

Raising Anemia Awareness in Pregnant Women through Visual Education and Interactive Dialogue in Petaling Banjar Village, Bangka Regency

Eka Safitri Yanti¹

¹Midwifery Department, Poltekkes Kemenkes Pangkal Pinang, Indonesia

* Correspondence e-mail; ekasafitriyanti89@gmail.com

Article history

Submitted: 2025/11/26; Revised: 2025/12/22; Accepted: 2025/12/23

Abstract

Anemia during pregnancy remains a major public health issue in Indonesia, particularly in rural areas where maternal knowledge and adherence to iron supplementation are still limited. In Petaling Banjar Village, preliminary observations revealed persistent cases of anemia and limited access to structured nutrition education for pregnant women—this community engagement aimed to improve maternal understanding of anemia through audiovisual education and interactive dialogue. The program was conducted in Petaling Banjar Village using an integrated approach that comprised video presentations, booklet distribution, and open discussions, involving 17 pregnant women who actively participated in sharing their experiences and asking questions. Evaluation was performed by comparing pretest and posttest knowledge scores using descriptive analysis and a paired t-test. The results showed an increase in the average score from 87.1 to 96.5, with a p-value of 0.000 indicating a significant difference. Media-based and participatory education proved effective in enhancing maternal knowledge and raising awareness of anemia prevention. These findings underscore the importance of context-based and participatory community education in supporting sustainable maternal and child health outcomes.

Keywords

Audiovisual Media; Health Education; Interactive Dialogue; Iron Supplementation; Maternal Anemia



© 2025 by the authors. This is an open-access publication under the terms and conditions of the Creative Commons Attribution 4.0 International (CC BY-SA) license, <https://creativecommons.org/licenses/by-sa/4.0/>.

1. INTRODUCTION

Anemia during pregnancy remains a major public health problem in Indonesia, particularly in communities where maternal nutrition practices and health literacy are still limited. Medically, anemia in pregnancy is defined as hemoglobin levels below 11 g/dL and is associated with adverse outcomes such as fatigue, infection, low birth weight, and increased risk of stunting in children (Manuaba, 2010; Pasalina et al., 2023). Despite national efforts to reduce anemia prevalence, this condition persists in many regions due to non-clinical factors, including poor adherence to iron supplementation and insufficient awareness of anemia-related risks.

In Bangka Regency, anemia among pregnant women remains a pressing concern. Data from the Bangka District Health Office (2023) show that approximately 40% of pregnant women in the working area of the Petaling Health Center experience anemia. Local health workers report that routine antenatal care services are available; however, their utilization is often inconsistent. Nutrition counseling is usually limited to brief verbal explanations, which are insufficient to address misconceptions and daily practices that contribute to anemia.

A preliminary needs assessment conducted before this community service activity identified several local challenges. Short interviews and questionnaires revealed that many pregnant women lacked basic knowledge of anemia symptoms and prevention strategies. Adherence to iron (Fe) tablet consumption was low, mainly due to perceived side effects such as nausea and dizziness. In addition, local myths persist, including the belief that iron tablets may cause excessively large babies or complicate childbirth. Daily habits that inhibit iron absorption, such as consuming tea or coffee shortly after meals, were also commonly reported. Family support in reminding and encouraging pregnant women to take Fe tablets was minimal, particularly in households with lower socioeconomic conditions.

These findings suggest that anemia in Petaling Banjar Village is primarily influenced by behavioral, cultural, and contextual factors, rather than by the limited availability of health services alone. Therefore, conventional interventions that rely solely on the distribution of iron tablets are insufficient to produce sustainable behavioral change. Pregnant women require educational approaches that are accessible, culturally sensitive, and capable of actively engaging both mothers and their families.

Based on this local context, the community service team from Poltekkes Kemenkes Pangkal Pinang implemented an educational intervention combining visual education and interactive dialogue. The novelty of this program lies in its

participatory approach, which integrates locally relevant visual materials with two-way discussions to address myths, clarify practical issues related to Fe tablet consumption, and encourage collective awareness at the family level. Unlike routine counseling, this approach positions pregnant women as active participants rather than passive recipients of information. By aligning educational content with local needs and daily practices, this program aims to strengthen knowledge, improve adherence to iron supplementation, and support sustainable anemia prevention in the community.

