

## ADDRESSING STUNTING AND ANEMIA IN YOUNG WOMEN: A COMPREHENSIVE APPROACH IN WEST JAVA

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### ABSTRACT

*The iron and folic acid (IFA) supplementation implemented since 2016 to reduce the prevalence of anaemia among adolescent girls. The high number of teenage girls in West Java who has anaemia indicates that the program, up to the present time, has yet to be successful. Therefore, reviewing the barrier to the program's implementation is necessary. The findings of this study were expected to help identify gaps and recommend alternative strategies for effective implementation. The design was mixed research. Qualitative studies used Focus group discussion (FGD), In-depth interviews. The research was conducted in four areas in West Java representing urban and rural areas with high stunting rates, including Bandung Tasikmalaya City, West Bandung Regency, and Garut Regency. Quantitative data was collected through an online survey of 523 adolescent girls. The questionnaire was tested for the validity of the instrument. Data is processed descriptively and presented in per cent. This research has received a Research Ethics. The results showed data on knowledge gaps and practice of taking iron and folic acid tablets, (as IFA or TTD) adolescents who were socialized with iron supplements 81%, and 77% stated that iron supplements were useful, but what was very surprising was that only 15% were young women who consumed iron supplements. The delay in the distribution of iron tablets was mainly related to the COVID-19 pandemic, Weak coordination between policy makers, Lack of socialization regarding the benefits of iron tablets and how to drink and improper socialization methods, Limitations of monitoring medication adherence, The need for sharpening program achievement indicators. The new program indicator is that the process is not yet at the output of drinking TTD.*

**Keywords:** Anemia, Iron and Folic Acid (IFA), Adolescent Girls

## INTRODUCTION

Anaemia in adolescents is a public health problem that is still significant in young women in globally and Indonesia (Rah et al, 2021). Unbalanced diet, intake of foods low in iron content both animal and vegetable, a lack of foods high in iron, presence of infection, menstruation, lack of nutritional knowledge and the hepcidin enzyme, unavailability of nutritious food, modern lifestyle changes, such as increased consumption of fast food, sugary drinks and processed foods, as well as a lack of physical activity, can also contribute to nutritional problems in adolescents. are the main causes of anaemia (Juffrie, Helmyati & Hakimi, 2020). Adolescence is the peak period of changes in body dimensions, body composition, development of sexual reproduction and rapid physical growth. The problem of anaemia has an impact on growth and development, susceptibility to infectious diseases, decreased concentration and comprehension, and decreased adolescent productivity and long-term impacts can affect national development.

In Indonesia, the government has carried out various programs to reduce anaemia in young women, which are based on supplementation and fortification. Teenagers account for nearly 18% of the 260 million population in this country, and targeting youth health programs will undoubtedly shape the future of superior human resources in Indonesia. However, the number of anaemia in adolescent girls in Indonesia is still relatively high. The 2018 Basic Health Research (Riskesdas) data shows that around 48.9% of teenage girls have anaemia. West Java data, based on the Nutrition Indonesia survey (2018), shows the prevalence of anaemia among adolescent girls reaching 41.93%. Anaemia in young women is a cause for mothers giving birth to babies with low birth weight (LBW) and short births, both of which increase the risk of stunting in children under five.

The Ministry of Health has implemented a program for youth health but still focuses on reproductive issues. The program of distributing the IFA tablet is one of the iron supplementation efforts that has been implemented since 2016 to reduce the anaemia rate of adolescent girls (Budiana, Kartasurya & Judiono, 2016). The administration of IFA tablets is carried out in a blanket approach, which means that all teenage girls must consume the IFA tablets to prevent anaemia (Sparrow, Agustina & Melse-Boonstra, 2021; ADB, 2023). The high number of anaemic young women in West Java indicates that the application administration of IFA tablets up to the present has yet to be successful. The implementation of the IFA tablet program still has various obstacles. The coverage of young women in West Java in 2021 has only reached 25.2%, with a target of 52%. Meanwhile, the coverage of young women who took

iron tablets was only 15%. Therefore, program interventions are needed that are focused on preventing anaemia and supporting changes in the behaviour of young women in consuming iron tablets at school.

