Original Research

Mulawarman Nursing Indonesia Journal Vol. 04 No. 02 November 2026
e-ISSN : 3031 6879
Publisher: Nursing Program Faculty of Medicine Mulawarman University

Overview of Knowledge, Peer Support, and Adherence to Blood Supplement Tablets Consumption among Adolescent Girls at SMPN 021 Samarinda

Dhea Sefira[1], Rita Puspa Sari[2], Ruminem[3], Ida Ayu Kade Sri Widiastuti[4]

[1,2,3,4] Nursing Program, Faculty of Medicine , Mulawarman University, Indonesia

Corresponding author: dheasefira671@gmail.com

phone number: +6281316114017

ABSTRACT

Background: Anemia remains a major health problem in Indonesia, especially among adolescent girls, with a prevalence of 32% according to Riskesdas 2018. Since 2014, the government has run a program to provide Blood Additive Tablets in schools, but its success depends on the consumption compliance of adolescent girls. **Methods:** This study aims to describe the knowledge, peer support, and compliance of TTD consumption among female students at SMAN 021 Samarinda. This study employed a quantitative descriptive approach utilizing a survey method. The research sample consisted of 98 female students of SMPN 021 Samarinda who were selected using a stratified probability sampling technique. Data were collected using a questionnaire and analyzed using univariate analysis. **Results :** The results showed that the majority of respondents had good knowledge about TTD (64%), the majority of peer support was low (51%), and the level of compliance in consuming TTD was low (90%). **Conclusions:** The results showed that the majority of respondents had good knowledge about TTD (64%), the majority of peer support was low (51%), and the level of compliance in consuming TTD was low (90%).

Keywords **:** Blood Supplement Tablets, Adolescent Girls.

Mulawarman Nursing Indonesia Journal Vol. 04 No. 02 November 2026
e-ISSN : 3031 6879
Publisher: Nursing Program Faculty of Medicine Mulawarman University

1. INTRODUCTION

Nutrition issues in Indonesia include undernutrition (such as underweight, stunting, and chronic energy deficiency/KEK), overnutrition (including obesity and overweight), and health problems due to micronutrient deficiencies, such as anemia caused by iron deficiency (Laswati, 2019). Anemia is a health problem that often occurs in various groups, especially adolescents, pregnant women, women of childbearing age, and school-age children. Based on the Worldwide Prevalence of Anemia in 2015, the prevalence of anemia in adolescent girls in Southeast Asia ranged from 25-40%, with most cases classified as mild (WHO, 2019). In Indonesia, the prevalence of anemia among adolescent girls in the 2013 Riskesdas was recorded at 22.7%, and this figure increased to 32% in the 2018 Riskesdas, indicating that 3 to 4 out of 10 adolescent girls suffer from anemia (Riskesdas, 2018).

The Indonesian government has strengthened efforts to prevent and treat anemia in adolescent girls with a focus on the distribution of Blood Addition Tablets (TTD) through educational institutions since 2014, this program has become a special intervention that the government continues to run in an effort to improve the health of adolescent girls from an early age, which is then included among the breakthroughs in shrinking stunting (Kemenkes RI, 2020). Blood supplement tablets, also referred to as iron tablets, can be given to adolescent girls aged 10 to 19 years every week for a year, for a total of 52 items per year, to meet the iron needs of adolescent girls, especially due to iron loss that occurs with each menstruation (Riskesdas, 2018). Menstruation is one of the signs of girls entering adolescence. Adolescent girls lose more iron during menstruation, about 12.5-15 mg of iron per month due to menstruation, which is equivalent to 0.4-0.5 mg per day for 28-30 days (Arisman, 2004).

Adolescent girls who lose a certain amount of iron during menstruation may be at risk of iron deficiency in adolescent girls. Iron deficiency in adolescents can result in delays in physical, motor, mental and intellectual development, as well as reduced fitness, memory, endurance and concentration. As a result, this can affect their learning ability and reduce their academic performance (Dumilah & Sumarmi, 2017). Adolescent girls require more nutrient intake, including iron, during their growth period. Iron contained in blood supplement tablets functions to replace iron lost during menstruation and fulfill iron needs that are not met from food. Iron also plays a role in improving learning concentration, maintaining fitness, and preventing anemia in future mothers (Fitriana & Dwi Pramardika, 2019).

Data from the 2019 Indonesian Health Profile shows that the provision of blood supplement tablets in Indonesia in 2018 has reached 81.42%, while in East Kalimantan adolescent girls who received blood supplement tablets were still recorded at 8.2%. Based on this data, East Kalimantan still has not reached the target set in the Presidential Regulation of the Republic of Indonesia Number 72 of 2021, namely the percentage of adolescent girls who consume Blood Addition Tablets (TTD) is targeted at 58% by 2024 (presidenri.go.id., 2021).

