Asian Journal of Healthy and Science
p-ISSN: 2980-4302
e-ISSN: 2980-4310
Vol. 2 No. 6 June 2023

RELATIONSHIP OF ADHERENCE TO FE TABLET CONSUMPTION IN YOUNG WOMEN

Catur Retno Lestar, Siti Nurjanah
Faculty of Health, Universitas Ivet, Semarang, Indonesia
Email: caturretno.lestari@gmail.com, stnrjnhhh82@gmail.com

Abstract

The prevalence of anemia in young women is still quite high. Young women have a ten times greater risk of suffering from anemia than young men. This is because young women experience menstruation every month and are still growing so they need more iron intake. In addition, an imbalance in nutrient intake is also a cause of anemia in adolescents. This study was to analyze the relationship between adherence in consuming Fe tablets and the incidence of anemia in young women aged 16-19 years. This research is an analytic correlation with cross-sectional approach. The sampling technique used a random sampling technique. The sample in this study was 35 respondents. Data were analyzed with univariate and bivariate analysis tests with the chi-square test. The results of the study showed that most of the respondents (57.9) were disobedient in taking iron tablets. Respondents who experienced anemia were 68.4% and respondents who did not have anemia were 23.7%. There is a relationship between compliance with blood supplement consumption and the incidence of anemia in young women at SMKN 1 Kokap in 2020 with a p-value = 0.013 (<0.05). Conclusion: There is a relationship between adherence to blood supplement consumption and the incidence of anemia.

Keywords: Anemia of young women; Compliance; Fe tablets

INTRODUCTION

Adolescence is a period when individuals experience development by showing secondary sexual signs until reaching sexual maturity in the age range of 10-19 years (World Health Organization, 2016). Adolescence is the transition from childhood to adulthood. Adolescence occurs rapid growth including reproductive function so that it affects changes in development both physical, mental and social roles (Kusumawati *et al.* , 2018) . Anemia is currently a nutritional problem in developing countries including Indonesia. The incidence of adolescent anemia is currently 48.9% while the number of consumption of blood-added tablets < 52 grains is 98.6% and those who consume ≥ 52 grains are 1.4% (Ministry of Health RI, 2019). Thelack of compliance and increasing anemia in adolescents is a problem that needs to be addressed immediately, considering that adolescent girls are prospective mothers who will later become pregnant and produce offspring from a generation, so that if

left untreated it will increase the risk of maternal death, premature birth and low birth weight (BBLR) (Putrianingsih *et al.* , 2022) . The Ministry of Health through the Director General of Public Health issued a circular No. HK.03.03/V/0595/2016 concerning the administration of blood-added tablets to adolescent girls and women of childbearing age. The government makes *preventive* efforts in cases of anemia by providing blood-added tablets for adolescent girls and women of childbearing age, especially those who are pregnant. These tablets are given free of charge, while for fertile women who are not in a pregnant condition are attempted to consume blood-added tablets independently. Nutritional knowledge is an understanding of food and nutritional components, sources of nutrients, foodsthat are safe for consumption, and the right record to process foodstuffs, as well as a healthy lifestyle (Putri, Simanjuntak and Kusdalinah, 2017). The results of research conducted by (Runiari and Hartati, 2020), the level of knowledge of respondents is most in the fairly good category as much as 44.3%. It was found that there were still as many as 21.5% of respondents with poor knowledge. The compliance rate of respondents taking TTD was 87 people (58.4%) with low compliance and as many as 62 people (41.6%) moderate compliance. Low knowledge of anemia nutrition in adolescent girls also has an impact on the high incidence of anemia. Good nutritional knowledge about anemia will affect the tendency of adolescent girls to choose food sources of iron, avoid iron-blocking foods, and adherence to consuming blood-added tablets (Putri, Simanjuntak and Kusdalinah, 2017). Adolescent girls who have a bad diet are 1.2 times more likely to suffer from anemia than adolescent girls who have a good diet (Suryani et al., 2017). The same results were stated by Yuniarti, et al who said that there was a significant relationship between adherence to taking Fe tablets and the incidence of anemia in adolescent girls in MA Darul Imad, Tatah Makmur District, Banjar Regency. Adherence to taking Fe tablets is influenced by two main factors, namely factors from health workers and factors from oneself such as awareness in consuming Fe tablets (Putra et al., 2020).

