

The Compliance of Young Women at SMPN 1 Makale Utara in Consuming Iron Tablets is Related to Their Level of Knowledge

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ABSTRACT

Iron deficiency anemia is one of the biggest micro problems in Indonesia which occurs in toddlers, school children, pregnant women and teenagers. Adolescence is a transition period from childhood to adulthood and the beginning of the separation of nutritional needs based on gender. This study aimed to analyze the relationship between the level of knowledge and compliance of young women and consuming iron tablets at SMPN 1 Makale Utara. This type of research was analytical observational. Researchers applied a cross-sectional design in this study. Subjects were 50 female students, selected using stratified random sampling technique based on representatives of each class. The measurements of the two variables above were carried out by filling out questionnaires directly by young women. The hypothesis testing was carried out using the Chi-square test. Table 4 shows that the better the level of knowledge, the higher the level of compliance with taking iron tablets. The p value from the results of hypothesis testing was 0.001, so it was interpreted that the level of knowledge was correlated with the level of compliance of young female students in consuming iron tablets. Based on the research results, it could be concluded that the compliance of young women at SMPN 1 Makale Utara in consuming iron tablets is related to their level of knowledge.

Keywords: basic research; guide book; beginner researcher; health student

INTRODUCTION

Iron deficiency anemia is one of the biggest micro problems in Indonesia which occurs in toddlers, school children, pregnant women and teenagers. Adolescence is a transition period from childhood to adulthood and the beginning of the separation of nutritional needs based on gender.⁽¹⁾ This is caused by biological and physiological changes so that nutritional needs are different. During this period there are many physical and mental changes, so this condition must be balanced with different nutritional adequacy. In general, inappropriate eating patterns can cause nutritional problems in teenagers. Some nutritional problems that often occur during adolescence are eating disorders, obesity, chronic energy deficiency (KEK), irregular eating and anemia.⁽²⁾ Adolescent girls during puberty are at particular risk of experiencing iron deficiency anemia. This can be caused by a lot of iron being lost during menstruation. This can also be worsened by a lack of iron intake, because iron is needed by the body to accelerate growth and development.⁽³⁾ The impacts that iron deficiency anemia can cause include fatigue, decreased body resistance to infectious diseases, decreased body fitness, decreased concentration, decreased learning achievement, decreased immune system and disrupted physical growth.⁽⁴⁾ Iron deficiency anemia is very susceptible to adolescent girls because there are still many teenagers with insufficient knowledge about anemia. Problems with diet and consumption of blood supplement tablets can cause anemia in young women. The lack of awareness among young women about consuming Fe tablets during menstruation could be caused by a lack of information and knowledge about the importance of Fe tablets during menstruation.⁽⁵⁾ According to Fitria (2021),⁽⁶⁾ to maintain iron balance in the body, a woman needs a higher iron intake than men. As many as 20% of women have body iron reserves of 250-400 mg, and less than 5% of women have body iron reserves of more than 400 mg. So women are very at risk of developing iron deficiency anemia, especially when pregnant.

Based on data from the World Health Organization (2018), the prevalence of anemia in adolescent girls is still high, with the prevalence of anemia in the world ranging from 50-80%. Meanwhile, cases of anemia in the world are estimated at 1.32 billion people or around 25% of the world's human population, where the highest figure is the African continent, namely 44.4%, the Asian continent is 25%-33.0% and the lowest figure is the North

American continent is 7.6%.⁽⁷⁾ According to data from Basic Health Research (2018), in Indonesia there is a 26.8% incidence of anemia in children aged 5-14 years, while in Indonesia aged 15-24 years it is 32%. Meanwhile, survey results show that the prevalence of anemia in adolescents in Central Java is relatively high, namely 30.4%.⁽⁸⁾

Based on Basic Health Research data (2018), 76.2% of adolescent girls in Indonesia received iron tablets and 23.8% of adolescent girls received iron tablets at school and 80.9% of adolescent girls received iron tablets at school and those who did not or have not received iron tablets as much as 19.1%.⁽⁸⁾

The provision of iron tablets to adolescent girls in Indonesia in 2018 was 48.52% and this has met the 2018 strategic plan target of 25%. The province with the highest coverage of iron tablet administration is Bali, namely 92.61% and the lowest coverage is West Kalimantan, namely 9.62%, Bengkulu is in 14th place, namely 47.05%,⁽⁹⁾ while South Sulawesi is included in the lowest coverage is 1.7%.

