

**NUTRITION EDUCATION AND THE ROLE OF THE SCHOOL HEALTH UNIT (UKS)
IN PREVENTING STUNTING AT MUHAMMADIYAH AL MUJAHIDIN JUNIOR
HIGH SCHOOL IN GUNUNG KIDUL INDONESIA**

Iyan Sofyan^{1*}, Endang Setyaningsih², Feri Budi Setyawan¹, Diah Puspitarini¹, Delani Restu Ihsan¹, Naufal Khoirusyihab², Bagus Syarifuddin Latif³

¹Faculty of Teacher Training and Education, Universitas Ahmad Dahlan
Jl. Ki Ageng Pemanahan No.19, Sorosutan, Kec. Umbulharjo, Kota Yogyakarta, Daerah
Istimewa Yogyakarta 55162 - Indonesia

²Universitas Muhammadiyah Surakarta, Jawa Tengah – Indonesia

³ Universitas Nasional, DKI Jakarta - Indonesia

*Corresponding Author: iyan@pgpaud.uad.ac.id

Article history:

Received: May 2026

Revised: May 2026

Accepted: May 2026

ABSTRACT Stunting is a problem that threatens the future of a nation. Currently, the trend shows a 20% decline in stunting prevalence from 2010 to 2025. The impacts of stunting include reduced cognitive function and impaired physical growth, which can lead to poor health and, in turn, a decline in the quality of human resources in the future as these children grow into adults. One approach to addressing stunting is through nutrition education involving the School Health Unit (UKS). This School Health Unit (UKS)-based Community Service Program (PKM) aims to provide students with nutritional knowledge regarding stunting prevention. The guidance for this activity must be systematically organized using several methods. The implementation of the activity is designed in several steps: preparation, implementation, guidance, and evaluation. The preparation phase includes obtaining permits and coordinating with the partner, namely SMP Muhammadiyah Al Mujahidin Gunung Kidul, during the first month, specifically on Saturday, June 25, 2022. The partner's involvement consists of providing the venue and coordinating with teachers from the Muhammadiyah Al Mujahidin Junior High School in Gunung Kidul. The implementation phase includes outreach and education sessions to foster awareness of nutritional health in daily life during the second and third months, specifically on Saturday, July 23, and Saturday, August 27, 2022. The mentoring phase involves assisting in the development of educational materials on nutrition and stunting—covering content, methods, media, and evaluation—as well as practical exercises in developing these materials during the fourth and fifth months, specifically on Saturday, September 24, and October 29, 2022. The fourth phase, consisting of evaluation and the preparation of an activity report, took place in the sixth month, on November 26, 2022. The approach used in implementing the activities was a participatory approach, involving active engagement by teachers at the school.

KEYWORDS: *Nutrition, Stunting, School Health Unit.*

1. INTRODUCTION

Stunting is a problem that poses a threat to a nation's future. According to a 2017 World Bank report, 163 million children were stunted in 2015. Currently, the projected decline in stunting prevalence is only 20% between 2010 and 2025. This figure is only half of the SDG target. Stunting results in economic losses for a country due to impaired cognitive development, as evidenced by low school attendance and stunted height growth. Stunting can reduce a country's per capita income. The prevalence of stunting in Yogyakarta decreased from 14.36% in 2016 to 13.86% in 2018 (DIY Health Department, 2018). This is supported by a decrease in the rate of severe stunting and stunting, which initially stood at 37.2% (Riskasdas 2018) and dropped to 30.8% (Riskasdas 2018). The prevalence of stunting in each regency is as follows: Gunung Kidul (20.60%), Kulon Progo (16.38%), Yogyakarta City (14.16%), Sleman (11.99%), and Bantul (10.41%) (DIY Health Department, 2018).

The increasing prevalence of stunting year after year requires serious attention from various parties, not just the government; therefore, nutrition education and the role of the School Health Unit (UKS) in schools are essential. The objective of the School Health Program (UKS) is to improve the quality of education and students' academic performance by enhancing physical and mental hygiene behaviors, enabling students to grow and develop harmoniously and optimally alongside independence in their activities, and ultimately become high-quality individuals (Candrawati, 2017). In essence, the implementation of the UKS program can be considered successful when a school has achieved the highest level established within the School Health Program (UKS) framework, corresponding to its educational level. By leveraging opportunities to engage with children and adolescents, schools provide health facilities that disseminate information and foster healthy lifestyles (Peralta and Rowling, 2018). The School Health Program is an integrated, cross-program, and cross-sectoral effort to enhance the ability to live healthily and subsequently foster healthy and hygienic behaviors among students and school community members (Indonesian Ministry of Health, 2019). This indicates that the implementation of the School Health Program, which functions as the primary channel for student health, has not yet been fully realized. In fact, some schools have not been able to organize the School Health Program (UKS) effectively, and collaboration with health authorities remains suboptimal.

