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RELATIONSHIP BETWEEN SELF EFFICACY AND ADHERENCE TO FE TABLET CONSUMPTION AMONG ADOLESCENT GIRLS

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ABSTRACT

Anemia in adolescents can have an adverse impact on decreased immunity, learning concentration, fitness, and productivity. The provision of Fe tablets to adolescents is carried out as one of the interventions to reduce the prevalence of anemia. Adherence of adolescent girls in consuming Fe tablets is one of the indicators of the success of anemia prevention and control programs in adolescent girls. The high and low level of compliance to consuming Fe tablets in adolescents is due to several factors, one of which is self-efficacy. The purpose of this study was to determine the relationship between self-efficacy and adherence to taking Fe tablets in adolescent girls at SMPN 1 Sewon Yogyakarta. This study was conducted on 90 adolescent girls in class VII at SMPN 1 Sewon Yogyakarta. This study is a quantitative research with analytic observational research and a cross-sectional-approach using a simple random sampling technique. The data was analyzed by univariate analysis and bivariate analysis using frequency distributions, percentages, and chi-square test. The results showed that respondents who had a high level of self-efficacy amounted to 51.1%, while the low category amounted to 48.9%. In addition, the results of this study indicate that the level of compliance of adolescent girls in consuming Fe tablets at SMPN 1 Sewon Yogyakarta is mostly in the high category of 55.6%, while the low category is 44.4%. The results of data analysis using the chi square test showed that P value = 0.000 (p < 0.05), which means there is a relationship between self-efficacy and compliance with taking Fe tablets in young women at SMPN 1 Sewon Yogyakarta.

Keywords: Anemia, Self Efficacy, and Adherence to Taking Fe Tablets

INTRODUCTION

Anemia has become one of the micronutrient nutrition problems that must be considered, not only in pregnant women but also in adolescent girls. Anemia in adolescents can have an adverse impact on decreased immunity, learning concentration, fitness, and productivity.[1] In addition, anemia experienced by adolescent girls will have a more serious impact.[2] This is because adolescent girls will become prospective mothers who will experience the process of pregnancy and childbirth, thus increasing the risk of maternal

mortality in giving birth to premature babies and low birth weight (LBW).[1] Adolescents have a high risk of anemia because adolescence requires higher nutrients including iron for growth and development. The incidence of anemia among female adolescents is higher when compared to male adolescents.[3] This is because adolescent girls experience menstruation every month so adolescent girls have a higher risk than adolescent boys.[2]

In a research study conducted in Bihar and Uttar Pradesh, India overall anemia was more prevalent among adolescent girls (20%) compared to adolescent boys (8.7%).[4] In addition, a research study in West Rajasthan found that 56.32% of adolescent girls aged 11-19 years were anemic.[5] According to the World Health Organization (2021) in 2019 the prevalence of anemia in women globally was 29.9%.[6] Based on basic health research data from 2007, 2013, and 2018, there is an increasing trend in the prevalence of anemia in adolescents. 32% of adolescents in Indonesia experienced anemia in 2018, meaning that 3-4 out of 10 adolescents in Indonesia suffer from anemia.[7] According to the results of a survey conducted by the Yogyakarta Health Office (2018), out of 1500 adolescent girls in 5 districts and cities, showed that as many as 19.3% of adolescent girls experienced anemia.[8]

The high incidence of anemia in some parts of Indonesia is a major factor that can have a negative impact on health. Anemia occurs because the production of hemoglobin is reduced so that the level of hemoglobin in the blood decreases.[9] Anemia in adolescents can occur due to several factors such as, lack of nutritional intake, not having breakfast, the habit of drinking tea and coffee, and the non-regularity of adolescent girls in taking Fe tablets.[10] Handling and prevention of anemia can be done by consuming foods that contain vitamins and minerals. However, not all people can consume these foods, so additional iron intake is needed, which is obtained from Fe tablets.[11]

