



THE ADOLESCENTS' CHARACTERISTICS WITH ANEMIA IN SENIOR HIGH SCHOOL MUALLIMAT YOGYAKARTA

Luluk Khusnul Dwihestie^{a*}; Luluk Rosida^b

^{a, b} *Fakultas Ilmu Kesehatan Universitas 'Aisyiyah Yogyakarta ;
Jl. Siliwangi no.63 ; Yogyakarta 55592 ; Indonesia*

Abstract

Anaemia is a global health problem. Anemia occurs more likely in women and adolescents. This is due to menstruation experienced every month which causes low levels of hemoglobin. Adolescence is a period of growth that requires more nutritional intake. Anemia in adolescent impacts on decreased of body immunity and the reduce of concentration. The purpose of this research is to find out the adolescents' characteristics with anemia in Senior High School Muallimat Yogyakarta. This research is descriptive analytic research with cross sectional approach, a population of 425 students of class X, 40 sample students, and a purposive sampling technique. The results show a description of the characteristics of adolescent in Senior High School Muallimat Yogyakarta which was that the majority of respondents aged 16 years of the 22 respondents (63.0%); the majority of adolescents experienced menarche at age 12 as many as 12 respondents (30.0%); adolescents having menstrual periods 1 time a month that a majority of 35 respondents (87.5%). In addition, long menstrual majority in the normal category is 3-7 days as many as 29 respondents (72.5%). It is expected that adolescents can consume vegetables and fruits containing iron, as well as Fe tablets during menstruation.

Keywords: *Anemia, length of menstruation, menarche, menstrual cycle*

1. Introduction

The prevalence of health problems in the community which is still quite high is anemia. The data from Riskesdas (2018) show that incidence of anemia in pregnant women reaches 48.9% of all ages. The biggest prevalence (84.6%) is at the mother's age of 15-24 years. It is far from WHO standards for the prevalence rate of anemia in a region which must be below 20%. In addition, WHO also expects that in 2025 the prevalence of anemia can be reduced by up to 50% (especially in women of childbearing age).

According to Budianto (2009), the prevalence of anemia can be used as an indicator to identify any deficiency of red blood cells that indicate the health status of the community. Anemia is determined by measuring the hemoglobin content in the blood. According to Yuni (2015), normal hemoglobin

levels in men and women are different: male 13.5gr % / dl and women 12 g% / dl.

The cause of anemia is very varied, but half of which is supposed to be iron deficiency consumption. The research of Hapzah & Yulita (2012) stated that the level of knowledge of adolescents doesn't influence healthy behavior because many teenagers do not like to eat fruit and vegetables containing iron, but they prefer foods that contain calories and low in fiber such as fast food. It's proven with their research showing that as many as 83 adolescents (74.8%) preferred fast food.

The research of Gadjah Mada University (2018) found that approximately 12.8% of adolescents in Yogyakarta suffered from anemia. This assumed that 1 in 5 adolescents had anemia. The prevalence of anemia in an area is categorized as mild if there is less than 10% of the overall target, moderate category: 10-39%, and the category of distress >39% (Dinas Kesehatan DIY, 2018).

^{*}) Corresponding Author (Luluk Khusnul Dwihestie)
E-mail: lulu.khusnul64@yahoo.com

Anemia can cause lethargy, fatigue, and low of concentration which have impacts on learning achievement. In addition, low body immunity is susceptible to disease. Impact of anemia is not only short term but also long-term. If the incidence of anemia in adolescent is not handled immediately, it will persist into adulthood. Adolescents with anemia are at increased risk of morbidity and mortality rates of pregnant women. Maternal and infant health can be compromised. Therefore, it needs special attention to prepare healthy reproduction since teen ages (Rosmalina, 2010).

Iron is an essential component for the body because it plays a role in the process of red blood cell formation and metabolism. The amount of iron in the body is very little that is 3-5 grams. When the body lacks food intake, the body will disassemble the iron stores in the body to meet the requirement. If this happens, it will increase the risk of anemia in adolescents (Proverawati, 2011).

