



# Empowering Adolescents in Stunting Mitigation Through the Creation of Nutritious Foods A Case Study of the Adolescent Integrated Health Post in Karanganyar Hamlet

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## ABSTRACT

Adolescents are the future generation who play a crucial role in the progress of a nation, including efforts to mitigate stunting for future generations. As future parents, adolescents with a good understanding of child health and balanced nutrition have great potential to break the chain of stunting in the long term. This program aims to equip adolescents with knowledge and skills to create nutritious, delicious, affordable, and easily accessible meals using local resources. Additionally, the program seeks to instill an entrepreneurial spirit among adolescents, particularly in the culinary field, by leveraging local potential. The methods used in this program include counseling, hands-on practice in preparing nutritious meals, mentoring, and evaluating the implementation of nutritious food initiatives by adolescents. The counseling sessions involve discussions on the importance of a complete and balanced diet, while the hands-on practices provide direct experience in preparing nutritious meals. The outcomes of this program indicate an increase in adolescents' knowledge about balanced nutrition, their skills in preparing nutritious meals, and the emergence of opportunities to start culinary businesses through local youth health posts. Based on post-test results, there was an improvement in adolescents' awareness of their critical role in preventing stunting within their communities. The evaluation process also revealed that adolescents were able to apply the knowledge they gained in their daily lives and began planning business ideas in the healthy food sector using local ingredients.

**Keywords:** *Nutritious food, Mitigation, Adolescents, Stunting.*

## 1. INTRODUCTION

Adolescents are the future generation who play an important role in national development (Rani et al., 2023). As the next generation, adolescents have a responsibility to create positive changes, including efforts to improve the quality of life in society (Wulandari et al., 2024). One of the health challenges faced by adolescents is stunting. According to the World Health Organization (WHO), stunting is a growth and development disorder in children caused by inadequate nutritional intake (Isfatayati et al., 2022). The number of stunting cases in Indonesia continues to rise, with at least one in three children at risk of experiencing stunting (Latief & Purnama, 2021). Adolescents, as agents of change, need to actively engage in stunting mitigation, as

stunting not only affects physical growth but also the quality of human resources in the future (Martony, 2023). Therefore, equipping adolescents with an understanding of child health and balanced nutrition is a crucial step in preventing stunting.

As future parents, adolescents have the potential to break the cycle of stunting through healthy living practices that start with themselves (Rarastiti et al., 2023). Adolescents who have good knowledge about healthy eating patterns can create a family environment that supports optimal growth and development (Destiana et al., 2024). Therefore, it is important to equip adolescents with knowledge and practices of healthy living to enhance their understanding of child health and balanced nutrition (Novalina et al., 2024).

In addition to educating on healthy living knowledge and practices, empowering adolescents can also be achieved through the practice of preparing nutritious food (Salsabilla, 2017). This activity is designed to provide adolescents with knowledge and practical skills, enabling them to create nutritious, delicious, easily accessible meals using locally available ingredients. Moreover, the activity also aims to instill an entrepreneurial spirit in adolescents, particularly in the culinary field, so they can make productive and sustainable use of local resources. In this way, adolescents are expected to become agents of change who can break the cycle of stunting while also contributing to the development of a better nation.

Padukuhan Karanganyar, Sanden Village, Bantul Regency, Special Region of Yogyakarta is a developing village with a 2023 Village Development Index (IDM) of 0.6977. This village has social, economic, and ecological potential that has not been optimally managed to improve the welfare of its community, quality of life, and poverty alleviation. As an effort to improve the quality of life, the role of adolescents becomes very important. However, the majority of adolescents in this village still have limited knowledge about stunting, making it necessary to provide specific education to prevent the birth of stunted children in the future. Adolescents need to be trained in stunting prevention, as through such training, they will be able to understand how to manage balanced nutrition to prevent stunting, prepare for a healthy generation, and manage local products that have the potential to become culinary offerings (Wagustina et al., 2024).

Involving adolescents in the development of culinary potential is also an innovative step in stunting prevention. In Padukuhan Karanganyar, there has been no innovation regarding the development of local products that have the potential to become healthy culinary options (Sahla et al., 2024). Utilizing local potential and the available resources of adolescents is a strategic step in efforts to prevent stunting. Adolescents can be empowered to process local food ingredients, such as vegetables, fruits, fish, or legumes, into healthy and nutritious culinary products that are easily accessible to the surrounding community (Fitria & Fadhilah, 2024). If this activity is carried out sustainably, it can not only empower adolescents but also serve as a stunting mitigation program by providing healthy food that can improve the community's health quality (Fitria & Fadhilah, 2024). Through community service, the team focuses on adolescents, especially adolescent girls, with the goal of educating them about health and stunting, training youth cadre to assess nutritional status, and processing healthy local food that can be consumed and has the potential to become a business venture (Ariestiningsih et al., 2024).

