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UPI KKN student action in Desantri: Desa Sadar Nutrisi dan Gizi activities

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ABSTRACT

This article discusses *stunting*, a child growth problem caused by a lack of adequate nutrition, which is a severe issue in Indonesia, especially in rural areas. The research method used in this article is mixed methods. Universitas Pendidikan Indonesia (UPI) students are crucial in tackling this problem through the Desantri program in Ciherang Village, Cianjur Regency. This program aims to increase family nutrition awareness and reduce *stunting* rates. This involves nutrition counseling, monitoring of children's growth, and distribution of nutritional supplements. As a result, this program reduced the village's *stunting* rate. This article highlights the importance of good nutrition and adequate nutrition in preventing *stunting* and the critical role of students as agents of social change in overcoming this problem. The collaboration between students, health workers, and the community in this program shows that collaboration can effectively solve the problem of *stunting* in various regions, helping children grow healthily and setting a positive example for similar initiatives.

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ABSTRAK

Artikel ini membahas *stunting*, masalah pertumbuhan anak yang disebabkan oleh kurangnya asupan nutrisi yang memadai, yang merupakan isu serius di Indonesia, terutama di daerah pedesaan. Metode penelitian yang digunakan pada artikel ini adalah metode campuran. Mahasiswa dari Universitas Pendidikan Indonesia (UPI) memainkan peran kunci dalam menangani masalah ini melalui program Desantri di Desa Ciherang, Kabupaten Cianjur. Program ini bertujuan untuk meningkatkan kesadaran gizi keluarga dan mengurangi angka *stunting*. Ini melibatkan penyuluhan gizi, pemantauan pertumbuhan anak-anak, dan distribusi suplemen gizi. Hasilnya, program ini berhasil mengurangi tingkat *stunting* di desa tersebut. Artikel ini menyoroti pentingnya nutrisi yang baik dan gizi yang cukup dalam mencegah *stunting* serta peran penting mahasiswa sebagai agen perubahan sosial dalam mengatasi masalah ini. Kerjasama antara mahasiswa, tenaga kesehatan, dan masyarakat dalam program ini menunjukkan bahwa kolaborasi dapat menjadi solusi efektif dalam mengatasi masalah *stunting* di berbagai daerah, membantu anak-anak tumbuh dengan sehat, dan memberikan contoh positif untuk inisiatif serupa di masa depan.

Kata Kunci: Desantri; KKN; nutrisi; pengabdian masyarakat; *stunting*

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INTRODUCTION

Stunting is a chronic nutritional problem that has long been a serious concern in global health. This condition is characterized by inhibited physical growth in children, typically due to insufficient nutrient intake from early life (Ilmani & Fikawati, 2023; Smith & Haddad, 2015). Stunting can have serious impacts on a child's physical and cognitive development, as well as affecting productivity and quality of life in adulthood (Ekholuenetale *et al.*, 2020; Leroy & Frongillo, 2019). Although many efforts have been made to address this issue, stunting rates in various countries, especially in rural areas, remain high.

To foster a high-quality generation, it's crucial to reduce the risk of stunting. According to the Indonesian Nutritional Status Survey (SSGI), stunting has been the most significant nutritional problem in Indonesia over the past decade. The 2018 Basic Health Research (Riskesdas) results showed that 30.8% of children under five (toddlers) were stunted. This figure decreased to 27.67% in 2019, and further to 24.4% in 2021.

University students are often regarded as potential agents of change in addressing various social issues, including stunting. They possess the energy, knowledge, and ability to mobilize necessary resources to create positive change within communities (Diemer *et al.*, 2021; Tri *et al.*, 2021). On the other hand, villages in various countries often still lack awareness of the importance of nutrition and diet in children's growth. Therefore, this research aims to explore the role of students in increasing awareness and action related to stunting in villages with low nutritional awareness.

