

## THE RELATIONSHIP BETWEEN PERCEPTION, MEDIA, AND PEERS TOWARDS ADOLESCENTS' DECISION-MAKING IN CONSUMING IRON TABLETS

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### ABSTRAK: HUBUNGAN PERSEPSI, PAPARAN MEDIA INFORMASI DAN TEMAN SEBAYA TERHADAP PENGAMBILAN KEPUTUSAN REMAJA DALAM MENGKONSUMSI TABLET TAMBAH DARAH

Latar Belakang: Prevalensi anemia yang menjadi salah satu masalah gizi utama pada remaja putri di Indonesia masih tergolong tinggi. Sehingga menjadi tantangan serius pada peningkatan kualitas kesehatan generasi mendatang. Pemberian Tablet Tambah Darah (TTD) kepada remaja putri diharapkan dapat memutus mata rantai stunting, mengurangi insiden anemia, hingga meningkatkan cadangan zat besi dalam tubuh remaja. Sehingga diharapkan dapat membekali remaja putri agar kelak menjadi ibu yang mampu melahirkan generasi penerus yang sehat, berkualitas, dan produktif. Mengidentifikasi dan memahami factor yang berhubungan dengan keputusan remaja dalam mengkonsumsi tablet tambah darah, dapat berkontribusi langsung dalam perancangan strategi efektif dalam rangka meningkatkan cakupan konsumsi tablet tambah darah remaja. Serta secara tidak langsung dapat memperbaiki dan meningkatkan status gizi remaja.

Tujuan: Menganalisis hubungan persepsi, paparan media informasi dan teman sebaya terhadap keputusan remaja dalam mengkonsumsi tablet tambah darah.

Metode: Desain penelitian ini adalah kuantitatif dengan metode *cross-sectional study*, yang mengkaji hubungan variabel persepsi, paparan media informasi dan teman sebaya terhadap variabel pengambilan keputusan. Sampel penelitian ini adalah siswa SMP Muhammadiyah 2 Singaraja sebanyak 36 sampel. Data dikumpulkan menggunakan kuesioner terstruktur, kemudian dianalisis dengan uji chi-square pada taraf signifikansi 0,05.

Hasil: Hasil uji *chi-square* menunjukkan adanya hubungan antara teman sebaya dan paparan media informasi terhadap Keputusan remaja dalam mengkonsumsi tablet tambah darah. Sedangkan pada variabel persepsi, tidak terdapat hubungan yang berarti terhadap Keputusan remaja dalam mengkonsumsi tablet tambah darah.

Kesimpulan: Terdapat hubungan positif antara teman sebaya dan paparan media informasi terhadap keputusan remaja untuk mengkonsumsi tablet tambah darah.

Saran: Penelitian selanjutnya dapat mengeksplorasi variabel terkait lainnya seperti status ekonomi keluarga, akses ke layanan kesehatan, hingga budaya/kepercayaan.

Kata Kunci: Media Informasi, Tablet Tambah Darah, Teman Sebaya, Persepsi,

### ABSTRACT

Background: Anemia is one of the major nutritional problems among adolescent girls in Indonesia, with a relatively high prevalence, making it a serious challenge in efforts to improve the quality of health for future generations. The provision of iron-folic acid (IFA) supplements to adolescent girls is expected to break the cycle of stunting, reduce the incidence of anemia, and increase iron reserves in the body. This is anticipated to equip adolescent girls so that in the future they can become mothers capable of giving birth to healthy, high-quality, and productive future generations. Identifying and understanding the factors related to adolescents' decisions in consuming IFA tablets can directly contribute to the design of effective strategies to increase the coverage of IFA tablet consumption among adolescents, and indirectly improve and enhance their nutritional status.

Purpose: To analyze the relationship between perception, media exposure, and peer influence on adolescents' decisions to consume IFA tablets.

Methods: This research employed a quantitative design with a cross-sectional study approach, examining the relationship between perception, media exposure, and peer influence variables with decision-making. The study sample consisted of 36 students from SMP Muhammadiyah 2 Singaraja. Data were collected using a structured questionnaire and analyzed using the chi-square test at a 0.05 significance level.