The research of (Astuti & Trisna, 2016) stated that diet is associated with anemia. The results show that most adolescents have irregular eating habits such as going to school without having breakfast. This is due to the unavailability of food in the house. While in school, these teens prefer the lunch menu only with meatballs or noodles.

The Indonesian government policy in tackling the incidence of anemia is by implementing a program of iron tablet supplementation. The program of giving blood tablets in adolescents through school has reached 80.9%. However, most adolescent (98.6%) have not routinely consumed blood tablets. The government has targeted that adolescent should consume tablets up to 52 tablets (Kemenkes RI, 2018). Based on a preliminary study in Senior High School Muallimat Yogyakarta, of 10 students who suffered from anemia, 90% of them had never consumed Fe tablet regularly during menstruation. Therefore, this research was to find out the adolescents' characteristics with anemia in Senior High School Muallimat Yogyakarta.

2. Method

This study is descriptive analytic with cross-sectional approach, The population of this research were 425 students of class X and the sampling used purposive sampling techniques,

with inclusion and exclusion criteria which were students who had menstruation and experienced anemia proven by the results of hemoglobin measurement device. So there were total sample of 40 students, all of them with mild anemia category. The study was done in 2019 in Senior High School Muallimat Yogyakarta using the instrument of research table recaps. The data analysis of study used univariate analysis with frequency distribution calculation.

3. Results And Discussion

The study conducted with respondents of 40 adolescents who had experienced anemia found the characteristic features including age, age of menarche, cycle and length of menstruation as follows:

- a. Characteristics of respondents in adolescents with anemia based on the age of respondents

Table 1 Characteristics of respondents adolescents with anemia in Senior High School Muallimat Yogyakarta

No.	Characteristic	Frequency (N)	Percentage (%)
Age			
1.	Age 15 years	13	32.5
2.	Age 16 years	22	55.0
3.	Age 17 years	3	7.5
4.	Age 18 years	2	5.0
age of menarche			
1.	Age 10 years	3	7.5
2.	Age 11 years	6	15.0
3.	Age 12 years	12	30.0
4.	Age 13 years	11	27.5
5.	Age 14 years	7	17.5
6.	Age 15 years	1	2.5
Menstrual cycle			
1.	1 month	35	87.5
2.	1 month 2 times	22	7.5
3.	2 months	3	5.0
Old Mesntruasi			
1.	3-7 days	29	72.5
2.	> 7 days	11	27.5
Anaemia			
1.	Mild anemia	40	100
2.	Moderate anemia	0	0
3.	Severe anemia	0	0
Total		40	100

The data show the majority of respondents was 16 years (55%), the results of this study indicated that adolescents were very susceptible to anemia. This is in line with the data of

Kemenkes RI (2018), that the age of the most anemic range 15-24 years is 86.4%.

Adolescents is a dynamic period of growth and development. This period is a stage of transition from childhood to adulthood characterized by the development of physical, mental, emotional, and social (Dhamayanti, 2013). According to Santrock (2010), adolescence is considered as a period of storm and stress (Storm and Stress), because during adolescence, a person has a desire to freely determine his / her choice.

The study results of Sari (2019) show that most teens who were less knowledgeable suffered from anemia. So there is a correlation between knowledge and anemia of adolescents. Teens with poor knowledge have 7x greater risk of anemic than those with good knowledge.

This is in line with the policy of the Indonesian government through direct health promotion strategies to schools which aim to increase knowledge of adolescents about anemia. Adolescents with good knowledge will keep their diet and nutritional intake.

b. Characteristics of respondents in adolescents with anemia by age of menarche

Based on research data, a majority of respondents first got menstruation when they were 12 years old, meaning that adolescents who were anemic in Senior High School Muallimat were included in the category of ideal menarche age. This is in line with Proverawati & Misaroh (2009) who argued that menarche menstruation was first experienced by women during puberty. Normal menarche age is 12-14 years, while when it is before 12 years old, it is categorized early menarche.