Adolescent girls' compliance in consuming iron tablets is carried out by taking Fe tablets once a week at school, under teacher supervision. Apart from that, we also carry out records after taking iron tablets in order to ensure the achievement of the program objectives of preventing and controlling anemia in adolescent girls in order to reduce the prevalence of anemia in Indonesia. The practice of administering iron tablets is carried out with a composition of 60 mg of elemental iron and 400 mcg of folic acid, with a technical administration of 1 tablet per week for 52 weeks (1 year) to adolescent girls aged 12-15 years.⁽¹⁰⁾

The Tana Toraja District Health Service reports that in 2023, 34.5% of adolescent girls aged 12-15 years who do not comply with taking iron tablets will be 34.5%. In North Makale District, every year community health center officers visit schools including junior high schools to provide outreach or counseling as well as provide iron tablet supplements to young women in each school. Provision of this supplement is focused on students who fall into the productive age category, namely 12-15 years old, because this age is more susceptible to anemia, especially young women who are menstruating. The proportion of young women who do not comply with consuming iron tablets is still high, at 24.8%.⁽¹¹⁾

One previous study reported that young women with a good level of knowledge tend to be more compliant in consuming iron tablets, and vice versa.⁽¹²⁾ Based on data from the Rantelemo Community Health Center in 2022, SMPN 1 Makale Utara Class IX last received a program to provide iron tablets to 93 young women, but only 41 young women consumed iron tablets and the rest (52 young women) were reluctant to consume them. In June 2023, of the 98 young women who received iron tablets, 44 of them were reluctant to consume them for reasons of fear, did not like the smell or stated that they did not know the function or benefits.

Based on the description of the problem above, research is needed which aims to analyze the relationship between the level of knowledge and compliance of young women and consuming iron tablets at SMPN 1 Makale Utara.

METHODS

This research was carried out at SMPN 1 Makale Utara from July to August 2023. This type of research is analytical observational. Researchers applied a cross-sectional design in this study, where data on risk factor and effect variables were collected at the same time.^(13,14) The population of this study was all female students in class IX at SMPN 1 Makale Utara, with a population size of 98 female students. The sample size is determined using the Slovin formula with the calculation result being 49.49, which is then rounded up to 50 young female students, with the following details

$$n = N / (1 + N(e)^2)$$

$$n = 98 / (1 + 98(0.1)^2)$$

$$n = 98 / 1.98$$

$$n = 49.49 \approx n = 50$$

Sample members were selected using a stratified random sampling technique based on representatives of each class, namely classes A, B, C, D, E, F and G.⁽¹⁵⁾

- 1) Class A, $n = 16/98 \times 50 = 8.1 = 8$
- 2) Class B, $n = 14/98 \times 50 = 7.1 = 7$
- 3) Class C, $n = 16/98 \times 50 = 8.1 = 8$
- 4) Class D, $n = 12/98 \times 50 = 6.1 = 6$
- 5) Class E, $n = 14/98 \times 50 = 7.1 = 7$
- 6) Class F, $n = 15/98 \times 50 = 7.6 = 7$
- 7) Class G, $n = 14/98 \times 50 = 7.1 = 7$

Random sampling in this study was carried out through a random draw (lottrey) as follows:

- 1) Researchers enroll all members of the population
- 2) Researchers assign a number to each member of the population using paper

- 3) The numbered paper is put in the box
- 4) Next, the researcher shook the box and dropped the paper one by one as many students as needed for the research.

The independent variable in this study is the level of knowledge about iron tablets, while the dependent variable is compliance in consuming iron tablets. The measurements of the two variables above were carried out by filling out questionnaires directly by young women.

After the data is collected, data processing is then carried out which includes: 1) editing, namely verifying the integrity of the data; 2) coding, namely providing code to change and form sentences or letters into numeric or numeric data; 3) processing, namely entering each respondent's answer in the form of a code (numbers or letters) or computer software; 4) cleaning, namely checking each answer to see code errors, in this case incomplete answers are corrected or corrected again; 5) tabulating, namely entering data in tables to facilitate data analysis.

The data that has been tabulated is then analyzed descriptively in the form of frequencies and percentages because the data is categorical. After that, hypothesis testing was carried out using the Chi-square test, the p value was <0.05, so this research hypothesis was proven.

This research was carried out by paying attention to research ethics which include: 1) informed consent, namely asking for students' consent as respondents, after they were previously given an explanation so that they clearly understand the aims and objectives of the research, and respondents were given the freedom to participate or withdraw from research activities; 2) anonymity, namely maintaining the confidentiality of information collected from respondents, including using the respondent's initials or number; 3) self-determination, namely the freedom to decide whether there is a possibility to participate in research; 4) protection from discomfort, namely if respondents feel uncomfortable during the research process, they have the opportunity to choose whether or not to continue their involvement in the research; 5) confidentiality, namely researchers keep respondent data confidential as a fulfillment of the respondent's right to maintain confidentiality.

RESULTS

The research results showed that the majority of female students involved in the research were 14 years old, namely 72%. The level of students' knowledge about iron tablets is almost equal between the good and sufficient categories, namely 52% and 48%. Meanwhile, the level of non-compliance with consuming iron tablets is still high, namely 34%.

