strategic to participate in these activities as they are an important part of the community as they are close to mothers and the community. Early childhood nutrition and health needs must be met so that children can grow and develop optimally for their age group. Providing children with the necessary nutrition starts from the first 1,000 days of life, from the beginning of pregnancy until the child is 2 years old, which is known as the golden period or the period of rapid growth and development. After the child is over 2 years old, nutritional intake must be considered because toddler age is an age that is vulnerable to various diseases and problems.

This is where the role of the community is important, especially through stunting prevention programs initiated by various parties, including the government, nongovernmental organizations, and educational institutions. The Community Service Program (KKN) implemented by students of UIN Sunan Kalijaga Yogyakarta in group 302 in Kembang Village aims to contribute to stunting prevention efforts through nutrition education and public health interventions. Through a community-based approach, KKN group 302 focused on raising community awareness about the importance of good nutrition from an early age, providing information on proper feeding practices for pregnant women and children under five, and supporting access to adequate health services. Against this background, this article discusses the role of KKN group 302 UIN Sunan Kalijaga Yogyakarta in supporting stunting prevention efforts in the villages where the activities are carried out, as well as its impact on improving the quality of life of children in the future.

2. METHODS

This study was designed to evaluate the effectiveness of the intervention conducted by KKN 114 UIN Sunan Kalijaga Yogyakarta group in preventing stunting through nutrition and health education programs in the community. The methods used in this study are described in the following subchapters:

1. Type of Research

This research uses a descriptive qualitative approach. This type of research was chosen to obtain a comprehensive picture of the implementation of the stunting prevention program as well as the community's response and participation in the

program. Qualitative research allows researchers to explore social dynamics, perceptions, and experiences of the community in depth.

2. Data Collection Methods

The data in this study was collected through the following methods:

- a) Participatory Observation: Researchers are directly involved in servicelearning activities and observe the process of program implementation, interactions with the community, and participants' responses to the interventions.
 - b) Interviews: Conducted with various stakeholders, including pregnant women, breastfeeding mothers, health cadres, and community leaders. These interviews aim to gain an in-depth understanding of knowledge, attitudes and practices related to nutrition and stunting prevention.
 - c) Focus Group Discussion (FGD): FGDs were conducted with target groups including stunting cadres in Kembang Village to identify the needs, constraints, and expectations of the community towards the stunting prevention program. The FGDs were also used to evaluate the effectiveness of the nutrition education provided.
- ## 3. Tools and Materials
- a) Presentation Materials: Slide presentation containing information about stunting, the importance of nutrition, how to prevent it, and tips for parents.
 - b) Laptop and Projector: Used to display presentations, educational videos, or other visual materials during socialization.
 - c) Speakers and Microphones: Help ensure that the speaker's voice is clearly heard by all participants, especially if the event is held in a large or open room.
 - d) Poster or Banner: A visual aid placed in the socialization area to reinforce key messages on stunting prevention.
 - e) Cell Phone Camera: To document socialization activities, which can be used for reporting and evaluation.
 - f) Stationery: Used to record or explain additional information during socialization.
- ## 4. Research Work Procedure
- a) Preparation Stage: At this stage, the researcher coordinated with the village and the local BKKBN to obtain permission and support in implementing the program. In addition, researchers also developed interview guides and observation instruments.
 - b) Implementation of the Socialization: The socialization began with remarks from village officials or local community leaders to introduce the purpose and importance of this activity to participants. Presentation of Material: Resource persons gave presentations on the importance of good nutrition from an early age, the impact of stunting on children's future, and ways to prevent stunting.

- c) Data Collection: The researcher observed the socialization, recorded participants' responses, and the interaction between the resource person and the community.
- d) Data Analysis: Observations were recorded and analyzed to evaluate community participation and response during socialization.
- e) Evaluation: The results of the analysis are then compiled in the form of a research report as evaluation material and recommendations for future stunting prevention programs. Through this method, it is hoped that this research can provide a clear picture of the contribution of KKN Group 302 UIN Sunan Kalijaga in stunting prevention and its impact on increasing awareness and changing community behavior related to child nutrition and health.

3. RESULTS AND DISCUSSION

A. The Importance of Nutrition for Child Growth and Development

The development of quality human resources will be successful if optimal growth and development begins as early as possible, namely from the time the fetus is in the womb until it becomes an adult. One of the most important targets of human resources is children because children are the foundation of the future of the nation and state. This is easy to understand and quite reasonable because human development in the future is development for children today. To be able to function as the next generation in the future, children must be prepared as well as possible. Nutrition is one of the factors that is absolutely necessary in the process of physical growth and development, the nervous system and brain, as well as the level of human intellect and intelligence. The productivity of infants is different from the productivity of other age groups. Fulfillment of nutritional needs is a major factor in achieving growth and development results in accordance with their genetic potential. In order for all organs of the body to grow and develop, things that need to be considered are that the growth/development of infants takes place in three levels which include cells, organs and the body occurs in three stages, namely an increase in the number of cells (hyperplasia), an increase in the number and weight of cells and then an increase in the size and maturity of cells.