One strategic effort to enhance the quality of the Indonesian population is the implementation of education and health improvement programs; in this context, educational institutions serve as the primary venues for realizing the nation’s aspirations (Yarnita et al., 2018). Health education is part of the overall health effort that focuses on promoting healthy lifestyles. According to Notoatmodjo (2021), “Health education is the application of educational concepts in the field of health. From an educational perspective, health education is a form of practical pedagogy or practical education.”

One of the partners in this community service initiative is SMP Muhammadiyah Al Mujahidin Gunung Kidul, which is a national partner of UAD.



Figure 1. Conditions and environment of SMP Muhammadiyah Al Mujahidin Gunung Kidul, Indonesia

SMP Muhammadiyah Al Mujahidin Gunung Kidul is located at Jalan Wonosari - Yogyakarta Km.05, Logandeng, Playen, Plumbon Kidul, Logandeng, Playen Subdistrict, Gunung Kidul Regency, Special Region of Yogyakarta 55861. The establishment of SMP Muhammadiyah Al Mujahidin was a response to community demands for a quality Islamic educational institution capable of ensuring the quality of religious education and academic standards in an integrated manner. Following these community demands, Muhammadiyah, in its 2010 Regional Congress, mandated the Basic and Secondary Education Council of the Gunungkidul Muhammadiyah District Branch to establish a junior high school of high quality in both religious and academic aspects. The development of SMP Muhammadiyah

Al Mujahidin as a boarding school is being implemented in phases. In the initial or pilot phase, the school concept began with a full-day school model until the boarding school system was ready to be implemented. Nutrition education and the role of the School Health Unit (UKS) serve as preventive measures to reduce stunting rates among school students [1]. Nutrition education should be instilled in students from an early age [2]. SMP Muhammadiyah Al Mujahidin Gunung Kidul, as part of the Muhammadiyah organization, is no exception and should be committed to providing nutrition education.

The results of a needs analysis conducted in the field indicate that SMP Muhammadiyah Al Mujahidin Gunung Kidul faces challenges. First, teachers' limited understanding of nutrition and stunting. This has prevented the effective implementation of nutrition education. Consequently, the delivery of nutrition education at SMP Muhammadiyah Al Mujahidin Gunung Kidul remains unsystematic. The second issue is the insufficient role of the School Health Unit (UKS) in providing health services. More specifically, this involves providing guidance on the development of health protocols within the School Health Unit (UKS). The scope of the guidance activities includes disseminating nutritional education materials, raising awareness about stunting, conducting evaluations of nutrition and stunting, and demonstrating the practical application of the School Health Unit (UKS) in nutrition education and stunting prevention for students and teachers at SMP Muhammadiyah Al Mujahidin Gunung Kidul.

To help achieve the objectives of the community service program with the theme "Nutrition Education and the Role of the School Health Unit (UKS) in Preventing Stunting" at SMP Muhammadiyah Al Mujahidin Gunung Kidul. Nutrition education at SMP Muhammadiyah Al Mujahidin Gunung Kidul requires efforts to introduce the importance of nutrition and stunting knowledge, which must be provided from an early age. This is in line with the UAD community service roadmap for 2020–2024.

The Community Service Team has conducted extensive research in the field of health education. Feri Budi Setyawan has carried out research and community service projects, including: Evaluation of Physical Education at Panca Bhakti Special Needs Elementary School (SDLB) in Sleman Regency

[1], Strengthening Character Education through Traditional Games at Muhammadiyah Elementary Schools in Depok Subdistrict [2]. Feri Budi Setyawan's community service also

focused on promoting Healthy Madrasahs at TPA centers across Depok Subdistrict [3]. Over the past two years, Diyah Puspitarini has also conducted extensive research on Transformational Leadership of School Principals During the Pandemic [4]. The community service conducted by Diyah Puspitarini is also very interesting; Iyan Sofyan also carried out community service on Training in Organizational Reporting Management Based on Journal Writing [5]. Enhancing Pedagogical Competence Through Digital Technology-Based Storytelling Training for Early Childhood Education (PAUD) Teachers on Bawean Island [6].