The coverage of iron tablets in West Java province still needs to be higher than the average national coverage rate. Therefore, reviewing the barrier to the program's implementation is necessary. The findings of this study are expected to help identify gaps and recommend alternative strategies for effective implementation.

## **METHOD**

The design of this study is mixed research. Mixed methods is a research approach that combines the use of qualitative and quantitative methods in one study. This approach aims to combine the advantages of each method and provide a more comprehensive understanding of the phenomenon under study. In research with a mixed methods approach, researchers use both qualitative and quantitative methods in collecting, analyzing, and interpreting data. This allows researchers to gain a deeper understanding of complex phenomena, as well as validate and test findings through a triangulation approach, that is, compare and align the results of the two methods.

Qualitative studies used Focus group discussion (FGD) on Rematri at 4 research sites. FGDs in each location were held with 10-12 representatives from public schools, private schools, and youth organizations from youth organizations. In-depth interviews with the head of the Public Health sector/Head of the Family Health Section, Education Office, Ministry of Religion, PPKBP3A, Regency/City BPD and UKS teacher/School Principal. The research was conducted in four areas in West Java representing urban and rural areas with high stunting rates, including Bandung Tasikmalaya City, West Bandung Regency, and Garut Regency.

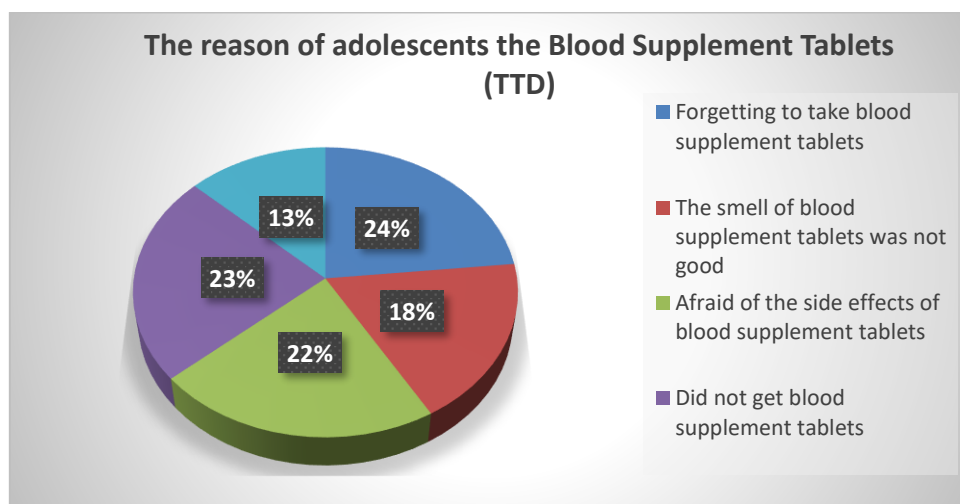
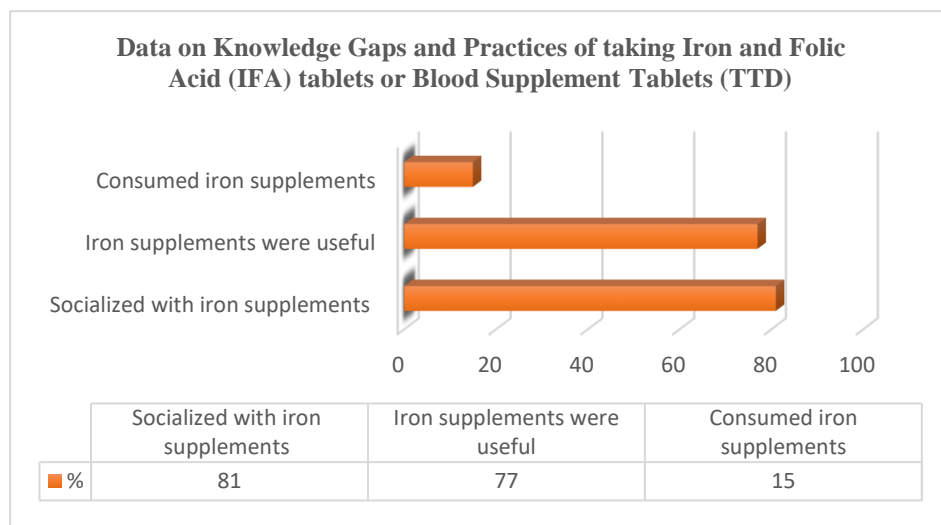
Quantitative data was collected through an online survey of 423 adolescent girls. The questionnaire was tested for the validity of the instrument. Data is processed descriptively and presented in per cent. This research has received a Health and Medical Research Ethics Decree from Padjadjaran University, Bandung.