2. METHODS

This community service activity was conducted from June to July 2025 in Petaling Banjar Village, which is included in the working area of the Petaling Health Center, Bangka Regency. The location was selected based on a preliminary needs assessment indicating a high prevalence of anemia among pregnant women and limited access to structured and participatory nutrition education programs. The activity employed a Community-Based Research (CBR) approach, actively involving local stakeholders, including midwives, health cadres, and the Petaling Health Center, throughout the planning and implementation process. This approach was intended to ensure that the intervention was contextually relevant, aligned with local maternal health programs, and capable of fostering community participation and ownership.

The primary objective of this activity was to enhance pregnant women's knowledge and awareness of anemia during pregnancy through an educational and interactive approach. The implementation team consisted of two lecturers and two students from the Midwifery Department of Poltekkes Kemenkes Pangkal Pinang, working collaboratively with local health personnel. The target participants were pregnant women residing in Petaling Banjar Village who attended antenatal care services during the implementation period. Before the intervention, coordination and permission were obtained from the Petaling Health Center, village authorities, health cadres, and the Bangka District Health Office to determine the schedule, venue, and recruitment mechanism for participants.

The intervention was implemented through a sequential process beginning with a pre-test to assess participants' baseline knowledge regarding anemia, iron supplementation, symptoms, and prevention strategies. This was followed by the screening of a three-minute educational video that presented key information on the definition, causes, impacts, and prevention of anemia using simple language and visual illustrations. Participants were then provided with pocket books containing concise and practical information on anemia prevention, which were intended for independent reading at home and for sharing with family members. An interactive

education session was subsequently conducted in the form of open dialogue facilitated by the team, midwives, and health cadres, focusing on clarifying local myths and facts related to iron (Fe) tablet consumption, side effects, dietary habits, and the importance of family support.

Evaluation of the activity was carried out using a post-test administered after the educational sessions, employing the same questionnaire as the pre-test. The measurement instrument consisted of a questionnaire containing ten multiple-choice questions that had undergone internal validation. Quantitative data were analyzed descriptively using mean and standard deviation, followed by a paired t-test to determine the significance of changes in participants' knowledge before and after the intervention. The success of the activity was assessed using both measurable and non-measurable indicators. Measurable indicators included an increase in mean post-test scores and a statistically significant difference between pre- and post-test results. In contrast, non-measurable indicators included increased participant engagement during discussions, greater confidence in asking questions and sharing experiences related to Fe tablet consumption, and positive attitudes toward anemia prevention, as reflected in participants' willingness to apply and disseminate the information within their families.

3. FINDINGS AND DISCUSSION

In general, the implementation results of the community service activities conducted in several stages can be described as follows:

3.1. Preparation and Situation Analysis

At this stage, the team conducted an initial identification of anemia-related problems within the working area of Petaling Health Center. Interviews with local midwives revealed that anemia cases were quite prevalent, particularly in Petaling Banjar Village. The community in this village had not yet received adequate information or socialization regarding the impacts of anemia during pregnancy. The permit process was carried out through coordination with the Bangka District Health Office and the Petaling Village government. Additionally, discussions were held with midwives from the health center to agree on the form of activities, the implementation schedule, and the selection of participants to be invited by the village authorities.

3.2. Activity Implementation

The activity was held on Thursday, July 17, 2025, at the *Posyandu* of Petaling Banjar Village. The event was attended by 17 pregnant women, three health cadres, two staff members from Petaling Health Center, and two student assistants from the educational institution. The session began with welcoming remarks from

representatives of the health center and the Head of the Research and Community Service Center of the Poltekkes Kemenkes Pangkal Pinang (Figure 1). Following the opening, participants were asked to complete a pretest containing questions about anemia during pregnancy to assess their initial level of knowledge.



Figure 1. Opening Session

Next, participants watched a three-minute educational video (Figure 2a). The video provided information about the definition of anemia, its signs and symptoms, causes, impacts on the mother and fetus, and preventive measures. This visual medium was designed to deliver key messages in a concise and easily understandable manner for pregnant women.

Following the video screening, the activity continued with an interactive educational session, facilitated through open discussions between the facilitators and participants (Figure 2b). To support the learning materials, participants were also given pocket books about anemia, which could be used to deepen their understanding both during the session and as a self-learning reference at home.