The provision of Blood Addition Tablets (TTD) can be considered successful if the dose consumed is 1 tablet every week for 52 weeks. This program is supported by various regulations, including MOH Regulation No. 88/2014 on the Standard of Blood Addition

Tablets for Fertile Women and Pregnant Women; Circular Letter No. HK.03.03/V/0595/2016 on the Provision of Blood Addition Tablets to Adolescent Girls and Fertile Women; and MOH Regulation No. 51/2016 on the Standard of Nutritional Supplementation Products. 98.6% consumed less than 52 items of TTD in a year, while 1.4% consumed more than 52 items in a year (Riskesdas, 2018).

The provision of Blood Addition Tablets (TTD) can be considered successful if the dose consumed is 1 tablet every week for 52 weeks. This program is supported by various regulations, including MOH Regulation No. 88/2014 on the Standard of Blood Addition Tablets for Fertile Women and Pregnant Women; Circular Letter No. HK.03.03/V/0595/2016 on the Provision of Blood Addition Tablets to Adolescent Girls and Fertile Women; and MOH Regulation No. 51/2016 on the Standard of Nutritional Supplementation Products. 98.6% consumed less than 52 items of TTD in a year, while 1.4% consumed more than 52 items in a year (Riskesdas, 2018).

Based on research conducted by Nuzrina et al. (2021), it was found that there was a relationship between knowledge about the effects of iron deficiency and compliance in taking Blood Additive Tablets (TTD). Compliance is a behavior that is strongly influenced by the level of knowledge. The higher a person's knowledge, the greater the influence on the level of compliance with existing standards. In the process of forming compliance behavior, the first step needed is to increase knowledge (Boyoh, 2015). Knowledge plays a very important role in encouraging adolescent girls to consume blood supplement tablets. The lack of knowledge and awareness among adolescent girls regarding the consumption of blood supplement tablets can be caused by the tendency of adolescents to focus more on the current situation. This is related to the psychological changes that occur in adolescents such as, identity crisis, unstable feelings, tendency to be childish and rebellious to parents, and the influence of peers (peer group) is very significant in the interest of adolescents to do various things (Ignyś & Demitrescu, 2015).

In addition to knowledge, another factor that can cause non-compliance of adolescent girls in consuming TTD is support from peers. Utomo et al. (2020) explained that there is a significant relationship between peer support and consumption of Blood Additive Tablets (TTD). Adolescents who have good social support from peers tend to be more regular in consuming TTD. The role of peers is very important, especially in influencing behavior change, including behavior related to TTD consumption. The role of peer groups is very dominant because adolescents tend to form groups, imitate similar behaviors, appearance styles, and are interested in the same things (Abdullahi & Ajala, 2019 in Yunalia & Etika, 2020). Quoting from (Gazali, 2021), states that every human being will influence each other and form characters that tend to be the same. Adolescent habit patterns influenced by peers can have a negative and positive impact on the adolescent development stage. The influence of peers on adolescents can affect adolescents in thinking, making decisions, and the desire to do something. One of them is about their sensitivity in health issues since adolescence.

Based on interviews with a number of grade VIII students at SMPN 021 Samarinda, it was found that they did not have a clear understanding of the benefits, side effects, and proper consumption of blood supplement tablets. The schoolgirls also revealed that they did not consume blood supplement tablets regularly. In addition, some students mentioned that they were encouraged to consume the tablets after attending counseling activities at school, and

Mulawarman Nursing Indonesia Journal Vol. 04 No. 02 November 2026
e-ISSN : 3031 6879
Publisher: Nursing Program Faculty of Medicine Mulawarman University

some obtained related information from classmates. Based on this phenomenon, researchers are interested in examining the description of knowledge, peer support, and compliance in consuming blood-added tablets (TTD) in adolescent girls who are class VIII students at SMPN 021 Samarinda. This study can provide data that helps the school in improving the program of giving blood tablets and can be used as a review by other researchers in taking the right steps to increase knowledge and compliance in consuming blood tablets, as well as looking at the role of peer support in adolescent girls in consuming blood tablets.

2. METHOD

This study used a quantitative descriptive design with a survey method. The purpose of the survey method used was to obtain an overview of the level of knowledge of adolescent girls, support from peers, and the level of compliance in consuming Blood Additive Tablets (TTD). The instrument used in data collection was a questionnaire, which included questions related to knowledge, peer support, and compliance with TTD consumption.

