

Article

Analysis of Implementation of Ferrous Tablets Supplementation Program for Adolescent Girl in Bukittinggi

Rosa Mesalina¹, Lili Dariani², Sania Lailatu Rahmi³

^{1,2,3}Ministry of Health Padang Health Polytechnic, Indonesia

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CORRESPONDENCE

Phone: 082174539363

E-mail: mesalina580@gmail.com

ABSTRACT

Anemia has become one of the nutritional problems in the world. The government has made efforts to prevent anemia through the provision of iron supplement tablets, but its implementation has not been optimal in reducing the incidence of anemia. The purpose of the research is to analyze the iron tablet supplementation program for adolescents in Bukittinggi. The research is qualitative with a phenomenological study approach. The sample was determined through purposive sampling, consisting of 11 people. Data were collected through in-depth interviews and focus group discussions using interview guideline research instruments. Data were analyzed using thematic analysis as a construction for developing an intervention model for anemia prevention efforts. The research findings identified important themes, namely the unavailability of regional regulatory policies, limited human resources, funding, utilization of promotional media, weak monitoring and evaluation systems, suboptimal recording and reporting, as well as obstacles from cultural factors, low knowledge, lack of concern, and suboptimal family support. It is recommended to initiate a regional policy study to accommodate the solutions found in the research.

I. INTRODUCTION

Anemia is a decrease in hemoglobin, hematocrit and erythrocyte count from normal standards, below 12g/dl (Arisman, 2014) Adolescent girls are a vulnerable group to anemia due to growth and increased iron requirements during the menstrual process. 27% of girls aged 11-18 years did not adequately meet their iron needs, while only 4% of boys did. This explains

that are more at risk of iron deficiency and this condition accelerates anemia (Nurchayanti, 2021).

According to WHO, more than 50% of adolescent girls experience anemia. The problem of anemia has tended to increase and become a public health problem because the prevalence of anemia in adolescent girls is above the 20% cut-off (Andriastuti, 2020). The results of Riskesdas in 2018, 32% of adolescents had anemia, meaning that 3-4 out of 10 adolescent girls suffered from anemia (Indonesian Ministry of Health, 2018). This is a problem in adolescent growth (Fathony, 2022). A survey conducted by the Bukittinggi City Health Office in 2021 found that 42% of adolescent girls had anemia.

Adolescent anemia is caused by a lack of iron intake through food, basal iron loss and the menstrual process (Arisman, 2014). Other influential variables are food consumption habits that interfere with iron absorption (tea, coffee) and infectious diseases (Yosephin & Kusdalinah, 2020). Adolescent nutritional status through indicators of body mass index (BMI), upper arm circumference size (LiLA) is a risk variable for anemia (Sari, Herawati, 2022). Similarly, the factors of lack of knowledge, attitudes, maternal education affect the incidence of anemia (Ambarwati & Pangesti, 2017). Anemia is the result of lack of nutrition and lack of socioeconomics (Habtegiorgis, 2022).

Anemia has a negative impact on adolescents such as decreased reproductive health, impaired growth, lack of cognitive abilities, poor endurance, increased risk of pregnancy anemia leading to complications of pregnancy and childbirth, increased maternal morbidity and mortality, increased low birth weight (LBW), prematurity. LBW is a risk factor for stunting (Listiana, 2016). Iron deficiency in the blood restricts oxygen transportation in the blood which affects the physical and mental capacity of a person, which has an impact on the quality of life of adolescents (Sari, 2022).

The efforts to overcome adolescent girls anemia are carried out through three main programs, namely ferrous tablets supplementation in line with Permenkes number 88 of 2014, iron fortification and food diversification (Indrawatiningsih, 2021). The ferrous tablets supplementation is conducted 1 year 1 tablet per week as many as 52 tablets to schools. The dose of ferrous tablets supplementation adjusted to the needs of adolescent girls is 60 mg of elemental iron and 0.4 mg of folic acid. (Ministry of Health RI, 2018a). Ferrous tablets supplementation with the right dose prevents anemia in adolescent girls and increases the body's iron reserves in preparation for entering the pre-conception period. In addition, this program needs socialization and health promotion to increase awareness of the prevention of anemia.

