

The Effectiveness of The Blood Enhancement Tablet Program In The Prevention of Anemia In Adolescent Girls: Systematic Literature Review

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Abstract.

Anemia in adolescent girls is still a fairly high public health problem in Indonesia. One of the government's efforts to prevent anemia is through the program of giving tablets added Blood (TTD) to young women. However, the compliance rate of TTD consumption is still relatively low because it is influenced by various factors, especially individual perceptions of the benefits, risks, and side effects of TTD. This study aims to analyze the perception of adolescent girls on the consumption behavior of tablets added blood based on the results of research that has been published as well as its relevance to the condition of adolescent girls in the villages and towns of Jambi province. The method used is Systematic Literature Review (SLR) with PRISMA approach. Articles are obtained from various national scientific sources relevant to the research topic. A total of 10 articles that meet the inclusion criteria were systematically analyzed based on research focus, methods, and results obtained. The results showed that the perception of adolescent girls have a significant influence on the behavior of TTD consumption. Perceptions regarding the benefits of TTD, susceptibility to anemia, the severity of anemia, and confidence in the effectiveness of TTD contribute to improving consumption compliance. On the contrary, negative perceptions related to side effects, discomfort, and lack of environmental support are the main barriers to TTD consumption. In addition to perception factors, knowledge, family support, teacher support, health workers, and peers also play a role in shaping TTD consumption behavior. Therefore, a sustainable education strategy is needed to improve the understanding and positive perception of adolescent girls towards the consumption of tablets added blood in order to reduce the rate of anemia among adolescents.

Keywords: Perception, Adolescent Girls, Iron Supplements and Anemia.

I. INTRODUCTION

Anemia is one of the health problems experienced by many young women in Indonesia. This condition occurs when hemoglobin levels in the blood are below normal limits, reducing the blood's ability to transport oxygen throughout the body. Teenage girls have a higher risk of anemia because they menstruate every month and need more iron during growth. Anemia can lead to fatigue, decreased learning concentration, impaired productivity, to decreased quality of life. If not treated properly, anemia can have an impact on reproductive health in the future. Therefore, the Prevention of anemia in adolescent girls is one of the priorities in the National Health program.[1]

The government of Indonesia has implemented various programs to overcome anemia in adolescent girls, one of which is through the provision of blood supplement tablets (TTD). This Program aims to meet the needs of iron and prevent the occurrence of anemia since adolescence. Add Blood tablets are given routinely to young women both at school and through health facilities. Although this program has been running for quite some time, the level of TTD consumption compliance is still a challenge in various regions. Many young women have not taken TTD regularly according to the recommendations given. These conditions indicate that the success of the program depends not only on the availability of TTD but also on the behavior of the individual.[2]

The consumption behavior of add Blood tablets is influenced by various factors, both internal and external. One of the internal factors that have an important influence is the individual's perception of TTD and anemia. A positive perception of the benefits of TTD can encourage adolescents to consume it regularly. Conversely, negative perceptions such as fear of side effects or the assumption that TTD is not necessary can hinder consumption compliance. Perception is formed through personal experience, information received, as

well as the influence of the surrounding environment. Therefore, understanding the perception of young women is important in efforts to improve the success of anemia prevention programs.

In addition to perception, various studies have shown that knowledge, family support, support from teachers, health workers and peers also influence TTD consumption behavior. A supportive social environment can strengthen adolescents' motivation to adopt positive health behaviors. Conversely, lack of adequate support and information can lead to low compliance of TTD consumption. These factors interact with each other in shaping the behavior of adolescent girls toward anemia prevention programs. Therefore, a comprehensive approach is needed in understanding the factors affecting the consumption of TTD.[3]

Jambi province is one area that still faces challenges in the Prevention of anemia in adolescent girls. Differences in the characteristics of rural and urban areas can affect access to health information, education levels, and TTD consumption behavior. Young women living in urban areas generally have greater access to information than adolescents in rural areas. Nevertheless, the perception factor remains an important aspect that influences TTD consumption behavior in both groups. Therefore, the study on the perception of adolescent girls becomes relevant to support health programs in Jambi province.

