

EMPOWERING PREGNANT WOMEN THROUGH COUNSELING ON CONSUMPTION OF BLOOD-ENHANCING TABLETS FOR HEALTHY PREGNANCY IN KM 60 HALL, ACEH

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Abstract

Anemia in pregnant women remains a serious public health problem in Indonesia, contributing to high maternal and infant morbidity and mortality rates. Based on the 2023 Indonesian Health Survey (SKI), the prevalence of anemia in pregnant women in Indonesia remains relatively high and is a major risk factor for bleeding during childbirth, premature birth, low birth weight, and an increased risk of stunting. This community service activity aims to increase the knowledge and compliance of pregnant women in KM 60 Hamlet, Rimba Raya Village, Pintu Rime Gayo District, Bener Meriah Regency, Aceh Province regarding the importance of consuming iron supplement tablets (TTD). The method used was educational and participatory counseling using leaflets and posters, accompanied by a question and answer session, pre-test, and post-test. The activity was attended by 22 pregnant women, exceeding the minimum target of 20 participants, and was accompanied by 4 health cadres. The results showed an average knowledge score increased from 56.4 to 85.0, or an increase of 50.7%, with 90.9% of participants experiencing an increase in knowledge. The participant satisfaction level was classified as Very Satisfied, with an average score of 87.5%. In conclusion, participatory education on iron supplementation has proven effective in increasing knowledge and is well-received by the community as a way to prevent anemia in pregnancy.

Keywords: anemia during pregnancy; health education; pregnant women; community service; iron supplement tablets.

INTRODUCTION

Anemia in pregnancy is a nutritional and public health problem that remains prevalent in Indonesia, particularly in rural areas. Anemia in pregnancy is defined as a condition where a pregnant woman's hemoglobin (Hb) level is less than 11 g/dL, which is largely caused by iron deficiency. Pregnant women with anemia are at higher risk of pregnancy and childbirth complications, such as bleeding, premature birth, low birth weight (LBW), and an increased risk of stunting in their newborns (Ministry of Health of the Republic of Indonesia, 2023).

Based on the 2023 Indonesian Health Survey (SKI), the prevalence of anemia among pregnant women in Indonesia remains quite high, so that continuous prevention efforts are needed by increasing compliance with iron supplementation (TTD) consumption during pregnancy. The Indonesian Ministry of Health recommends providing a minimum of 90 iron supplementation tablets to pregnant women during pregnancy as one of the efforts to prevent and overcome anemia. Aceh Province, including Bener Meriah Regency, continues to strive to reduce the number of anemia in pregnant women through a program providing iron supplements at health facilities and integrated health posts (Posyandu). However, the coverage of iron supplementation compliance in rural areas such as Pintu Rime Gayo District is still not optimal, partly due to limited access to information, distance to health facilities, and the still low knowledge of pregnant women about the benefits and importance of iron supplementation regularly.

Hamlet KM 60, Rimba Raya Village, Pintu Rime Gayo District, Bener Meriah Regency is a highland area where the majority of the population earns a living as coffee farmers with relatively limited access to health services. The results of initial observations and coordination with village midwives and local health cadres found limited knowledge of pregnant women regarding the importance of consuming TTD, side effects that often cause pregnant women to be reluctant to consume TTD regularly, and low understanding of the impact of anemia on pregnancy and the fetus. Based on these problems, a number of partner problems were formulated, namely: (1) lack of knowledge of pregnant women regarding the definition, causes, and impacts of anemia; (2) low understanding of the benefits of consuming TTD; (3) many pregnant women stop consuming TTD due to side effects of nausea and constipation; (4)

lack of information on how to consume TTD properly; (5) limited access to health services; (6) limited educational media that is easy to understand; and (7) still low awareness of pregnant women to have regular pregnancy check-ups.

Based on these problems, this community service activity was carried out with the aim of increasing the knowledge, awareness, and compliance of pregnant women in KM 60 Hamlet regarding the importance of consuming iron-boosting tablets to prevent anemia and support a healthy pregnancy, through an educational and participatory counseling approach.

