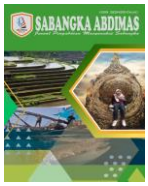

SABANGKA ABDIMAS: Jurnal Pengabdian Masyarakat Sabangka

http://azramedia-indonesia.azramediaindonesia.com/index.php/sabangkaabdimas/index
DOI: https://doi.org/10.62668/sabangkaabdimas.v4i06.1887
Email : info@azramediaindonesia.com

Open Access

COMMUNITY SERVICE "RECHARGE YOUR ENERGY": UNPACK THE SECRET OF ANEMIA-FREE PRODUCTIVE LIFE WITH THE IMPLEMENTATION OF MUNG BEAN JUICE IN STUDENTS GRADE 12 SMAN 1 BATUJAJAR, BATUJAJAR DISTRICT, WEST BANDUNG REGENCY

Afrieani Deasy[*1], Mona Megasari[2], Atira[3], Supiyanto[4], Nabila Irwani Pr[5], Firda Azharil[6], Diah Ayu[7]
[1,2,3,4,5,6,7]Sekolah Tinggi Ilmu Kesehatan Budi Luhur Cimahi, Indonesia
[*]Corresponding Author: bu.dez@yahoo.com

Info Article
Received :
01 September 2025
Revised :
02 Oktober 2025
Accepted :
04 November 2025
Publication :
30 November 2025

Keywords:
Anemia, Health Education, Seminars, Knowledge Improvement, Adolescents
Kata Kunci:
Anemia, Pendidikan Kesehatan, Seminar, Peningkatan Pengetahuan, Remaja.

Abstract: *Adolescence is a crucial developmental stage characterized by rapid physical and mental changes that require proper nutrition and sufficient energy intake. At SMAN 1 Batujajar, a significant number of students show signs of anemia, indicating the need for targeted health education. This study evaluates the effectiveness of an anemia-prevention seminar titled "Recharge Your Energy: Unlocking the Secrets to a Productive, Anemia-Free Life" in enhancing students' knowledge about the causes, symptoms, and prevention of anemia, including the benefits of consuming mung bean juice. Using a quantitative descriptive design, 91 participants completed pre-tests and post-tests, along with health checks such as blood pressure and conjunctiva examinations. Findings revealed that 62 students were clinically identified as anemic. Knowledge levels improved after the seminar, demonstrating increased understanding of iron intake, balanced nutrition, healthy lifestyle habits, and mung bean juice benefits. The program proved effective and is recommended for ongoing school-based health promotion.*

Abstrak: Masa remaja merupakan tahap perkembangan penting yang ditandai oleh perubahan fisik dan mental yang cepat, sehingga membutuhkan pola makan sehat dan asupan energi yang cukup. Di SMAN 1 Batujajar, sejumlah besar siswa menunjukkan tanda-tanda anemia, sehingga diperlukan pendidikan kesehatan yang lebih terarah. Penelitian ini menilai efektivitas seminar pencegahan anemia berjudul "Recharge Your Energy: Unlocking the Secrets to a Productive, Anemia-Free Life" dalam meningkatkan pengetahuan siswa mengenai penyebab, gejala, dan cara pencegahan anemia, termasuk manfaat konsumsi jus kacang hijau. Dengan desain deskriptif kuantitatif, 91 peserta mengikuti pre-test, post-test, serta pemeriksaan kesehatan seperti tekanan darah dan konjungtiva. Hasil menunjukkan 62 siswa teridentifikasi mengalami anemia. Tingkat pengetahuan meningkat setelah seminar, terutama terkait asupan zat besi, nutrisi seimbang, gaya hidup sehat, dan manfaat jus kacang hijau. Program ini terbukti efektif dan direkomendasikan untuk promosi kesehatan berbasis sekolah.

INTRODUCTION

Anemia ranks among the most prevalent public health issues affecting teenagers in Indonesia. Adolescence denotes a crucial stage featuring rapid bodily development, heightened activity levels, and elevated energy demands. This scenario requires adequate provision of nutritious balance, particularly iron, proteins, and vitamins essential for hemoglobin synthesis. Nevertheless, evidence from multiple studies indicates that numerous youths fail to satisfy nutritional requirements owing to irregular diets, breakfast omission, and excessive junk food intake. Consequently, iron-deficient anemia emerges as a frequent nutritional ailment in this demographic, directly influencing focus, academic performance, and everyday efficiency (Gupta et al., 2019; WHO, 2021).