The 2018 Riskesdas data found that 80.9% of adolescents received ferrous tablets supplementation at school. The percentage of adolescent girls who consumed ferrous tablets supplementation <52 grains was 98.6%. Although ferrous tablets supplementation has been given, the incidence of adolescent girls anemia remained high (Indonesian Ministry of Health, 2018). The ferrous tablets supplementation coverage rate for adolescent girls in Indonesia in 2022 is 50%. The coverage of ferrous tablets supplementation in adolescent girls with the highest percentage in 2022 is in Bali Province at 95.1% and the lowest in West Papua Province at 2.5%, while the coverage of Ferrous Tablets Supplementation in West Sumatra is 45.9%, not yet up to the national coverage (Indonesian Ministry of Health, 2023). Low and irregular consumption of ferrous tablets in adolescent girls is also a risk factor for iron nutritional anemia (Utomo, 2020).

Although this program has good purpose, the implementation has not been optimal. The success of the program will be achieved if the implementation of the program is in accordance with the correct procedures from planning to monitoring and evaluation. The indicators of the success of the program (outcome) are increased hemoglobine (Hb) levels and changes in anemia status. The coverage of ferrous tablets supplementation program at Health center Guguk

Panjang Bukittinggi has reached 100%, but the results of the study showed that the incidence of anemia is still high (42%). This requires an analysis of program. In line with the theory of the system approach, program analysis follows the pattern of inputs, processes and outputs to identify problems that need strengthening of the program.

According to the results of previous studies, the ferrous tablets supplementation of program has not been running effectively according to the guidelines for preventing and overcoming adolescent girl anemia with indicators facilities and infrastructure that are not suitable, distribution ferrous tablets supplementation has not been optimized, monitoring and recording has not been appropriate (Nurcahyanti, 2021). Another study found that human resources are still lacking, the funding allocation is still lacking, the policy already exists but the implementation has not been optimal, the socialization is not optimal, recording and reporting are also not optimal, the time and amount of ferrous tablets supplementation administration were not in accordance with the guidelines (Susanti, 2021).

Research at the Binamu City Health Center found a lack of health promotion media (posters, leaflets/brochures) in the socialization of program, there was a mismatch in the time of ferrous tablets supplementation, monitoring of consumption was lack (Jayadi, 2021). Research in East Jakarta found that not all adolescent girls consumed ferrous tablets (Yudina & Fayasari, 2020). Similarly, another evaluation study stated that there was a lack of monitoring of ferrous tablets supplementation consumption compliance and monitoring of blood Hb checks and there was no follow-up analysis of ferrous tablets supplementation program reporting from both the school and health center (Fithriana & Pramardika, 2019).

Based on all of explanation, the coverage of ferrous tablets supplementation program is quite maximum but the rate of adolescent girls anemia is still high, there are gaps in the process and output so that researchers are interested in analyzing the program for giving ferrous tablets supplement to adolescent girls in the Guguk Panjang Bukittinggi health center working area in 2024 with an input, process, output approach.

II. METHODS

The research is qualitative with a phenomenology study approach to analyze the implementation of the ferrous tablet supplementation program. The research informants consisted of two types, namely key informants and main informants. The 11 informants in this study consisted of key informants, namely, the head of the health center, the principal, the relevant program manager and the main informant consisting of the adolescent girls. The sampling technique was purposive sampling. Data were collected using 4 (four) data collection techniques, namely observation, interviews, document review, and combined / triangulation using an interview guideline research instrument that contains questions on the aspects to be analyzed. Analysis of data by theme analysis with the stages of domain, taxonomy, componential analysis which resulted in the theme construction of the intervention model for anemia prevention efforts.

