

## Socialization about Anemia and First Aid for Fainting Teenagers in Gunung Pancar Village, Bogor

Nia Reviani<sup>1,2</sup>, Margaretha Maria Odilia Natasha<sup>1</sup>, Nadiya Marisa<sup>1</sup>,  
Agata Kristanti<sup>1</sup>, Wiradi Suryanegara<sup>1</sup>

<sup>1</sup>Faculty of Medicine, Universitas Kristen Indonesia, Jakarta, Indonesia

<sup>2</sup>Coordinating Ministry for Human Development and Cultural Affairs, Indonesia

### ABSTRACT

Anemia is a common health problem in the community, especially among adolescents and women of childbearing age. One clinical manifestation of anemia or other conditions frequently found in schools and the community is fainting. Lack of knowledge about anemia and the public's lack of knowledge regarding first aid for fainting can result in delayed treatment and an increased risk of complications. This community service activity aims to increase participants' knowledge about anemia prevention and basic skills in providing first aid to fainting patients. The method used was interactive counseling supplemented by demonstrations and simulations, as well as evaluation through pre- and post-tests. The activity was held at Pancar Bakti Junior and Senior High Schools, Gunung Pancar, Bogor, and was attended by 100 participants. The results showed an increase in the average understanding score of participants from 58 (pre-test) to 85 (post-test), with active participation in the discussion and simulation sessions. In conclusion, this outreach activity was effective in increasing participants' basic knowledge and skills regarding anemia and first aid for fainting, and can be used as a promotional and preventive effort in the community.

**Keywords:** anemia, fainting, socialization, first aid, health education.

Received:  
05.08.2025

Revised:  
20.08.2025

Accepted:  
31.08.2025

Available online:  
05.09.2025

### Suggested citations:

Reviani, N., Natasha, M. M. O., Marisa, N., Kristanti, A., & Suryanegara, W. (2025) *Socialization about Anemia and First Aid for Fainting Teenagers in Gunung Pancar Village, Bogor. International Journal of Community Service*, 4 (2),335-342. DOI: 10.55299/ijcs.v4i2.1482

### INTRODUCTION

Anemia remains a global public health problem, especially in developing countries such as Indonesia. Anemia is defined as a condition in which the hemoglobin (Hb) level in the blood is below normal, reducing the capacity of the blood to transport oxygen to body tissues. According to the World Health Organization (WHO), the hemoglobin level threshold indicating anemia is <13 g/dL for adult men and <12 g/dL for adult women (Organization 2024). Data from the 2021 Global Nutrition Report

<sup>1</sup>Corresponding Author Name: Affiliation; address; Email: xxx@xxx.com

show that the prevalence of anemia among women of childbearing age (15–49 years) in Indonesia has reached more than 30%, making it a moderate to severe public health problem (De Onis et al. 2013). Furthermore, the 2018 Basic Health Research (Riskesdas) reported that the prevalence of anemia among adolescent girls aged 15–24 years reached 32%, indicating that nearly one in three adolescents suffer from anemia (Kemenkes 2018). Untreated anemia can have various negative impacts, such as decreased concentration in school, decreased productivity, increased risk of infection, and complications during pregnancy later in life. Common symptoms of anemia include fatigue, weakness, dizziness, shortness of breath, paleness, and loss of consciousness or fainting in more severe cases (Anon 2025). Fainting can also be caused by other factors such as dehydration, fatigue, stress, and heart rhythm disturbances, but it is often difficult to differentiate in an emergency situation

*Fainting or syncope is a temporary loss of consciousness that usually occurs suddenly and is caused by decreased blood flow to the brain.* Fainting, which is common in schools and public settings, is often not treated appropriately because of a lack of public knowledge of first aid. Incorrect treatment, such as pouring water on the face or forcibly lifting the head, can be dangerous for victims (Oct 21 and 2024 2025). Therefore, a basic understanding of the proper first aid steps is crucial for the general public, especially for adolescents and educators. Unfortunately, health education regarding anemia and first aid in schools remains limited. However, these two topics are highly relevant to the daily lives of both students and teachers. Appropriate education will help adolescents recognize the symptoms of anemia early and encourage healthy behaviors such as consuming nutritious foods and iron supplementation (Simarmata et al. 2024; Simarmata and Patriawati 2024). Furthermore, first aid training will provide essential basic skills for responding quickly and effectively to emergency situations. Community services through outreach and training activities are an effective way to bridge the knowledge gap and increase public awareness. In this context, educational approaches involving interactive counseling and first aid demonstrations have been shown to improve participants' knowledge and skills (Bakkara 2025).

## METHOD

### Type of Activity

This activity is part of the Community Service (PkM) program, providing health education through counseling and practical training. The approach used is educational-participatory, where participants not only receive material but also actively engage in discussions, simulations, and Q&A sessions.