Based on the partner's challenges—specifically teachers' limited knowledge regarding health education—the solutions include:

1. Nutrition and Stunting Education

The objective of this activity is to enhance and expand foundational knowledge regarding nutrition and stunting. Nutrition and stunting education activities include disseminating materials, utilizing media, employing methods, and conducting evaluations. This is done so that students and teachers understand nutrition and stunting, thereby enabling them to grasp the importance of health education for students from an early age. The target audience for this activity is teachers and students at Muhammadiyah Al Mujahidin Junior High School in Gunung Kidul.

2. Supporting the Role of the School Health Unit (UKS)

Every school has a School Health Unit (UKS), but there is a need for a School Health Unit (UKS) that is integrated with the educational curriculum. The School Health Unit (UKS) is inseparable from the roles of students and teachers at the school; therefore, there is a need for extensive utilization and innovation so that the School Health Unit (UKS) is not merely a formality but serves a function beyond that. Therefore, guidance in innovating the School Health Program (UKS) is crucial to continue and advance health education for the community at SMP Muhammadiyah Al Mujahidin in Gunung Kidul.

2. METHOD

There were four stages involved in designing this community service activity, as follows.

- a. The preparation stage included obtaining permits and coordinating with our partner, SMP Muhammadiyah Al Mujahidin Gunung Kidul, during the first month, specifically

on Saturday, June 25, 2022.

- b. The implementation phase included Nutrition Education and the Role of the School Health Unit (UKS) in Preventing Stunting at SMP Muhammadiyah Al Mujahidin Gunung Kidul during the second and third months, specifically on August 19 and 20, 2022
- c. The mentoring phase includes guidance on utilizing the role of the School Health Unit (UKS) in preventing stunting at SMP Muhammadiyah Al Mujahidin Gunung Kidul, covering aspects of content, methods, media, and evaluation, as well as the practical development of health education materials during the fourth and fifth months, specifically on September 2 and September 29, 2022
- d. The fourth phase, evaluation and preparation of the activity report, takes place in the sixth month, specifically on November 26, 2022.

The approach used in implementing the activities is a participatory approach, involving active engagement by students and teachers at the school. This approach focuses more on integrating nutrition education and stunting prevention. Partner participation in various activities includes providing venues, coordinating, and mediating with teachers at Muhammadiyah’s leading elementary schools. The following are the human resource eligibility indicators for those to be involved in the community service program.

Table 1. Solutions and Methods

Num	Semester	Activities	Method Implementation	Duration Time
1.	Semester 1	1. Training on the subject matter a. Introduction to Nutrition and Stunting b. Risks, impacts, and preventive measures c. Management Strategies for Stunting Prevention	<i>cooperative Learning model</i>	08.00-12.00 (240 minutes)

2.	Semester 1	2. Training on Developing Management Strategies for Stunting Prevention through the School Health Unit (UKS) a. Planning b. Organizing c. Implementation d. Monitoring	<i>Project Based Learning</i>	13.00-17.00 (240 minutes)
3.	Day 3-4 Semester 2	3. Practical Action Plan for Management Strategies to Prevent Stunting	Demonstration	08.00-12.00 (240 minutes)

Table 2. Description of Expertise and Overview of Community Service Activities

Num	Name	Position	Expertise & Responsibilities
1	Diyah Puspitarini,S.Pd M.Pd.	Member 1 of the proposal Team	<ol style="list-style-type: none"> 1) Prepare draft materials for community service activities in both digital and hard copy formats. 2) Develop pre-test and post-test questionnaires for training participants. 3) Design banners and certificates for community service activities. 4) Be responsible for distributing training certificates to partners.
2	Iyan Sofyan, S.Pd.,M.A	Member 2 of the Proposal Team	<ol style="list-style-type: none"> 1) Serve as one of the presenters in community service activities related to madrasahs 2) Write news articles for the media 3) Prepare progress reports.

The distribution of community service materials is outlined in the following table.