In this study, all respondents were anemic, but the age of menarche ranged from age 10 - 15 years. In accordance with the classification by age of menarche by Proverawati & Misaroh (2009), it was concluded that there were 9 respondents who experienced early menarche, and 31 respondents who had a normal age of menarche. This is in line with research Dumilah & Sumarmi (2017) which stated that the age of menarche is not associated with anemia. However, anemia can affect the age of menarche pullback for 1.5 to 2 years and can disrupt the body's immunity. To prevent teens from anemia is by keeping the diet and nutrition, such as the consumption of fruits and vegetables containing iron.

c. Characteristics of respondents in adolescents with anemia based on the menstrual cycle

On this research, as many as 40 respondents already menstruate regularly. In line with Proverawati (2011), anemia often affects adolescents due to menstruation, stress state, bleeding, impaired iron absorption, deworming, nutrition, syndrome mal absorption of iron and a meal delay. Stress can be avoided by spending time with positive and fun activities, such as try up for school sports.

The result found that the majority of respondents (a total of 35 respondents : 87.5%) had regular menstrual cycle every month. According to Djaeni (2012), menstruation is regular discharge of endometrial epithelial tissue caused by changes in the hormonal balance of the female reproductive. Adolescents begin menarche and menses accompanied by the disposal of a number of red blood cells.

Kristianti et al. (2014) stated that menstrual cycles is associated with the incidence of anemia in adolescents in SMAN 1 Imogiri, Bantul. Anemia in adolescence can lead to disruption of the menstrual cycle, as they relate to changes in steroid hormone levels which are the main factors of the menstrual cycle. One of irregularities of menstrual cycle is caused by iron deficiency in the body that leads to low hemoglobin levels. In adolescents who are anemic, the supply of oxygen to the whole body will be reduced, which will affect the hormone Follicle stimulating hormone and luteinizing hormone produced by the hypothalamus.

Consumption of blood tableting regularly during menstruation can help maintain hemoglobin levels in order not to go lower. Iron tablet can be taken one time a day, at night before bed, using water.

d. Characteristics of respondents in adolescents with anemia by the length of periods

The research data show that the majority of adolescents in Senior High School Muallimat Yogyakarta with the length of menstrual period for 3-7 days were as many as 29 respondents (72.5%). According to Bobak (2014) the length of menstruation is the time of menstrual bleeding process occurring in women. The time of expenditure menstrual blood is diverse -- generally lasts for 4 to 6 days.

According to research of Febrianti et al. (2013), when a woman's menstrual period is more than 7 days, it can be one of the signs or symptoms of bleeding menorrhagia longer than

the normal time. Menorrhagia is related to hormonal imbalance or dysfunction of the female reproductive organs. According to Bobak (2014), menstrual blood expenditure consists of parts decay endometrium layer mixed with blood and the uncertain amount.

Based on data from the study, there were 11 respondents (27.5%) who experienced menses more than 7 days. This matter is in line with research of Basith et al. (2017) which states that the length of menstrual cycle is associated with anemia. Abnormalities of menstrual cycle length can increase the risk of anemia, due to the amount of blood loss which is more than the normal one, and resulted in low levels of hemoglobin in the blood. Similarly, research of Jaelani et al. (2017) also stated that there are links between long periods with the incidence of anemia. Adolescents who experience long periods of more than the normal time can be at risk of anemia. Exercise and diet can prevent anemia in adolescents.

Limited research is the sample amount of only 40 respondents.

4. Conclusions and Suggestions

The characteristic features of adolescents in Senior High School Muallimat Yogyakarta, shows that the majority of respondents is aged 16 years of the 22 respondents (63.0%). Most respondents experienced menarche at age 12 years are as many as 12 respondents (30.0%). Adolescents in Senior High School Muallimat Yogyakarta having experienced the majority of the regular menstrual cycle are 35 respondents (87.5%). In addition, long periods in adolescents in Senior High School Muallimat Yogyakarta show that the majority of respondents in the normal category (3-7 days) are as many as 29 students (72.5%). The results show characteristic features in adolescent at Senior High School Muallimat Yogyakarta, mostly within the normal ranges, according to the age of menarche, menstrual cycles and the length of menstruation, but still anemic.

Senior High School Muallimat Yogyakarta is expected to do the prevention and control of anemia in cooperation with local district health facilities for providing information about anemia to adolescents. In addition, the need for assistance to young women to regularly take iron tablets each time period, as well as consume fruits and vegetables containing vitamin B12 is very crucial.

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