Table 1. Distribution of age of respondents

Age (years)	Frequency	Percentage
13	7	14,0
14	36	72,0
15	7	14,0

Table 2. Distribution of knowledge

Knowledge	Frequency	Percentage
Good	29	58,0
Sufficient	21	42,0

Table 3. Compliance in consuming iron tablets

Compliance	Frequency	Percentage
Complying	33	66,0
Not complying	17	34,0

Table 4 shows that the better the level of knowledge, the higher the level of compliance with taking iron tablets. The p value from the results of hypothesis testing is 0.001 (less than 0.05), so it is interpreted that the level of knowledge is correlated with the level of compliance of young female students in consuming iron tablets.

Table 4. Association between knowledge and compliance

Knowledgege	Compliance in cosuming iron tablets				p
	Complying		Not complying		
	Frequency	Percentage	Frequency	Percentage	
Good	25	86.2	4	13.8	0.001
Sufficient	8	38.1	13	61.9	

DISCUSSION

Based on the research results, it is known that the distribution of knowledge about iron tablets is almost balanced between good and sufficient levels. For those with a level of knowledge in the good category, generally this knowledge is obtained from various sources such as friends' experiences, social media information, the internet, health education and so on. Meanwhile, those with a lower level of knowledge said they read less books and were less exposed to information regarding blood supplement tablets. According to Kholid cit. Hendrawan (2022),⁽¹⁶⁾ knowledge can be obtained from personal experience or from outside. Knowledge can be obtained from internal factors such as education, where the higher a person's education, the easier it will be for him to receive information. Another internal factor is age, where the older a person gets, the more mature their thinking patterns become, as well as their maturity in seeking information and gaining knowledge.

The results of this research are in line with the report by Wahyuningsih & Rohmawati in their research at SMPN 1 Karangnongko that there is a relationship between the level of knowledge and compliance with consuming iron tablets. Researchers argue that knowledge can come from a person's interest in finding out something, such as through social media, the internet and so on. Apart from that, we also try to find useful knowledge to broaden our insight.⁽¹⁷⁾

The results of this study show that although the majority of female students are compliant in consuming iron tablets, the non-compliance rate is still relatively high, namely 34%. Those who comply report that they really pay attention to their health and are worried if they experience blood deficiency disorders such as anemia, and also have good knowledge regarding blood supplement tablets. Meanwhile, those who do not comply generally say they are afraid, don't like the smell, and don't know its function and benefits. It is also known about the lack of involvement of health workers in counseling about how to properly consume iron tablets. Respondents also expressed a lack of concern for their own health. The results of this research are in line with the report by Saridewi & Ekawati (2019) that the results of a study on students at SMAN 1 Ngamprah concluded that there was a relationship between the level of knowledge and compliance with consuming iron tablets.⁽¹⁸⁾

According to Kurniawan⁽¹⁹⁾, blood supplement tablets are an Fe supplementation program carried out by the government to prevent anemia. Providing iron tablets is one of the services provided during antenatal care (ANC) visits. Iron tablets are provided by the government and distributed to target groups through government-owned health service facilities. Iron tablets can also be obtained independently based on a prescription or instructions from a health worker, purchased at a private health facility or pharmacy on their own initiative or obtained from family or other people. Researchers believe that giving iron tablets is very important, especially for young women, to prevent blood deficiency disorders such as anemia. In this case, young women must obediently consume blood supplement tablets to avoid blood deficiency disorders such as anemia, because this can affect their health.

The results of this study show that there is a positive correlation between knowledge and compliance of young women at SMPN 1 Makale Utara in consuming iron tablets. Most human knowledge is obtained from sight and hearing. Knowledge is obtained after someone senses a particular object. Sensing of objects occurs through the five human senses, namely sight, hearing, smell, taste and touch. The process of sensing to produce knowledge is greatly influenced by the intensity of perceptual attention to the object.⁽²⁰⁾

According to Lestari, et al.⁽²¹⁾, increasing knowledge can be through providing health information. Based on this knowledge, awareness will arise, and ultimately compliance will grow in taking medication according to the knowledge they have. Compliance in taking medication based on knowledge will be more lasting because it is based on their own awareness. Compliance referred to in this research is compliance in consuming iron tablets. Knowledge about the importance of iron tablets as supplementation will increase a person's awareness of compliance with tablet consumption.

From the research results obtained, the level of compliance in consuming iron tablets in the compliance category was 66.0%. Those who adhere to consuming iron tablets can avoid blood deficiency disorders such as anemia. Therefore, compliance with consuming iron tablets is very important. Compliance with consuming iron tablets is very important for health, including avoiding blood deficiency disorders. A person's knowledge about

iron tablets also influences non-compliance in consuming iron tablets. Health education regarding adherence to consuming iron tablets is very important for teenagers so that they have the correct information and knowledge about iron tablets.

CONCLUSION

Based on the research results, it can be concluded that the compliance of young women at SMPN 1 Makale Utara in consuming iron tablets is related to their level of knowledge.

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