The dialogue session covered several key topics related to anemia during pregnancy, including the definition and underlying causes of anemia in pregnant women, as well as its common signs and symptoms. The discussion also addressed the potential impacts of anemia on both maternal and fetal health, emphasizing the risks associated with untreated anemia. Additionally, preventive strategies were explained, with a particular emphasis on the importance of regular iron supplementation and proper dietary practices. The session further focused on clarifying myths and misconceptions circulating in the community by distinguishing factual information from inaccurate beliefs regarding anemia and the use of iron tablets.



Figure 2. Activity implementation: (a) Screening of the Educational Video on Anemia in Pregnancy; (b) Interactive Dialogue

Participants were enthusiastic throughout the discussion, sharing personal experiences and asking questions related to their own situations. One of the most engaging moments occurred during the myth-versus-fact discussion, which encouraged active participation and reflection as participants reconsidered the accuracy of information they had previously received from their surroundings.

In the final stage, participants were asked to complete a post-test containing the same set of questions as the pre-test. The results of both tests were then compared to assess the improvement in participants' knowledge following the educational activity (Figure 3).

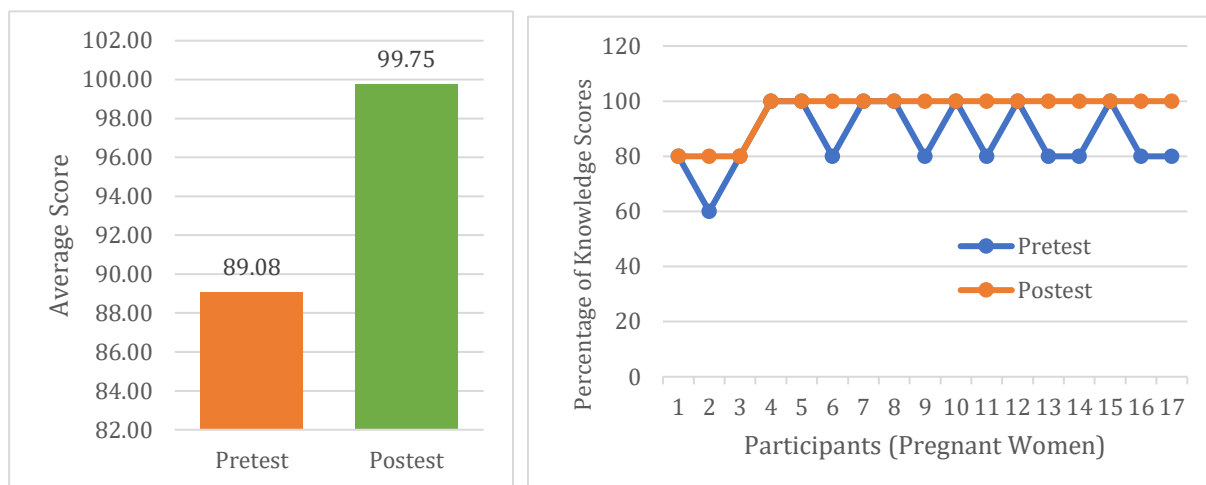


Figure 3. Test result: (a) Comparison of average pre-test and post-test results; (b) Comparison of individual score improvements before and after the activity

The results of the pre-test and post-test indicated an increase in participants' knowledge. The average pre-test score was 87.1, while the post-test score increased to 96.5, demonstrating improved understanding among participants regarding anemia during pregnancy.

Table 1. Results of the Paired t-test

		n	Mean \pm SD	p
Knowledge	Before	17	87,059 \pm 11,765	0,000

Education		
Knowledge	After	96,471 ± 7,624
Education		

The comparison of mean scores shown in Figure 4 was further supported by statistical analysis using a paired t-test, which revealed a p-value of 0.000. This indicates a significant difference between participants' knowledge scores before and after the educational intervention.

Health education for the community can be delivered through various media, including brochures, booklets, leaflets, and videos. The use of such media aims to stimulate curiosity, foster direct interaction between educators and beneficiaries, and enhance knowledge, ultimately contributing to improved health status and community well-being. Among these media, video is one of the most recommended tools for information delivery, as audiovisual approaches have been proven to be more effective in improving participants' understanding (Dewi et al., 2025).