To prevent stunting, children need adequate and balanced nutrition, especially during the critical period of the first 1000 days of life, which starts from pregnancy until the child is 2 years old. Here are some important nutrients that children need to grow optimally and prevent stunting:

a) Protein

Protein is important for the growth and development of muscles and body tissues. Protein also plays a role in the formation of enzymes and hormones that support various body functions. Examples of protein sources: Meat, fish, eggs, beans, tempeh, tofu, milk and dairy products.

b) Carbohydrates

Carbohydrates are the main source of energy required for daily activities and body growth. Examples of carbohydrate sources: Rice, bread, pasta, potatoes, sweet potatoes, and cereals.

c) Fat

Fat provides energy, aids in the absorption of fat-soluble vitamins (A, D, E, and K), and supports brain and nervous system development. Examples of fat sources : Vegetable oils (such as olive oil and coconut oil), butter, avocados, nuts, and fatty fish (such as salmon).

d) Vitamin A

Vitamin A is important for vision, bone growth, immune system, and skin health. Examples of vitamin A sources: Carrots, sweet potatoes, spinach, broccoli, liver, and eggs.

e) Vitamin D

Vitamin D supports the absorption of calcium and phosphorus, which are important for the formation of strong bones. Examples of vitamin D sources: Sunlight (natural source), fatty fish, eggs, and vitamin D fortified milk. f)

Iron

Iron is necessary for the formation of hemoglobin in the blood, which transports oxygen throughout the body. Iron deficiency can cause anemia, which affects the growth and development of children. Examples of iron sources : Red meat, liver, beans, spinach and whole grains.

g) Calcium

Calcium is important for the development of strong bones and teeth as well as nerve and muscle function. Examples of Calcium sources: Milk and dairy products (such as yogurt and cheese), anchovies, broccoli, and green leafy vegetables. h) Zink

Zinc plays a role in cell growth, immune function and wound healing. Zinc deficiency can cause growth disorders. Examples of Zinc sources: Red meat, poultry, nuts, seeds and dairy products.

i) Folic Acid

Folic acid is important for the development of the brain and nervous system as well as the formation of red blood cells. Examples of folic acid sources : Green leafy vegetables (such as spinach and kale), beans, fruits (such as oranges and avocados).

j) Iodine

Iodine is required for the production of thyroid hormones, which regulate growth and metabolism. Iodine deficiency can lead to impaired mental and physical development. Examples of iodine sources : Iodized salt, seafood and dairy products. k)

Vitamin C

Vitamin C plays a role in iron absorption, tissue growth and repair, and immune function. Examples of vitamin C sources : Oranges, strawberries, kiwi, broccoli, and red peppers.

1) Water

Water is essential for maintaining body fluid balance, digestion and nutrient absorption. Lack of water can lead to dehydration, which can affect a child's health and growth. Examples of water sources : Drinking water, milk, and fluids from fruits.

To prevent stunting, it is important for children to get the various nutrients above through a balanced and nutritious diet. Special attention should be paid to the first 1000 days, as optimal nutrition during this time is crucial for a child's growth and development. Exclusive breastfeeding for the first six months, followed by nutritious complementary feeding, is also an important strategy in preventing stunting.



Figure 1. Documentation of the implementation of stunting outreach in the Kembang Village area.

B. Factors causing stunting

The factors that cause stunting in Indonesia are as follows:

a) Long-term malnutrition.

The causes of stunting can basically start since the child is still in the womb, and often this is not realized. During pregnancy, children can experience nutritional deficiencies that play a role in stunting. One of the main factors is the limited access of pregnant women to healthy and nutritious foods, such as foods that contain enough protein. This limited nutritional intake has an impact on nutritional deficiencies in the fetus that the mother is carrying. In addition, low consumption of vitamins and minerals can also contribute to fetal malnutrition. Malnutrition that occurs in the womb is the main cause of stunting in children. Therefore, it is important to realize that stunting can start early in a child's life, even before they are born.

b) Parenting

In addition to in utero nutritional factors, ineffective parenting also plays an important role in causing stunting in children. Ineffective parenting includes behaviors and practices of feeding children that are not optimal. Many factors can influence parenting, such as lack of knowledge and understanding of balanced nutrition, irregular eating patterns, and difficulty accessing food. In addition, during

adolescence and pregnancy, maternal malnutrition can also have an adverse impact on the nutritional condition of the child who is born. During breastfeeding, a mother's inadequate diet and nutrition can also affect the quality and quantity of breast milk given to the baby. All of these contribute to the stunting of children's growth and development, increasing the risk of stunting.

