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Research Article

The Relationship of Hypermenorrhea with the Incidence of Anemia in Young Women at An Nikmah Islamic Boarding School, Sagulung

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Abstract

Background: Anemia in adolescents can have an impact on decreasing work productivity or academic ability at school, because there is no passion for learning and a decrease in learning concentration. To overcome the problem of anemia in young women, IEC (Communication, Information and Education) activities are carried out, namely promotions or campaigns about anemia to the public wide area, supported by group counseling and counseling activities that are shown directly to young women

Objectives: The purpose of this research was to analyze the correlation between hypermenorrhea and the incidence of anemia in adolescent girls.

Methods: The research design was Analytic survey. The whole of the girl in 10-19 years old who get hipermenorea in An Nikmah Islamic Islamic Boarding School, 57 populations with 50 respondents were taken by simple random sampling technique. The variable was hipermenorea and the parameter was anemia. The data analyzing used Chi Square Test, is p value 0,000, if $0,000 < 0,005$ (H_0 is rejected and H_1 accepted).

Results: From the results we get that there is a correlation between the incidence of hypermenorrhoea with anemia in An Nikmah Islamic Boarding School.

Conclusion: Conclusion is many bleedings occurs during menstrual process can cause anemia in young women.

Keywords: anemia, education, hypermenorea

Introduction

Adolescence is a musical period between childhood and adulthood so when adolescents experience development to achieve physical, mental, social, and other developments.¹ WHO (World Health Organization) has determined the category of the adolescent age period, which is between 10-19 years.² The group of young women is part of Women Of Childbearing Age (WCA) who are very vulnerable to anemia even though

they are human resources that must be protected, considering they are prospective mothers in the family when they get married later. Adolescents have enormous potential in efforts to develop the quality of the nation but often receive less attention in health care programs. Many cases of health as adults are determined by healthy living habits from a young age.³

Anemia in adolescents can have an impact on decreasing work productivity or academic ability at school because there is no passion for learning and decreased concentration in learning. Anemia can also interfere with growth where height and weight are not optimal. In addition, the body's resistance will decrease so that it is easy to get sick. The need for iron in adolescent girls increases due to replace iron lost during menstruation. Iron deficiency will increase the risk of iron deficiency anemia.⁴ Normal menstruation (eumenorrhoea) is usually 3-5 days (2-7 days is still normal), and the average blood count is 35 cc (2-3 times changing pads per day). Hypermenorrhea is menstrual bleeding that is heavy and longer than normal, which is more than 7 days, and changing pads 5-6 times per day.⁵ To overcome the problem of anemia in young women, IEC (Communication, Information, and Education) activities are carried out, namely promotions or campaigns about anemia to the wider community, supported by group counseling activities and counseling shown directly to young women through existing forums in the community such as schools, pesantren, workplaces (formal/informal), organizations and NGOs (Non-Governmental Organizations) in the fields of youth, health, religion, and women, followed by coordinating with other cross-sectors, namely the Ministry of Social Affairs (Ministry of Social Affairs) and BKKBN (Department of Population and Family Planning) and NGOs regarding the development and implementation of the Nutritional Anemia Prevention Program for Young Women.⁶ Anemia is a health problem that is widely found throughout the world, WHO states that anemia is the 10 biggest health problem in this modern century, and adolescents are one of the groups at high risk of suffering from anemia. Although anemia prevention programs have been recognized as a public health problem for a long time, little progress has been made. Therefore, WHO and UNICEF (United Nations Children's Fund) re-emphasizes the need to eradicate anemia. Iron deficiency is the main cause of anemia in the world (50-80%). In the adolescent group, anemia is estimated at 46% and is most commonly found in developing countries.³ The 2012 Indonesian Health Profile stated that one of the nutritional problems in Indonesia is anemia. Most of the anemia found in Indonesia is iron nutritional anemia, which is anemia caused by iron deficiency (Fe) which affects not only pregnant women but also young women. RISKESDAS (Riset Kesehatan Dasar) 2013 said that anemia in Indonesia is included in the high anemia group, namely 21.7% of the total population in the world, and anemia in the 5-14 year age group 26.4% and the 15-24 year age group by 18.4%.