### Location and Time

The activity will be held at Pancar Bakti Junior High School (SMP and SMA) in Gunung Pancar, Bogor, in February 2025. The event will take place in the Karang Tengah Village Hall in Gunung Pancar, Gunung Pancar, prepared by the committee and school.

### Activity Stages

This activity consists of three main stages:

**a. Preparation Stage**

- Coordination with the school regarding the time and location of the activity.
- Preparation of outreach materials and supporting media (PowerPoint presentations, leaflets, simulation videos).
- Preparation of pre-test and post-test questions.
- Preparation of tools and materials for simulation (mannequins, emergency mattresses, training dummies, etc).
- The implementation team is divided into three groups: the education team, simulation team, and documentation team.

**b. Implementation Stage**

The activity is conducted over one day, with the following agenda:

1. Opening and remarks from the school and the community service team.
2. Pre-test: This was conducted to determine the participants' initial knowledge of anemia and first aid for fainting.
3. Interactive Outreach:
  - ✓ Topic 1: "Understanding Anemia: Symptoms, Causes, Prevention, and Treatment"
  - ✓ Topic 2: "First Aid for Fainting: Quick and Safe Steps"
  - ✓ Media: PowerPoint presentation, short videos, and educational leaflets.

**Simulation and Demonstration:**

- Hands-on practice by the presenter on positioning an unconscious victim, techniques for checking consciousness and breathing, and how to call for help.
- Participants are divided into small groups to practice the simulation again.

**Post-test:** We measured the increase in participants' knowledge after education.

**Discussion and Q&A session:** Participants were allowed to ask questions and discuss relevant cases.

**Closing ceremony and certificate distribution.**

**Evaluation Stage**

Evaluation was conducted through:

- Comparison of pre-test and post-test results of participants to determine the effectiveness of the outreach.
- Observation of participant engagement in simulations and discussions.
- Written feedback from participants and accompanying teachers to improve future activities.
- Data Collection Instruments
  - Pre-test and post-test questionnaires: This contained 10 multiple-choice questions that measured participants' knowledge of anemia and first aid.
  - Simulation observation sheet: The facilitator was used to assess participant engagement and practice accuracy.
  - Feedback form: Contain open-ended and closed-ended questions about participants' impressions, suggestions, and understanding.

**Data Analysis**

Pre- and post-test data were analyzed quantitatively using average scores and percentage improvement calculations. Observation and feedback data were analyzed descriptively and qualitatively to assess participant engagement and responses.

## RESULTS AND DISCUSSION

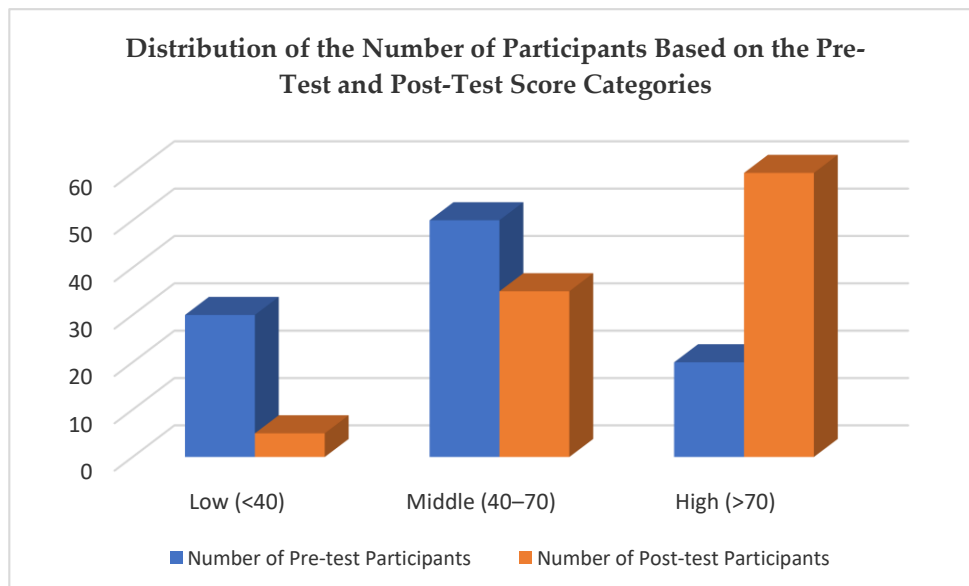
This outreach and training activity successfully attracted 100 participants from Pancar Bakti Middle and High School in Pancar Village, Bogor. To assess the effectiveness of this educational activity, pre- and post-tests were conducted to measure participants' knowledge of two main topics: anemia and first aid for fainting.

