ISSN 2548-6462 (online), ISSN 2088-8740 (print)

DOI: 10.30644/rik.v13i2.844

Factors associated with adherence to the consumption of blood supplement tablets in female students at Senior High School 1 Godean Sleman Yogyakarta

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Accepted: 15 April 2024; revision: 22 November 2024; published: 31 December 2024

Abstract

Background: Adolescent girls have a ten times greater risk of anemia compared to young men. This is because adolescent girls experience menstruation every month and are in a period of growth that requires more iron intake. One form of anemia prevention in adolescents is the provision of blood supplement tablets. Based on the data, blood supplement tablets coverage is still low, indicating that adolescents' self-awareness to consume fe is still lacking. The purpose of this study was to determine what factors are associated with the compliance of female students in consuming blood supplement tablets. This study was conducted at senior high school 1 Godean with the research subjects were X and XI grade students totaling 81 students.
Method: The sampling technique used was purposive sampling. The instruments used in this study were questionnaires about knowledge, family support, teacher support, peer support and health belief model (HBM) behavior questionnaire. The data obtained were then analyzed using univariate, bivariate and multivariate analysis.
Results: The results of this study indicate that there are 3 factors associated with adherence to blood supplement tablets consumption in adolescents, namely peer support (p=0.02), perceived threat (p=0.02) and perceived self-efficacy (p=0.03). While the variables of knowledge (p=0.74), family support (p=0.51), teacher support (p=0.21), perceived susceptibility (p=0.24), perceived seriousness (p=0.41), perceived benefit (p=0.22), and perceived barrier (p=0.22) did not have a relationship with compliance in taking blood supplement tablets.

Keywords: Anemia; Adolescents; Blood supplement tablets; Adherence

INTRODUCTION

Maternal mortality rate (MMR) is one of the indicators of women's health status. Hemorrhage is the most common cause of MMR with 1,1330 cases (1). Bleeding in mothers is caused by anemia during pregnancy. Anemia in pregnant women can be caused by anemia during adolescence and is not handled properly. According to Riskesdas data in 2013, adolescent girls experienced anemia, namely 37.1% and increased to 48.9% in Riskesdas in 2018 with the proportion of anemia in the age group 15-24 and 25-34 years (2). Adolescent girls have a ten times greater risk of anemia when compared to young men. This is because adolescent girls experience menstruation every month and are in a period of growth so that they need more iron intake (3). According to the Minister of Health Regulation No. 25/2014 on Child Health Efforts, article 28, health services for school-age children and adolescents are carried out through health efforts and youth care health services. The activity is in collaboration with School Health Efforts where one of the activities is the provision of added blood for adolescent girls. Based on RISKESDAS in 2018, it was found that the coverage of blood supplement tablets received by adolescent girls was 76.2%.

Data from the DIY Health Office, the coverage of giving blood supplement tablets to adolescents in 2020 was 67.7%(4). This condition shows that there is still low awareness of adolescent girls to prevent

anemia. Providing blood supplement tablets with the right dose can prevent anemia and increase iron reserves in the body. Blood supplement tablets is given to adolescent girls starting from the age of 12-18 years in educational institutions (junior and senior high school or equivalent) through school health effort. The preventive dose is to give one blood supplement tablet every week for 52 (fifty-two) weeks(5). The coverage of blood supplementation tablets for adolescent girls in Yogyakarta in 2020 was 67.7% (2).

Based on the results of the study, the number of adolescents who consumed blood supplement tablets less than 52 was 98.6%. This shows that the behavior of consuming blood supplement tablets in adolescent girls is not in accordance with the dose recommended by the government, which is 1 tablet per week for 52 weeks (6). Based on the results of previous research, there are many factors that influence adolescent girls in taking blood tablets. Factors that influence adolescent girls in taking blood tablets include knowledge, family support, teacher support, peer support, perceived susceptibility, perceived seriousness, perceived threat, perceived benefit, perceived barrier, and perceived self-efficacy with blood tablet consumption behavior (6)(7)(8). This study aims to determine what factors are associated with the compliance of female students in consuming blood supplement tablets.

METHODS

This research is a cros sectional study. This research was conducted at SMA N 1 Godean with the research subjects being X and XI grade female students totaling 81 students. The sampling technique used was purposive sampling, with criteria include adolescents who have menstruated and receive iron every month. The instruments used in this study were questionnaires about knowledge, family support, teacher support, peer support and health belief model (HBM) behavior questionnaire. The type of questionnaire is closed question, knowledge questionnaire consist of 27 questions, support questionnaire of family, teacher and, peer support consist of 15 question, and health belief model (HBM) behavior questionnaire consist of 10 question. The data obtained were then analyzed using univariate, bivariate and multivariate analysis.