The population in this study were 8th grade students at SMP Negeri 021 Samarinda, where the sample size used consisted of 98 students. Sample selection was carried out using probability sampling technique using stratified random sampling method.

3. RESULT AND DISCUSSION

The results of this study are in the form of an overview of knowledge, peer support, and compliance with the consumption of blood supplement tablets in class VIII students at SMPN 021 Samarinda. Data collection was conducted through a survey method in the form of a questionnaire. The data that has been collected is then tabulated and analyzed by univariate analysis method. The results of the data in this study are presented in tabular form and then will be interpreted descriptively.

Table 3.1 Frequency Distribution of Knowledge Questionnaire

No.	Knowledge	F (n=98)	Percentage (%)
1.	Good	63	64 %
2.	Moderate	33	34 %
3.	Less	2	2
	Total	98	100 %

Based on table 3.1, it was found that the majority of respondents had good knowledge, as many as 63 people (64%), as many as 33 people (34%) had sufficient knowledge, but there were also respondents who had poor knowledge as many as 2 people (2%). This data shows that the majority of respondents understand the importance of blood supplement tablets.

The majority of respondents' knowledge level is good, most likely influenced by information factors. Based on information from the school, it is known that students at SMPN 021 routinely receive counseling related to blood supplement tablets, at least once a year. This counseling can serve as an effective educational medium for female students, because health information delivered by health workers is able to form a better understanding of the importance of consuming blood tablets in adolescence (10-18 years).

Mulawarman Nursing Indonesia Journal Vol. 04 No. 02 November 2026
e-ISSN : 3031 6879
Publisher: Nursing Program Faculty of Medicine Mulawarman University

Supported by Notoatmodjo (2012), which states that information is one of the main factors that influence the level of knowledge, and ultimately can increase a person's knowledge positively through the health education process.

The level of knowledge is also influenced by several factors, one of which is age. According to Notoatmodjo (2014), age is one of the important factors that influence the level of knowledge. In middle adolescence (aged 15-18 years), cognitive development occurs which makes individuals more able to understand information logically and deeply (Notoatmodjo, 2010). In line with Piaget (1972) explains that, adolescents aged 11 years and over are in the formal operational stage, which is the developmental stage of abstract, rational, and systematic thinking. This ability allows adolescents to relate the information obtained to everyday life, such as understanding the importance of taking blood supplement tablets as a long-term prevention effort against health problems such as anemia.

Table 3.2 Frequency Distribution of Peer Support Questionnaire

No	Peer Support	F (n=98)	Percentage (%)
1.	High	8	8 %
2.	Medium	40	41 %
3.	Low	50	51 %
	Total	98	100 %

Based on table 4.3, it was found that the majority of respondents had low peer support, as many as 50 people (51%), 40 people had moderate peer support (41%), and the remaining 8 people had high peer support (8%).

This finding shows that there are still many adolescents who have not received optimal support from their peer environment. In fact, according to Utomo (2020), peers have an important role in motivating adolescents to routinely consume TTD. This support is one of the determining factors in increasing the willingness of adolescent girls to participate in health programs, especially those related to anemia prevention (Saraswati et al., 2024).

Low peer support can be influenced by the level of social closeness and interaction between individuals. According to Raharjo (2020), the higher the intensity and closeness of adolescents' social relationships with peers, the greater the influence of behavior that can be transferred, including in terms of TTD consumption. According to the researchers, this condition is also influenced by the school environment, communication between students, and health programs involving peers. An environment that encourages positive interactions makes adolescents more responsive to social influences, including in shaping adherence to consumption of blood supplement tablets.

Theoretically, peer support can be categorized into four main forms: emotional, informational, instrumental, and appraisal. According to the researcher, each type of support plays an important role in shaping and maintaining TTD consumption adherence. Emotional support serves to maintain consistent motivation, informational support increases the level of understanding and awareness, instrumental support facilitates the practical implementation of healthy behaviors, while appraisal support provides

reinforcement through social recognition that encourages adolescents to continue to adhere to the supplementation program.

Based on the results of the peer support questionnaire in this study, the majority of respondents showed low levels of peer support, especially in the aspects of emotional and informational support. The low level of these two forms of support reflects the suboptimal role of peers in encouraging health behavior. According to Green (2005) peer support is included in reinforcing factors that function to strengthen and maintain healthy behavior. Through information and encouragement provided by peers, adolescents' knowledge and awareness can increase, so that the willingness to consume Blood Additive Tablets (TTD) becomes easier to achieve (Pertiwi, 2019). Therefore, the role of peers as conveyors of information and encouragers (emotional) is very important, and needs to continue to be involved in efforts to increase consumption of blood tablets.