Ethical Approval

Ethical consideration of the research from the Ethics Committee of the Faculty of Medicine, Andalas University, number 373/UN.16.2/KEP-FK/2024

Research Flow

The research flow picture of the Ferrous Tablet Supplementation Program Analysis refers to the qualitative research pattern of input, process, output using the Stufflebeam model with the CIPP (**Context, Input, Process, Product**) program evaluation approach whose stages are shown in Table 1.

Tabel 1. Analysis of Program Implementation with CIPP Steps

Steps	Data Collected	Technic
Context: situation and background of ferrous tablet supplementation program	Knowing of Ferrous Tablet Supplementation Program	Interviews and FGD
Input : the quality of inputs	Human resources, funds, infrastructure, media	Document review, interviews, FGD
Proccess: implementation of program	Mechanism, family support, supporting and obstacle factor	Interviews and FGD, observations
Output: achievement of program	knowledge of adolescent, coverage of the program, prevalence anemia	Document review, interviews, FGD

III. RESULT

Informant Characteristics

The 11 informants were arranged based on their respective characteristics, namely education, job position and the data collection method used as shown in Table 2 below:

Table 2. Informant Characteristics

Coding	Education	Position
IF 1	bachelor's degree	health of office Guguk Panjang
IF 2	bachelor's degree	program manager
IF 3	bachelor's degree	counseling teacher
R1-8	High school	girls student

The results of in-depth interviews and focus group discussions from informants are presented in Table 3 below:

Table 3. Results of the Analysis of Implementation of the Ferrous Tablet Supplementation Program

Aspect of Study	Source of Data	Result Obtained
Context: situation and background of ferrous tablet supplementation program	- health of officee Guguk Panjang - counseling teacher	✓ The program of ferrous tablet supplementation refers to the Presidential Regulation of the Republic of Indonesia Number 42 of 2013 and the Joint Decree of the Minister of Education and Culture, Minister of Health, Minister of Religious Affairs and Minister of Home Affairs Number 6/X/PB/2014; Number 73 of 2014; Number 41 of 2014; Number 81 of 2014.
Knowing of Ferrous Tablet Supplementation Program		✓ There is no local policy that specifically regulates the implementation of ferrous tablet supplementation program

		✓ Implementation of the program based on cooperation agreements (PKS) between puskesmas and schools.
Input : the quality of inputs	- Puskesmas Guguk Panjang - Kepala SMA Negeri 3 Bukittinggi - Pengelola program	✓ Limited human resources for nutrition staff due to the many double duties held by program managers. Educational qualifications of health workers in nutrition. ✓ Funding allocation is not sufficient for the realization of activities, especially funds for staff transportation, periodic screening costs, and socialization media. ✓ Limited infrastructure for periodic examination of hemoglobine levels, transportation costs ✓ Limited media for socialization and promotion
Proccess: implementation of program	- Kepala Puskesmas se Kota Bukittinggi - Pengelola Program	✓ Program planning starts with collecting target data and ferrous tablet needs assessment through the city pharmacy installation (IFK). ✓ Storage of the tablets in the health of center medicine warehouse according to standards and then packaged for distribution ✓ Distribution of ferrous tablet to schools by nutrition staff through UKS program ✓ Supply of ferrous tablet supplementation to students is distributed directly to students accompanied by consumption education. Utilization of educational media is still limited ✓ Periodic monitoring and evaluation have not been carried out optimally, especially monitoring compliance with Fe tablet consumption and periodic examination of student hemoglobine levels ✓ Recording and reporting have not been carried out optimally, there is no follow-up ✓ Utilization of the CERIA application for monitoring and reporting has not been optimal ✓ There is no innovative research-based program to support anemia prevention efforts ✓ Not all students have received family support to prevent anemia
Output: achievement of program	- Kepala Puskesmas se Kota Bukittinggi	✓ Good knowledge of informants is not followed by a complete understanding and positive attitude about anemia and its prevention ✓ Coverage of ferrous tablet supplementation according to target (100%) ✓ Anemia incidence rate to reach 28.3% in 2023
- knowledge of the program	- Pengelola Program	
- prevalence anemia		

The results of the data analysis became the construction of an intervention model for preventing anemia among adolescent girls as shown in Table 4 below:

Table 4. Results of Qualitative Analysis Theme Construction

Category	Meaning Unit	Themes
Input	There is no regional policy that regulates the ferrous tablet supplementation program	Policy
Input	Limited number of implementing human resources	Human Resources
Input	Limited fund allocation	Fund allocation
Input	Limited periodic screening materials	Infrastructure
Proccess	Periodic monitoring and evaluation was not yet optimal, especially monitoring compliance with Fe tablet consumption and periodic checks of student hemoglobin levels.	Monitoring and evaluation
Proccess	Recording and reporting is not optimal, there is no follow-up	Recording and reporting
Proccess	The inhibiting factors are no regional policy, limited number of human resources, unavailability of periodic hemoglobin screening materials, cultural factors, low knowledge, lack of awareness, lack of family support.	Supporting and inhibiting factors
Output	Incomplete understanding and unsupportive attitude of adolescents towards TTD consumption compliance	Knowledge and Attitude
Output	High incidence of rematriate anemia >20% WHO standard	Prevalence of adolescent girl anemia

Based on table 4 above, it is known that the themes of the qualitative analysis are the unavailability of regional policies, limited human resources, limited inspection materials, cultural barriers, knowledge, awareness and monitoring of ferrous tablet consumption.

IV. DISCUSSION

Context: Situation and background of the Ferrous Tablet Supplementation Program Adolescent Girl

The implementation of the ferrous tablet supplementation program refers to the national policy of the Indonesian Ministry of Health, namely 1) Presidential Regulation No. 42 of 2013 2) Joint Regulation between the Minister of Education and Culture of the Republic of Indonesia, the Minister of Health of the Republic of Indonesia, the Minister of Religious Affairs of the Republic of Indonesia and the Minister of Home Affairs of the Republic of Indonesia Number 6/X/PB/2014; Number 73 of 2014; Number 41 of 2014; Number 81 of 2014 3) Regulation of the Minister of Health of the Republic of Indonesia Number 88 of 2014.

The results of study found that there are no local regulations either from governor, mayor or similar regulations that specifically regulate the implementation of the supplementation program in Bukittinggi. The program implementation refers to the national policy. Although there is no local policy, the information shown there are no significant obstacles in the implementation of the program.

Health policy is part of public policy made by the government and the swasta and consists of a series of cross sectoral actions that aim to improve the health and welfare of the community. Health policy can be seen as a network of interconnected decisions, which in practice care for public health services (Massie, 2009). according to the guidelines for the prevention of anemia, the indicators of program success are policy commitments at the regional

level (Ministry of Health, 2018a). The impact of unavailability of a regional policy caused the program not be implemented optimally.

This study is in line with previous study which stated that to improve the program, the government must have commitment, the role of stakeholder partnerships and improve infrastructure, increase the capacity of the ferrous tablet supplementation program which is regulated with local policy (Rahmiati, 2019).

Inputs: Quality of inputs that support the ferrous tablets supplementation program.

Human Resources

Health human resources (HRH) are an important part of driving health development. Health human resources are responsible for increasing the awareness, willingness, and ability of everyone to live a healthy life so as to achieve an optimal level of health. The adequacy (quantification) and competence (qualification) of human resources are very important for the implementation of health services (Ministry of Health RI & Rokom, 2013). Health human resources must be standardized through aspects of adequacy, educational background, work experience, training history (Nurcahyanti, 2021)

The results shown that the qualifications of human resources in this study are in accordance with the guidelines, consisting of a team of health workers and UKS teachers, however, the adequacy aspect still requires improvement. The staff nutrition oh Guguk Panjang Health Centre is only one person, but the activities are assisted by the others program (ABMS) screening program team consisting of doctors/nurses, nutritionists, promotional staff, pharmaceutical staff and UKS teachers from the school. The limited human resources of nutrition implementers has caused the program to not run optimally.

The problems of health human resources in Indonesia are availability, accessibility, acceptability, quality, and distribution that are not optimal. The health system can only operate if there is a health workforce that has the ability to increase the coverage of health services in accordance with health standards (Febrianti, 2022).