Comparable observations were noted among students at SMAN 1 Batujajar in West Bandung Regency. Preliminary observations and school interviews revealed numerous learners exhibiting signs like exhaustion, pallor, and diminished attention during classes. This aligns with typical adolescent challenges, where lifestyle elements—such as carbohydrate-heavy diets, insufficient iron-rich food consumption, and infrequent use of iron supplements—further heighten anemia risks. This was corroborated by health screenings of 91 twelfth-grade students, identifying 62 (68%) with anemia via blood pressure and conjunctiva checks. These statistics underscore elevated anemia rates at SMAN 1 Batujajar, demanding prompt measures to avert prolonged effects on student well-being and academics. Beyond physiological concerns, anemia affects mental and scholastic domains. Affected teens often experience reduced endurance, concentration difficulties, and diminished involvement in educational or extracurricular pursuits. Beard's study (2017) highlighted substantial iron needs during adolescent growth, whereas Pasricha et al. (2018) attributed anemia primarily to dietary imbalances and subpar eating routines. This is exacerbated by insufficient health education in schools and limited recognition of nutrition's role in productivity.

To address this, the Nursing Education Program at STIKes Budi Luhur Cimahi organized a health seminar themed “Recharge Your Energy: Unraveling the Secrets of an Anemia-Free Productive Life” on October 24, 2025, at SMAN 1 Batujajar. This initiative serves as community outreach and educational strategy to bolster youth insight and consciousness regarding anemia, its signs, and mitigation tactics, including the incorporation of mung bean juice. The seminar utilized engaging techniques, encompassing material presentation, group dialogues, Q&A segments, and assessments via pre- and post-tests. This aligns with WHO (2021) and Indonesia's Ministry of Health

guidelines emphasizing participatory health education for young people. Evaluation outcomes demonstrated notable enhancements in participant comprehension. Attendees acquired not just anemia and nutrition knowledge but also practical insights into wholesome routines, activity regulation, sustaining energy for productivity, and the advantages of mung bean juice. These results concur with Kotecha (2020) and Prieto-Patron et al. (2020), affirming that school- centric health education positively influences dietary habits and nutritional consciousness among teens. Therefore, this seminar represents a pivotal measure in anemia prevention within educational settings, fostering a generation of vibrant, fit, and improved-quality-of-life youth. By amplifying knowledge and encouraging behavioral shifts, adolescents can adopt enduring healthy practices and act as catalysts for societal transformation.

METHOD

This study employs a quantitative descriptive methodology to gauge the impact of the seminar "Recharge Your Energy: Unraveling the Secrets of an Anemia-Free Productive Life" in bolstering student awareness of anemia and its avoidance, with a focus on mung bean juice as a preventive tool. The event transpired on October 24, 2025, at SMAN 1 Batujajar in West Bandung Regency, a secondary school with preliminary data indicating prevalent anemia among pupils. Participants comprised 91 twelfth-grade students engaging fully in the seminar sequence. Total sampling was utilized, as the entire class was the focus of the educational initiative and consented to pre-test and post-test evaluations. The execution unfolded in three primary phases:

1. Pre-Activity: This involved an initial survey of baseline student knowledge, symptom monitoring for anemia, and school liaisons. Additionally, assessment tools—pre-test and post-test questionnaires—were crafted and content-validated to suit 16–18-year-old adolescents.
2. Main Activities: The seminar commenced with pre-test administration to evaluate starting comprehension. Subsequently, speakers delivered content interactively, covering anemia definitions, triggers, signs, health and productivity effects, and countermeasures via nutritious diets, iron boosts, wholesome habits, and mung bean juice. Sessions progressed with group talks, Q&A, and hands-on guidance on adopting healthy diets.
3. Post-Activity: Upon conclusion, attendees underwent post-tests to measure knowledge gains.