In this activity, the combination of an educational video and pocketbook distribution effectively improved participants' knowledge. This finding aligns with previous studies conducted in the Bangka Belitung region, which demonstrated that similar media-based education successfully increased pregnant women's understanding of the importance of iron supplementation (Yanti, Damayani, et al., 2023). Beyond improving knowledge, community awareness also showed notable progress after receiving clear and structured information (Yanti & Imami, 2024).

In addition to one-way information delivery, this program also included an interactive dialogue session with participants. An interactive dialogue is an open discussion format that addresses topics relevant to the community's needs and concerns, facilitated by competent speakers in their respective fields. Such activities are typically conducted through mass media or face-to-face forums, allowing active audience participation through questions, responses, and experience sharing (Hutasoit et al., 2022). In this context, the interactive dialogue with pregnant women not only served as an information-sharing medium but also as a catalyst for participants to openly express the challenges they faced—particularly regarding anemia prevention and adherence to iron supplementation (Aunuh et al., 2023).

During the implementation of the activity, several challenges and obstacles were identified. Some pregnant women were initially hesitant to ask questions openly during the discussion sessions, indicating the need for a more personal and supportive approach from the facilitators. In addition, several participants with a history of anemia expressed reluctance to continue taking iron tablets due to feelings of

boredom, nausea, or fatigue resulting from prolonged consumption. Another major challenge was the persistence of local myths within the community, particularly the belief that “the smaller the baby, the better,” which negatively affected mothers’ motivation to maintain adequate nutritional intake and adhere to iron supplementation recommendations.

The effectiveness of the educational intervention can be attributed to the integration of audiovisual media and interactive dialogue, which addressed both cognitive and behavioral dimensions of learning. The audiovisual approach enabled complex information about anemia to be delivered in a simple, structured, and visually engaging manner, thereby facilitating comprehension and information retention among pregnant women. This finding is consistent with previous studies reporting that video-based health education is more effective than conventional verbal counseling in improving maternal knowledge (Dewi et al., 2025) and aligns with similar community-based interventions in the Bangka Belitung region that demonstrated significant improvements in awareness and adherence to iron supplementation following media-assisted education (Yanti, Damayani, et al., 2023; Yanti & Imami, 2024). The addition of interactive dialogue further strengthened the intervention by providing a safe space for participants to express concerns, clarify misconceptions, and reflect on personal experiences. During the discussion, participants openly revealed barriers to iron tablet consumption, such as side effects and local beliefs, as reflected in statements like, *“I often stopped taking the iron tablets because I felt nauseous and was afraid it would harm my baby,”* and *“I used to believe that smaller babies are healthier and easier to deliver.”* To address these challenges, facilitators applied targeted strategies, including myth clarification using simple analogies, practical guidance on managing side effects, and reinforcement by health cadres as trusted community figures. These strategies helped reduce resistance, improve acceptance of iron supplementation, and encourage more positive attitudes toward anemia prevention. Overall, the findings suggest that combining audiovisual education with interactive dialogue is an effective and context-sensitive approach for overcoming knowledge gaps, cultural myths, and low compliance in community-based anemia prevention programs.

4. CONCLUSION

The community service activity on anemia education for pregnant women in Petaling Banjar Village, Bangka Regency, was successfully implemented and demonstrated positive outcomes. The integrated educational approach, combining short audiovisual videos, pocketbook distribution, and interactive dialogue, proved

effective in improving participants' knowledge of anemia during pregnancy, including its definition, symptoms, causes, impacts, and practical prevention strategies. This combination represents the novelty of the program, as it integrates visual, written, and participatory communication methods tailored to the rural community context, where access to comprehensive health education remains limited.

The evaluation results showed a significant increase in knowledge scores from pre-test to post-test, confirming the effectiveness of the participatory and visual learning approaches. Interactive dialogue sessions played a critical role in facilitating open communication, allowing participants to share personal experiences and clarify persistent local myths, particularly those related to iron supplementation and maternal nutrition. Despite challenges such as initial hesitancy to ask questions, low compliance with iron tablet consumption, and the influence of longstanding cultural beliefs, the activity made a meaningful contribution to strengthening maternal nutritional awareness and encouraging positive behavioral change.