## **RESULTS AND DISCUSSION**

Based on the results of the study, data on knowledge gaps and practice of taking iron and folic acid tablets, abbreviated as IFA or TTD, as a measure of the level of achievement of program

success are as follows below. Of adolescents who were socialized with iron supplements 81%, and 77% stated that iron supplements were useful, but what was very surprising was that only 15% were young women who consumed iron supplements.

The responses and reasons for adolescents receiving the Blood Supplement Tablets that were given for consumption are as follows presented in bar graph 2.



A qualitative approach is used to explore information about perceptions. Data collection was conducted using focus group discussions (FGD) in two urban and rural areas (Bandung City and West Bandung Regency), female students from public and private schools, and members

of youth organizations. Among 423 participants, nearly 70% were aged 17 or older, attended public schools, and had no membership in youth organizations. 56% of the participants lived in rural areas, 42,55% had good knowledge, and 50.83% had a positive perception. There is no difference in knowledge and perception between urban and rural respondents ( $p>0,05$ ). The qualitative result showed that most respondents had heard about stunting but needed help understanding why stunting required attention. They still need clarification on whom the stunting prevention program is intended and feel this problem is still far and unrelated to their current condition. They view that early marriage (less than 19 years old) is very vulnerable to experiencing household problems. Respondents agreed that marriage and teenage pregnancy could impact the mother's health and the children she will give birth to. Based on this study, the stunting prevention program, including the topic of teenage pregnancy as a risk factor for stunting for adolescent girls, needs to be improved. The educational approach can be applied to urban or rural areas.

Anaemia is a significant problem among adolescent girls with implications for maternal and child health. A weekly iron supplementation program for young women is an effort by the government to reduce the prevalence of anaemia in young women. The coverage of iron tablets in West Java province still needs to be higher than the average national coverage rate. Therefore, reviewing the barrier to the program's implementation is necessary. Until now, the implementation of the IFA supplementation still has various obstacles. In West Java, the coverage of remittances receiving IFA in 2021 has only reached 25.2%, with a target of 52%.<sup>9</sup> Meanwhile, the range of girl adolescents who took IFA tablets was only 15%. Most young female students (81%) have been socialized with the TTD (Blood Supplement Tablets) program, and 77% have stated that the program is worthwhile. However, the compliance of IFA tablet consumption in adolescent girls is still low (15%); this is related to forgetfulness, fear of side effects, and the feeling of having no anaemia symptoms. Therefore an effort is needed to encourage social change and the behaviour of adolescent girls in consuming IFA tablets. The school enrollment rate for girls aged 16–18 in Indonesia is 74.75%. Schools can be a strategic place in the intervention of nutrition education programs to encourage changes in the behaviour of adolescent girls in consuming IFA tablets. This Policy Brief is addressed to the Ministry of Education and Culture, the Ministry of Health and the BKKBN to support the Regulation of the Coordinating Minister for Human Development and Culture of the Republic of Indonesia No. 1 of 2018 concerning the National Action Plan for Health of School-Age Children and Teenagers by holding an anaemia prevention program for teenagers in schools;