Supplementary health checks, including blood pressure and conjunctiva inspections, were conducted to identify anemia markers. Data was collected via multiple-choice surveys probing anemia knowledge, healthy living, nutritional balance, and mung bean juice benefits. Scores from pre- and post-tests were categorized into four comprehension levels: Poor, Adequate, Good, and Excellent. Quantitative descriptive analysis, utilizing frequency and percentage tables in Microsoft Excel, illustrated shifts in student understanding post-seminar.

RESULTS AND DISCUSSION

Seminar activities *"Recharge your energy: Unraveling the Secrets of an anemia-free productive life"* It was held on the date of October 24, 2025 at SMAN 1 BATUJAJAR and was followed by 91 students as participants. The material focuses on understanding anemia, its signs and symptoms, the impact on learning productivity, and prevention efforts through a balanced nutritious diet. Prior to the start of the exercise, pre-tests were administered to each participant to gauge their first understanding of anemia. Following the delivery of the materials and interactive sessions, participants were given the identical problem on a post-test to gauge their level of comprehension. To determine the efficacy of the educational activities conducted, the pre-test and post-test data are quantitatively descriptively examined. The key conclusions are summarized as follows:

a) an assessment-based description of the student's knowledge level

Pre-test Here is a summary of the main findings:

Table 1. Distribution of knowledge of SMAN 1 Batujajar students about anemia based on assessment *Pre-test*

No.	Value	Number of students	Percentage
1.	50	2	2.19%
2.	60	1	1.9%
3.	70	4	4.39%
4.	80	7	7.69%
5.	90	21	23.08%
6.	100	56	61.53%
Total		**91**	**100%**

Data source: Primary data, 2025

An initial image of the students' level of knowledge regarding anemia, causes, symptoms, and prevention was obtained based on the pre-test results given to 91 students at SMAN 1 Batujajar. The number of correctly answered questions out of all the questions is the basis for the assessment. According to pre-test data, the majority of pupils already possess solid foundational knowledge. A total of 56 students (61.53%)

earned a grade of 100, which signifies an excellent level of understanding. In addition, there are 21 students (23.08%) who obtained grades 90, and 7 students (7.69%) with grades 80. A small percentage of students are in the middle grade category, which is 4 students (4.39%) with a grade of 70, as well as 1 students (1.09%) with a grade of 60. The low score was obtained only by 2 students (2.19%) who earned a grade of 50. This condition suggests that although most students have understood the basic concept of anemia, there are still students who need further educational attention to achieve an even understanding. Although most students fall into the good to excellent range, the presence of participants with low grades highlights the significance of holding seminars to fully increase all students' knowledge.

b). Results *Post-test* Knowledge

Table 2. Distribution of student knowledge based *Post-test*

No.	Value	Number of students	Percentage
1.	50	2	2.19%
2.	60	2	2.19%
3.	70	2	2.19%
4.	80	4	4.39%
5.	90	15	16.48%
6.	100	66	72.52%
Total		**91**	**100%**

Data source: Primary data, 2025

After the seminar *"Recharge your energy: Unraveling the secret of an anemic-free productive life"* post-test to measure students' increased knowledge of anemia. The post-test results showed a significant improvement in understanding compared to the pre-test. A total of 66 students (72.52%) managed to obtain a score of 100, which showed that most participants had understood the material very well after attending the seminar activities. A total of 15 students (16.48%) were in the grades 90, and 4 students (4.39%) scored 80. Meanwhile, only a few students were in the low grades category, namely 2 people (2.19%) with a grade of 70, 2 students (2.19%) with a grade of 60, as well as 2 students (2.19%) with a grade of 50. The distribution of these numbers shows that after learning about anemia, most students have attained a good to exceptional level of comprehension. A decline in the proportion of pupils with low scores suggests that seminars are successful in helping students get better knowledge of the causes, symptoms, and ways of preventing anemia. There are no students with reduced grades, which means all participants experience an improvement or at least maintain the understanding they have.