LITERATURE REVIEW

Iron supplements (IBF) contain 60 mg of iron (Fe) and 0.4 mg of folic acid, which play a vital role in the formation of red blood cells and support fetal growth and development, particularly the development of the nervous system in the first trimester of pregnancy (Ministry of Health of the Republic of Indonesia, 2020). Regular iron supplementation has been shown to effectively reduce the risk of anemia, bleeding during delivery, and increase birth weight. However, many pregnant women discontinue iron supplementation due to side effects such as nausea, constipation, and stomach discomfort. Therefore, education on the proper use of iron supplements is essential to minimize these side effects.

According to Astuti and Rahmawati (2022), providing appropriate education regarding the benefits, dosage, consumption method, and how to manage side effects of iron-containing tablets (TTD) can significantly improve compliance in pregnant women. Research by Handayani and Wulandari (2023) shows that family support and assistance from health workers play a crucial role in increasing the regularity of iron-containing tablets (TTD) consumption among pregnant women in rural areas. Similarly, Rahayu et al. (2021) state that pregnant women's lack of knowledge regarding the benefits of iron-containing tablets (TTD) and how to manage side effects is a major factor influencing non-compliance with iron-containing tablets (TTD) during pregnancy.

Notoatmodjo (2021) emphasized that health promotion through interactive outreach is effective in increasing public knowledge and awareness of health issues, including anemia in pregnancy. Research by Sari et al. (2025) also found that a participatory educational approach is effective in increasing pregnant women's awareness of anemia prevention efforts. The Guidelines for Providing Iron Tablets to Pregnant Women (Ministry of Health of the Republic of Indonesia, 2024) position health cadres as the frontline in maternal nutrition and health interventions at the community level, in line with the World Health Organization's (2024) policy direction, which emphasizes the importance of daily iron and folic acid supplementation for pregnant women as part of sustainable community-based health interventions.

Based on this study, it can be concluded that participatory education involving pregnant women, families, village midwives, and health cadres is a relevant strategy to increase knowledge and compliance with TTD consumption, thus becoming the basis for the approach used in this community service activity.

METHOD

This community service activity utilizes a participatory community empowerment approach, emphasizing the active involvement of pregnant women, village midwives, and health workers as the primary subjects in every stage of the activity. These approaches include an educational approach through interactive lectures, group discussions, demonstrations, and Q&A sessions; a collaborative approach involving village midwives and health workers; and an empowerment approach that positions partners as key actors in program sustainability.

The target of the activity was pregnant women in KM 60 Hamlet, Rimba Raya Village, Pintu Rime Gayo District, Bener Meriah Regency, with a minimum target of 20 participants, accompanied by village midwives and health cadres. The instruments used included leaflets, posters, and pre-test and post-test questionnaires with assessment categories of Good (76–100), Sufficient (56–75), and Less (≤ 55). Participant satisfaction was measured using a survey instrument with a maximum score of 40, categorized as Very Satisfied (81–100%), Satisfied (61–80%), Quite Satisfied (41–60%), and Less Satisfied ($\leq 40\%$).

The activity stages consist of three stages, namely the preparation stage (coordination and permits, initial survey, preparation of educational instruments and media, and participant selection); the implementation stage (health education on anemia prevention, training on proper iron tablet consumption, health cadre empowerment workshops, and field assistance); and the evaluation and follow-up stage (process evaluation, evaluation of results through pre- and post-tests, and joint reflection to formulate program sustainability). The activities will be carried out for one month, from July 27 to August 16, 2026, with the schedule as presented in Table 1.