The findings of this study are in line with previous research stated that insufficient human resources affect the success of program implementation. Another study stated the need for additional human resources for the implementation of program. Similarly, others state that one of the reasons why the implementation of ferrous tablet supplementation is not in line with the guidelines is human resources (Permatasari, 2018).

Fund Allocation

The amount and allocation of funds that must be provided for use in health efforts according to the needs of individuals, groups, and communities. In the national health system, health financing is the arrangement of financial resources that regulates the extraction, allocation, and spending of health costs in an efficient, effective, economical, fair, transparent, and sustainable manner. Sources of health financing come from the APBN, local revenue and balancing funds, namely funds originating from the APBN which are decentralized to regions such as the General Allocation Fund (DAU), Special Allocation Fund (DAK) and Revenue Sharing Fund (DBH) (Armahedi, 2019). The purpose of health financing is to improve the overall health status of the community.

The results of study found that the allocation of funds for drug procurement was very adequate, but not yet available for another cost such as transportation, materials for periodic examination of hemoglobin levels and provision of health promotion media. Non-physical sources of BOK funds from the Ministry of Health, there is no funding support from the APBD and cost sharing from the school.

The implementation of health programs must be supported by budget availability so that all planned health work programs can be realized properly (Yudina & Fayasari, 2020). Research

on SDKI data in 2017 found that there was a significant correlation between the realization of health funding allocations and health service utilization metrics (Sugiharto et al., 2021). Indonesia's allocation of health funds is still relatively low when compared to the standards set by WHO, which is 15%-20% of the APBN (Nafiah, 2019).

The results of this study are not in accordance with the guidelines which stated that program implementation utilizes available funding sources (APBN, APBD) because there is no funding support from the APBD. However, this finding is in accordance with the results of previous research that funding activities through the Ministry of Health's non-physical BOK funds. In addition, this limited funding was also found in the results of Susanti's research (2022) on limited funds for distribution, provision, promotion and socialization media and program evaluation monitoring (Susanti, 2021).

Facilities and Infrastructure

Health infrastructure is an important part of the healthcare service system to support health services. Health facilities are places used to conduct health efforts, and infrastructure serves as supporting tools for the implementation of health service activities, such as transportation and medical equipment.

The results of study found that the availability of medicines is very adequate according to the target amount, with support from the school, the availability of data, storage warehouses for medicines, locations, and information transparency, allowing the activities to be carried out. However, there are limitations in the unavailability of periodic examination materials as an effort to monitor the hemoglobin levels of adolescent students and media for socialization and promotion of the program.

Health facilities are an important component of the healthcare service system to support the success of the program. The facilities and infrastructure in the implementation of the provision of ferrous tablets supplementation include the availability of medicines, medicine storage rooms, the availability of tools and materials for periodic Hb level examinations, media for socialization and promotion of the program, and media reminders for consumption ferrous tablet. (Nurcahyanti, 2021). The results of the study at Puskesmas Pujon, Kab. Malang showed a significant influence of facilities and infrastructure on patient satisfaction. (Ulandari & Yudawati, 2019). Similarly, research at Puskesmas Sipayung, Rengat showed that facilities and infrastructure affect the quality of service (Gultom, 2021).

The findings of this study are in line with previous research, which stated that there is still no alignment between the availability of facilities and infrastructure and the recommendations of the Ministry of Health in the anemia prevention and control guideline book. Similarly, as in previous research, several aspects that need improvement are the availability of periodic examination materials and audio-visual health promotion media (Jayadi, 2021; Maulida, 2023; Nurcahyanti, 2021).

Looking at this issue, researcher's assumption it is necessary to have policies that regulate the components of human resources, infrastructure, fund allocation, and media usage. According to the principle of health promotion media, the more senses are used to receive messages and health information from a media, the clearer the understanding of the received message.