Results: The chi-square test results indicated a significant relationship between peer influence and media exposure on adolescents' decisions to consume IFA tablets. Meanwhile, the perception variable did not show a significant relationship with adolescents' decisions to consume IFA tablets.

Conclusion: There is a positive relationship between peer influence and media exposure on adolescents' decisions to consume IFA tablets.

Suggestion: Future research may explore other related variables such as family socioeconomic status, access to healthcare services, and cultural or belief systems.

Keywords: Iron Tablets, Media Information, Peers Group, Perception

## INTRODUCTION

A current central priority in public health is the *First 1,000 Days of Life (HPK)*. Adverse conditions arising during this critical developmental window not only increase the risk of morbidity and mortality among mothers and children but may also exert enduring impacts on the overall quality of life across the lifespan. (Amelia et al., 2023) To mitigate this concern, the Indonesian Ministry of Health implemented an iron supplementation program for women, with a phased coverage target that commenced at 10% in 2015 and progressively expanded to 30% by 2019 (Rahayuningtyas et al., 2021). The distribution of iron tablets to adolescent girls is anticipated to disrupt the intergenerational cycle of stunting, lower the prevalence of anemia, and enhance the body's iron reserves. This initiative is designed to strengthen the health resilience of adolescent girls, thereby preparing them to become future mothers who can give birth to healthy, high-quality, and productive generations. (Sulistiyawati & Nurjanah, 2018)

The prioritization of adolescent health and the prevention of anemia is further underscored by Minister of Health Regulation No. 88 of 2014, which sets standards for iron tablet supplementation for women of reproductive age, as well as by a circular issued in the same year by the Directorate General of Public Health of the Indonesian Ministry of Health. This policy recommends that adolescent girls consume one iron tablet per week, with distribution strategically facilitated through educational institutions to ensure broad accessibility. These measures highlight the government's commitment to safeguarding the health of the younger generation, thereby enabling them to grow, develop, and contribute as healthy, productive, and competitive individuals. (Agustini, 2023)

Anemia continues to represent a major global public health challenge, with adolescent girls being among the most affected populations across many countries (Khanal et al., 2024). Anemia is defined as a condition marked by insufficient hemoglobin (Hb) levels in the blood, with adolescent

girls identified as the most vulnerable group. As a developing nation, Indonesia continues to face a comparatively high prevalence of anemia, which poses a substantial public health concern (Fauziah et al., 2023). Furthermore, data shows that the prevalence of anemia in Indonesia remains high, with anemia among adolescent girls reaching 32% (Ministry of Health, 2019). Several factors underlie the high incidence of anemia among adolescent girls, one of the most prominent being the increased physiological demand for iron to compensate for menstrual blood loss. The daily iron requirement for this group is estimated at approximately 26 mg, with absorption needs rising markedly during the ages of 14–15. These conditions render adolescent girls particularly susceptible to anemia (Pemayun et al., 2023).

A variety of internal and external factors shape adolescents' decisions regarding iron tablet consumption. Internal determinants include knowledge, perception, and personal intention, whereas external influences encompass exposure to information sources, peer behavior, relatives, and family support. The prevalence of anemia among adolescent girls cannot be attributed solely to menstrual blood loss; restrictive dietary practices often lead to iron deficiency and hormonal imbalance. These conditions are compounded by negative perceptions, such as assumptions that iron tablets provide no tangible benefit, unappealing packaging, peer discouragement, and aversion to the tablets' taste (Puspitasari et al., 2022).

Adolescence represents a pivotal transitional phase in the human life course, marked by rapid growth and heightened nutritional demands. For girls, the onset of menarche further increases susceptibility to iron deficiency due to menstrual blood loss. Without adequate management, iron deficiency anemia can impair cognitive concentration, lower academic performance, and diminish productivity, ultimately undermining the quality of future human resources. Furthermore, evidence indicates that adolescent anemia extends beyond a biomedical condition, being closely linked

to social determinants of health such as socioeconomic status, dietary diversity, and gender inequality. Consequently, interventions targeting adolescent girls are considered highly strategic for improving both immediate and long-term health outcomes (Helmyati et al., 2023).