Table 3.3 Frequency Distribution of Compliance Questionnaire

No	Compliance	F (n=98)	Percentage (%)
1.	High	0	0 %
2.	Medium	10	10 %
3.	Low	88	90 %
	Total	98	100 %

Based on table 4.4, it was found that the majority of respondents had low compliance in consuming blood supplement tablets, as many as 88 people (90%), 10 people (10%) had moderate compliance, and none of the respondents had high compliance. As for the results of filling out the compliance questionnaire, it is known that the majority of respondents, as many as 62 students (36%), stated that they did not consume blood supplement tablets (TTD) because they felt they were in good health.

This finding shows that subjective perception of self health status affects the level of adherence of adolescent girls in consuming TTD. Adolescents who feel they are healthy tend not to see the urgency in taking iron supplements regularly as an anemia prevention measure. Supported by Lismiana and Indarjo (2021), the majority of adolescent girls who feel healthy tend not to consume blood supplement tablets (TTD), because they do not feel symptoms of anemia and feel they do not need iron supplementation.

In addition, negative experiences after TTD consumption, such as side effects of nausea, dizziness, constipation, and changes in stool color, also contribute to low compliance. In a study conducted by Budiarni and Subagio (2012), 51.8% of respondents reported experiencing nausea after consuming TTD, which was the main reason for non-compliance. Even though these side effects are temporary and will decrease as the body adapts, the lack of understanding of this causes excessive concern among adolescents.

A person's compliance can also be influenced by the level of knowledge (Notoatmodjo, 2012). However, the results of this study show that there is a gap between the compliance of blood supplement tablets consumption with the knowledge of female students on blood supplement tablets, where the compliance of the majority of female students is low, even though the knowledge of the majority of female students is good (64%). Knowledge does play an important role as a factor affecting compliance, but in

addition, compliance can also be influenced by other factors such as environmental and social, which refers to efforts to obtain support from social, such as peers (Niven, 2008). Respondents' low adherence can also be influenced by peer support factors which are still relatively low (51%). Where peer support also plays an important role so that students are obedient in taking blood supplement tablets. According to Sarafino and Smith (2014), lack of social support from peers can reduce motivation and adherence to health behaviors.

According to Notoatmodjo (2014), compliance in health behavior is not only influenced by knowledge, but also by attitude, social support from family/peers and medical personnel, and perception of side effects. Therefore, although most of the respondents had good knowledge, the attitude of not needing TTD because they felt healthy remained a major barrier. Adolescents often do not take blood supplement tablets because they feel healthy and do not feel the benefits directly (Ministry of Health RI, 2018).

4. CONCLUSION

The results showed that most of the respondents, 64%, had good knowledge about blood supplement tablets. Meanwhile, 51% of respondents were found to have low levels of peer support. On the other hand, the level of compliance in taking blood supplement tablets was low, with 90% of respondents showing poor compliance.

5. REFERENCES

Budiarni, W. dan Subagio, H. W. 2012. Hubungan Pengetahuan, Sikap, dan Motivasi dengan Kepatuhan Konsumsi Tablet Besi Folat pada Ibu Hamil. Journal of Nutrition College. Volume 1, Nomor 1 : 99-106.

Boyoh, M. E., Kaawoan, A., & Bidjuni, H. (2019). Hubungan Pengetahuan Dengan Kepatuhan Minum Obat Pada Pasien Diabetes Melitus Tipe 2 Di Poliklinik Endokrin Rumah Sakit Prof. DR. R. D. Kandou Manado. Ejournal Keperawatan (e-Kp),Volume 3.

Dumilah, P. R. A., & Sumarmi, S. (2017). Hubungan Anemia Dengan Prestasi Belajar Siswi Di SMP Unggulan Bina Insani. Amerta Nutrition, 1(4), 331. https://doi.org/10.20473/amnt.v1i4.7140

Fitriana, F., & Dwi Pramardika, D. (2019). Evaluasi Program Tablet Tambah Darah pada Remaja Putri. MPPKI (Media Publikasi Promosi Kesehatan Indonesia): The Indonesian Journal of Health Promotion, 2(3), 200–207. https://doi.org/10.31934/mppki.v2i3.807

Gazali, H. (2021). *Islam Untuk Gen Z: Mengajarkan Islam, Mendidik Muslim Generasi Z: Panduan Bagi Guru PAI.* (S. Kholisoh & K. Anam, Ed.). Wahid Foundation.

Green, L. W., & Kreuter, M. W. (2005). *Health program planning: An educational and ecological approach* (Vol. 4). New York: McGraw-Hill.