Based on this description, A study is needed that is able to identify and analyze various research findings regarding the perception of adolescent girls on the consumption of blood enhancement tablets. The Systematic Literature Review (SLR) method was chosen because it is able to provide a comprehensive overview of the results of research that has been done before. Through this study, it is expected to obtain a deeper understanding of the factors that influence TTD consumption behavior. The results of the study are expected to be the basis for the preparation of more effective health intervention strategies. Thus, efforts to prevent anemia in adolescent girls can be done more optimally.[4]

II. METHODS

Penelitian ini menggunakan metode Systematic Literature Review (SLR) dengan pendekatan Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA). This method is used to identify, select, evaluate, and synthesize various research results related to the perception of adolescent girls on the behavior of consumption of tablets added Blood. PRISMA approach was chosen because it is able to provide a systematic, transparent, and scientifically accountable review process. The focus of the study is directed to articles that discuss the perception and behavior factors of TTD consumption in adolescent girls. Using this method, the researcher can obtain a comprehensive picture of the phenomenon under study. The results of the study are then used to answer the research objectives that have been set.[5]

The article search process is carried out through various national scientific databases relevant to the field of Public Health and nutrition. Keywords used included "young women", "blood enhancement tablets", "perception", "anemia", and "adherence to TTD consumption". The selected article is a research published in a time span that suits the needs of the study. Furthermore, the process of identification, screening, and assessment of the feasibility of articles based on inclusion and exclusion criteria that have been determined. The articles that meet the criteria are then put into the analysis phase. Through the process, ten articles relevant to the research topic were obtained. These articles are the main source in the preparation of the results of the study.

Data analysis is done descriptively by comparing and classifying the results of research based on emerging themes. The information analyzed includes the characteristics of the study, the methods used, the object of research, as well as the main results related to the perception and behavior of TTD consumption. The Data is then presented in the form of tables and narrative descriptions to facilitate the interpretation of the results. Synthesis is done by identifying similarities and differences between research findings.[6] Selanjutnya, hasil sintesis digunakan untuk menjelaskan faktor-faktor yang memengaruhi perilaku konsumsi TTD pada remaja putri. Thus, this study produced a comprehensive picture of the perception of adolescent girls towards the consumption of blood enhancement tablets.

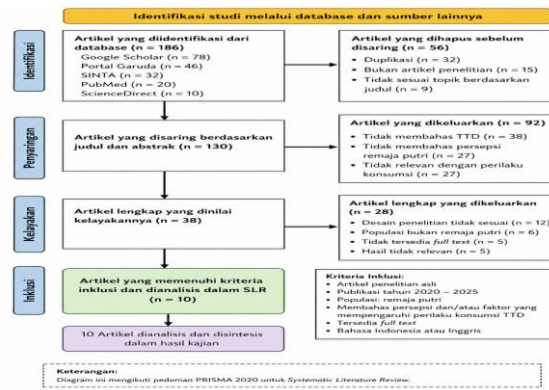


Fig. 1. Prism Flow Chart

Chart 1. Hasil Systematic Literature Review (SLR)

No	Research Title	Author & Year	Research Method	Focus / Object	Research Results
1	Consumption Behavior Of Blood-Added Tablets (TTD) In Adolescent Girls	Lisda Oktavia Madu Pamangin (2023)	Quantitative, Purposive Sampling, Chi-Square	Student Of Cenderawasih University	Knowledge Is Related To TTD Consumption, While Perception Is Not Significantly Related.
2	Overview Of Adolescent Girls ' Behavior In Taking Blood-Adding Tablets In SMP Negeri 2 Tambusai	Teguh Santoso (2025)	Quantitative Descriptive Survey	Of Adolescent Girls SMP Negeri 2 Tambusai	Knowledge Is Good Enough, Attitudes And Practices Of TTD Consumption Are Positive.
3	Relationship Of Knowledge Of Young Women With Consumption Of Tablets Add Blood In Posyandu Repasa Trimulyo	Siti Rohani Village (2025)	Quantitative Cross Sectional	Of Young Women Posyandu Repasa The	Majority Of Knowledge Is Enough And 60% Consume TTD.
4	Literature Review: The Relationship Of Perception To The Consumption Of Tablet Add Blood Young Women	Tri Widia Aningsih (2024)	Literature Review	Young Women	Perceptions Of Vulnerability, Seriousness, Benefits, Barriers, And Beliefs Are Related To TTD Consumption Compliance.
5	Factors That Influence The Intention Of Young Women To Consume TTD In Sirnagalih Village Bogor	Nabila Aulia Ainaya (2022)	Quantitative Cross Sectional	Of Young Women In Sirnagalih Village	Perception Of Benefits And Self-Efficacy Are Significantly Related To The Intention To Consume TTD.
6	Behavior Analysis Of Tablet Consumption Add Blood In Adolescent Girls	Tia Anggraeni (2024)	Quantitative Cross Sectional	Adolescent Girls Junior And Senior High School Way Kanan District	Knowledge, Support Of Parents, Teachers, And Health Workers Affect The Consumption Of TTD.
7	Factors Of Tablet Consumption	Dhian Wahyudi	Cross Sectional	SMA Negeri 2 Cileungsi Stu-	Knowledge, Attitude, Support Of