Identifying and analyzing the determinants influencing adolescents' decisions to consume iron tablets is essential for developing effective strategies to increase coverage. Indirectly, such interventions also contribute to improving and strengthening the overall nutritional status of adolescents. In this context, the present study examines the relationship between perception, exposure to information media, and peer influence with adolescents' decisions to consume iron tablets.

## RESEARCH METHODS

This study utilized a quantitative cross-sectional design to examine the relationship between the independent variables—perception, exposure to information media, and peer influence—and the dependent variable, namely adolescents' decisions to consume iron tablets. The research was carried out at SMP Muhammadiyah 2 Singaraja, a centrally located school selected as a representative study site. A total of 36 students were included as the final sample, determined through sample-size calculation and eligibility screening based on predefined inclusion and exclusion criteria.

The inclusion criteria consisted of female students aged 12–15 years, enrolled at SMP Muhammadiyah 2 Singaraja, who were able to read and comprehend the questionnaire, present during

data collection, and willing to participate by providing signed informed consent. Exclusion criteria included students who were absent or ill during data collection, unwilling to participate, or who submitted incomplete questionnaires.

Data were gathered using a structured questionnaire that underwent content validation and pilot testing to ensure clarity and reliability. The instrument assessed perceptions, frequency of information exposure, peer influence, and decision-making regarding iron tablet consumption. Data collection was conducted in classrooms under supervision following approval from the school and consent from participants.

The collected data were analyzed using the chi-square test to assess statistical associations between variables, with significance set at  $p < 0.05$ . Ethical considerations were upheld by securing approval from the institutional ethics committee, obtaining informed consent, and ensuring the confidentiality of all participants.

## RESEARCH RESULTS

In this study, respondents' characteristics were categorized according to several criteria, including age, grade level, parental educational background, and parental occupation. Preliminary findings revealed that the majority of respondents had not yet received comprehensive education concerning anemia and iron tablet supplementation. However, a portion of respondents reported having previously obtained information from the community health center during iron tablet distribution activities conducted a few months prior.

**Table 1**  
**Distribution of Respondent's Characteristics**

Characteristics	N	%
Age		
12 - 13	0	0
14 – 15	27	75
>15	9	25
Class Grade	N	%
7th	30	83
8th	4	11
9th	2	6
Father's Education Level	N	%
Completed Elementary School	1	3
Completed Junior High School	4	11
Completed High School	26	72
Bachelor Degree	5	13
Master's Degree	0	0
Doctoral Degree	0	0

Mother's education level	N	%
Completed Elementary School	6	17
Completed Junior High School	1	3
Completed High School	22	61
Bachelor Degree	6	16
Master's Degree	1	3
Doctoral Degree	0	0
Father's Occupation		
Civil Servant/Police/TNI/BUMN	1	3
Private sector employee	3	8
Private sector	18	50
Laborer	3	8
Unemployed	0	0
Other	11	31
Mother's Occupation	N	%
Civil Servant/Police/TNI/BUMN	2	6
Private sector employee	3	8
Private sector	11	31
Laborer	0	0
Unemployed	9	24
Other	11	31
Iron Tablet Intake		
Ever Consumed	18	48
Never Consumed	19	52

The hypothesis of this study posits that when the p-value is less than 0.05, the alternative hypothesis ( $H_a$ ) is accepted, indicating a statistically significant relationship between the examined variables and adolescents' decisions to consume iron tablets. Conversely, if the two-tailed p-value

exceeds 0.05, the alternative hypothesis is rejected, signifying that no significant association exists between the variables under investigation and adolescents' decisions regarding iron tablet consumption.

**Table 2**  
**Chi-Square Test Results on the Relationship Between Variables and Adolescents' Decisions to Consume Iron Tablets**

Variables	Intervention Result (%)	Chi-Square Result
Perceptions		
Positive	26 (72%)	0.367
Negative	10 (32%)	
Media Information Exposure		
High	32 (89%)	0.028
Low	4 (11%)	
Peer influence		
Favorable	34 (94%)	0.005
Unfavorable	2 (6%)	