The provision of Fe tablets in adolescents is carried out as one of the interventions to reduce the prevalence of anemia. Adherence of adolescent girls consuming Fe tablets is one of the indicators of the success of anemia prevention and control programs in adolescent girls. Several factors that determine adherence to Fe tablets consumption in female students are student age, knowledge, motivation, and self-efficacy, previous hemoglobin level checks, school organization of joint Fe tablets administration, and teachers providing counseling on the benefits of iron tablets to students.[12]

The low level of adherence to taking Fe tablets in adolescents is due to several factors, one of which is self-efficacy.[13] The better the self-efficacy of the respondent, the stronger the intention to consume Fe tablets.[14] Adolescent girls who fail to consume Fe tablets with the first impression that Fe tablets make them dizzy and nauseous or even vomit can be one of the factors that reduce self-efficacy in adolescents. This can affect adolescent girls in making decisions to adhere to taking Fe tablets.

Based on the description above, the researcher is interested in conducting research related to the relationship between self-efficacy and adherence to taking Fe tablets in adolescent girls at SMPN 1 Sewon Yogyakarta. The purpose of this study was to determine the relationship of self-efficacy with adherence to taking Fe

tablets in adolescent girls at SMPN 1 Sewon Yogyakarta.

RESEARCH METHOD

This study was quantitative research with the type of analytic observational research using a cross-sectional-approach. The data collection was conducted on April 2023. The sample was selected using a simple random sampling method. The number of samples in this study amounted to 90 respondents. The inclusion criteria in this study were grade VII teenage girls who had received the blood supplement tablet program. The research instruments used in this study were the self-efficacy questionnaire and the compliance questionnaire. The questionnaire has been tested for validity and reliability.

The Data was processed using a computerized program which goes through several stages starting from coding, tabulation, entry and cleaning. The data was analyzed using univariate analysis and bivariate analysis with chi-square test. The univariate analysis is used to know at the characteristics of respondents, level of self-efficacy, and level of compliance with taking Fe tablets in teenage girls. The univariate analysis included respondent characteristics (age, father's latest education, mother's latest education, father's occupation, mother's occupation, ever-received Fe tablets, and source of information about Fe tablets), self-efficacy, and compliance with taking Fe tablets. The bivariate analysis was used to determine a relationship between self-efficacy and adherence to taking Fe tablets among the teenage girls at SMPN 1 Sewon Yogyakarta. This study has received approval from the health research ethics committee of 'Aisyiyah University Yogyakarta No.2642/KEP-UNISA/III/2023.

RESULTS AND DISCUSSION

Characteristics of Respondent

Demographic characteristics in this study were age, father's latest education, mother's latest education, father's occupation, mother's occupation, ever-received Fe tablets, and source of information about Fe tablets. Data are presented in the form of frequency distribution tables and percentages which can be seen in Table 1. The results showed that the majority of respondents were early adolescents with the age of 13 years (77.8%), the last education of the respondent's father was mostly junior high school (62.2%) and the last education of the respondent's mother was mostly junior high school (55.6%). The majority of respondents' father's occupation was farmer/laborer (27.8), the majority of respondents' mother's occupation was a housewife (36.7%), the respondents had received information about Fe tablets (98.9%), and the majority of respondents received information about Fe tablets from health worker activities such as counseling/webinars (71.1%).

Table 1. Frequency Distribution of Respondent Characteristics

	Frequency	Percentage (%)
Age		
a. 12 years	11	12,2
b. 13 years	70	77,8

	Frequency	Percentage (%)
c. 14 years	8	8,9
d. 15 years	1	1,1
Total	90	100,0
Father's level of education		
a. Elementary School	2	2.2
b. Junior High School	56	62.2
c. Senior High School	3	3.3
d. University	29	32.2
Total	90	100,0
Mother's level of education		
a. Elementary School	5	5.6
b. Junior High School	50	55.6
c. Senior High School	2	2.2
d. University	33	36.7
Total	90	100,0
Father's occupation		
a. Unemployed	7	7,8
b. Civil Servant/Army/Police	21	23,3
c. Farmers	25	27,8
d. Private Employee	19	21,1
e. Self-employed	18	20,0
Total	90	100,0
Mother's occupation		
a. Unemployed	33	36,7
b. Civil Servant/Army/Police	14	15,6
c. Farmers	17	18,9
d. Private Employee	15	16,7
e. Self-employed	11	12,2
Total	90	100,0
Have received information about Fe tablets		
a. Yes	89	98.9
b. No	1	1,1
Total	90	100,0
Source of information on Fe tablets		
a. Electronic media (television, radio, internet)	21	23,3
b. Through health worker activities such as counseling, webinars	64	71,1
c. School	4	4,4
d. Never	1	1,1
Total	90	100,0