Table 3. Community Service Materials

No.	Material	Course Description
1.	Nutrition	<ol style="list-style-type: none"> a) Scope of nutrition b) Functions and roles of nutrition in growth c) Food d) Implementation of nutrient absorption

2	Stunting	a) Scope of stunting b) Causes of stunting c) Prevention of stunting
3.	School Health Program (UKS)	a) Scope of UKS b) Functions of UKS c) UKS in fostering nutrition awareness

3. RESULT AND DISCUSSION

The community service activity was held on August 19–20, 2022, from 8:00 a.m. until completion. The activity was attended by 25 school community members. The activity consisted of an educational session followed by a discussion. During this community service activity, the educator provided knowledge on healthy and balanced nutrition to prevent stunting in children, covering: the definition of stunting, characteristics of stunted children, steps to prevent stunting, the impacts of stunting, balanced nutrition, nutritional components, critical periods to monitor, and signs of a healthy, well-nourished child. This community service activity received a positive response from SMP Muhammadiyah Al Mujahidin Gunung Kidul. The results of the pre-test on the participants’ knowledge can be seen in the following table:

Table 4. Pre-test results on knowledge

Num	Question	Anwer			
		True		False	
		F	%	F	%
1.	Definition of Stunting	3	15	17	85
2.	Characteristics of Stunted Children	2	10	18	90
3.	Steps to Prevent Stunting	2	10	18	90
4.	Effects of Stunting	6	30	14	70
5.	Balanced Nutrition	9	45	11	55
6.	Nutrient Components	9	45	11	55
7.	Key Developmental Stages	12	60	8	40

8.	Signs of a Healthy, Well-Nourished Child	7	35	13	65
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Based on the table above, it was found that 3 participants (15%) understood the definition of stunting, 2 participants (10%) understood the characteristics of stunted children, 2 participants (10%) understood the steps to prevent stunting (10%), the impacts of stunting (6 participants, 30%), balanced nutrition (9 participants, 45%), nutritional components (9 participants, 45%), the critical periods to monitor (12 participants, 60%), and the signs of a healthy and well-nourished child (7 participants, 35%). The results of the post-test on the participants' knowledge can be seen in the following table:

Table 5. Post-test Results on Knowledge

No	Question	Answer			
		True		False	
		F	%	F	%
1.	Definition of Stunting	20	10	0	0
2.	Characteristics of Stunted Children	17	85	3	15
3.	Steps to Prevent Stunting	19	95	1	5
4.	Effects of Stunting	20	100	0	0
5.	Balanced Nutrition	18	90	2	10
6.	Nutrient Components	16	80	4	20
7.	Key Developmental Stages	18	90	2	10
8.	Signs of a Healthy, Well-Nourished Child	20	100	0	0

Based on the table above, it was found that 20 participants (100%) understood the definition of stunting, 17 participants (85%) understood the characteristics of stunted children, measures to prevent stunting: 19 participants (95%), the impact of stunting: 20 participants (100%), balanced nutrition: 18 participants (90%), nutritional components: 16 participants (80%), critical periods to monitor: 18 participants (90%), and signs of a healthy and well-nourished child: 20 participants (100%).

Table 6. Frequency distribution before and after education (n=20)

Num	Categories	True		False	
		F	%	F	%
1.	Good	14	70	18	90
2.	Fair	6	30	2	10
3.	Poor	0	0	0	0

The table above shows that before the educational session, the majority of participants had insufficient knowledge (14 people, or 70%), followed by 6 people (30%) with adequate knowledge and 0 people (0%) with good knowledge. After the educational session, the majority of participants had good knowledge (18 people, or 90%), followed by 2 people (10%) with adequate knowledge and 0 people (0%) with good knowledge.

The results of this community service project indicate that education on healthy and balanced nutrition to prevent stunting in children can enhance participants' knowledge. This aligns with the findings of Napitulu (2019) in Kamal Village, West Seram Regency, which showed that nutrition education influences mothers' knowledge about stunting. Rahmadhita (2020) states that nutrition education is necessary to improve understanding. Nutrition education needs to be conducted as part of efforts to improve health, particularly regarding the selection of proper dietary patterns. Efendy and Setiawan (2021) added that knowledge can influence lifestyle in determining an individual's behavior regarding food consumption, which in turn affects their nutritional intake.

The education provided during this community service activity has been successfully implemented and well-documented. Below is the documentation of the activity at SMP Muhammadiyah Al Mujahidin in Gunung Kidul.



Figure 2. Presentation on Stunting



Figure 3. Presentation on Nutrition



Figure 4. Group Photo with School Staff

The results of this activity provided the school community at SMP Muhammadiyah Al Mujahidin Gunung Kidul with additional insights into how to educate students about healthy and balanced nutrition to prevent stunting in children. Everyone—from students, parents, homeroom teachers, staff, dormitory managers, and the principal—gained additional knowledge about healthy and balanced nutrition to prevent stunting in children, which can be applied in daily life.