The chi-square test results, as presented in the table above, assessed the relationships between perception, media exposure, peer influence, and adolescents' decisions to consume iron tablets. The Asymptotic Significance value for perception was 0.367. Since this value exceeds 0.05 ( $0.367 > 0.05$ ), it can be concluded that

perception has no statistically significant association with decision-making. This suggests that individual perceptions alone are not a determining factor in adolescents' decisions to consume iron tablets. In contrast, the Asymptotic Significance value for media exposure was 0.028. As this value falls below the 0.05 threshold ( $0.028 < 0.05$ ), the results

demonstrate a significant relationship between media exposure and decision-making. This indicates that access to and engagement with information media play a meaningful role in influencing adolescents' choices regarding iron tablet consumption. Similarly, peer influence yielded an Asymptotic Significance value of 0.005, which is also below 0.05 ( $0.005 < 0.05$ ), signifying a significant association. This finding underscores the critical role of peers in either reinforcing or discouraging health-related behaviors. In summary, the analysis reveals that while perception does not significantly influence adolescents' decisions to consume iron tablets, both media exposure and peer influence exhibit strong and statistically significant relationships. These findings highlight the importance of external social and informational factors, suggesting that adolescents' health behaviors are shaped not only by the frequency and quality of information received through various media channels but also by the attitudes and practices of their peers.

#### **The Relationship Between Adolescents' Perceptions and Their Decision to Consume Iron Tablets**

This study revealed no significant association between adolescents' perceptions and their decisions to consume iron tablets. This finding diverges from much of the existing literature, which has consistently shown that favorable perceptions of benefits, minimal perceived barriers, and higher levels of self-efficacy are positively correlated with adherence to iron tablet supplementation (Amir & Djokosujono, 2019). Perceptions are widely regarded as a key determinant of health behavior, as outlined in the Health Belief Model, in which perceived susceptibility and perceived benefits are critical factors influencing decision-making. Nevertheless, the findings of this study indicate that perception alone is insufficient to stimulate actual consumption behavior. Although several respondents expressed positive perceptions of iron tablets, their decisions were not consistent with these beliefs. Comparable results have been documented in previous studies, which reported that the proportion of adolescents holding favorable perceptions but demonstrating low adherence was similar to that of those with negative perceptions (Pamangin, 2023). This discrepancy may be attributable to moderating factors such as fear of potential side effects, limited access to reliable information, or inadequate knowledge about anemia and the role of supplementation. Furthermore, some adolescents reported consuming iron tablets only

when experiencing symptoms such as dizziness or fatigue, rather than adopting supplementation as a preventive health behavior (Pamangin, 2023). Many adolescents hold ambivalent perceptions, combining positive views with concerns about the unpleasant taste of the tablets, their metallic odor, or potential side effects such as nausea and abdominal discomfort. Such barriers may diminish or even outweigh the perceived benefits of supplementation. Moreover, perceived benefits alone are insufficient to ensure adherence in the absence of adequate self-efficacy to consistently perform the behavior (Masfufah et al., 2022). Adolescents' attitudes toward adherence also represent a critical determinant of behavior. A positive orientation toward health, coupled with an understanding of the benefits of iron supplementation, can promote greater compliance. Such attitudes reflect awareness of long-term health advantages, recognition of the risks associated with anemia, and intrinsic motivation to maintain overall well-being (Sari et al., 2022).

In addition, a study conducted in Malang reported that perceived benefits, perceived barriers, cues to action, and self-efficacy were significantly associated with iron tablet consumption, whereas perceived severity and perceived vulnerability did not show significant associations (Ferina et al., 2024). Another study found that perceived threat, perceived benefits, perceived barriers, and perceived self-efficacy were significantly correlated with the intention to consume iron tablets. In contrast, knowledge, perceived susceptibility, and perceived seriousness did not demonstrate significant associations with this intention (Aprianti et al., 2018). Furthermore, although some adolescents possess knowledge about anemia, their perceived vulnerability and severity may remain low in the absence of direct experience, thereby diminishing their motivation to take preventive action. Recent evidence also indicates that self-identity—such as perceiving oneself as health-conscious—serves as a mediating factor between perception and behavior. This suggests that supportive perceptions, when not reinforced by self-identity and self-efficacy, are less likely to translate into consistent adherence (Safitri & Julaecha, 2016).

The lack of a significant association between adolescents' perceptions and their decisions to consume iron tablets may be attributable to several factors. Physical barriers and subjective experiences—such as nausea, unpleasant odor, or constipation—can discourage adherence, even

when the perceived benefits are acknowledged (Efendi et al., 2025).