The results of a study conducted by Jumiatun in 2013 regarding the relationship between menstrual disorders and the incidence of anemia in adolescent girls at 1 Rowosari Junior High School, Kendal Regency, said that there was a relationship between menstrual disorders and the incidence of anemia in adolescents. Types of menstrual disorders that occur in adolescent girls are mostly hypermenorrhea. The results of a study conducted by Nelson, et al., in 2015 in a study entitled "Severe anemia from heavy menstrual bleeding requires heightened attention" showed that there was a relationship between heavy bleeding due to menstruation and severe anemia.⁷ Based on the results of a preliminary study conducted by researchers in January 2021 at the Batam City Health Office, until January 2021 there had never been prevention and control of anemia in adolescent girls in Batam City, data on anemia in adolescent girls recorded at the Batam City Health Office So far, this is data from clinical practice that reports to the Batam City Health Office, prevention and control programs for anemia in adolescent girls are ongoing at this time.

Based on the experience of researchers at the An Nikmah Islamic Boarding School, which is in the Sagulung District, during the Majlis Sholawat event on December 20, 2021, at the Darussalam Islamic Boarding School, from 20 young women, information was obtained that 13 teenage girls complained of having long menstruation which affected their

reading and learning activities. Based on the results of a preliminary study conducted by researchers at the An Nikma Islamic Boarding School, which is in the Sagulung Sub-district, on December 8, 2021, at Darussalam Islamic Boarding School, of the 238 female students who were studied at that time 57 female students experienced menstruation for 8 days. The head of the An Nikmah Islamic Boarding School said that a study was conducted by Eka Sri Purwandri, a master's student at Sebelas Maret University, Surakarta in 2016 on the hemoglobin levels of adolescent girls at An Nikmah Islamic Boarding School who had anemia, out of 105 respondents who had their hemoglobin levels checked, 84 respondents had anemia.

Based on the description above, the author is interested in researching the relationship between hypermenorrhea and the incidence of anemia in adolescent girls at An Nikmah Islamic Boarding School, Sumber Sagulung District, Batam City.

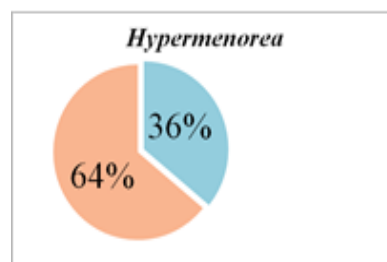
Methods

This research is quantitative research the research design used in this research is the Analytical Survey and the research design uses a cohort. The researcher tried to explore the relationship between hypermenorrhea and the incidence of anemia through a cohort approach, the researcher observed the independent variable of hypermenorrhea first using the research subject, namely young women, followed for one menstrual cycle to see the effect on the dependent variable, namely the incidence of anemia. The population in this study were all teenage students at the An Nimah Islamic Boarding School, Sagulung Subdistrict who experienced menstruation 8 days at the time of the preliminary study, as many as 57 female students. The sample in this study was 50 people who met the inclusion criteria and were taken using a probability sampling technique of simple random sampling using a lottery. The data collection instrument in this study used a questionnaire and the Pictorial Blood Loss Assessment Chart (PBAC). The operational definition of the incidence of anemia is a state of low hemoglobin levels in adolescent girls, using a spectrophotometer using the cyanmethemoglobin method. 100.

Results

Frequency Distribution of Hypermenorrhea in Young Women at An Nikmah Islamic Boarding School on September 8, 2021 – December 30, 2021.

Diagram 1. Frequency Distribution of Hypermenorrhea in Young Women at An Nikmah Islamic Boarding School on September 8, 2021 – December 30, 2021

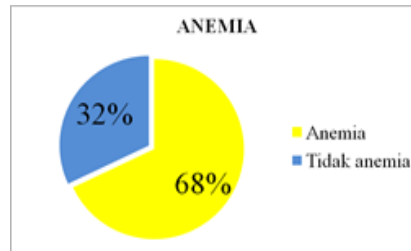


Source: Primary data taken from research results

The incidence of hypermenorrhea in adolescent girls at An Nikmah Islamic Boarding School, based on diagram 4.1, it can be seen that most of the respondents (66%) experienced hypermenorrhea as many as 33 respondents, almost half of the respondents (34%) did not experience hypermenorrhea, namely 17 respondents.

Distribution of the Frequency of Anemia in Young Women at An Nikmah Islamic Boarding School on September 8, 2021 – December 30, 2021

Diagram 2. Frequency Distribution of Anemia in Young Women at Darussalam Islamic Boarding School on 8 July 2021 – 30 August 2021



Source: Primary data taken from research results

The incidence of anemia in adolescent girls at An Nikmah Islamic Boarding School, based on diagram 4.2, it can be seen that most respondents (68%) experienced anemia, namely 34 respondents, and a small number of respondents (32%) did not experience hypermenorrhea, namely 16 respondents.