This research was initiated by the urgent need to reduce stunting rates in rural areas, where this problem is often overlooked. Additionally, this study also aims to understand how the role of students can have a significant impact on stunting prevention efforts. Through the involvement of students as agents of social change, it is hoped that an environment will be created that better supports the healthy growth of children, free from stunting (Brouwer *et al.*, 2021; Marni *et al.*, 2021).

Stunting is a serious problem that inhibits children's growth and can affect their cognitive development. This research indicates that if children do not receive adequate nutrition from conception up to the first 1000 days of life, they are at a higher risk of experiencing stunting. This highlights the importance of understanding why good and sufficient nutrition is essential to prevent stunting. Through this research, we aim to discover more effective ways to ensure children grow and develop well.

This community service project has several objectives aimed at improving the well-being and quality of life for the community of Ciherang Village, Karangtengah District, Cianjur Regency. The primary objective is to increase family nutritional awareness to prevent and reduce stunting cases in the area. By enhancing understanding of the importance of good nutrition, it is hoped that stunting rates can be minimized, providing greater opportunities for the younger generation to grow well.

By improving understanding of the importance of balanced nutritional intake, stunting rates are expected to be suppressed and even minimized. This action is anticipated to provide greater opportunities for the younger generation to grow and develop optimally, ensuring they can effectively reach their full physical and cognitive potential.

Furthermore, this article also has additional goals, such as increasing access to healthy nutrition education in the Ciherang Village community and encouraging active community participation in nutrition improvement programs. These steps are taken to achieve a broader target: improving the overall quality of life for the people of Ciherang Village.

Literature Review

Community Service

Community service, often referred to as “pengabdian kepada masyarakat” in Indonesia, has become a vital component of higher education worldwide. It encompasses various activities designed to provide tangible benefits to the community and encourage students to contribute positively to solving social problems. Research by [Menon dan Suresh \(2020\)](#) suggests that community service can enhance students’ understanding of social issues, develop leadership skills, and strengthen their connection to the community. Additionally, [Baker dan Fang \(2021\)](#) highlight the role of community service in fostering social awareness and active citizenship among university students.

Community service has also been proven to have a positive impact on public health. [Checkoway \(2018\)](#) emphasizes that community service can facilitate processes of social and economic change at the local level, which, in turn, can positively affect community health. Through community service projects focused on health, students can actively participate in improving access to basic healthcare services, disseminating knowledge about good health practices, and supporting disease prevention efforts. In this way, community service has the potential not only to empower students as agents of social change but also to enhance the overall health and well-being of the community.

Stunting

Stunting, defined as impaired growth and development resulting from chronic undernutrition, remains a significant global health challenge, particularly in low- and middle-income countries. Numerous studies highlight the complex interplay of factors that contribute to stunting, including inadequate food intake, poor maternal nutrition, infectious diseases, and socioeconomic inequalities ([Ali, 2021](#); [Mistry et al., 2019](#)). These studies have highlighted the long-term consequences of stunting, which extend beyond physical height to cognitive development, educational attainment, and economic productivity. Furthermore, recent research has revealed intricate links between stunting and epigenetic modifications, unveiling the role of early-life nutrition in shaping health trajectories ([Georgieff, 2023](#); [Gómez-Gallego et al., 2019](#)).

Efforts to combat stunting have spurred the implementation of various interventions and programs. Nutritional supplementation, promotion of breastfeeding, and improved access to clean water and sanitation are common strategies used to address stunting ([Kim et al., 2020](#); [Sufri et al., 2023](#)). However, the effectiveness of these measures often depends on contextual factors such as cultural norms, community engagement, and health infrastructure ([Abimbola et al., 2019](#); [Yan et al., 2020](#)). Recent research has also highlighted the potential of community-led initiatives and behavioral change interventions in reducing stunting rates, emphasizing the importance of diverse and locally tailored approaches.