The findings indicate that the method of delivering interactive seminar materials, along with discussions and examples of application in daily life, is quite effective in raising students' awareness and understanding of the importance of preventing anemia and live healthy lifestyle.

c. Analyzing how the knowledge level evaluation changed between the pre-test and post-test results

Table 3. Evaluate changes in student knowledge level

No.	Assessment changes	Amount	Percentage
1.	Increased knowledge	91	100%
Total		**91**	**100%**

Data source: Primary data, 2025

Based on pre-test and post-test measurements of 91 respondents, the picture was obtained that all students experienced an increase in knowledge after attending the seminar *"Recharge your energy: Unraveling the secret of an anemic-free productive life"*. This is seen from changes in value distribution, where there were notable increases in the proportion of pupils who received high post-test scores. In pre-test only 56 students (61.53%) earned a grade of 100, while post-test increased to 66 students (72.52%). In addition, the number of students with low grades decreased drastically on post-test. Thus: A total of 91 students (100%) experienced increased knowledge about anemia, No student has experienced a decline in grades, All students showed positive progress after being educated about anemia, balanced nutrition, and prevention of anemia. The paired-sample T-test was used in statistical analysis to ascertain the significance of the rise. Test results show significance value (Sig.) it is in the range of 0.003 – 0.005. With a significance level of $\alpha = 0.005$, the conclusion was obtained that: GIS. $\leq \alpha$, so that H_0 is rejected. In other words, the students' understanding of anemia differs significantly between the pre-test and post-test findings.

Discussion

Characteristics Of Respondents

Characteristics of respondents in seminar activities *"Recharge your energy: Unraveling the Secrets of an anemia-free productive life"* It consists of students in grade 12 at SMAN 1 Batujajar. Up to 91 pupils took part in this activity, according to participant data. Participants were teenagers aged 15–18, who were in the stage of formal operational cognitive development according to Jean Piaget's theory. At this stage, teens are already able to think abstractly, analyze information, and understand cause-and-effect relationships more complex. They are therefore the ideal population to teach about anemia, particularly with regard to its causes, symptoms, and indicators. impact on learning productivity, and ways of prevention through balanced nutritional consumption. Teens are also in a phase of social development where people start giving independence, body image, and self-health first priority when making decisions. Anemia seminars and other health education programs are crucial because they can raise people's awareness of healthy lifestyle choices. Approaches used in seminars, such as visual material delivery, interactive discussions, and question and answer sessions, are effective in enhancing participant engagement and strengthening understanding. This is seen from the increased post-test results compared to pre- test, indicating that the educational method has been in accordance with the cognitive characteristics and needs of the participants.

Pre-Test Knowledge

Based on pre-test results conducted on 91 students, the picture was obtained that the level of knowledge of students regarding anemia still varies and tends to not be optimal. The highest score was 100 obtained by 56 students, while the lowest score was 50 obtained by 2 students. A total of 21 students earned grades 90, 7 students earned grades 80, 4 students earned grades 70, and 1 students earned grades 60. The distribution

of these numbers demonstrates that while some students have a rather strong understanding of anemia, many students still fall into the medium to low knowledge category. This suggests that there is still a need for more focused educational intervention because students' knowledge of the causes, symptoms, and prevention of anemia is unequal.

Post-Test of Knowledge

Following the seminar's *"Recharge your energy: Unraveling the secret of an anemic-free productive life"* there is a significant increase in knowledge in students. In the post-test, the highest score of 100 was obtained by 66 students, up from the previous 56 students. A total of 15 students obtained grades 90, 4 students obtained grades 80, while grades 70 and 60 were respectively obtained by 2 students. A score of 50 is only obtained by 2 students, just like the pre-test results. Cexcellent knowledge after attending seminar activities. The biggest increase was seen in students who reached grades 100 and 90, while the number of students with low grades did not increase. This proves that the material and methods of delivering seminars—including interactive explanations, visualizations, and discussion sessions—effectively provide participants with a stronger understanding of anemia and how to prevent it. Analyzing how the pre-test and post-test knowledge level assessments have changed. All students shown a growth in knowledge based on pre-test and post-test results, including those who maintained a high value (for instance, fixed at 100) and those who saw a rise in value.To determine the significance of the increase, statistical tests were performed using the paired sample T-test. The results of the analysis show that the significance value (Sig) is in the range of 0.003–0.005, smaller than the alpha value ($\alpha = 0.005$). Thus, it can be concluded that: There is a significant difference between pre-test and post-test scores, Seminar activities proved effective in improving students' knowledge of anemia. These results confirm that offering health education through interactive talks and seminars improves students' comprehension in a quantifiable way.

