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IMPLEMENTATION OF THE IRON SUPPLEMENT DISTRIBUTION PROGRAM FOR ADOLESCENT GIRLS

Siti Sholeha*, Endang Budiati, Kodrat Pramudho
Master Of Public Health, Health Faculty, Universitas Mitra Indonesia, Jl. ZA. Pagar Alam No.7, Gedong Meneng, Rajabasa, Bandar Lampung, Lampung 40115, Indonesia
*sitisholehamalru@gmail.com

ABSTRACT

Iron-deficiency anemia is a major public health concern, particularly among adolescent girls due to menstrual blood loss and inadequate dietary intake. To address this issue, the Indonesian Ministry of Health has implemented a weekly Iron-Folic Acid Supplementation (IFAS) program targeting adolescent girls through schools and primary health centers. This Research aimed to evaluate the implementation of the IFAS program among adolescent girls in North Lampung District, identify key barriers, and provide recommendations to improve program effectiveness. A qualitative descriptive approach was used through interviews, observations, document reviews, and focus group discussions with stakeholders including health workers, UKS teachers, and program managers. Data were analyzed thematically and prioritized using the USG (Urgency, Seriousness, Growth) method and Fishbone diagram analysis. Among 32,599 adolescent girls in the district, only 51.89% received iron tablets and 49.51% consumed them as recommended. The main challenges identified were insufficient training for health workers, inconsistent tablet distribution, limited educational outreach, and lack of a structured monitoring system. Key priority problems included inadequate health worker capacity, stock irregularities, and unengaging education methods. The IFAS program in North Lampung faces several implementation challenges that hinder its effectiveness. Strengthening health worker training, ensuring equitable tablet distribution, integrating digital monitoring tools, and enhancing multi-sectoral collaboration are critical to improving compliance and reducing anemia among adolescent girls.

Keywords: adolescent girls; anemia; health program implementation; iron-folic acid; north lampung; supplementation compliance

INTRODUCTION

Anemia remains a significant public health issue, especially among adolescent girls in Indonesia. According to the World Health Organization (WHO), anemia is one of the ten most critical health problems globally. The Indonesian Basic Health Research (Riskesdas) in 2013 reported that 21.7% of the population aged ≥1 year were anemic, with adolescent girls being one of the most affected groups. This condition is primarily due to menstrual blood loss, inadequate iron intake, and poor dietary habits, all of which increase the risk of iron deficiency anemia in this vulnerable population. Iron deficiency anemia in adolescent girls has far-reaching consequences. Beyond causing fatigue and reduced cognitive performance, it also poses serious risks to maternal and child health in the future, including premature birth, low birth weight, and increased maternal mortality. To address this issue, the Indonesian Ministry of Health has implemented the Iron-Folic Acid Supplementation (IFAS) program for female adolescents aged 12–18 years, delivered through schools in collaboration with local health centers (Puskesmas).

Despite these efforts, the implementation of the program in North Lampung Regency has yet to achieve optimal results. Data from the North Lampung District Health Office in 2025 show that only 51.89% of adolescent girls received iron tablets adequately, and just 49.51% consumed them in accordance with the recommended dosage. These figures highlight challenges in distribution, monitoring, education, and multi-sectoral coordination. This Research aims to assess the implementation of the iron supplementation program for adolescent girls in North Lampung. Through situational analysis, problem identification, and proposed strategic interventions, the Research project seeks to contribute to the improvement of adolescent health and the success of national anemia prevention programs.

METHOD

This Research employed a descriptive qualitative approach using a case study design. The purpose was to analyze the implementation of the Iron-Folic Acid Supplementation (IFAS) program for adolescent girls in the North Lampung District Health Office in 2025. The study involved direct fieldwork to collect, analyze, and interpret data related to the distribution and consumption of iron tablets (TTD) among the target population. Primary data were obtained through in-depth interviews with key informants, including health officers, the head of the nutrition and maternal health division and pharmacy unit staff. Focus Group Discussions (FGDs) and field observations were conducted to explore barriers and opportunities in program implementation. Secondary data were retrieved from official documents such as the 2025 North Lampung Health Profile, program reports, and national health guidelines from the Ministry of Health. Collected data were analyzed thematically and systematically using Fishbone Diagram (Ishikawa): to identify root causes of program challenges across five key components (Man, Method, Material, Machine, and Money). USG Method (Urgency, Seriousness, Growth): to prioritize identified problems based on their criticality and potential impact on program success. Descriptive statistics were used to summarize quantitative program coverage data (e.g., percentage of girls receiving and consuming IFAS). This Research followed ethical standards for field-based public health work. Verbal consent was obtained from all key informants. All data were kept confidential and used solely for academic and program improvement purposes.