**Table 1. Distribution of the Number of Participants Based on the Pre-Test and Post-Test Score Categories**

Score Category	Number of Pre-test Participants	Number of Post-test Participants
Low (<40)	30	5
Middle (40–70)	50	35
High (>70)	20	60

As seen in the table, there was a significant increase in the "High (>70)" category, from 20 participants before the activity to 60 participants after the activity. On the other hand, the number of participants in the "Low" category decreased drastically from 30 to 5.

Visualization of the pre- and post-test comparisons can be seen in the following graph



**Figure 1. Visualization of Pre-Test and Post-Test Comparison**



**Figure 2. Documentation of Socialization Activities**

### **Discussion:**

The increase in participant knowledge reflects the effectiveness of the educational delivery method used in this activity. The combination of interactive lectures, visual media, and live simulations has been proven to increase the participants' understanding of the material presented. Several factors contributing to the success of this activity include the following

- a. Participatory counseling methods, where participants not only listened to but also actively participated in the first aid simulation.
- b. The relevance of the material to everyday life, particularly regarding anemia, is common among adolescent girls and the common occurrence of fainting in the school environment.
- c. Visual media and practical exercises were engaging and easy for adolescent participants to understand.

These results were consistent with the findings of several recent studies. Dewi et al. (2024) found that simulation-based educational interventions can increase students' knowledge of basic health by up to 70% compared to passive lectures alone (Organization 2023). Furthermore, the WHO (2023) also emphasized the importance of early education regarding anemia as part of a long-term prevention program for nutritional problems in adolescents (Anggraini, Ambarika, and Rai 2020; Wahyudi, Nursanti, and Raharjo 2024). Regarding first aid, research by Kurniawan et al. (2022) showed that practical simulation provides a more profound understanding than theory alone, especially in cases of fainting and impaired consciousness which require a quick and appropriate response.

### **Obstacles**

Some of the obstacles encountered included:

- Limited time meant that not all participants could try the simulation individually.
- Participants' initial knowledge varied considerably, particularly regarding anemia.

Nevertheless, based on the post-test results and written feedback, most participants felt satisfied and more confident in dealing with minor emergencies such as fainting. This activity had a significant impact on improving students' knowledge of two important aspects of adolescent health: anemia and first aid for fainting. Both topics

are highly relevant to the daily lives of high school students, especially considering the high prevalence of anemia among adolescents in Indonesia.

#### **Impact of Anemia Socialization**

Anemia, particularly iron deficiency anemia, is a public health problem that often remains undiagnosed in adolescents. Data from the 2018 Basic Health Research (Riskesdas) show that approximately 32% of adolescent girls in Indonesia suffer from anemia (Anon 2025). One of the main causes of death is inadequate iron intake and menstrual bleeding. In this activity, participants were educated as follows:

- Definition of anemia
- Symptoms and clinical signs (fatigue, dizziness, and pale skin)
- Causes and risk factors
- Prevention and treatment

The increase in knowledge from pre-test to post-test indicates that students are beginning to realize the importance of consuming iron-rich nutrients, such as red meat, chicken liver, and green vegetables. This education is expected to encourage healthier lifestyles and dietary changes as well as raise awareness of the importance of regular health check-ups.

#### **Impact of First Aid Socialization for Fainting**

Fainting or syncope is a temporary loss of consciousness due to a lack of blood flow to the brain. In a school setting, these incidents can occur because of fatigue, dehydration, or emotional stress. A good understanding of how to handle someone who has fainted is crucial to prevent mishandling which could worsen the patient's condition. (Balarajan et al. 2011)

Through a hands-on simulation, participants were taught practical first aid steps for an unconscious person, including the following:

- Securing the surrounding areas
- Positioning the patient on their back with their legs elevated
- Loosening of tight clothing
- Ensuring good air circulation
- Calling for medical assistance if unconscious for more than one minute

The evaluation results showed that the participants were more confident and able to accurately re-explain firstaid procedures, demonstrating the success of the practice-based educational approach. (Pellegrino et al. 2020; Salam et al. 2014)

#### **Effectiveness of Participatory Educational Methods**

The success of this activity is inseparable from its participatory educational approach. Active student participation, in the form of both discussions and simulations, allows for more effective two-way learning. Active learning allows participants to construct new knowledge based on their direct experience. This approach aligns with constructivist learning theory, which states that knowledge is easily understood and remembered when presented in a real-life context and involves practical activities [11].

## **CONCLUSION**

Socialization activities on anemia and first aid for fainting conducted for junior and senior high school students at Pancar Bakti, Gunung Pancar, Bogor, yielded very positive results. Based on the pre- and post-test results, there was a significant increase

in the participants' understanding of both materials. Most participants shifted from low to high scores, indicating that the educational approach used was effective in increasing their knowledge and preparedness. The material on anemia provided important insights into the symptoms, causes, and prevention of this common disease among adolescents, particularly girls. Meanwhile, the training on first aid for fainting successfully equipped participants with basic skills that could be applied immediately in emergency situations at school and in the community. Overall, this activity demonstrated that interactive lecture-based education and practical simulations are highly effective in improving health literacy among adolescents. Similar programs are highly recommended for regular and ongoing implementation to develop a younger generation that is aware of and responsive to basic health issues.