CONCLUSION

Students' comprehension of anemia, including its origins, symptoms, and preventative measures, was effectively improved by the seminar activity "Recharge your energy: Unraveling the Secrets of an anemia-free productive life" that was implemented at (school name). The pre-test and post- test results, which demonstrated that the majority

of students received higher marks after learning the content, made this clear. While the majority of students moved into the good or excellent categories following the post-test, the grade distribution during the pre-test phase showed that some students were remained in the moderate or low knowledge categories.

The significant values for the paired sample T-test ranged from 0.003 to 0.005 ($p < 0.005$). These results show a significant difference between the pre-test and post-test scores, demonstrating that the seminar successfully increased students' understanding of anemia. Additionally, there was an increase in the number of participants who received high scores; no student showed a reduction. These findings show that the instructional approach used, which includes two-way conversation sessions, symptom visualization, explanations of important nutrients, and interactive materials, is very successful with teenagers. This method fits the cognitive development level of high school pupils, who can comprehend abstract ideas and analyze health-related cause-and-effect linkages.

Given that anemia is a frequent nutritional problem among teenagers, this seminar can serve as a model for health education initiatives in other schools. It is anticipated that putting similar initiatives into place will increase health consciousness, promote better eating practices, and aid in the development of a productive and health-conscious learning environment. The event also shows how interactive teaching strategies can greatly improve teenagers' health literacy.

REFERENCES

Andriani, Y., & Rusdiana, D. (2021). EDUKASI GIZI SEIMBANG SEBAGAI UPAYA PENCEGAHAN ANEMIA PADA REMAJA PUTRI. *Jurnal Pengabdian Kesehatan Masyarakat, 3*(2), 45–52. https://doi.org/10.33560/jpkm.v3i2.1421

Fitriani, D., Nurwidya, F., & Lestari, W. (2020). FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN KEJADIAN ANEMIA PADA REMAJA. *Jurnal Kesehatan Masyarakat, 15*(1), 22–30. https://doi.org/10.15294/kemas.v15i1.21243

Kementerian Kesehatan RI. (2022). PEDOMAN PENCEGAHAN DAN PENANGGULANGAN ANEMIA PADA REMAJA. Jakarta: Kementerian Kesehatan Republik Indonesia. https://www.kemkes.go.id

Nugraheni, S. A., & Fitria, L. (2021). PENGARUH PENDIDIKAN KESEHATAN TERHADAP PENGETAHUAN DAN SIKAP REMAJA TENTANG

ANEMIA. *Jurnal Promosi Kesehatan Indonesia, 16*(2), 88–95. https://doi.org/10.14710/jpki.16.2.88-95

Puspitasari, H., & Dewi, N. (2020). HUBUNGAN PENGETAHUAN TENTANG ANEMIA DENGAN PERILAKU KONSUMSI TABLET TAMBAH DARAH PADA REMAJA PUTRI. *Jurnal Keperawatan, 12*(2), 101–108. https://doi.org/10.32583/jk.v12i2.1043

Santrock, J. W. (2020). PSIKOLOGI PENDIDIKAN. Jakarta: Kencana.

Sari, P., Lestari, H., & Widodo, A. (2023). PENGARUH PENYULUHAN ANEMIA TERHADAP PENINGKATAN PENGETAHUAN REMAJA DI SEKOLAH MENENGAH ATAS. *Jurnal Kesehatan Masyarakat Andalas, 17*(1), 56–63. https://doi.org/10.25077/jkma.17.1.56-63.2023

World Health Organization. (2020). ANAEMIA IN ADOLESCENTS: PREVENTION AND MANAGEMENT GUIDELINES. Geneva: WHO. https://www.who.int

Yuliana, D., & Ramadhani, I. (2022). PERAN EDUKASI KESEHATAN DALAM MENINGKATKAN PENGETAHUAN REMAJA TENTANG ANEMIA. *Jurnal Abdimas Kesehatan, 4*(1), 12–19. https://doi.org/10.31289/jakes.v4i1.5678