Nutrition and Diet

Nutrition and diet are key factors in maintaining the health of individuals and communities. Research by [Haines et al. \(2019\)](#) that good nutrition is an essential element for healthy child growth and cognitive development. Adequate nutrition also plays a vital role in maintaining the immune system, thereby reducing the risk of infections and diseases. Conversely, poor nutrition can lead to various health problems. Stunting, as a primary consequence of chronic undernutrition, has become a major concern in nutritional studies. Stunting can affect children’s physical and cognitive development, and increase their risk of chronic diseases in adulthood ([Ekholuenetale et al., 2020](#); [Simamora et al., 2019](#)). Therefore, a

deep understanding of the factors influencing nutrition and diet, along with efforts to raise awareness about the importance of a balanced nutritional intake, becomes crucial in preventing nutritional problems that negatively impact public health.

METHODS

The method employed in this community service project is a mixed-methods design. Mixed-methods research is a research approach that integrates both qualitative and quantitative methods into a single study (Timans *et al.*, 2019). In problem-solving, a mixed approach can combine qualitative methods, such as observation or interviews, with quantitative methods, such as surveys (Mustaqim, 2016). Surveys can be used to collect data on the frequency or types of problems encountered. At the same time, qualitative methods can be employed to explore the strategies employed to resolve these issues in depth (Indrawan & Jalillah, 2021).

Mixed-methods research requires careful planning and cautious consideration regarding the use of surveys. By utilizing both approaches, the success rate of the Desantri program, specifically the Nutrition and Diet-Aware Village in Ciherang Village, Karangtengah District, Cianjur Regency, can be effectively measured.

RESULTS AND DISCUSSION

In this community service initiative, Universitas Pendidikan Indonesia (UPI) collaborated with the National Population and Family Planning Board (BKKBN) to launch the “Mahasiswa Penting” program, also known as “Mahasiswa Peduli Stunting” (Students Caring for Stunting). Stunting in Indonesia is a critical issue that requires immediate attention, as it can hinder the development of future generations and their potential. Consequently, the government issued Presidential Regulation No. 72 of 2021 concerning the Acceleration of Stunting Reduction. Optimizing the role of families is a key strategy in fostering a high-quality, competitive, and well-characterized generation.

Ciherang Village is one of several villages targeted by Universitas Pendidikan Indonesia for implementing strategies to reduce stunting rates in Indonesia. Ciherang is a village comprising four sub-villages, with 10 RW (community units), 35 RT (neighborhood units), and 12 Posyandu (integrated health posts).

To reduce stunting rates in Ciherang Village, KKN (Community Service Program) students developed and implemented several work programs, including Desantri (a Nutrition and Diet-Aware Village Initiative). This program seeks to increase family nutritional awareness, a crucial step in preventing and reducing stunting cases in Ciherang Village, Karangtengah District, Cianjur Regency. In this context, it's important to note that these efforts also necessitate community empowerment to change behaviors related to diet and nutrition. This aligns with the primary goal of improving public health, with a specific focus on preventing and managing stunting.

In implementing this program, the community requires resources for the learning activities themselves; these resources are referred to as learning resources (Putra & Komara, 2022). It is crucial to obtain learning resources from various relevant sectors, such as education and social welfare, which the community can utilize to acquire information and knowledge. Furthermore, this cross-sectoral collaboration will strengthen stunting prevention efforts and ensure a long-term positive impact for the community of Ciherang Village.

Stunting

Stunting is a condition characterized by inhibited or failed growth and development in children due to inadequate nutritional intake, recurrent infections, and a lack of psychosocial stimulation, particularly during the first 1,000 days of life (from conception to the first two years). Also known as chronic malnutrition, stunting is a serious global health issue that occurs when a child's physical growth is chronically hampered by insufficient nutrient intake over a prolonged period. Stunting is primarily evident in a child's height being below the standard limit for their age, typically measured in Z-scores. Stunting is not merely a height issue but also encompasses broader impacts on a child's physical and cognitive development, as well as their immune system (Garcia et al., 2020).