Table 1. Activity Implementation Schedule

Sunday	Main Activities	Implementer/Person in Charge
1	Coordination, initial survey and permits	Proposing Team and Hamlet Apparatus
1	Preparation of educational materials and media	Proposing Team
2	Health counseling and pre-test	Proposing Team
2	Training on how to properly consume TTD	Proposing Team and Health Cadres
3	Mentoring and monitoring	Proposing Team and Cadres
4	Evaluation, post-test, and reflection of activities	All Participants and Implementation Team

Counseling activities were carried out face-to-face at the hamlet hall, as shown in Figure 1, involving pregnant women, accompanying toddlers, and local health cadres.



Figure 1. Documentation of Information Activities on Consumption of Iron Supplement Tablets

The data collected from the pre-test and post-test as well as the satisfaction survey were analyzed descriptively quantitatively, by comparing the average scores, category distribution, and percentage increase in knowledge, then interpreted to assess the effectiveness of the activities towards achieving the targets and output indicators that had been set.

RESULTS AND DISCUSSION

Realization of Activity Implementation

The community service activities were carried out according to the planned stages, from preparation, counseling and training, field assistance, to evaluation and report preparation. Twenty-two pregnant women attended, exceeding the minimum target of 20 participants (110% of the target). They were accompanied by four active health cadres.

This high attendance rate demonstrates the positive response and enthusiasm of pregnant women to the anemia prevention education activities held.

Participant Knowledge Improvement (Pre-Test and Post-Test)

Participants' knowledge levels were measured using a pre-test before the training and a post-test after the training on 22 participants. The summary results are presented in Table 2.

Table 2. Distribution of Participants' Knowledge Level Before and After Counseling

Knowledge Category	Pre-Test (n)	Pre-Test (%)	Post-Test (n)	Post-Test (%)
Good (76–100)	3	13.6%	18	81.8%
Enough (56–75)	12	54.5%	4	18.2%
Less (≤ 55)	7	31.8%	0	0.0%
Amount	22	100%	22	100%

The average knowledge score of participants increased from 56.4 in the pre-test to 85.0 in the post-test, representing a 28.6-point increase (equivalent to 50.7%). This result exceeded the target of a minimum 30% increase in knowledge set during the planning stage. Twenty of the 22 participants (90.9%) showed an increase in knowledge, thus achieving the outcome success indicator of at least 80% of participants experiencing an increase in knowledge.

Participant Satisfaction Survey Results

Evaluation of participant satisfaction with the implementation of the activity was measured with a maximum score of 40. The recapitulation results are presented in Table 3.

Table 3. Results of the Participant Satisfaction Survey on the Implementation of Activities

Satisfaction Category	Number of Participants (n)	Percentage (%)
Very Satisfied (81–100%)	16	72.7%
Satisfied (61–80%)	6	27.3%
Quite Satisfied (41–60%)	0	0.0%
Less Satisfied ($\leq 40\%$)	0	0.0%
Amount	22	100%

The average participant satisfaction score was recorded at 35.0 out of a maximum of 40 (equivalent to 87.5%), falling into the Very Satisfied category. The highest-scoring aspects were the clarity of the material presented and the usefulness of the leaflets as educational media. Meanwhile, the duration of the activity received relatively more varied ratings, as some participants expected a longer question-and-answer session.

Activity Output Achievements

Table 4. Comparison of Targets and Actual Activity Outputs

No	Indicator	Target	Realization	Status
1	Number of activity participants	≥ 20 people	22 pregnant women + 4 cadres (130%)	Achieved
2	Participants increased their knowledge	$\geq 80\%$	90.9% (20 of 22 participants)	Achieved
3	Participants are able to explain the benefits of TTD	$\geq 80\%$	86.4% (19 of 22 participants)	Achieved

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No	Indicator	Target	Realization	Status
4	Educational media is available & actively used	Available & actively used	22 leaflets and 1 poster were used in 2 follow-up Posyandu activities	Achieved
5	Commitment of pregnant women to have regular pregnancy check-ups	A shared commitment was formed	Agreed on a joint commitment by cadres and 22 participants	Achieved
6	Activity reports and scientific articles	Composed	The results report is compiled; the draft scientific article is prepared	Achieved

Based on Table 4, all main output indicators set at the planning stage have been fully achieved.