Cross tabulation of the relationship between Hypermenorea and the Incidence of Anemia at An Nikmah Islamic Boarding School

Table 1. The Relationship Between Hypermenorrhea and The Incidence of Anemia

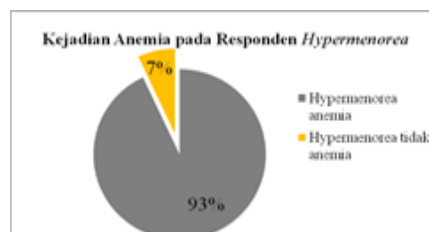
Category	Anemia		Not Anemia	
	Frequency	%	Frequency	%
Hypermenorea	30	60%	2	4%
Not Hypermenorea	2	4%	16	32%

Source: Primary data taken from research results

Table 1 states that most respondents (60%) had hypermenorrhea and anemia, almost half of respondents (32%) did not have hypermenorrhea and did not experience anemia, a small proportion of respondents (4%) did not have hypermenorrhea but had anemia, a small proportion of respondents (4%)) had hypermenorrhea but did not have anemia.

Distribution of the Frequency of Anemia in Respondents with Hypermenorrhea at An Nikmah Islamic Boarding School on September 8, 2021 – December 30, 2021

Diagram 3. Frequency Distribution of Anemia in Respondents with Hypermenorrhea at An Nikmah Islamic Boarding School on September 8, 2021 – December 30, 2021



Source: Primary data taken from research results

Diagram 3 shows that of the 32 respondents who experienced hypermenorrhea, almost all of the respondents (93%) experienced anemia, namely 30 respondents and a

small proportion of respondents (7%) did not experience anemia, namely 2 respondents. Analysis of the data to determine whether there is a relationship between hypermenorrhea and the incidence of anemia was carried out by using the chi-square test of a computer software program with a significance level of 0.05. The value was 0.000, where $0.000 < 0.05$, meaning H_0 was rejected and H_1 was accepted. This shows that there is a relationship between hypermenorrhea and the incidence of anemia in adolescent girls at An Nikmah Islamic Boarding School, Sagulung District, Batam City.

Discussion

This study uses PBAC (Pictorial Blood Assessment Chart) to determine the state of hypermenorrhea of each young woman. The PBAC score obtained from the results of research on respondents is ranging from 17 to 181. According to Higham, Jenny M., et al (2014), to measure the incidence of hypermenorrhea in women is to use a validated questionnaire, namely the PBAC. WRBD (2016) said that assessing the incidence of hypermenorrhea in clinical practice, is still subjective and depends on the description of the officer, so it is still less accurate between the actual patient's blood loss and the officer's diagnosis. with PBAC.⁸ The results showed that most of the respondents (66%) had hypermenorrhea. According to Kumalasari, et al. (2012), hypermenorrhea is menstrual bleeding more than normal (more than 80 ml) or longer than normal (≥ 8 days), sometimes accompanied by blood clots during menstruation. A study conducted by Jumiatur in 2013 on the relationship between menstrual disorders and the incidence of anemia in adolescent girls at 1 Rowosari Junior High School, Kendal Regency, found that hypermenorrhea is caused by prolonged menstruation and the amount of blood that comes out during menstruation.⁹

According to Kumalasari (2012), the causes of hypermenorrhea are reproductive tract infections (such as endometritis and salpingitis), coagulation disorders (due to Von Willebrand disease prothrombin deficiency, Idiopathic Thrombocytopenia Purpura (ITP) and others), organ dysfunction that causes hypermenorrhea (such as liver failure or kidney failure), endocrine hormone disorders (eg due to thyroid and adrenal gland disorders, pituitary tumors, anovulatory cycles, Polycystic Ovarian Syndrome (PCOS), obesity, etc.), uterine anatomic abnormalities (such as uterine myomas, endometrial polyps, endometrial hyperplasia, uterine lining cancer, etc.), iatrogenic (eg due to the use of the IUD, steroid hormones, chemotherapy drugs, anti-inflammatory drugs, and anti-coagulant drugs).⁹ According to Purwoastuti, et al. (2014) signs and symptoms of hypermenorrhea are menstrual periods of more than 7 days, continuous menstrual flow for several hours, requiring layered sanitary napkins, requiring a change of sanitary napkins in the middle of the night, large amounts of blood clots, heavy bleeding that interferes with activities. daily, continuous pain in the lower abdomen during menstruation, irregular menstrual times, fatigue, tiredness, and shortness of breath (similar to symptoms of anemia).⁵ Research shows that more respondents in Darussalam Islamic Boarding School experience hypermenorrhea compared to those who do not experience hypermenorrhea. The incidence of hypermenorrhea is a pathological event in adolescent girls who are already menstruating, often the cause of hypermenorrhea cannot be detected without using supporting medical examination tools, but the incidence of hypermenorrhea can be detected by knowing the signs and symptoms hypermenorrhea. For this reason, it is necessary to have support from health workers to find out the causes and cures of hypermenorrhea.