Research published in *The Lancet* describes stunting as a prevalent issue in low- and middle-income countries, particularly in rural areas. It is strongly associated with inadequate nutritional intake, particularly of essential proteins, energy, vitamins, and minerals such as iron and zinc. Furthermore, the World Health Organization (WHO) notes that other contributing factors include infections, limited access to quality healthcare services, and poor sanitation.

Stunting has a profound impact on children and society as a whole. A study by Mwene-Batu et al. (2021) indicates that children who experience stunting have a higher risk of developing chronic health problems in adulthood, such as heart disease and diabetes. Additionally, stunting can affect a nation's productivity and economic development. Therefore, a better understanding of stunting and efforts to prevent it are crucial for improving the quality of life for children and promoting sustainable development.

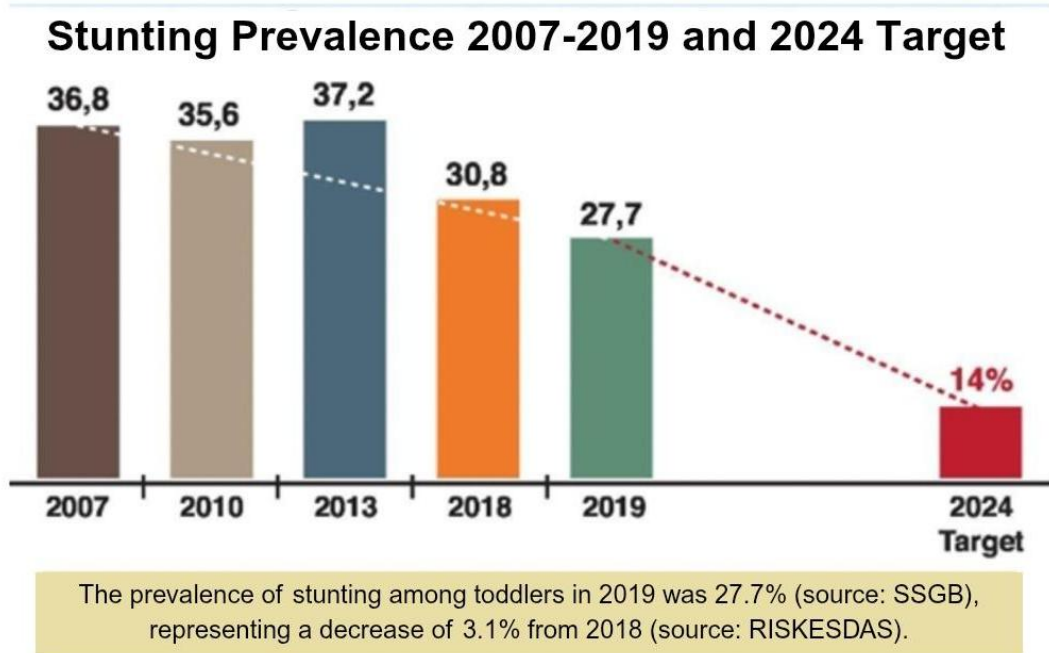


Figure 1. Stunting Prevalence Rate in Indonesia
Source: BKKBN, 2022

According to prevalence data from the past decade (see Figure 1), stunting remains the most significant nutritional issue. In 2007, the rate was 36.8%, decreasing to 36.6% in 2010, but then rising again to 37.2% in 2013. By 2018, the stunting prevalence rate had dropped to 30.8%, further decreasing to 27.7% in 2019. The target for Indonesia is to reduce the stunting prevalence rate to 14% by 2024.

Desantri (Desa sadar nutrisi dan gizi)

Desantri is a program designed to empower rural children to address stunting by educating them about the “Isi Piringku” (My Plate’s Content) guidelines. The aim is for children to apply these recommendations for their health and within their communities. This program encompasses various components, including educating pregnant women on the importance of nutrition during pregnancy, monitoring child growth, and distributing iron supplements to support healthy development. Crucially, the program emphasizes community participation in fostering positive changes in their dietary and nutritional habits. In this specific community service activity, students conducted socialization sessions at each Posyandu (integrated health post) regarding the “Isi Piringku” guidelines.