Discussion

The knowledge measurement results showed a significant increase after participants attended the counseling session, in line with Notoatmodjo's (2021) opinion that health promotion through interactive counseling is effective in increasing public knowledge and awareness of health issues, including anemia in pregnancy. The increased knowledge of participants regarding the benefits of iron-fortified tablets during this activity also supports the findings of Astuti and Rahmawati (2022) who stated that appropriate education regarding the benefits, dosage, and method of taking iron-fortified tablets can significantly improve compliance in pregnant women.

The high level of participation and satisfaction of participants in this activity aligns with the views of Handayani and Wulandari (2023), who emphasized the importance of family support and mentoring from health workers in improving the regularity of iron tablet consumption among pregnant women in rural areas. The involvement of village midwives and health workers as supporting partners also strengthens the sustainability of the education provided, as emphasized in the Guidelines for Providing Iron Tablets for Pregnant Women (Ministry of Health of the Republic of Indonesia, 2024), which places health workers at the forefront of maternal nutrition and health interventions at the community level.

Although most participants showed improved knowledge, 4 out of 22 participants (18.2%) remained in the Sufficient category during the post-test. This finding aligns with the findings of Rahayu et al. (2021) who stated that education and prior exposure to information influence the rate of absorption of health education materials among pregnant women with varying educational levels. This serves as a reminder for the implementation team to provide more personalized follow-up support.

Overall, the achievements of this activity indicate that the participatory educational approach regarding the consumption of iron tablets is a relevant and acceptable strategy for pregnant women in supporting anemia prevention efforts in KM 60 Hamlet, in line with the findings of Sari et al. (2025) and the WHO policy direction (2024) which emphasizes the importance of daily iron and folic acid supplementation for pregnant women as part of sustainable community-based health interventions.

During the implementation, the implementation team encountered several obstacles, including the long distance and highland terrain, nausea among some pregnant women, which made them reluctant to take the recommended iron tablets, limited communication signals for distributing digital invitations, and the question and answer session, which some participants felt was not long enough. These obstacles were overcome by scheduling the activity in the morning, providing additional education on the correct time and method for taking iron tablets, delivering invitations directly through health cadres, and agreeing to add a consultation session at the next integrated health post (Posyandu) activity. Key factors contributing to the success of the activity included the active support of village midwives and health cadres, the enthusiasm and high participation of pregnant women, and the availability of educational media that facilitated the delivery of materials.

CONCLUSION

The community service activity "Empowering Pregnant Women through Counseling on the Importance of Consuming Iron Supplements for a Healthy Pregnancy" was successfully implemented in KM 60 Hamlet, Rimba Raya Village, Pintu Rime Gayo District, Bener Meriah Regency, with 22 pregnant women and 4 health workers attending, exceeding the minimum target of 20 participants. There was a significant increase in participants' knowledge regarding anemia and iron supplements, with the average score increasing from 56.4 (pre-test) to 85.0

(post-test), or an increase of 50.7%, and 90.9% of participants experienced an increase in knowledge. The level of participant satisfaction with the implementation of the activity was categorized as Very Satisfied, with an average satisfaction score of 87.5%. All key outcome indicators set at the planning stage have been achieved, so it can be concluded that the participatory education approach regarding the consumption of iron supplements has proven effective and acceptable to pregnant women as an effort to prevent anemia in pregnancy at the community level. For the community and partners, pregnant women are advised to regularly consume iron supplements until they are finished as recommended by health workers, while village midwives and health cadres are advised to continue using leaflets and posters in routine integrated health post (posyandu) outreach activities. For institutions, it is recommended to support the replication of the iron tablets consumption-based anemia prevention education program in other partner areas, while for future community service providers or researchers, it is necessary to conduct further evaluations over a longer period of time and develop other educational media innovations, such as videos or digital applications, to reach groups of pregnant women who have limited time to attend in person.

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