Compliance is a change in behavior from behavior that does not obey the rules. Compliance problems are an obstacle to daily iron supply, therefore to maintain compliance with iron supply consumption can be held by trying to consume iron supplements directly in front of officers, by sending short messages to research samples (Fitriningtyas, Redjeki and Kurniawan, 2017). Some previous studies have shown that factors that influence anemia include nutritional knowledge, diet and adherence to Fe tablet consumption. The results of Yuniarti's research (2015) stated that if nutritional knowledge is combined with iron supplementation for adolescent girls will produce the most effective increase in hemoglobin levels compared to nutritional knowledge alone or weekly supplementation for twelve weeks. Adherence to taking Fe tablets is influenced by two main factors, namely factors from health workers and factors from oneself such as awareness in consuming Fe tablets. Adherence in consuming Fe tablets has a significant relationship with increased hemoglobin levels in junior high school adolescents (Rusmilawaty and Tunggal, 2015). Based on the description above, the author is interested in seeing whether

there is a relationship between adherence to taking Fe Tablets and the incidence of anemia in Young Women at SMK Nurul Islami in 2022.

RESEARCH METHODS

The study used *Cross Sectional* design. The population is grade III girls of SMK Nuruul Islami. The sample size in this study was 35 adolescent girls. How to determine the sample by *simple random sampling*. The inclusion criteria are adolescent girls at SMK Nurul Islami, grade III female students with ages1.6 years to 1.9 years, adolescent girls who consume Fe tablets for 12 weeks and are willing to be respondents. Compliance data was obtained by looking at tablet packs and interviewing respondents directly using compliance record forms. Anemia status is obtained by measuring hemoglobin using a digital hemoglobinometer (*Easy Touch GCHb*) with measuring results of 0 (anemia, < 12 mg / dL) and 1 (not anemia, 12 mg / dL). Data analysis includes univariate analysis, bivariate analysis using *the Chi-square* test.

RESULT AND DISCUSSION

Characteristics of Respondents

Table 1. Frequency Distribution of Respondent Characteristics

Characteristics of Respondents	f	%
Age		
16 Years	1	2,9
17 Years	23	65,7
18 Years	9	25,7
19 Years	2	5,7
Mentruation Cycle		
Orderly	31	81,6
Disorganized	4	10,5

Based on table 1, it can be seen that from 35 respondents, most respondents aged 1, 7 years as many as 6.5.7% (23 respondents) and irregular menstrual cycles as much as 88.6% (3, 1 respondents). In this case, what influences respondents' compliance is the knowledge factor that exists in respondents. Knowledge is included in predisposing factors which can be an influence on a person's behavior in consuming Fe tablets as blood-boosting tablets. This is because knowledge is a factor that dominates a person in decision making or action (Savitri *et al.* , 2021) . Researchers assume that, the age of adolescents 10-19 years is an age of growth and development that requires more energy, so additional supplements in the form of Fe tablets are needed to prevent anemia. Normal menstrual patterns last every 21-35 days, while the length of menstrual days can last for 3-7 days. Menstrual cycle disorders consist of 2 types, namely polymenorrhoea and oligomenorrhoea. Polymenorrhoea is a menstrual cycle with a number of days less than 21 days and or blood volume equal to or more than the usual menstrual blood volume. This disorder indicates a disturbance in the ovulation process, which is a short luteal phase. Polymenorrhoea causes unovulation in women because the egg cannot mature so fertilization is difficult. This disorder indicates a disturbance in the ovulation process, which is a short luteal phase. Polymenorrhoea causes unovulation in women because the egg cannot mature so fertilization is difficult. The irregularity of the

menstrual cycle must be treated immediately so that it does not occur prolonged. In someone who experiences stress, it is recommended to reduce factors that can cause stress by controlling emotions. By controlling emotions can affect the production of the hormone cortisol to normal. That way a person will not experience stress and will affect his menstrual cycle to be regular (Islamy and Farida, 2019).