RESULTS

Characteristics of respondents

Based on the results of the study, the characteristics of respondents in this study can be explained in table.1

Table 1. Frequency Distribution of Student Respondents at SMA N 1 Godean Yogyakarta (N=81)

Respondent Characteristics	n	%
Age of Responden		
15 years	5	6,2
16 years	39	48,1
17 years	37	45,7
Have received health counseling about anemia		
Already	58	71,6
Not yet	23	28,4
Totals	**81**	**100**

Source: Primary Data, 2022

Table 1 shows that most of the respondents' age was at the age of 16 years, namely 39 people (58%). Most respondents had received health education about anemia as many as 58 people (71.6%).

Univariate analysis

The results of the cross tabulation in this study are presented in table 2.

DISCUSSION

The results of this study found a relationship between peer support and compliance in consuming blood supplement results of this study are in line with previous research which states that peer support is related to adolescents' compliance in taking blood tablets. Adolescents who get good support from peers tend to be more regular in taking blood supplement tablets (9)(10). Peers are part of the adolescent environment that can invite or provide support for adolescents to consume blood tablets. Adolescents who have good environmental support will have a 3.1 greater chance of

taking blood tablets well compared to poor environmental support (11). Adolescent relationships with peers are individual relationships involving familiarity that are quite influential in youth groups.

Table 2. Univariate analysis

Independent variable	*Adherence to fe Consumption*				Totals		p-value
	Non-compliant		Compliant				
	n	%	n	%	n	%	
Knowledge							
Good	**61**	**75,3**	**10**	**24,7**	**71**	**100**	**0,74**
Fair	**8**	**80**	**2**	**20**	**10**	**100**	
Family Support							
Good	**50**	**83,3**	**10**	**16,7**	**60**	**100**	**0,51**
Lack	**19**	**86,4**	**2**	**13,6**	**21**	**100**	
Teacher Support							
Good	**60**	**82,1**	**13**	**17,9**	**73**	**100**	**0,23****
Lack	**8**	**100**	**0**	**0**	**8**	**100**	
Peer Support							
Good	**47**	**78,3**	**12**	**21,7**	**60**	**100**	
Lack	**20**	**95,2**	**1**	**4,8**	**21**	**100**	**0,02***
Perceived Susceptibility							
Not feeling vulnarable	**30**	**85,7**	**4**	**14,3**	**34**	**100**	**0,24****
Feeling vulnarable	**38**	**80,9**	**9**	**19,1**	**47**	**100**	
Perceived Seriousness							
Not feeling severe	**5**	**83,3**	**1**	**16,7**	**6**	**100**	
Feeling severe	**62**	**82,6**	**13**	**17,4**	**75**	**100**	**0,41**
Perceived Threat							
Not feeling threatened	**18**	**94,7**	**1**	**5,3**	**19**	**100**	
Feeling threatened	**50**	**80**	**12**	**20**	**62**	**100**	**0,02***
Perceived Benefit							
Not feeling useful	**47**	**81**	**11**	**19**	**58**	**100**	
Feeling useful	**21**	**91,3**	**2**	**8,7**	**23**	**100**	**0,22****
Perceived Barrier							
Do not believe	**47**	**81**	**11**	**19**	**59**	**100**	
Believe	**21**	**91,3**	**2**	**8,7**	**23**	**100**	**0,22****
Perceived Self Efficacy							
Not feeling the barrier	**30**	**75**	**10**	**25**	**40**	**100**	
Feeling barrier	**38**	**92,7**	**3**	**7,3**	**41**	**100**	**0,03***

Notes: *Significant p<0.05, **significant p<0.25
Source: primary data processed in 2022.

This shows that peers also function as a place to share information so that it can cause behavioral changes. These behavioral changes can be exemplified in the consumption behavior of blood supplement tablets. In accordance with the adolescent development stage, adolescents have a desire to be accepted by their peers, so that adolescents will behave in accordance with their peers to be accepted in the environment. If their peers have good compliance in taking blood tablets, then adolescents will be more motivated to follow the behavior of their peers(12)(13).The results of this study found a relationship between perceived threat and adherence in consuming blood supplement tablets with a p value of 0.02. This study is supported by previous research which states that there is a relationship between perceived threat and adolescents' compliance in taking blood tablets (14). Perceived threat and intention in