	Add Blood Teenage Girls In SMA Negeri 2 Cileungsi	Lubis (2025)		dents	Teachers, Parents And Health Workers Are Related To TTD Consumption.
8	Analysis Of Factors Affecting TTD Consumption In Female Students At Pondok Pesantren Terpadu Al-Fusha	Marekhatun Khasanah (2025)	Quantitative Cross Sectional	Of Female Students	Perceptions Of Vulnerability, Seriousness, Benefits And Barriers Related To TTD Consumption Compliance.
9	Overview Of The Behavior Of Consumption Of Blood-Adding Tablets In Adolescent Girls In Tabanan	Rini Winangsih (2023)	Qualitative (FGD)	High School Students In Tabanan	Non-Compliance Is Influenced By Perception, Support From Parents, Teachers, Peers, And Health Workers.
10	Factors That Influence The Consumption Of Tablets Add Blood In Adolescent Girls In SMAN 1 Tumijajar	Elsya Novaria (2025)	Cross Sectional Analysis	Of SMAN 1 Tumijajar Students	Knowledge, Attitude, Influence Of Friends And Family Support Affect The Consumption Of TTD.

III. RESULT AND DISCUSSION

Perception of Adolescent Girls on the consumption of tablets increased blood

Perception is one of the important factors that affect a person's health behavior, including the behavior of consumption of blood supplement tablets (TTD) in adolescent girls. Based on the results of a literature review, a positive perception of TTD can increase adolescent compliance in taking the tablet. Research conducted by Tri Widia Aningsih shows that perceptions of susceptibility to anemia, the severity of anemia, the benefits of TTD, and confidence in the effectiveness of TTD have a significant relationship with the behavior of TTD consumption in adolescent girls.[7] Remaja yang memahami pentingnya TTD cenderung memiliki kesadaran yang lebih tinggi untuk menjaga kesehatan dan mencegah anemia. Therefore, perception is one of the factors that determine the success of iron supplementation programs in adolescent girls.

Perceptions of risk or susceptibility to anemia also influence adolescent decisions in taking TTD. The results of Marekhatun Khasanah's research showed that adolescent girls who felt prone to anemia had a higher tendency to consume TTD regularly than those who felt they were not at risk. The realization that anemia can lead to fatigue, impaired learning concentration, and decreased productivity is an incentive for adolescents to maintain their health. In contrast, adolescents who consider themselves healthy and not at risk often ignore the recommendations for TTD consumption. These findings suggest that the perception of vulnerability is one of the important components in shaping health behavior. Therefore, education about the risk of anemia needs to be done on an ongoing basis.

Perception of benefit is also a dominant factor in the various studies analyzed. Nabila Aulia ainaya's research found that the perception of benefits has a significant relationship with the intention of adolescent girls to consume TTD. Teens who understood that TTD could help increase hemoglobin levels, prevent anemia, and keep in shape showed better levels of compliance.[8] Pemahaman mengenai manfaat tersebut dapat meningkatkan motivasi internal untuk menjalankan perilaku sehat. Conversely, a lack of understanding of the benefits of TTD leads to low interest in taking such tablets. Therefore, clear and understandable information is needed in health education programs.

Negative perception of TTD is still an obstacle in the implementation of anemia prevention programs. Rini Winangsih's research revealed that some teenage girls are reluctant to take TTD because they are worried about side effects such as nausea, dizziness, or discomfort after taking the tablets. These negative perceptions often arise due to the lack of correct information regarding the use of TTD. In addition, personal experiences and stories from peers can reinforce negative perceptions that adolescents have. As a result, TTD consumption compliance is low despite the availability of tablets. Therefore, health workers need to provide education about the benefits and how to overcome the side effects of TTD so that the perception of adolescents becomes more positive.

Factors that influence the consumption behavior of tablets add Blood

Knowledge is one of the most widely found factors associated with TTD consumption behavior in adolescent girls. Lisda Oktavia Madu Pamangin's research shows that there is a significant relationship between the level of knowledge with TTD consumption behavior.[9] Remaja yang memiliki pengetahuan yang baik mengenai anemia dan manfaat TTD cenderung lebih patuh dalam mengonsumsi tablet tersebut. Adequate knowledge helps adolescents understand the importance of anemia prevention and the impact that can be caused if anemia is not treated properly. Therefore, increasing knowledge through health education is one of the effective strategies to improve TTD consumption compliance. The better a person's level of knowledge, the greater the likelihood of forming positive health behaviors.

The results of Siti Rohani's research also showed that most of the young women who have sufficient knowledge about TTD more regularly consume the tablet compared to adolescents who have low knowledge. Knowledge can be obtained through various sources such as schools, families, social media, and health workers. Correct and easy-to-understand information will help teenagers make the right decisions regarding their health.[10] Sebaliknya, kurangnya akses terhadap informasi kesehatan dapat menyebabkan rendahnya kesadaran untuk mengonsumsi TTD. Therefore, the dissemination of effective health information is necessary in supporting the success of anemia prevention programs.