Process: Implementation Mechanism, Innovative Programs, Family Support, and Supporting and Obstacle Factors

Implementation Mechanism

Intensification of prevention and control of anemia in adolescents by prioritizing the provision of iron supplements through school institutions with the aim of reducing the prevalence of anemia in adolescents. The success of preventing and controlling anemia in

adolescents requires SMART management support. (Specific, Measurable, Attainable, Relevant, Timely). Behavioral change interventions begin with the provision of management guidelines and the development of communication, information, and education media. Management of TTD supplementation includes needs planning (calculation of target numbers and needs calculation), provision, storage and distribution, administration, recording and reporting, as well as monitoring and evaluation. (Kementerian Kesehatan RI, 2018a)

The results of study showed that the program planning aspect begins with collecting target data and submitting the ferrous tablets requirements to the City Pharmacy Installation (IFK). The storage of ferrous tablet in the community health center's medicine warehouse is done according to standards and then packaged for distribution. Distribution of medicine to schools by staff nutrition through the UKS program to adolescent. Giving of ferrous tablets by TPG and UKS teachers with education on how to consume ferrous tablets. Recording has not been carried out optimally, whether using the CERIA application, supplementation cards, or my Health Report Book. Monitoring and evaluation have not been conducted optimally. Integration of the program with the School Health Unit (UKS) and no innovative programs to increase the coverage of TTD rematri administration.

The results of this study are in line with Jayadi's research (2021), which states that the planning of drug needs through the IFK and the distribution of drugs using the Blanket Approach method. Meanwhile, monitoring, recording, and reporting have not been carried out optimally, in line with Maulida's (2021) research which states that monitoring of TTD provision and TTD consumption compliance is not done regularly.

Family Support

One of the roles of the family is to maintain the health of its members, especially during adolescence, which is a period of rapid physical growth. Family support plays an important role in preventing anemia in adolescent girls. Forms of family support include 1) emotional support; expressions of empathy, care, and attention towards the individual so that the individual feels comfortable, loved, and noticed within a harmonious, safe, and peaceful family, 2) informational support; providing information about anemia prevention, 3) instrumental support; direct assistance in the form of facilities or material (fulfillment of nutritional needs, provision of money, transportation), and 4) esteem support; providing support by highlighting the positive aspects of the individual compared to others, which functions to enhance self-esteem and feelings of being valued.

The results of the data analysis explain that not all aspects of family support have been received by Rematri. Rematri received instrumental support and information support about anemia, but did not receive emotional support and appreciation support.

Family support plays a very important role in consuming iron supplements. The form of family support can include reminding the schedule for taking iron supplements and providing food that contains iron supplements. The high level of support given by the family can form a normative belief, and adolescent girls tend to develop a positive perception towards consuming iron supplements, thus forming a strong intention to consume iron supplements to avoid the risk of anemia. (Samputri & Herdiani, 2022).

The findings of this study are in line with the research by Nurjannah (2023), which states that there is an influence of family support factors on Fe consumption among adolescents. Similarly, Hafsa's research (2023) indicates a significant relationship between family support and adherence to TTD consumption. Adolescent girls who receive good family support tend to have high adherence to Fe tablet consumption and a lower risk of anemia. Adolescent girls who receive good family support can influence adherence to blood supplement tablet consumption and reduce the incidence of anemia among adolescent girls. High family support affects the

intention to adhere to blood supplement tablet consumption among adolescent girls. (Samputri & Herdiani, 2022; Utomo et al., 2020)

Supporting and Inhibitory Factors

Supporting factors are all factors that encourage, support, facilitate, assist, and expedite the occurrence of something. Inhibitory factors are all types of factors that hinder (slow down) or even obstruct and prevent the occurrence of something.

The results of study that the supporting factors such as the funding of program, medicine procurement, infrastructure, and cooperation with schools. The inhibiting factors identified are the unavailability of regional policies, limited human resources, budget for periodic examinations, the concern and awareness of adolescents, knowledge, cultural factors, and family support. In general, more inhibit factors were found than supporting factors in the program.