carrying out massive campaigns on the benefits of the IFA tablets and prevention of anaemia for all adolescent girls at school; strengthening and facilitating the IFA tablets administration program carried out in schools that involve students; improving coordination in monitoring the IFA tablets consumption by involving schools and families; improving cross-sectoral coordination which is strengthened by a special decree on the prevention of anaemia in adolescent girls. Hopefully, this policy brief will serve as a basis for optimizing the implementation of school-based anaemia prevention programs for female teenagers in West Java Province.

The female youth participation rate in Indonesia is above 70%, so school-based intervention programs are expected to be the right place to encourage behaviour change in young women. The government has issued a policy to address young women's health issues by regulating the Coordinating Minister for Human Development and Culture of the Republic of Indonesia, number 1 of 2018, regarding the National Action Plan for the Health of School-aged Children and Teenagers. This policy brief has been made to describe the problems in implementing the IFA tablet program in West Java.

The IFA program is influenced by several factors, including Low Compliance of Adolescent Girls in Consuming Iron Folic Acid Tablets and The socialization was carried out through a student representation system. First, Low Compliance of Adolescent Girls in Consuming Iron Folic Acid Tablets. Most young female students (81%) have been socialized with the TTD (Blood Supplement Tablets) program, and 77% have stated that the program is worthwhile. However, the compliance of IFA tablet consumption in adolescent girls is still low (15%); this is related to forgetfulness, fear of side effects, and the feeling of having no anaemia symptoms. The research data shows a gap between adolescent girls who have been socialized and received the IFA tablet program with the practice of consuming the tablets. This shows that the socialization of the IFA tablet program that has been implemented does not guarantee a good level of consumption for students. Qualitative data shows that the socialization received by new students to the socialization of program to take one tablet has not yet reached the reason they have to take it. The data shows that although young women say the program is beneficial, it is not strong enough to get them to drink it. The socialization that has been carried out so far has only been able to increase knowledge but has not yet caused a behaviour change.

It is needed to conduct a massive campaign regarding anaemia, the benefits of IFA tablets, balanced nutrition, and a program that strengthens the IFA supplementation administration carried out in schools. In addition to massive campaigns, socialization through

social media and applications can be utilized for broader message acceptance. The educational approach, either in the form of campaigns or through the media, needs to be adapted to the characteristics of adolescent girls. Therefore, the participation of teenage girls in the preparation of socialization materials and the formulation of delivery methods is necessary to increase the acceptability of this program. The data shows that although young women say the program is beneficial, it is not strong enough to get them to consume it. The socialization that has been carried out so far has only been able to increase knowledge but has yet to cause a behaviour change.

Secondly, socialization was carried out through a student representation system (Judiono et al, 2023). The socialization and education regarding the importance of taking iron supplement tablets are carried out with a representation system for students. Therefore, not all students understand the importance of iron supplement consumption in preventing anaemia in young women. Thus, massive and periodic education for all young women in each school is expected to increase the awareness of young women about consuming iron supplements. The 1945 Constitution of the Republic of Indonesia guarantees everyone the right to live prosperously and healthily, physically and spiritually. Meanwhile, for teenagers, the state ensures that every one of them can obtain an education, information, and health services, including to have healthy reproduction so that they can live a healthy and responsible life.

The system of representation in the provision of education and socialization means that not all teenagers receive the same education, information, and health services. To solve this problem, the government has launched the 2017-2019 National Action Plan for School Children and Teenagers Health by the Indonesian Coordinating Ministry for Human Development and Culture Number 1 of 2018. Therefore the Ministry of Education, Ministry of Health, BKKBN, and related sectors must support this holistic approach by holding a specific program to prevent anaemia in schools. For these activities to be carried out properly, coordination and commitment from all parties are required, one of which is by issuing a special decree regarding preventing anaemia in young girls at school.