### **Funding Statement**

No external funding was received for this study.

### **Ethical Compliance**

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki Declaration and its later amendments or comparable ethical standards.

### **Acknowledgment**

We thank the principal and Gunung Pancar Education Foundation, Bogor, West Java, who have fully supported this PkM activity

### **REFERENCES**

- Anggraini, Novita Ana, Rahmania Ambarika, and Ramesh Prasath Rai. 2020. "Effect of Providing Basic Life Support for Improving Skills in First Aid on Cardiac Arrest for Student of Senior High School in Kediri." *Enfermeria Clinica* 30:50–54.
- Anon. 2025. "Buku Pedoman Pencegahan dan Penanggulangan Anemia Pada Remaja Putri dan Wanita Usia Subur."
- Bakkara, Mei. 2025. "Perbandingan Edukasi Peduli Stunting Menggunakan Leaflet Dan Video Terhadap Pengetahuan Dan Sikap Remaja Putri Dalam Konsumsi Tablet Tambah Darah Di Sekolah Menengah Atas Negeri 1 Kota Jambi." Universitas Jambi.
- Balarajan, Yarlani, Usha Ramakrishnan, Emre Özaltın, Anuraj H. Shankar, and S. V Subramanian. 2011. "Anaemia in Low-Income and Middle-Income Countries." *The Lancet* 378(9809):2123–35.
- Kemenkes, Republik Indonesia. 2018. "Laporan Nasional Riskesdas 2018." *Jakarta: Kemenkes RI* 154–66.
- Oct 21, Last Reviewed:, and 2024. 2025. "Syncope (Fainting)." *Www.Heart.Org*.

- De Onis, Mercedes, Kathryn G. Dewey, Elaine Borghi, Adelheid W. Onyango, Monika Blössner, Bernadette Daelmans, Ellen Piwoz, and Francesco Branca. 2013. "The World Health Organization's Global Target for Reducing Childhood Stunting by 2025: Rationale and Proposed Actions." *Maternal and Child Nutrition* 9(S2):6–26. doi: 10.1111/mcn.12075.
- Organization, World Health. 2023. *Global Accelerated Action for the Health of Adolescents (AA-HA!): Guidance to Support Country Implementation*. World Health Organization.
- Organization, World Health. 2024. *Guideline on Haemoglobin Cutoffs to Define Anaemia in Individuals and Populations*. World Health Organization.
- Pellegrino, Jeffrey L., Nathan P. Charlton, Jestin N. Carlson, Gustavo E. Flores, Craig A. Goolsby, Amber V Hoover, Amy Kule, David J. Magid, Aaron M. Orkin, Eunice M. Singletary, Tammy M. Slater, and Janel M. Swain. 2020. "2020 American Heart Association and American Red Cross Focused Update for First Aid." *Circulation* 142(17). doi: 10.1161/CIR.0000000000000900.
- Salam, Rehana A., Sarah Haroon, Hashim H. Ahmed, Jai K. Das, and Zulfiqar A. Bhutta. 2014. "Impact of Community-Based Interventions on HIV Knowledge, Attitudes, and Transmission." *Infectious Diseases of Poverty* 3(1):26. doi: 10.1186/2049-9957-3-26.
- Simarmata, Vidi Posdo Ahapta, Lina Marlina, Danny Ernest Jonas Luhulima, Gorga I. V. W. Udjung, and Louisa Ariantje Langi. 2024. "Antenatal Care Counseling for Pregnant Women as an Effort to Prevent Stunting." *Asian Journal of Community Services (AJCS)* 3(4):285–392.
- Simarmata, Vidi Posdo Ahapta, and Keswari Aji Patriawati. 2024. "A Descriptive Study on Stunting in Toddlers & Contributing Factors in Cibungur Village, Sumedang District, Indonesia." *Journal of Complementary and Alternative Medical Research* 25(7):58–72.
- Wahyudi, Gufron, Devy Putri Nursanti, and Rahmawati Raharjo. 2024. "The Effectiveness of Audio-Visual Health Education in Improving Reproductive Health Awareness among Students at SMK Puspa Bangsa Banyuwangi." *Innovative: Journal Of Social Science Research* 4(6):8133–41.

#### Copyright and License



This is an open access article distributed under the terms of the Creative Commons Attribution 4.0 International License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited. © 2025 Nia Reviani, Margaretha Maria Odilia Natasha, Nadiya Marisa, Agata Kristanti, Wiradi Suryanegara

Published by IPI Global Press in collaboration with the Inovasi Pratama Internasional Ltd