There are several success factors for the ferrous tablet supplementation program, including increased commitment, roles, and partnerships, improved facilities and infrastructure, socialization and campaign activities, the use of promotional media, and the involvement of influential figures to support the rematri TTD program (Yudina & Fayasari, 2020).

This results in line with Maulida's research (2021), which stated that supporting factors include cross-sector collaboration, cross-program collaboration, and acceptance from schools. This is also consistent with previous research that found family support to be a significant factor influencing compliance with ferrous tablet supplementation consumption (Samputri & Herdiani, 2022).

Output: Knowledge, Coverage of Program Supplementation, Prevalence of Anemia Adolescent Girls Knowledge

The factor that causes someone to experience anemia is knowledge. Knowledge influences a person's lifestyle and eating habits. The lack of knowledge among adolescents about anemia makes them vulnerable to anemia prevention efforts. Adolescent girls with insufficient knowledge are at 4.998 times have risk of not consuming iron supplementation tablets compared to adolescent girls with adequate or good knowledge.

The results of study showed that most girls had good knowledge about anemia (definition, causes, symptoms, impacts, prevention efforts). However, the informants' good knowledge was not accompanied by a complete understanding of anemia and its prevention, and their knowledge was not followed by attitudes that support anemia prevention efforts through the consumption of Fe tablets. Most teenagers did not adhere to the consumption of Fe tablets for various reasons, including the perception of potential drug dependence.

Knowledge about the consumption of iron supplements greatly influences early attitudes towards the use of iron supplements. Understanding the importance of using iron supplements encourages adolescent girls to think and strive to prevent iron deficiency anemia. The more knowledge adolescent girls have, the higher their compliance with the use of iron supplements (Samputri & Herdiani, 2022). Lack of confidence in blood supplements and dislike for the side effects they cause, the existing knowledge is not enough to attract teenage girls to consume blood supplements (Us et al., 2023).

Coverage of Program

The target of health services is the goal or objective that the health service system, health service providers, or the government aims to achieve in order to improve public health. The expected targets are an increase in the coverage of ferrous tablet supplementation and a decrease incidence of anemia adolescent girls.

The results of the data analysis showed that the program's target of all rematri targets receiving medication (100%) was met. However, the achievement target was not significantly correlated with the incidence of rematri anemia (42%) because there was no monitoring of consumption among adolescent.

The program for providing Fe tablets or Iron Folic Acid (IFA), also known as Weekly Iron and Folic Acid Supplementation (WIFAS/WIFS). The administration of IFA is considered successful if the dosage consumed is 1 tablet every week for 1 year. (Helmyati et al., 2023). The coverage rate of program in Indonesia in 2022 was 50%, with the highest percentage in 2022 being in Bali Province at 95.1% and the lowest in West Papua Province at 2.5%. Meanwhile, the coverage of program in West Sumatra was 45.9%, which has not yet met the national coverage (Ministry of Health RI, 2023).

The results of study in line with Jayadi's research (2021), which stated that the provision of Fe tablet reached >81% and exceeded the set target. This is also consistent with previous studies that reported provision coverage of >80%. Similarly, other studies reported coverage of 97.1%, a study in East Jakarta reached 44% and exceeded the set target, and a study in West Pasaman with coverage of 49.7% also exceeded the target for that year (Susanti, 2021).

Prevalence of Anemia Adolescent Girl

Anemia has become one of the nutritional problems in Asia, including Indonesia. Adolescent girls are a group at high risk of anemia due to growth and increased iron requirements during menstruation. 27% of girls aged 11-18 do not meet their iron needs, while only 4% of boys do. This explains that adolescent girls are at a higher risk of iron deficiency, and this condition accelerates the occurrence of anemia (Nurchayanti, 2021).

Based on data analysis, research findings from the Health Department indicate that the incidence of anemia among adolescent girls reaches 42%. Meanwhile, according to the 2023 screening report, the prevalence of anemia among adolescent girls is 28.3%. There are no research results conducted by the school, so the incidence of anemia among adolescent girls is unknown.