## 2. METHODS

This community service activity focuses on several main stages, namely education, practical training in making nutritious food, mentoring, and evaluation of the implementation of nutritious food by adolescents (Mardhika et al., 2021)



**Figure 1.** Activity Process

The counseling stage aims to provide adolescents with an understanding of the importance of complete and balanced nutritional intake through interactive discussions and material presentations by the community service team. The next stage is practical training in making nutritious food, where adolescents are taught to prepare healthy meals using local food ingredients. This activity provides hands-on experience in preparing nutritious meals that meet dietary needs. The food preparation utilizes local products such as chicken and fish. It is hoped that, in addition to preventing stunting, managing nutritious food will enable adolescents to develop their potential in the culinary field.

After that, mentoring is conducted to assist adolescents in applying the knowledge and cooking skills they have acquired. This mentoring aims to ensure the sustainability of healthy eating practices. The final stage is evaluation, which is carried out to assess the extent to which this activity has successfully enhanced adolescents' understanding and habits in consuming nutritious food.

## 3. RESULT AND DISCUSSION

The counseling activity for youth empowerment in stunting mitigation began with a presentation delivered by the service team. In the presentation, the team provided an explanation regarding the importance of youth in maintaining health, particularly in efforts to prevent stunting. Participants were given an

understanding of stunting, a condition of chronic malnutrition that can hinder a child's growth and development. Additionally, the team explained the steps to prevent stunting, starting with the importance of maintaining a balanced diet and how youths can contribute to their communities in reducing the risk of stunting. Youths were also provided with an understanding of nutritious food preparation. This activity was attended by 20 participants, including the village head and community leaders. As part of the educational effort, participants were also trained to use technology by utilizing anthropometric tools, which are used to measure the nutritional status of adolescents. The socialization activity involving adolescents is illustrated in **Figure 2**.



**Figure 2.** Documentation of Counseling on Youth Empowerment in Stunting Mitigation

The next activity was the practice of making nutritious meals. These meals were prepared using locally sourced ingredients that are easily accessible. In this activity, the youth actively participated in the hands-on preparation of nutritious meals. This skill is not only beneficial for meeting their families' nutritional needs but also opens opportunities to create healthy food products with marketable value. This activity provided them with the chance to learn and be creative in the field of healthy culinary arts. Documentation of the nutritious meal preparation activity can be found in **Figure 3**.



**Figure 3.** Documentation of Nutritious Meal Preparation Practice

In the practice of making nutritious food, the youth of Karanganyar prepared several dishes made from local products such as fish and chicken. The menu items prepared by the youth included Bistake chicken meatballs, Cakalang fish, Sweet and sour chicken and Cakalang fish, Teriyaki chicken and Cakalang fish, Nuggets, and Woku Mackerel Fish.



**Figure 4.** Documentation of the results of the nutritious food preparation practice.

At the end of the educational session, the service team conducted an evaluation in the form of a post-test to assess the participants' understanding of youth empowerment in mitigating stunting through the creation of nutritious food. The results of the understanding regarding stunting knowledge, the critical period in stunting prevention, the characteristics of children affected by stunting, and nutritious food for stunting prevention were evaluated through the post-test.

**Tabel 1.** The results of the post-test.

The results of the post-test.			
No	indicator	Correct	Wrong
1	Regarding the role of adolescents as agents of change in stunting prevention	85%	15%

The results of the post-test.			
No	indicator	Correct	Wrong
2	The duration of the critical period in stunting prevention specifically.	75%	25%
3	The characteristics of a child experiencing stunting.	95%	5%
4	The importance of adolescents experiencing stunting.	85%	15%
5	The maximum limit of sugar consumption per day.	70%	30%
6	The impact of excessive junk food consumption on teenagers.	95%	5%
7	The main goal of reproductive health education.	80%	20%
8	The iron supplementation tablet (TTD) that should be consumed by adolescent girls who do not suffer from anemia.	75%	25%
9	The role of youth posyandu (integrated health posts) in preventing stunting.	95%	5%
10	Important aspects to educate adolescents on in stunting prevention	95%	5%

Based on the post-test results from 20 participants regarding youth empowerment in stunting mitigation through the creation of nutritious food, it shows that the average percentage of correct answers from the youth was 85%, while the average percentage of incorrect answers was 15%. This indicates that the majority of the youth understand knowledge about stunting, the critical period in stunting prevention, the characteristics of children experiencing stunting, and nutritious food for stunting prevention. This result is in line with the research by (Rahmadi et al., 2024)

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