Based on the results of the study, it is stated that the age of respondents is early adolescence, the majority of which are 13 years old as many as 70 respondents (77.8%). One of the factors that influence a person's high and low self-efficacy is age because self-efficacy is formed from the social learning process that takes place during an individual's lifetime.[15] In addition, gender also affects a person's level of self-efficacy. Respondents in this study were female. Women are more likely to comply with recommendations from health workers when compared to men.[16]

The majority of respondents' parents' education in this study is a junior high school/equivalent. The education of the fathers and mothers of respondents in this study each amounted to 56 respondents (62.2%) and as many as 50 respondents (55.6%), and the respondents in this study had junior high school education. Education affects the high and low levels of a person's self-efficacy. Individuals with higher levels of education will have high self-efficacy compared to individuals with low levels of education because someone with higher education is used to solving their problems.[16] When associated with experience, early adolescents have little experience related to taking Fe tablets compared to late adolescents or adults who first get Fe tablets. Older individuals tend to have more periods and experience in overcoming something that happens when compared to younger individuals, who may still have little experience and events in their lives.[17]

Self-Efficacy

The measurement of high and low self-efficacy in this study uses a nominal scale. The high self-efficacy category is if the respondent's questionnaire results have a T value ≥ mean and the respondent is said to have a low level of self-efficacy if the respondent's questionnaire results have a T value < mean. The mean calculation is obtained by adding up the total results of respondents' answers and then dividing it by the total number of respondents. After carrying out calculations, the mean obtained from the results of the respondents' self-efficacy questionnaire was 57.13.

Table 2. Frequency Distribution of Respondents Based on Self-Efficacy of Class VII Young Girls at SMPN 1 Sewon

Self-Efficacy of Class VII Young Girls at SMPN 1 Sewon	Frequency	Percentage (%)
High	46	51,1
Low	44	48,9
Total	90	100,0

The results showed that 46 respondents (51.1%) had a high level of self-efficacy and 44 respondents (48.9%) had a low level of self-efficacy. The majority of respondents in this study had high self-efficacy. The high and low levels of self-efficacy of respondents can be seen from the results of the respondent's questionnaire, which show that if the results of the respondent's questionnaire show a value of ≥ 57.13, then the respondent has a high level of self-efficacy, and if the results of the respondent's questionnaire show

<57.13, then the respondent has a high level of self-efficacy. low self-efficacy.

Respondents who have low self-efficacy can affect their level of compliance in taking Fe tablets, so self-efficacy is one of the factors that can affect the intention of adolescent girls in taking Fe tablets.[17] High and low self-efficacy can be influenced by 4 things, namely gender, age, education level, and experience.[17] The better the self-efficacy of the respondents, the stronger the intention to consume TTD.[14] This is in line with the results of research conducted by Lismiana and Indarjo (2021) which states that the majority of respondents do not have the confidence to be able to consume Fe tablets as recommended so this can affect the behavior of consuming Fe tablets.[16] The lower the individual's confidence to consume Fe tablets, the weaker the intention to consume Fe tablets, allowing the teenager to have the opportunity to experience anemia.[18]

Adherence to Taking Fe Tablets

Measuring the high and low levels of adherence to taking Fe tablets in this study used a nominal scale. The high level of compliance with taking Fe tablets can be seen if the results of the respondent's questionnaire are T ≥ mean, and it can be said that the respondent has a low level of compliance with taking Fe tablets if the results of the respondent's questionnaire have a value of T < mean. The mean calculation is obtained by adding up the total results of the respondents' answers and then dividing by the total number of respondents. After doing the calculations, the mean obtained from the results of the respondents' self-efficacy questionnaire was 4.98.