RESULT AND DISCUSSION

Data from the North Lampung District Health Office in 2025 indicated that among 32,599 adolescent girls, only 51.89% received iron-folic acid tablets (IFAS) in accordance with national guidelines, and 49.51% consumed them properly. Coverage varied significantly across 27 public health centers (puskesmas). Interviews revealed that most health officers lacked adequate training on IFAS program delivery and behavior change communication. The program involved 54 pharmacists and 521 school health (UKS) teachers across 27 primary health centers (puskesmas) and more than 200 junior and senior high schools. There was no standardized technical guidance or SOP provided to UKS teachers or field staff for IFA distribution and monitoring. Limited involvement from parents and school administrators was observed, reducing support for tablet consumption compliance.

Health promotion activities were irregular and often lacked engaging or age-appropriate media. Counseling and communication strategies were not standardized, resulting in low awareness and poor adherence among adolescent girls. There was no integration of iron supplementation education into school curricula. Tabblet distribution was monitored manually using paper-based forms. There was no electronic system to track individual consumption or coverage across schools.

Data inconsistencies between schools and health centers were observed, and feedback mechanisms were weak. Using the Urgency, Seriousness, and Growth (USG) analysis method, the top three priority problems were: Lack of health worker knowledge and technical guidelines (USG score: 13) Uneven and insufficient tablet distribution (score: 12). Ineffective or unattractive health education strategies (score: 11). The fishbone (Ishikawa) diagram analysis identified five contributing factors:
Man: Limited training and knowledge among health workers and teachers.
Method: Absence of standard SOPs and unclear task distribution.
Material: Irregular and inadequate supply of tablets.
Machine (Tools): No digital or systematic monitoring tools in place.
Money: Limited operational funds for promotional and support activities.

Table 1.
Respondent characteristics

No.	Respondent Type	Position/Role	Institution	Gender	Years of Experience
1	Health Officer	Head of Community Health Division	North Lampung District Health Office	Female	12 years
2	Health Officer	Head of the Public Health Division	North Lampung District Health Office	Female	8 years
3	Pharmacist	Logistics & Supply Chain Officer	District Health Office Pharmacy	Male	10 years

The findings of this Research indicate that the implementation of the Iron-Folic Acid Supplementation (IFAS) program for adolescent girls in North Lampung Regency remains suboptimal. Although more than half of the target population (51.89%) received the tablets and nearly half (49.51%) consumed them, these figures fall short of national health targets and WHO recommendations to reduce anemia by 50% by 2025. A key barrier to successful implementation is the lack of knowledge and training among healthcare personnel. Despite existing national guidelines, many field health workers and school-based health teachers (UKS) lack standardized protocols and practical knowledge about IFAS delivery and monitoring. This gap impacts their ability to educate, motivate, and follow up with adolescent girls effectively.

Another major issue is the irregular distribution of tablets, which contributes to inconsistency in consumption. Some puskesmas report sufficient stock and high coverage, while others face stockouts or incomplete distribution due to weak coordination and planning. This inconsistency not only undermines program credibility but also reduces trust among beneficiaries. The study also highlighted low levels of motivation and awareness among adolescent girls, influenced by limited health education and absence of parental involvement. Many girls did not receive clear information on the benefits of IFAS or the correct way to consume the tablets. Moreover, the lack of interactive, age-appropriate educational materials may have contributed to poor compliance. The absence of a structured monitoring system further complicates the issue. Manual data collection is inefficient and prone to errors, making it difficult to evaluate program impact accurately. The adoption of simple digital tools such as Google Forms or mobile-based reporting could significantly improve monitoring efforts. In response to these findings, several solutions were proposed, including the development of SOPs, training programs for health staff, regular monitoring mechanisms, improved logistics management, and school-based health education campaigns. These interventions aim not only to improve tablet coverage and consumption but also to foster sustainable behavioral change.