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d) Diet
Poor or insufficient knowledge about healthy and nutritious food can affect the overall diet of the family. When mothers do not have sufficient knowledge about children's nutritional needs and the importance of nutritious foods, there is a tendency to provide foods that do not meet children's nutritional needs. This unbalanced diet can lead to nutritional deficiencies that adversely affect children's growth and development, increasing the risk of stunting.

e) Lack of Postpartum Care

Lack of Postpartum Care The lack of postpartum care is also one of the factors causing stunting. After giving birth, mothers need adequate care to recover their body condition and provide adequate nutrition to breastfeed their babies. However, lack of postnatal care can hinder the mother's recovery and reduce the production of adequate breast milk. Lack of nutrition during the breastfeeding period can affect the quality and quantity of breast milk given to the baby. In addition, poorly monitored maternal health conditions can also affect postpartum care and a healthy diet.

C. Challenges in Stunting Prevention

Although the socialization showed positive results, there were some challenges encountered. Some mothers admitted to having difficulty accessing nutritious food ingredients due to economic factors and availability in rural areas. In addition, there are also obstacles in changing eating habits that have long been embedded in the community. Therefore, a more sustainable approach and support from various parties are needed to overcome these challenges.

a) Behavior Change

Changing people's diets is one of the challenges to prevent stunting in the modern era. People's food consumption behavior has changed from a healthy and nutrient-rich diet to a faster and often unhealthy modern diet. This change in behavior is also influenced by elements such as time constraints, ease of access, and media influence. Malnutrition and stunting in children can be caused by fast foods that often contain excessive amounts of saturated fat, sugar, and salt, as well as a lack of fiber and other essential nutrients. Therefore, it is crucial to raise public awareness about the importance of a balanced and nutritious diet and about the adverse effects of unhealthy food on child development.

b) Lifestyle Changes

Significant lifestyle changes have also contributed to the prevention of stunting in the modern era, including changes in resting patterns and child feeding patterns. Irregular rest patterns or lack of sleep can impair a child's development, including increasing the risk of stunting. Changes in breastfeeding patterns in children are also important. Mothers often replace breast milk with complementary breast milk prematurely in an effort to meet their children's nutritional needs. This can lead to the child not getting the right nutrients from breast milk, which should be the child's main source of nutrition for the first six months of life. Such changes affect the child's nutritional intake and increase the risk of stunting.

c) Limited access to health resources and services

One of the main challenges in preventing stunting in the current era is limited access to health resources and services. Adequate health resources are difficult to access in many places, especially in rural and remote areas. Obtaining the health services needed to maintain optimal child growth is hindered by long distances, lack of infrastructure, and a limited number of health facilities. Limited access can also impact the provision of nutrition services, health education and stunting prevention efforts.

d) Inequality in resource distribution

This is particularly important to prevent stunting in this day and age. Among the problems are inequities in the distribution of health resources, such as limited health facilities, inequality in the number of medical staff, and lack of access to nutritious food. These inequalities often occur between different socioeconomic groups, as well as between urban and rural areas. As a result, stunting is more likely to occur in communities that have limited access to health resources and healthy food. In addition, inequalities in resource distribution also include inequalities in access to education, information and opportunities, which can impact people's knowledge and awareness of the importance of a healthy lifestyle and balanced nutrition.

e) Socio-cultural Changes in Society

Socio-cultural change is essential to stop stunting in this day and age, especially with regards to children's diet and health. Myths, beliefs and traditional practices can

affect children's diet and health. For example, myths about the eating habits of pregnant women can reduce the amount of nutrients needed for healthy fetal growth. Certain cultural beliefs and practices can also affect children's diets, such as providing excessive portions or foods that do not meet children's nutritional needs. Rapid social changes, such as urbanization and globalization, can also negatively impact a child's diet and health. Increased consumption of fast food and unhealthy foods may contribute to this problem.

D. Stunting Prevention Solution

Improving nutrition is a key step in stunting prevention. Here are some specific strategies to improve nutrition to prevent stunting:

1. **Nutrition Improvement for Pregnant Women with Balanced Food Intake**

Educate pregnant women about the importance of eating foods rich in nutrients such as protein, iron, calcium, folic acid and vitamins. This could include food sources such as lean meat, fish, eggs, green vegetables, fruits and dairy products. Provide iron and folic acid supplements during pregnancy to prevent anemia and malnutrition that can affect fetal growth.

2. **Exclusive breastfeeding Exclusive breastfeeding for 6 months**

Encourage mothers to exclusively breastfeed for the first six months of the baby's life, as breast milk contains all the nutrients necessary for optimal growth. Provide counseling and support to mothers about the importance of breastmilk, proper breastfeeding techniques, and how to handle lactation problems.