Figure 2. “Isi Piringku” (My Plate) Poster

Source: Indonesiabaik.id, 2022

The poster in **Figure 2** illustrates the recommended “Isi Piringku” (My Plate) guidelines, emphasizing the importance of including a variety of food components in a single meal portion. These components include staple foods, protein sources, and a variety of vegetables and fruits. According to the Indonesian Ministry of Health guidelines, this meal portion should consist of a mix of 50% fruits and vegetables, and 50% carbohydrates and protein, with the latter half divided into one portion for protein sources and two portions for carbohydrates.

For the carbohydrate component, staple food varieties aren’t limited to rice but can also include potatoes, cassava, corn, sago, sweet potatoes, and others. As for protein sources, these can be beef, chicken, poultry, fish, eggs, or plant-based proteins such as tofu, tempeh, and their processed products. Suitable vegetables and fruits for children may include mustard greens, spinach, papaya, and oranges

(Kotrunnada, 2022). By disseminating this poster to the community, it can encourage the adoption of a balanced nutrition approach in daily menus, comprising 50% carbohydrates and 50% protein, with 2/3 carbohydrates and 1/3 protein or side dishes, and 2/3 vegetables and 1/3 fruits (Suwandewi, 2021).

The “Isi Piringku” (My Plate’s Content) program is a nutrition education initiative designed to encourage communities, particularly mothers and children, to adopt healthy eating habits, meet their daily nutritional needs, and prevent stunting. This program teaches about the balanced food composition in a single serving, where half the plate is filled with vegetables and fruits, and the other half with protein sources (both plant-based and animal-based) in a larger proportion than carbohydrates. Through an educational and health promotion approach, the “Isi Piringku” program aims to change community behavior in food selection and presentation to promote a more balanced and nutritious diet (Sinaga, 2022).

Reduction in Stunting Rates in Ciherang Village

Stunting can cause physical and cognitive damage in affected children, which can impact their ability to develop and adapt in life (Ikasari, 2022). With the dissemination of information regarding “Isi Piringku” (My Plate’s Content) and the cooperation of all parties, the prevalence of stunting in Ciherang Village has decreased as expected.

Stunting is a preventable condition that can be addressed through the provision of proper and balanced nutrition, allowing lost time to be recovered through improved child health. As per the data obtained from the Posyandu (integrated health posts) and Puskesmas (community health centers) of Ciherang Village, there is data (see **Table 1**) indicating a reduction in stunted infants and toddlers in Ciherang Village.

Table 1. Data on Infants and Toddlers in Ciherang Village

Information	Year 2021	Year 2022	Year 2023
Premature baby	3,27	1,6	0,8
Low birth weight baby	3,27	1,6	0
Malnourished toddlers	3,7	2,8	1,34
Stunting toddler	4,3	3,7	3,2

Source: Service, 2023

1. Premature Births

In Ciherang Village, the rate of premature births was 3.27% in 2021. This figure significantly decreased in subsequent years, dropping to 1.6% in 2022 and further to 0.8% in 2023. The continuous decline in premature birth rates is attributed to the intensified efforts in improving the quality of Antenatal Care (ANC) and various innovative activities developed by all stakeholders within Ciherang Village.

2. Bayi Lahir BBLR

Low Birth Weight (LBW) Infants

In Ciherang Village, the percentage of Low-Birth-Weight (LBW) infants was 3.27% in 2021. This figure saw a significant decrease, falling to 1.6% in 2022 and reaching 0% in 2023 (up to the first semester), indicating that no further LBW cases were found. This positive trend is directly linked to enhanced efforts by local health cadres and healthcare professionals in screening high-risk pregnant women, coupled with various innovative initiatives supporting stunting prevention strategies.