Ignyś, I., & Demitrescu, T. (2015). *Nutrisi Enteral dan Parenteral: Nutrisi Anak dalam Kesehatan dan Penyakit* (M. Krawczyński, Ed.; 2 ed.). HeplMed Publishing House.

Kemenkes, R. I. (2014). *Peraturan Menteri Kesehatan Republik Indonesia Nomor 25 Tahun 2014.* (Vol. 1, Nomor 39, hlm. 1–24).

Kementerian Kesehatan RI. (2014). *Pedoman Gizi Seimbang*.

Kementerian Kesehatan RI. (2016). *Pedoman Pencegahan dan Penanggulangan Anemia Pada Remaja Putri dan Wanita Usia Subur (WUS)*.

Kemenkes RI. (2016). Surat Edaran Nomor HK.03.03/V/0595/2016 tentang Pemberian tablet tambah darah pada remaja putri dan wanita usia subur. In Kementerian Kesehatan RI (pp. 1–3).

Kemenkes RI. (2020). Pedoman pemberian Tablet Tambah Darah (TTD) bagi remaja putri pada masa pandemi Covid-19. Kementrian Kesehatan RI, 22. http://appx.alus.co/direktoratgiziweb/katalog/ttd-rematri-ok2.pdf

Lismiana, H., & Indarjo, S. (2021). Pengetahuan Dan Persepsi Remaja Putri Terhadap Kepatuhan Konsumsi Tablet Tambah Darah. *Indonesian Journal of Public Health and Nutrition*, *1*(1), 22-30.

Niven, N. (2008). *Psikologi Kesehatan Pengantar Untuk Perawat Dan Profesional.* Jakarta: EGC.

Notoatmodjo, S. (2010). *Metodologi Penelitian Kesehatan*. Jakarta: Rineka Cipta.

Notoatmodjo, S. (2012). Promosi kesehatan dan perilaku kesehatan. *Jakarta: rineka cipta*, *193*.

Notoatmodjo, S. (2014). *Promosi Kesehatan dan Perilaku Kesehatan.* (Edisi Revisi). Rineka Cipta.

Nuzrina, R., K. Murnariswari., L.P. Dewanti, dan Nadiyah. (2021). Hubungan sikap dan pengetahuan siswi terhadap kepatuhan konsumsi tablet tambah darah. Jurnal Riset Gizi, 9(1): 22-27.

Pertiwi, C. S. (2019). Determinan Perilaku Kepatuhan Konsumsi Tablet Tambah Darah Pada Remaja Putri di Kecamatan Bangsalsari Kabupaten Jember.

Piaget, J. (1972). *The Psychology of The Child*. Basic Books.

presidenri.go.id. (2021). Presiden Jokowi Tunjuk BKKBN Ketuai Program Percepatan Penanganan 'Stunting.' Presidenri. https://www.bkkbn.go.id/berita-presiden-jokowi-tunjuk-bkkbn-ketuai-program-percepatan-penanganan-stunting#:~:text=Presiden%20Joko%20Widodo%20menunjuk%20Badan,kekerdilan%20pada%20anak)%20di%20Indonesia.

Riskesdas. (2018). Laporan Riskesdas 2018 Nasional.pdf (p. 674).

Sarafino, E. P., & Smith, T. W. (2014). *Health psychology: Biopsychosocial interactions*. John Wiley & Sons.

Saraswati, I., Saraswati, N. L. G. I., & Sudarsana, I. D. A. K. (2024). Hubungan Dukungan Teman Sebaya dengan Kepatuhan Mengonsumsi Tablet Tambah Darah pada Siswi SMA Negeri 1 Bangli. *Malahayati Nursing Journal*, *6*(6), 2181-2187.

Utomo, E. T. R., Rochmawati, N., & Sulistyani, S. (2020). Pengetahuan, Dukungan Keluarga, dan Teman Sebaya Berhubungan Dengan Konsumsi Tablet Tambah Darah Pada Remaja Putri.

WHO. World Health Organization. (2003). Adherence to Long-Term Therapies: Evidence for Action. World Health Organization. Geneva.

WHO. (2019). Anaemia in Women and Children. In Noncommunicable diseases (https://www.who.int/news-room/fact-sheets/detail/n). https://www.who.int/data/gho/data/themes/topics/anaemia_in_women_and_children

Mulawarman Nursing Indonesia Journal Vol. 04 No. 02 November 2026
e-ISSN : 3031 6879
Publisher: Nursing Program Faculty of Medicine Mulawarman University

Yunalia, E. M., & Etika, A. N. (2020). *Remaja dan Konfromitas Teman Sebaya* (N. Hidayati, Ed.). Ahlimedia Press.