Fe Tablet Consumption Adherence

Table 2. Frequency distribution of respondents based on Fe tablet consumption compliance

Fe Tablet Consumption Adherence	f	%
Obedient	13	34,2
Disobedient	22	57,9
Total	35	100

Based on table 2, it can be seen that from3.5 respondents, most respondents are non-compliant in consuming Fe tablets as much as 57.9% (2, 2 respondents). Adherence in consuming Blood Added Tablets (TTD) was highest in the group of respondents who were given a monitoring card in the form of a leaflet, in which the teacher's signature was found and there was information related to anemia and TTD (Savitri *et al.* , 2021) . In addition, it is also influenced by health workers and the support provided by teachers and parents. The school schedules for TTD consumption together, this is intended to facilitate the process of monitoring the progress of students who consume TTD. In line with research conducted by (Widiastuti & Rusmini, 2019) where the school determines the day for TTD consumption simultaneously in order to monitor the progress of students according to TTD consumption. In line with research (Nuradhiani, Briawan and Dwiriani, 2017) on the consumption of blood added tablets (TTD) weekly and during menstruation shows that consumption is more at weekly times (15%) than during menstruation (5.8%). The high adherence of weekly TTD consumption compared to during menstruation is in accordance with several studies that show that taking TTD 1 tablet / week is more acceptable for women and can improve compliance compared to taking TTD 1 tablet / day. The low compliance of subjects in taking TTD during menstruation is that the supplement is supplied to the home so that its consumption cannot be reviewed effectively.

Hemoglobin Value

Table 3. Distribution of respondents' frequency based on hemoglobin value

Hb value (gr/dl)	f	%
No Anemia	26	68,4
Anemia	9	23,7
Total	35	100

Based on table 3, it can be seen that of the 26 respondents , most respondents had a normal Hb of 74.3% (2, 6 respondents). In addition, the lack of iron absorption is due to lack of knowledge of foods rich in iron and foods that can inhibit iron absorption. Iron absorption is influenced by 2 factors. *Enhancers* and inhibitors *are* of important concern in assessing iron intake. There are several micronutrients that are used together with iron to increase the absorption of nutrients called driving factors including vitamin A, vitamin C, vitamin B2, and vitamin B6. However, there are also

some substances in food that can be iron absorption inhibitors or inhibitors. Tannins in tea and coffee are powerful inhibitors of iron. In addition, foods containing calcium, phosphate, and phytate consumed in large quantities will interfere with the absorption of iron (Dhito Dwi Pramardika and Fitriana, 2019). Iron has several essential roles in the body including as a means of transporting oxygen from lung organs to body tissues, electron transporters in cells as well as an integrated part of various enzyme reactions in human body tissues (Rahmad, 2017). In addition, this substance is especially necessary in hemopobesis (blood formation), that is, in the synthesis of hemoglobin (Hb). The total amount of iron in the body averages 4-5 grams, about 65 percent of which is found in the form of hemoglobin. About 4 percent is found in the form of 5 myoglobin and 1 percent is found in the form of various heme compounds that can increase intracellular oxidation while 0.1 percent combines with transferrin proteins present in blood plasma, 15-30 percent is mainly stored in the reticuloendothelial system and liver parenchyma cells, especially in the form of ferritin (Masthalina, 2015) . Iron deficiency in the body can result in disruption or inhibition of growth, both body cells and brain cells, even individuals suffering from iron deficiency will experience a decrease in body immunity, besides iron deficiency can also reduce hemoglobin levels (Rahmad, 2017).