3. Underweight Toddlers

Ciherang Village operates 12 Posyandu (integrated health posts) that provide monthly services. Among all toddlers aged 0-59 months, the prevalence of underweight toddlers was 3.7% in 2021. This subsequently decreased to 2.8% in 2022 and further declined to 1.34% in 2023. This improvement is attributed to the enhanced quality of data collection. Growth monitoring activities at the Posyandu now utilize standardized equipment, and data is collected by trained healthcare professionals, leading to more accurate results.

4. Stunted Toddlers

The number of stunted toddlers in Ciherang Village was 4.3% in 2021. This figure decreased to 3.7% in 2022 and further to 3.2% by the end of 2023 (semester 1). This demonstrates a reduction in the number of stunted toddlers, resulting from specific and sensitive interventions implemented through various innovative activities.

Discussion

In this community service initiative, it's evident that the collaborative efforts between Universitas Pendidikan Indonesia (UPI) and the National Population and Family Planning Board (BKKBN) in launching the "Mahasiswa Peduli Stunting" (Students Caring for Stunting) program in Ciherang Village, Cianjur Regency, have yielded positive impacts. Stunting, a significant health issue in Indonesia, demands a holistic and sustainable approach.

Through the Desantri (Desa Sadar Nutrisi dan Gizi) program, KKN (Community Service Program) students established a platform for outreach and education that prioritizes family nutritional awareness. This focus is crucial, as nutrition is a vital element for children's healthy growth and cognitive development (Haines *et al.*, 2019). The emphasis on the family's pivotal role in optimizing child growth has been central, and cross-sectoral collaboration has emerged as an effective strategy for enhancing community awareness regarding stunting.

In program implementation, stressing community empowerment proved to be a key factor. Behavioral changes related to diet and nutrition are achieved not only through direct education but also by providing the necessary learning resources for the community to enact these changes. Cross-sectoral cooperation, such as with education and social welfare organizations, forms a crucial foundation for strengthening efforts to prevent stunting. Furthermore, engaging the community in the Desantri program through the "Isi Piringku" (My Plate's Content) poster demonstrates a creative and measurable approach to motivating collective healthy eating habits, aiming to transform community behavior in food selection and presentation for greater balance and nutritional value (Sinaga, 2022). This also underpins student involvement in community service programs to enhance understanding of social issues and foster social awareness (Menon & Suresh, 2020; Baker & Fang, 2021).

The importance of the reduction in stunting rates in Ciherang Village is also reflected in the program's outcome data. Through the analysis of infant and toddler data, a significant decrease was observed in the rates of premature births, low birth weight (LBW) infants, underweight toddlers, and stunted toddlers. Concrete steps, such as improving the quality of Antenatal Care (ANC), screening high-risk pregnant women, and monitoring toddler growth at Posyandu (integrated health posts), were contributing factors to achieving these results. While continuous monitoring and evaluation remain necessary, this reduction in stunting rates highlights the success of the "Mahasiswa Peduli Stunting" program. It offers an optimistic outlook for improving child health in Ciherang Village.

CONCLUSION

Stunting is a condition where a child's growth is inhibited due to inadequate nutrition. This serious condition can affect a child's physical and brain development, as well as their future. Despite numerous efforts to address stunting, many children in rural areas still experience it. The implementation of the Desantri program, which includes nutritional counseling and child growth monitoring, demonstrates that stunting rates in villages can decrease through collaboration among students, healthcare professionals, and the community.

The decline in stunting rates in Ciherang village exemplifies how collective efforts can bring about positive changes in the health and future of children. By fostering an understanding of the importance of good nutrition, stunting rates can be reduced, thereby providing greater opportunities for the younger generation to grow and develop well.

The initiatives within the Desantri program aim to enhance access to nutrition education and encourage active community participation in nutrition improvement programs. These efforts are collectively designed to improve the quality of life for the residents of Ciherang Village. It is hoped that similar programs can be implemented in other areas still grappling with high stunting rates.

AUTHOR'S NOTE

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