The results of this study are in line with the 2018 riskesdas findings, which indicated that 32% of adolescents experienced anemia. Research in Bapunagar, India found at 35.1% (Chaudhary & Dhage, 2008), in Ethiopia faound at 31.5% (Engidaw, 2018). Research in Banjarmasin found an incidence of anemia of 29.3% (Vaira, 2022), in Puskesmas Bengkuring at 40.1%. (Suyatni Musrah & Widyawati, 2019). Research findings in Pekanbaru reported a higher anemia rate of up to 64.7%, and another study reported an anemia incidence rate of 60.8% (Istawati, 2022).

Problem-Solving Recommendations

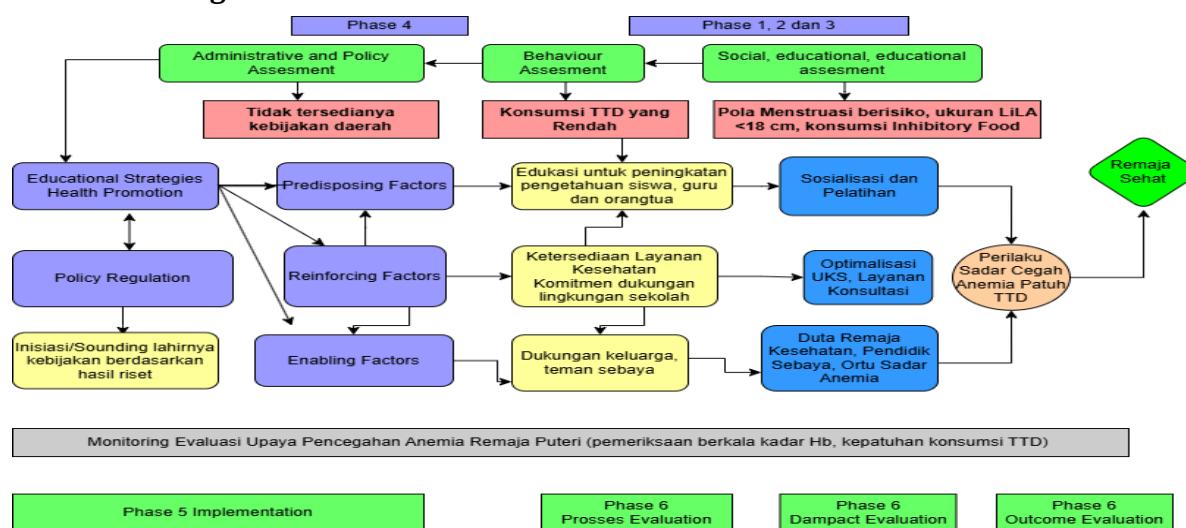


Figure 1. Adolescent Girls Anemia Prevention Intervention Model

Based on the results of the data analysis, it is recommended to use a problem-solving model by modifying the theory of L.Green (1980), Arisman (2014) UNICEFF (1998). This model consists of 8 stages, starting from the assessment of social, educational, behavioral, and policy/regulatory aspects encompassing the implementation of the TTD rematri program (phase 1 s.d 4). After that, it is followed up with health promotion using an educational strategy approach by enhancing knowledge among students, peers, school health teachers, and parents through socialization activities, advocacy, and training on anemia and its prevention. (phase 5). Next, the implementation phase requires process evaluation with indicators of knowledge transfer and knowledge improvement (phase 6), impact evaluation with indicators of behavioral change (phase 7), ending with outcome evaluation with the indicator of adolescents not being anemic. (phase 8). Figure 1.

V. CONCLUSION

In general, ferrous tablets provision program has been running well, but there are still several aspects that do not align with the national guidelines on the prevention and control of anemia in adolescent girls. Based on the research findings, discrepancies were found in the input, process, and output aspects. The strategy for improving and strengthening the program is to initiate a policy at the regional regulation level to regulate the program according to the situation and conditions of the target schools.

One of the references for the regional policy study is the research results on this program. This research is expected to serve as a reference, evaluation material, and input for relevant parties to improve and strengthen the program so that it can run effectively and beneficially.

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