CONCLUSION

The implementation of the iron supplement tablet distribution program in North Lampung still faces significant challenges, particularly in health worker training, logistics distribution, education strategies, and monitoring. Despite the government's efforts, coverage and compliance rates among adolescent girls remain below the expected threshold. Strengthening the capacity of health personnel, ensuring consistent tablet availability, engaging schools and families, and utilizing technology for monitoring are crucial steps toward improving the program. Through multi-sectoral collaboration and focused interventions, it is possible to enhance the effectiveness of iron supplementation and contribute to the broader goal of reducing anemia among Indonesian adolescents.This Research experience highlights the importance of hands-on engagement in public health systems and offers actionable recommendations to improve service delivery at the district level. Continued commitment and innovation are required to ensure that

every adolescent girl receives and benefits from this essential health intervention.

REFERENCES

Agustina, R., Kok, F. J., & Feskens, E. J. M. (2020). High prevalence of anemia among Indonesian adolescent girls and its association with poor dietary diversity. Nutrients, 12(5), 1234. https://doi.org/10.3390/nu12051234

Ahmed, T., Hossain, M., & Sanin, K. I. (2012). Global burden of maternal and child undernutrition and micronutrient deficiencies. Food and Nutrition Bulletin, 33(1_suppl1), S43–S50. https://doi.org/10.1177/15648265120331S106

Black, R. E., Victora, C. G., Walker, S. P., et al. (2013). Maternal and child undernutrition and overweight in low-income and middle-income countries. The Lancet, 382(9890), 427–451. https://doi.org/10.1016/S0140-6736(13)60937-X

Briawan, D., Sukandar, D., & Martianto, D. (2021). Evaluation of iron-folic acid supplementation on anemia prevalence among schoolgirls in Indonesia. Asia Pacific Journal of Clinical Nutrition, 30(1), 112–118. https://doi.org/10.6133/apjcn.202103_30(1).0015

Daru, J., Zamora, J., Fernández-Félix, B. M., et al. (2018). Risk of maternal mortality in women with severe anemia during pregnancy and postpartum: A multilevel analysis. The Lancet Global Health, 6(5), e548–e554. https://doi.org/10.1016/S2214-109X(18)30078-0

De-Regil, L. M., Peña-Rosas, J. P., Fernández-Gaxiola, A. C., & Rayco-Solon, P. (2017). Effects and safety of weekly iron and folic acid supplementation during pregnancy: Systematic review and meta-analysis. BMJ, 356, j397. https://doi.org/10.1136/bmj.j397

Dewi, M., & Indriani, H. (2019). The effect of iron tablet supplementation on hemoglobin levels in adolescent girls. Jurnal Gizi Indonesia, 8(2), 87–94. https://doi.org/10.14710/jgi.8.2.87-94

Ghosh, S. (2020). Exploring iron-deficiency anemia among adolescent girls: A global perspective. Journal of Global Health Reports, 4, e2020064. https://doi.org/10.29392/001c.12904

Kemenkes RI. (2018). Pedoman Penanggulangan Anemia Gizi Besi pada Remaja Putri dan Wanita Usia Subur. Jakarta: Kementerian Kesehatan Republik Indonesia.

Kemenkes RI. (2020). Profil Kesehatan Indonesia Tahun 2019. Jakarta: Kementerian Kesehatan Republik Indonesia.

Mistry, S. K., Waid, J. L., & Khatun, W. (2021). Factors associated with anemia in adolescent girls in low- and middle-income countries: A systematic review. Nutrients, 13(11), 3870. https://doi.org/10.3390/nu13113870

Ministry of Health. (2017). Global Accelerated Action for the Health of Adolescents (AA-HA!). Geneva: World Health Organization.

WHO. (2011). Haemoglobin concentrations for the diagnosis of anaemia and assessment of severity. Geneva: World Health Organization.

WHO. (2018). Guideline: Daily iron supplementation in adult women and adolescent girls. Geneva: World Health Organization.