3. **Complementary Feeding Introducing Nutritious Complementary Feeding**

After 6 months of age, introduce nutrient-rich complementary foods, such as mung bean porridge, fruit puree, vegetables, and animal proteins such as eggs and meat. Ensure that complementary foods contain a balanced variety of foods, including carbohydrates, protein, healthy fats, vitamins and minerals. Nutritional Enrichment: Add highly nutritious ingredients to complementary foods, such as nuts or seeds, to increase nutritional content.

4. **Nutrition Education for Parents Course and Training**

Organize courses or training for parents on the importance of balanced nutrition and how to prepare nutritious meals for their children. Distribute easy-to-understand guidebooks, brochures and other information media on balanced nutrition and stunting.

5. **Food Fortification Staple Food Fortification**

Encourage programs to fortify staple foods such as rice, salt, or flour with iron, vitamin A, or other micronutrients essential for child growth. For families who cannot afford it, provide free or reasonably priced nutritional supplements or fortified foods.

6. **Improved Access to Nutritious Food Nutritious Food Subsidies**

Provide subsidies or vouchers for the purchase of nutritious food for underprivileged families. Encourage the utilization and production of nutritious local foods to increase availability and access to healthy food in the community.

7. School Nutrition Program School Feeding

Implement healthy food programs in schools, where children receive balanced and nutritious meals during learning hours. Teach children about the importance of balanced nutrition through a curriculum that integrates education on food and health.

8. Nutrition Status Monitoring and Evaluation Routine Monitoring

Routinely monitor the nutritional status of pregnant women, infants, and toddlers to detect early risk of stunting. Intervene immediately if malnutrition or signs of stunting are found in children, such as nutrition consultation, supplementation, or referral to health services. Improving nutrition should be a priority in stunting prevention efforts, as good nutrition during critical periods, especially the first 1,000 days of life, is key to ensuring optimal growth and development of children.

CONCLUSION

The study found that stunting is a serious problem in Indonesia with a high prevalence, indicating impaired growth and development in children with long-term impacts. Good nutrition is a key foundation for our children's future. By ensuring adequate and balanced nutrition from pregnancy to early childhood, we can prevent stunting, a

condition that affects not only physical growth, but also cognitive development and the long-term health of children. Factors contributing to stunting include long-term undernutrition, suboptimal parenting, lack of knowledge about nutritious foods, inadequate postnatal care and poor sanitation. Efforts to reduce stunting face challenges such as behavior change, lifestyle, limited access, resource inequality, and social and cultural changes. By working together, we can build a healthy, smart and competitive generation, starting with good nutrition and appropriate preventive measures. The future of Indonesia's children depends on our commitment to prevent stunting from an early age.

REFERENCES

- Djauhari, T. (2017). Gizi dan 1000 HPK. *Saintika medika*, 13(2), 125-133.
- Martony, O. (2023). Stunting di Indonesia: Tantangan dan solusi di era modern. *Journal of Telenursing (JOTING)*, 5(2).
- Nasir, M., Amalia, R., & Zahra, F. (2021). Kelas Ibu Hamil Dalam Rangka Pencegahan Stunting. *Jurnal Pengabdian dan Pemberdayaan Nusantara (JPPNu)*, 3(2), 40-45.
- Nirmalasari, NO (2020). Stunting pada anak: Penyebab dan faktor risiko stunting di Indonesia. *Qawwam*, 14 (1), 19-28.

- Nugroho, M. R., Sasongko, R. N., & Kristiawan, M. (2021). Faktor-faktor yang mempengaruhi kejadian stunting pada anak usia dini di Indonesia. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*.
- Rosmalina, Y., Luciasari, E., Aditianti, A., & Ernawati, F. (2018). Upaya pencegahan dan penanggulangan batita stunting: systematic review. *Gizi indonesia*, 41(1), 1-14.
- Rumlah, S. (2022). Masalah sosial dan solusi dalam menghadapi fenomena stunting pada anak. *Krinok: Jurnal Pendidikan Sejarah dan Sejarah*, 1(3), 83-91.
- Sukanti, E. R. (1994). Pengaruh gizi terhadap pertumbuhan dan perkembangan anak. *Cakrawala Pendidikan*, 80610.
- Sutarto, STT, Mayasari, D., & Indriyani, R. (2018). Stunting, Faktor Risiko dan Pencegahannya. *Agromedis Unila*, 5 (1), 540-545.
- Uce, L. (2018). Pengaruh asupan makanan terhadap kualitas pertumbuhan dan perkembangan anak usia dini. *Bunayya: Jurnal Pendidikan Anak*, 4(2), 79-92.