## **CONCLUSION**

There were eight barriers to implementing the TTD program for young women in the province of West Java. These barriers include the lack of human resources, budget and infrastructure, institutional policies and regional policies that have not been supported, the delay in the distribution of iron tablets, weak coordination with cross-sectors, lack of socialization and

socialization methods, side effects from TTD, school limitations in monitoring student compliance with medication and the need for evaluation of program implementation.

## **ACKNOWLEDGEMENTS**

In this study, it was known that the factors that affected short birth length in West Java were JKN/Jamkesmas ownership and receipt of blood supplement tablets. The results of this study indicate that specific nutritional interventions through administration of blood-boosting tablets and also sensitive nutrition interventions through health insurance programs are recommended to prevent short births.

## **CONFLICT OF INTEREST AND FUNDING DISCLOSURE**

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## **REFERENCES**

- Asia Development Bank (ADB). (2023). Indonesia : Impact of Adolescent Nutrition Support on Development Outcomes. <https://www.adb.org/projects/51354-001/main>
- Budiana, T.A, Kartasurya, M.I, & Judiono, J. (2016). Effect of sprinkle supplementation on hemoglobin levels of under-nutrition children aged 3-5 years in Lewimunding District, Complex child and adolescent anemia in Indonesia S29 Majalengka Regency. *J Gizi Indones*. 5:34-41. (In Indonesian)
- Indonesian Ministry of Health. Main results of Indonesian Basic Health Research 2018 [Internet]. (2018) [cited 2019/05/13]. Available from: <http://www.depkes.go.id/resources/download/info-terkini/hasil-risikesdas-2018.pdf>. (In Indonesian)
- Ipa, M., Prasetyowati, H., Widawati, M., Judiono, Priawantiputri, W, Megawati, G, Indraswari, N., Marhaeni, D., & Herawati, D. (2023). Understanding Barriers To Implementation Of The Weekly Iron And Folic Acid Supplementation (Wifs) Program In West Java Indonesia. National Dissemination Seminar Child and Adolescent Nutrition in Indonesia.
- Judiono, Widawati, M., Putri, W.P., Megawati, G., Indraswari, N., Ipa, M., & Prasetyowati, H. (2023). Anemia-Free Adolescent Girls In West Java: Improving Iron And Folic Acid Supplementation Consumption. National Dissemination Seminar Child and Adolescent Nutrition in Indonesia.



- Juffrie, M., Helmyati, S., & Hakimi, M. (2020). Nutritional anemia in Indonesia children and adolescents: Diagnostic reliability for appropriate management. *Asia Pac J Clin Nutr*;29(Suppl 1):S18-S31
- Lowe, C., Kelly, M., Sarma, H., Richardson, A., Kurscheid, J.M., Laksono, B, Amara, S, Stewart, D, & Gray, D.J. (2021). The double burden of malnutrition and dietary patterns in rural Central Java, Indonesia. *The Lancet Regional Health-Western Pasific* 14. <https://doi.org/10.1016/j.lanwpc.2021.100205>
- Lukito, W, & Wahlqvist, M.L. (2020). Intersectoral and eco-nutritional approaches to resolve persistent anemia in Indonesia. *Asia Pac J Clin Nutr*.;29(Suppl 1):S1-S8. doi: 10.6133/apjcn. 202012\_29(S1).01
- Rah, J.H., Melse-Boonstra, A., Agustina, R., Gabrielle van Zutphen, K., & Kraemer, K. (2021). The Triple Burden of Malnutrition Among Adolescents in Indonesia. *Food and Nutrition Bulletin*, Vol. 42(1S) S4-S8.
- Sparrow, R., Agustina, R, & Melse-Boonstra, A. (2021). Adolescent Nutrition—Developing a Research Agenda for the Second Window of Opportunity in Indonesia. *Food and Nutrition Buletin*. Volume 42, Issue 1\_suppl. <https://doi.org/10.1177/0379572120983668>