this study are in line with previous research which states that perceived threat is significantly related to behavior(15). Someone who faces a high threat will have a desire to seek information about the situation at hand. Adolescents who have good beliefs about threat perception will have good behavior. Threat perception is a combination of perceived vulnerability and perceived seriousness (16). Strong vulnerability will lead to behavior change. Adolescents who have a strong perception of threat about anemia will have a directly proportional behavior, namely compliance in taking blood supplement tablets. The results of this study found a relationship between perceived self-efficacy and compliance in consuming blood supplement tablets with a p value of 0.03. The results of previous studies that support this study state that there is a relationship between perceived self efficacy and adolescents' compliance in taking blood supplement tablets(14). Research states that perceived self-efficacy is related to adolescents' interest in consuming Fe tablets (7). Perceived self-efficacy is the belief in one's ability to take an action or decision. Adolescent decision making is influenced by environmental factors which include family support, teacher support and peer support. This is supported by the results of this study which state that family support is mostly in the good category (74%), teacher support in the good category (90%) and peer support in the good category (74%). Supportive environmental conditions make adolescents confident in making a decision.

Multivariate analysis

Based on the results of bivariate processing in Table 2, 3 variables were found to have a p value <0.05, namely peer support, perceived threat and perceived self-efficacy. Meanwhile, 7 variables that have a p value <0.25, namely teacher support, peer support, perceived susceptibility, perceived threat, perceived benefit, perceived barrier, and perceived self efficacy are then processed using logistic regression test. The results of multivariate statistical processing using logistic regression are shown in Table 3.

Based on the OR value in table 3, it is known that the OR value of Perceived threat is 11.259 greater than the OR value of Perceived barrier, 5.971 and OR value of Perceived self-efficacy, 4.201. So in other words, the most dominant variable associated with compliance in consuming blood supplement tablets is Perceived threat.

Table 3 Logistic regression test of factors associated with retention in taking blood supplement tablets (n=81)

Variabel	OR (Exp (B))	95%CI Exp (B)	p
Teacher support	0,001	(0,008-0,245)	0,999
Peer support	0,158	(0,017-1,501)	0,018
Perceived susceptibility	0,279	(1,158-0,857)	0,264
P*erceived threat*	11,259	(1,029-109,457)	0,037
Perceived benefit	0,154	(0,009-0,918)	0,136
P*erceived barrier*	5,971	(1,284-27,711)	0,396
Perceived selfefficacy	4,201	(2,047-8,621)	0,001

Source: primary data processed in 2022

This study is supported by previous research which stated that there is a relationship between perceived threat and adolescent compliance in consuming blood-boosting tablets(17). Perceived threat or perception of threats and intentions in this study is in line with previous research which stated that perceived threats are significant in relation to behavior(18). A person who faces a high threat will have a desire to seek information about the situation at hand. Adolescents who have confidence about a good perception of threats will have good behavior. Threat perception is a combination of perceived vulnerability and perceived seriousness. Strong vulnerability will cause behavior change. Adolescents who have a strong threat perception of anemia will have a behavior that is directly proportional,

namely compliance in consuming blood supplement tablets.

CONCLUSIONS

The level of knowledge of adolescents about anemia in the good category (87.6%), family support in the good category (74%), teacher support in the good category (90%), peer support in the good category, 74%), perceived susceptibility in the category of feeling fulnarable (58%), perceived seriousness in the category of feeling severe (92.5%), perceived threat in the category of feeling threatening (76.5%), Perceived Benefit in the category of not feeling usefull (71.6%), Perceived Barrier in the category of do not believe (72.8%), and perceived self-efficacy in the category of feeling barierr (50.6%).

Adolescent girls have non-compliant behavior in taking blood supplement tablets, which is 85.2%.

Based on statistical tests, the knowledge of female students with a value of p=0.74, family support p=0.51, teacher support p=0.23, perceived susceptibility p=0.24, perceived seriousness p=0.41, perceived benefit p=0.22 and perceived barrier p=0.22 did not have a statistically significant relationship with adherence to taking blood tablets. While the peer support variable with a value of p=0.02, perceived threat p = 0.02 and perceived self-efficacy p=0.03 showed a statistically significant relationship with adherence to taking blood supplement tablets.

ACKNOWLEDGEMENTS

a. For Schools/Teachers

Based on the results of this study, teachers have provided good support about anemia and consumption of blood supplement tablets, but most students are still not obedient in consuming blood supplement tablets. Because the provision of blood-added tablets through counseling guidance teachers and UKS teachers, it is necessary to make a schedule for taking blood-added tablets that is carried out simultaneously by all students in one school.

b. For female students

Based on the results of this study, peer support is related to compliance in the consumption of blood supplement tablets. Therefore, students can provide mutual support such as reminding each other to be obedient in taking blood tablets.

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