Association of Fe Tablet Adherence with the Incidence of Anemia

Table 4. Spearman Rho Statistical Test Results Association of Fe Tablet Adherence with Anemia Incidence

Variable	Hb value		P value
Fe tablet ingestion compliance	Anemia	No Anemia	
Obedient	0	9	0,013
Disobedient	13	13	

Table 4 shows that the results of statistical analysis with the *Chi Square* test obtained a p-value of 0.0 13 ($p<0.05$), meaning that there is a significant relationship between adherence to taking Fe tablets and the incidence of anemia. Compliance is a change in previous behavior from non-rule-abiding behavior. The problem of compliance is a matter of daily iron supplementation, which makes there is a safeguard related to compliance in consuming iron supplements in front of health workers directly (Putri, Simanjuntak and Kusdalinah, 2017). From various studies that have existed before, it was found that factors that influence the incidence of anemia are knowledge related to nutrition, diet and adherence in consuming Fe tablets. The results of research (Rusmilawaty and Tunggal, 2015) have found knowledge related to nutrition along with giving iron supplements to adolescent girls will increase haemoglobin levels effectively when compared to nutritional knowledge alone or only iron supplements. Young women are included in the classification of groups that have a great vulnerability to anemia. Therefore, the target of countermeasures has expanded to include adolescent girls at the same junior and senior high school levels and women outside of school as an effort is made to break the chain of weekly nutrition-related problem cycles for 12 weeks. In the consumption of Fe tablets is influenced by several things, namely the factors of health workers and themselves, namely about the level of awareness in consuming Fe tablets. Where by consuming Fe tablets regularly has a significant effect on increasing haemoglobin levels in junior high school adolescents (Fatmawati and Subagja, 2020). The effect of giving Fe tablets that can increase haemoglobin levels can be concluded

that Fe tablets can effectively be an alternative in preventing anemia in female students. Anemia iron can be done prevention by diligently consuming Fe tablets which are through food. Where this will also increase haemoglobin levels where normal haemoglobin levels can be an alternative prevention and as a countermeasure to iron deficiency anemia (Runiari and Hartati, 2020). Researchers have an assumption that the relationship is influenced by adolescent compliance in consuming Fe tablets. If Fe tablets are consumed regularly, there will also be an increase in haemoglobin. In this study, a positive relationship was found, namely the level of adherence in consuming Fe tablets is directly proportional to haemoglobin levels, which in increasing adherence to Fe tablet consumption requires encouragement from various parties (parents, teachers and health workers) as an effort to increase knowledge about the urgency of Fe tablet consumption in adolescent girls

CONCLUSION

The results of the study found a relationship between Fe tablet consumption compliance with Hb levels in young women of SMK Nurul Islami. The level of adherence in taking iron supplements can increase haemoglobin levels, which in increasing the level of compliance needs to be accompanied by support from around such as parents, teachers and health workers and increasing respondents' knowledge about the urgency of consuming Fe tablets in adolescents as prevention or control of the occurrence of anemia in adolescent girls.

BIBLIOGRAPHY

Dhito Dwi Pramardika, & Fitriana. (2019). Pramardhika Dan Fitriana. *Jurnal Kebidanan Mutiara Mahakam*, *7*(2), 58–66.

Fatmawati, A., & Subagja, C. A. (2020). Analisis Faktor Kepatuhan Mengkonsumsi Tablet Zat Besi Pada Remaja Putri. *Jurnal Keperawatan*, *12*(3), 363–370.

Fitriningtyas, E., Redjeki, E. S., & Kurniawan, A. (2017). Usia Menarche, Status Gizi, Dan Siklus Menstruasi Santri Putri. *Preventia : The Indonesian Journal Of Public Health*, *2*(2), 58. Https://Doi.Org/10.17977/Um044v2i2p58-56

Islamy, A., & Farida, F. (2019). Faktor-Faktor Yang Mempengaruhi Siklus Menstruasi Pada Remaja Putri Tingkat Iii. *Jurnal Keperawatan Jiwa*, *7*(1), 13. Https://Doi.Org/10.26714/Jkj.7.1.2019.13-18

Kemenkes Ri. (2019). Laporan Nasional Riskesdas 2018. In *Laporan Nasional Riskesdas*. Balitbangkes.