4. CONCLUSION

Based on the results of the community service program, it can be concluded that there has been an increase in understanding and knowledge regarding healthy and balanced nutrition to prevent stunting in schools. This is evident from the following indicators: (1) The implementation of health education and counseling in schools falls into the “good” category.

(2) The implementation of health services in schools falls into the “good” category. (3) The implementation of a healthy school environment falls into the “good” category.

Supporting factors for the implementation of these activities at SMP Muhammadiyah Al Mujahidin Gunung Kidul include the regular instillation of knowledge regarding nutrition education and balanced diets in stunting prevention among students, as well as the support and coordination in implementing the UKS organizational mechanisms and the UKS work programs, both from the school and from the UKS Supervisory and Advisory Team.

Factors hindering the implementation of these activities include a lack of participation or support from parents and the community regarding Nutrition Education and balanced diet programs for stunting prevention at school, as well as the limited availability of facilities and infrastructure supporting the UKS program, such as UKS rooms that do not meet standards and are available only as-is. Additionally, there is a lack of routine health reporting.

ACKNOWLEDGMENT

We would like to thank everyone who helped make this community service activity possible, especially the principal, vice principal, teachers, school staff, and the UKS coordinators at SMP Muhammadiyah Al Muhajidin in Gunung Kidul, Special Region of Yogyakarta (DIY).

CONFLICT OF INTERESTS

The authors declare that there are no conflicts of interest related to this community service program and the publication of this article.

REFERENCES

- Badan Penelitian dan Pengembangan Kesehatan. (2018). Riset kesehatan dasar (RISKESDAS) 2013. Kementerian Kesehatan Republik Indonesia.
- Candrawati, E., & Widiani, E. (2017). Pelaksanaan program UKS dengan perilaku hidup bersih dan sehat (PHBS) siswa sekolah dasar di Kecamatan Kedung Kandang Kota Malang. *Care: Jurnal Ilmiah Ilmu Kesehatan*, 3(1), 15–23.

- Dinas Kesehatan DIY. (2018). Profil kesehatan Dinas Kesehatan Provinsi Daerah Istimewa Yogyakarta tahun 2018. Dinas Kesehatan Daerah Istimewa Yogyakarta.
- Efendy, M. P., & Setiawan, D. (2021). Perancangan aplikasi makanan empat sehat lima sempurna untuk mencegah stunting. *JOISIE (Journal of Information Systems and Informatics Engineering)*, 5(1), 13–19.
- Kementerian Kesehatan RI. (2019). Undang-Undang No. 36 Tahun 2009 tentang Kesehatan. (Catatan: Tahun asli UU Kesehatan adalah 2009, harap periksa kembali jika yang dimaksud adalah revisi terbaru atau peraturan turunannya).
- Napitupulu, Y. V. (2019). Faktor-faktor yang mempengaruhi terjadinya stunting pada anak di Kabupaten Langkat, Sumatera Utara [Skripsi, Universitas Sumatera Utara]. Repositori Institusi.
- Notoatmodjo, S. (2021). Kesehatan masyarakat: Ilmu dan seni. Rineka Cipta.
- Peralta, L. R., & Rowling, L. (2018). Implementation of school health literacy in Australia: A systematic review. *Health Education Journal*, 77(3), 363–376. <https://doi.org/10.1177/0017896917746416>
- Rahmadhita, K. (2020). Permasalahan stunting dan pencegahannya. *Jurnal Ilmiah Kesehatan Sandi Husada*, 11(1), 225–229. <https://doi.org/10.35816/jiskh.v11i1.253>
- World Health Organization. (2018). Weekly iron and folic acid supplementation as an anaemia prevention strategy in women and adolescent girls: Lessons learnt from implementation of programmes among non-pregnant women of reproductive age. World Health Organization.
- Yarnita, Y., Kusumaningrum, T. S., Isnaniar, I., Gasril, P., Maswarni, M., Widiyanto, J., & Chairil, C. (2018). Pelatihan kesehatan tentang Usaha Kesehatan Sekolah (UKS) perilaku hidup bersih dan sehat (PHBS) dan pertolongan pertama pada kecelakaan (P3K) di SMAN 05 Tapung Kab. Kampar. *Jurnal Pengabdian UntukMu NegeRI*, 2(1), 25–28.