Adolescents who recognize the benefits of iron supplementation may nevertheless struggle to consume it consistently due to factors such as forgetfulness, low motivation, or lack of habituation. Moreover, their perceptions are often limited to a general belief that "iron supplements are beneficial," without sufficient knowledge of the consequences of anemia or appropriate consumption practices. In the absence of a comprehensive understanding, such perceptions are insufficient to translate into sustained behavioral action (Aini & Nian Afrian Nuari, 2024). This underscores the need to complement perception-based interventions with comprehensive education and practical support, thereby facilitating the translation of awareness into consistent and sustained health practices.

### **The Relationship Between Media Exposure and Adolescents' Decision to Consume Iron Tablets**

The study identified a significant association between exposure to information media and adolescents' decisions to consume iron tablets. Media exposure enhances awareness and knowledge by delivering repeated and diverse sources of information, thereby influencing health behavior. However, the extent of this effect may depend on factors such as the type of media utilized, the credibility of the source, and the contextual setting in which the information is conveyed. Adolescents constitute a critical target group for health education in anemia prevention, particularly among girls, as they remain in an active learning phase that facilitates knowledge acquisition. Cognitive development during this stage plays an essential role in shaping and directing individual health behaviors (Tang et al., 2022). Adolescents are in a stage of cognitive development where they are highly exposed to various information channels, both formal (schools, health centers) and informal (social media, television, the internet). Information that is communicated repeatedly in an engaging and easily comprehensible manner is more likely to influence behavioral outcomes. Accordingly, sustained media exposure can enhance knowledge, raise awareness, and foster positive attitudes toward iron supplement consumption. Prior research supports this, demonstrating that health communication strategies delivered through both mass and digital media are effective tools for increasing awareness, shaping perceptions, and promoting adherence to supplementation programs (Septi Yanti Nadila & Rustam, 2024)(Helmyati et al., 2023). In the context of iron supplementation, digital

media offers the advantage of broad yet targeted dissemination of health messages, providing adolescents with the opportunity to access relevant information anytime and anywhere (Masfufah et al., 2022). According to Health Communication Theory and Social Cognitive Theory, health behavior is shaped not only by individual perceptions but also by external information exposure, which can influence social norms and strengthen self-efficacy. Media serves as a powerful channel for delivering health messages that normalize positive practices, including the routine consumption of iron supplements. Evidence indicates that content which is scientifically grounded, engaging, and endorsed by trusted sources—such as healthcare professionals, educators, or government institutions—significantly enhances compliance.

Furthermore, media-based interventions, particularly those delivered through digital platforms such as WhatsApp, Instagram, and TikTok, have been shown to improve adolescents' adherence to iron tablet consumption. Their interactive, accessible, and appealing features make digital media especially effective in engaging young audiences and reinforcing health-promoting behaviors (Dewi, 2022).

In addition, adolescents with anemia generally exhibited moderate to low levels of knowledge, as many were only recently exposed to information regarding the condition. Interviews conducted by the researchers revealed that a substantial number of respondents had never undergone hemoglobin (Hb) testing, leaving them unaware of their anemia status. Conversely, adolescents who demonstrated improved knowledge appeared to have benefited from engaging and well-targeted media content, which effectively captured their interest and enhanced their understanding (Raihani et al., 2024).

While exposure to information is important, the role of media extends further in influencing adolescents' decisions to consume iron tablets. In disseminating educational materials on anemia, it is essential to employ media and methods that effectively facilitate the learning process, as these serve as critical tools for enhancing knowledge dissemination and supporting behavior change (Untari et al., 2023). A review of fourteen studies identified a range of health education strategies for addressing anemia. Interventions targeting adolescent girls were found to primarily emphasize raising self-awareness and encouraging adherence to iron tablet consumption as a preventive measure against anemia (Septiana et al., 2025).

These findings indicate that strengthening adolescents' exposure to credible health information—delivered through both traditional platforms such as schools and healthcare providers, as well as digital platforms such as social media—can serve as a strategic approach to reducing the prevalence of anemia (Isnaini et al., 2024). Future interventions should therefore prioritize multimedia tailored approaches to adolescents' preferences and information-seeking behaviors.