Hemoglobin levels were measured using a spectrophotometer by officers from the Brata Medika Pare Laboratory. The results showed that most of the respondents (68%) had anemia. The respondents' hemoglobin levels ranged from 10 g/dl to 13.8 g/dl. One of the factors that can cause young women to experience anemia is the menstrual process they experience every month. Blood loss during menstruation can reduce iron levels in the blood so that it can indirectly result in these young women experiencing iron deficiency anemia. According to the Writing Team of the Jakarta Health Polytechnic I (2010), adolescent girls

experience menstruation every month, where blood loss is 10 ml - 80 ml/day with an average of 35 ml/day. According to Purwoastuti, et al. (2014), during normal menstruation, the average amount of blood released is 35 cc/day. According to Purwitasari et al (2009), the need for iron is 15 mg/day for adolescents. Iron deficiency can cause anemia during menstruation. Adolescent girls who have menstruated every month need twice as much iron intake as adolescents who have not experienced menstruation. According to Ramayulis, et al., (2016), by knowing the causes of iron deficiency anemia, adolescents can prevent iron deficiency anemia. To overcome and prevent iron deficiency anemia, the use of side dishes as a source of iron needs to be considered. The absorption of iron in animal foods is higher, namely 20-30%, while from vegetable sources it is only 1-6%. Food sources of iron are animal protein (eggs, milk, meat, fish, liver), nuts (tempe, tofu, oncom, soybeans, green beans), and green vegetables (kale, spinach, katuk leaves). Prevention of iron deficiency anemia can also be done by adjusting the pattern of rest and activity patterns.¹⁰ The results showed that of the 32 respondents who experienced hypermenorrhea, a small proportion of respondents (7%) did not experience anemia.

According to the Writing Team of the Jakarta I Poltekkes (2010), the causes of iron nutritional anemia are lack of iron intake, reduced iron supplies in food, increased iron needs, chronic blood loss, malaria, hookworms, and lack of knowledge about iron deficiency anemia.⁴ The amount of blood that comes out during menstruation can cause the body to lose a lot of blood which is called hypermenorrhea, the more blood that comes out, the more iron content in the blood is also wasted it can cause anemia, but by paying attention to the need for good iron and good knowledge good about anemia can prevent young women from the incidence of anemia during menstruation. The results showed that of the 32 respondents who experienced hypermenorrhea, almost all of the respondents (93%) had anemia. Analysis with the Chi Square test using a computer software program, obtained a value of 0.000, meaning that there is a relationship between hypermenorrhoea and the incidence of anemia in adolescent girls at Darussalam Islamic Boarding School.

The amount of blood released during menstruation affects the onset of anemia. The more the amount of blood is removed, the more blood is lost.^{11,12} This causes the red blood cells in the body of young women to decrease, so that hemoglobin levels also decrease, so the more young women excrete menstrual blood, the lower the hemoglobin levels in the body.¹³ Proverawati (2009), said that during menstruation there is bleeding from the body. This causes the iron contained in hemoglobin which is one component of red blood cells is also wasted. The more blood that is released during menstruation, the more hemoglobin is released from the body.¹⁴ Research conducted by Dewi Andang Prastika in 2011, regarding the relationship between the length of menstruation and hemoglobin levels in female students at SMAN 1 Wonosari showed that there was a relationship between a lot of menstrual bleeding and the incidence of anemia in adolescent girls. hemoglobin.¹⁵ This is supported by research conducted by Nelson, et al., (2015) in a study entitled "Severe anemia from heavy menstrual bleeding requires heightened attention" which shows that there is a relationship between heavy menstrual bleeding and anemia.⁷

There is a relationship between hypermenorrhea and the incidence of anemia in adolescent girls in Islamic boarding schools, indicating that the large amounts of bleeding experienced by adolescent girls during menstruation can cause anemia. Health education about preventing, tackling, and treating hypermenorrhea and anemia should be given, so that young women at An Nikmah Islamic Boarding School can increase their knowledge. It is hoped that by having sufficient knowledge, young women can take a good attitude in carrying out early detection of hypermenorrhea so that it does not cause anemia.

Conclusion

Based on the results of data processing, there is a relationship between hypermenorrhea and the incidence of anemia in An Nikmah Islamic Boarding School, this

can be seen in almost all adolescent girls who experience hypermenorrhea at An Nikmah Islamic Boarding School experiencing anemia.

Conflict of Interest Declaration

This research is free from conflicts of personal or group interests.

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