In the long term, this community-based educational model is expected to support improved adherence to iron supplementation, promote healthier dietary practices during pregnancy, and contribute to the reduction of anemia prevalence and its associated risks, including low birth weight and stunting. As a follow-up, it is recommended that similar educational activities be implemented regularly at the village level throughout each trimester of pregnancy, complemented by capacity building for health cadres in persuasive and culturally sensitive communication. Additionally, the development of locally adapted educational media addressing prevalent myths and facts is expected to enhance sustainability and expand the impact of anemia prevention efforts within the community.

ACKNOWLEDGMENTS

The authors would like to express their sincere gratitude to the Petaling Health Center, the Petaling Banjar Village Government, and all pregnant women who actively participated in this community service activity. Appreciation is also extended to the Midwifery Department of Poltekkes Kemenkes Pangkal Pinang for their support, which included the involvement of lecturers and students. This activity would not have been possible without the collaboration and contribution of all parties committed to improving maternal health in Bangka Regency.

REFERENCES

- Aunuh, N., Fajrin, Y. A., & Lutfiah, P. H. (2023). Menciptakan I-Generation SMP Muhammadiyah 6 Dau-Malang yang Sadar dan Taat Hukum di Era Globalisasi.

- Jurnal Dedikasi Hukum*, 3(1), 14–24. <https://doi.org/10.22219/jdh.v3i1.24446>
- Dewi, R. S., Khairani, M. E., Wulandari, L. T., & Nofriyanti. (2025). *Berdaya Tuntas Dengan Media: Menggali Efektivitas Media Edukasi Video Dalam Meningkatkan Pengetahuan Fitofarmaka Di Kalangan Masyarakat*. Deepublish.
- Dinas Kesehatan Kabupaten Bangka. (2023). *Profil Kesehatan Kabupaten Bangka Tahun 2023*.
- Hanafiah. (2020). *Ilmu kebidanan Bagian Ilmu kebidanan*. PT. EGC.
- Hutasoit, P. O., Nababan, B. D., Sagala, M., Siallagan, M., & Nababan, D. (2022). Peningkatan Konsentrasi Siswa Dalam Mengikuti Seminar Dengan Metode Demonstrasi. *Perigel: Jurnal Penyuluhan Masyarakat Indonesia*, 1(4), 26–36. <https://doi.org/10.56444/perigel.v1i4.228>
- Kementerian Kesehatan Republik Indonesia. (2018). *Riset Kesehatan Dasar (Riskesdas)*. Kementerian Kesehatan Republik Indonesia.
- Manuaba, I. B. G. (2010). *Ilmu Kebidanan, Penyakit Kandungan, dan Keluarga Berencana untuk Pendidikan Bidan*. EGC.
- Pasalina, P. E., Fil Ihsan, H., & Devita, H. (2023). Hubungan Riwayat Anemia Kehamilan dengan Kejadian Stunting pada Balita. *Jurnal Kesehatan*, 12(2), 267–279. <https://doi.org/10.46815/jk.v12i2.178>
- Saifuddin, A. B. (2011). *Buku Acuan Nasional Pelayanan Kesehatan Maternal dan Neonatal*. Yayasan Bina Pustaka.
- WHO. (2021). *Anaemia*. https://www.who.int/health-topics/anaemia#tab=tab_1
- Yanti, E. S., Damayani, A. D., & Ridayani, R. (2023). Pemberdayaan Keluarga Sebagai Pengawas Konsumsi Fe Pada Ibu Hamil. *GEMAKES: Jurnal Pengabdian Kepada Masyarakat*, 3(2), 210–216. <https://doi.org/10.36082/gemakes.v3i2.1312>
- Yanti, E. S., Harindra, D., A. D., & Permata, T. R. (2023). *Gambaran Klinis Anemia Defisiensi Besi pada Ibu Hamil*. Poltekkes Kemenkes Pangkal Pinang.
- Yanti, E. S., & Imami, R. (2024). *Raising Awareness of the Impact of Stunting on Toddler Development Through Parental Education*. 5(2), 751–764. <https://doi.org/10.37680/amalee.v5i2.5850>
- Yanti, E. S., & Yunus, E. M. (2024). Low Birth Weight and Inappropriate Feeding Variation Caused Nutritional Disorders Based on The Composite Index of Anthropometric Failure (CIAF). *Media Gizi Indonesia*, 19(3), 311–321. <https://doi.org/10.20473/mgi.v19i3.311-321>