### **The Relationship Between Peer Influence and Adolescents' Decision to Consume Iron Tablets**

The research revealed a notable and statistically significant link between peer influence and adolescents' choices to take iron supplements. Peer groups play a pivotal role during adolescence, as teenagers frequently engage with their peers and tend to value peer expectations more than parental guidance (Montague et al., 2010). Adolescents' desire for social belonging and a sense of group identity renders peer influence a key factor in shaping their behavior (Rima Andini & Agestika, 2022).

This result aligns with earlier studies conducted in Surakarta, which found a positive correlation between peer influence and iron tablet consumption among adolescent girls. It also supports Green's model, which highlights peer support as a reinforcing element in adopting health behaviors. Additionally, other research has demonstrated that encouragement from peers can greatly enhance adolescents' motivation and adherence to iron supplementation programs (Yenny Nilawati, 2024). In their pursuit of acceptance, adolescents frequently mirror their peers' behaviors—an influence that can either support or hinder the adoption of healthy habits (Hmidiyanti Yuni Fitri & Pratiwi Intan Gumilang, 2021).

A study found that when participants were asked about peer influence on IFA supplementation, many recognized their friends as key motivators in their decision to take the tablets. One respondent explained: "I was willing to take the IFA supplement because I did it with my friends. If they hadn't taken it, I likely wouldn't have either." (Hanna Tabita, 2023).

In Indonesia, school-based interventions typically start by training UKS (School Health Unit) teachers, who then provide guidance to both students and parents. Students who receive counseling are encouraged to pass on the information to their peers, aiming to enhance awareness, attitudes, and the willingness to take

iron and folic acid (IFA) supplements. Schools are responsible for ensuring a sufficient supply of supplements for weekly distribution during the school year. A specific day may be designated for collective IFA intake, with each student's consumption individually tracked on a Nutritional Supplementation Card, overseen by UKS staff. Health promotion efforts are reinforced through various media, including leaflets, television messages, pocketbooks, and monitoring tools. Additionally, social support plays a crucial role in promoting IFA adherence among adolescents, with research indicating that peer encouragement positively influences consistent health behaviors, such as regular exercise (Hanna Tabita, 2023).

Many respondents reported placing more trust in the information and reminders about IFA supplementation when they came from peers. This trust stems from the frequent interactions they have with friends at school and the strength of their social bonds, which makes them more susceptible to mutual influence (Karas, 2010). The findings highlight the value of peer-led approaches in promoting health behaviors. Initiatives such as school-based peer education, peer counseling, and the involvement of adolescent health ambassadors can be powerful tools for enhancing iron supplementation practices (Rahayuningtyas et al., 2021). Harnessing peer influence in a constructive way allows public health initiatives to foster environments where regular iron tablet intake is normalized and actively encouraged among adolescents.

### **CONCLUSION**

The study conducted at SMP Muhammadiyah 2 Singaraja revealed that perception did not have a statistically significant link with adolescents' decisions to consume iron tablets, indicating that individual perceptions alone may not be reliable predictors of such health behaviors. In contrast, information media showed a meaningful association with decision-making, suggesting that access to accurate and engaging health information significantly influences adolescents' choices. Peer influence also demonstrated a strong relationship with consumption behavior, underscoring the vital role of social interactions and peer norms in shaping health-related decisions. Overall, these findings suggest that while personal perception may have limited impact, external factors—particularly health communication and peer influence—play a pivotal role in motivating adolescents to regularly consume iron supplements..

## SUGGESTION

This study concluded that while adolescents' perceptions were not significantly linked to their decisions to take iron tablets, both information media exposure and peer influence were strongly associated with consumption behavior. Nonetheless, decisions surrounding iron tablet intake are shaped by multiple factors. Future research should expand its focus to include other possible determinants, such as accessibility of healthcare services, cultural beliefs, and socioeconomic conditions. Investigating these elements would offer a more comprehensive understanding of the barriers and enablers affecting adolescent compliance. Such insights are essential for designing more targeted, effective, and sustainable public health strategies aimed at reducing anemia rates and fostering a healthier, more productive youth population.

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