Kusumawati, P. D., Raggilla, S., Trisnawati, N. W., Larasati, N. C., Laorani, A., & Soares, S. R. (2018). Edukasi Masa Pubertas Pada Remaja Prima. *Journal Of Community Engagement In Health*, *1*(1), 14–16. Https://Doi.Org/10.30994/10.30994/Vol1iss1pp16

Masthalina, H. (2015). Pola Konsumsi (Faktor Inhibitor Dan Enhancer Fe) Terhadap Status Anemia Remaja Putri. *Jurnal Kesehatan Masyarakat*, *11*(1), 80. Https://Doi.Org/10.15294/Kemas.V11i1.3516

Nuradhiani, A., Briawan, D., & Dwiriani, C. M. (2017). Dukungan Guru Meningkatkan Kepatuhan Konsumsi Tablet Tambah Darah Pada Remaja Putri Di Kota Bogor. *Jurnal Gizi Dan Pangan*, *12*(3), 153–160. Https://Doi.Org/10.25182/Jgp.2017.12.3.153-160

Putra, K. A., Munir, Z., & Siam, W. N. (2020). Hubungan Kepatuhan Minum Tablet Fe Dengan Kejadian Anemia (Hb) Pada Remaja Putri Di Smp Negeri 1 Tapen Kabupaten Bondowoso. *Jurnal Keperawatan Profesional*, *8*(1), 49–61. Https://Doi.Org/10.33650/Jkp.V8i1.1021

Putri, R. D., Simanjuntak, B. Y., & Kusdalinah, K. (2017). Pengetahuan Gizi, Pola Makan, Dan Kepatuhan Konsumsi Tablet Tambah Darah Dengan Kejadian Anemia Remaja Putri. *Jurnal Kesehatan*, *8*(3), 404. Https://Doi.Org/10.26630/Jk.V8i3.626

Putrianingsih, E., Windayanti, H., Farihah, L., Suryani, L., Rosanti, D., & Annisa. (2022). Literatur Review : Kepatuhan Minum Tablet Fe Dengan Kejadian Anemia Pada Remaja. *Seminar Nasional Dan Call For Paper Kebidanan*, *1*(2), 758–767.

Rahmad, A. H. Al. (2017). Pengaruh Asupan Protein Dan Zat Besi (Fe) Terhadap Kadar Hemoglobin Pada Wanita Bekerja. *Jurnal Kesehatan*, *Viii*(3), 325.

Runiari, N., & Hartati, N. N. (2020). Pengetahuan Dan Kepatuhan Minum Tablet Tambah Darah Pada Remaja Putri. *Jurnal Gema Keperawatan*, *13*(2), 103–110. Https://Doi.Org/10.33992/Jgk.V13i2.1321

Rusmilawaty, Y., & Tunggal, T. (2015). Hubungan Antara Kepatuhan Minum Tablet Fe Dengan Kejadian Anemia Pada Remaja Putri Di Ma Darul Imad Kecamatan Tatah Makmur Kabupaten Banjar. *Jurnal Publikasi Kesehatan Masyarakat Indonesia*, *2*(1), 31–36.

Savitri, M. K., Tupitu, N. D., Iswah, S. A., & Safitri, A. (2021). Hubungan Kepatuhan Konsumsi Tablet Tambah Darah Dengan Kejadian Anemia Pada Remaja Putri: A Systematic Review. *Jurnal Kesehatan Tambusai*, *2*(2), 43–49. Https://Doi.Org/10.31004/Jkt.V2i2.1784

Suryani, D., Hafiani, R., & Junita, R. (2017). Analisis Pola Makan Dan Anemia Gizi Besi Pada Remaja Putri Kota Bengkulu. *Jurnal Kesehatan Masyarakat Andalas*, *10*(1), 11–18. Https://Doi.Org/10.24893/Jkma.V10i1.157

Widiastuti, A., & Rusmini, R. (2019). Kepatuhan Konsumsi Tablet Tambah Darah Pada Remaja Putri. *Jurnal Sains Kebidanan*, *1*(1), 12–18. Https://Doi.Org/10.31983/Jsk.V1i1.5438

World Health Organization. (2016). Daily Iron Supplementation In Adult Women And Adolescent Girls. *Daily Iron Supplimentation In Infants And Children*, 44.