DD family support has a very important role in shaping TTD consumption behavior. Elsyia Novaria's research shows that family support is related to young women's adherence to taking TTD. Parents who actively remind and provide motivation can help increase children's awareness to maintain health. Family support can also provide a sense of security and confidence to adolescents in running the recommended health program. Conversely, lack of attention from the family can lead to low adherence to TTD consumption. Therefore, families need to be involved in every youth health program.[11]

Environmental factors of schools and health workers also have a significant influence on TTD consumption behavior. Research by Tia Anggraeni (2024) and Dhian Wahyudi Lubis shows that the support of teachers and health workers is related to adherence to TTD consumption in adolescent girls. School is a strategic place to provide health education because most teenagers spend their time in the school environment. Teachers and health workers can act as reliable sources of information about the benefits of TTD. In addition, monitoring TTD consumption at school can also improve adolescent compliance. Therefore, collaboration between schools and health workers needs to be strengthened.

Differences in perception and behavior of tablet consumption add Blood in adolescent girls in villages and cities

Differences in the characteristics of rural and urban areas can affect the perception and behavior of consumption of tablets added blood in adolescent girls. Adolescents living in urban areas generally have greater access to health information through the internet, social media, schools, and health facilities. This condition allows them to gain better knowledge about the benefits of TTD and the dangers of anemia. In contrast, adolescents in rural areas often face limited access to information and health services so that understanding of TTD is not always optimal. Nevertheless, the level of adherence to TTD consumption is determined not only by access to information but also by the individual's perception of the importance of maintaining health. Therefore, regional differences can affect how adolescents understand and accept TTD programs.[12]

Based on the results of various studies, positive perceptions of TTD tend to be more easily formed if adolescents obtain adequate information about the benefits and purposes of taking the tablet. Nabila Aulia

Ainaya's findings indicate that the perception of benefits plays an important role in shaping TTD consumption intentions. In the context of urban areas, better access to information can help improve perceptions of those benefits. However, in rural areas, the perception of adolescents is often influenced by the family environment and the surrounding community. If the environment provides good support, then TTD consumption compliance can also increase even though access to information is relatively limited. This shows that social factors have an important role in shaping Adolescent Health Behavior.

Perceptions of barriers to TTD consumption may also differ between adolescents in rural and urban settings. Rini Winangsih's research shows that fear of side effects is one of the main reasons for low compliance with TTD consumption. In rural areas, incomplete information about side effects often leads to various incorrect assumptions about TTD. Meanwhile, adolescents in urban areas tend to be easier to obtain information on how to overcome side effects so that negative perceptions can be minimized. However, negative perceptions can still arise in both groups if health education is not done optimally. Therefore, the delivery of appropriate information is very important in improving compliance with TTD consumption.[13]

The results of the study showed that both young women in the village and in the city have the same opportunity to form good TTD consumption behavior if supported by knowledge, positive perceptions, and a supportive environment. Research Tri Widia Aningsih and Marekhatun Khasanah confirmed that the perception of the benefits, vulnerability, and seriousness of anemia is a factor that affects the adherence of TTD consumption. Therefore, anemia prevention programs in Jambi province needs to be adjusted to the characteristics of rural and urban areas. Targeted educational approaches, increased role of Family, School, and health workers can help improve adherence to TTD consumption in adolescent girls. Thus, the goal of anemia prevention programs can be achieved more effectively.

IV. CONCLUSION

Based on the results of the Systematic Literature Review of ten articles analyzed, it can be concluded that the perception of adolescent girls has an important role in shaping the behavior of consumption of tablets added Blood. Perceptions regarding benefits, susceptibility to anemia, disease seriousness, and effectiveness of TTD have been shown to encourage consumption adherence. On the contrary, negative perceptions of side effects and lack of understanding of the benefits of TTD become obstacles in the implementation of the program. In addition to perception factors, knowledge, family support, school support, health workers, and peers also contribute to TTD consumption behavior. These factors interact with each other in shaping adolescents' decisions to consume TTD regularly. Thus, efforts to increase compliance with TTD consumption must be carried out thoroughly.

Based on the findings of the study, a continuing education strategy is needed to increase the positive perception of adolescent girls towards the consumption of blood enhancement tablets. Education is not only addressed to adolescents, but also to families, teachers and social environments that play a role in the formation of health behaviors. The TTD administration Program needs to be accompanied by counseling on benefits, how to consume correctly, and handling side effects that may arise. In addition, collaboration between schools, health workers, and the government needs to be strengthened to improve the effectiveness of anemia prevention programs. With the support of various parties, it is expected that the level of TTD consumption compliance in adolescent girls can increase. Ultimately, these efforts can help reduce the prevalence of anemia and improve the quality of adolescent girls' health in Indonesia, including in Jambi province.

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