Table 3. Frequency Distribution of Respondents based on Adherence to Taking Fe Tablets among Young Women at SMPN 1 Sewon

Adherence to Taking Fe Tablets among Young Women at SMPN 1 Sewon	Frequency	Percentage (%)
High	50	55,6
Low	40	44,4
Total	90	100,0

The level of adherence to drinking Fe tablets of adolescent girls at SMPN 1 Sewon Yogyakarta was 50 respondents (55.6%) in the high category and 40 respondents (44.4%) in the low category. This is in line with research conducted by Saridewi and Kartika (2019), on the level of compliance of adolescent girls in taking Fe tablets at SMAN 1 Ngamprah, the majority of which were categorized as compliant (51.3%).[19] In addition, research conducted in India, that the level of compliance of adolescent girls in consuming Fe tablets was 67.7%.[5]

Based on this study, it is known that respondents who have a low level of compliance indicate that they do not always finish Fe tablets according to the dose. The recommended dose is to consume one Fe tablet every week. The respondents' low level of compliance in taking Fe tablets in this study can be seen from the results of the questionnaire which shows that they do not always spend 1 Fe tablet every week, so they take Fe tablets not as recommended.

Adherence to taking Fe tablets is influenced by teacher support, attitude, culture, family support, perceived threat, perceived benefit, perceived barrier, and self-efficacy.[20] In addition, the low adherence to taking TTD in adolescent girls is due to several factors such as teacher support, mother's education level, mother's occupation, awareness of anemia, and good knowledge about anemia.[21]

Table 2. Chi-Square Tests of the relationship between self-efficacy and adherence to taking Fe tablets

Self Efficacy		Adherence to Taking Fe Tablets		Total	*P value*
		High	Low		
High	n	35	11	46	0,000
	%	76,1	23,9	100	
Low	n	15	29	44	
	%	34,1	65,9	100	
Total	n	50	40	90	
	%	55,6	44,4	100	

The results of the chi-square test obtained a p-value, or sig., equal to 0.000<0.05. This means that H0 is rejected, so there is a relationship between self-efficacy and compliance with taking Fe tablets among young women at SMPN 1 Sewon Yogyakarta. This is in line with research conducted by Novita et al. (2021), which states that there is a significant relationship between self-efficacy and adolescent compliance with taking Fe tablets, characterized by a p-value of 0.000.[22] This is also confirmed by the results of research by Ainaya et al. (2022), which show that there is a significant relationship between self-efficacy and the intention of young women to consume TTD.[14] In addition, the research results of Nasicah and Muji (2023) state that self-efficacy has a relationship with or influences the compliance of young women with consuming blood supplement tablets.[23]

Someone who has high self-efficacy will encourage that person to make efforts or actions persistently and actively. Adolescent girls who fail to take Fe tablets with the first impression that Fe tablets make them dizzy and nauseous or even vomit can be one of the factors in decreasing self-efficacy in teenagers. This can influence young women to decide to comply with taking Fe tablets. The results of the analysis and theories that have been discussed can lead to the conclusion that high or low self-efficacy can influence an individual's attitudes and behaviour towards something. Someone who believes that they are not sure about taking Fe tablets can reduce their interest in taking Fe tablets, making it possible for them not to take Fe tablets at the proper dose.

CONCLUSION

The results of this study indicate that there is a significant relationship between self-efficacy and adherence to taking Fe tablets in adolescent girls at SMPN 1 Sewon Yogyakarta with a p-value or sig. of 0.000 (α <0.05). This research has several study limitations as well as several

suggestions that are expected to be useful for further research by parties who will research similar problems on the topic raised. There are several factors and other variables that can influence compliance in consuming Fe tablets, but what was studied in this study only examined one variable, so further research is recommended to add other variables that can influence compliance in consuming Fe tablets.

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