

ANALYSIS OF KNOWLEDGE TO PREVENT ANEMIA DURING MENSTRUATION AT SMA NEGERI 17 MEDAN

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ABSTRACT

Anemia is a body condition where the hemoglobin (HB) level in the blood is lower than normal. Young women are susceptible to anemia due to puberty, where the need for iron increases due to rapid growth, especially menstruation every month which causes them to lose a lot of blood. The aim of this research is to determine the relationship between knowledge of adolescent girls and measures to prevent anemia during menstruation at SMA Negeri 17 Medan. This type of research is observational analytic with a cross sectional design. The research sample was 63 out of 173 class XI female students. This research uses purposive sampling techniques and the Spearman test. The research results showed that the majority of respondents had good knowledge (52.4%) and had actions in the sufficient category (46.0%). The p-value is 0.000 (<0.05). Conclusion: There is a significant relationship between knowledge of young women and measures to prevent anemia during menstruation at SMA Negeri 17 Medan. Suggestion: It is hoped that young women will expand their knowledge regarding the prevention of anemia, especially the types, causes, driving factors and impacts of anemia by seeking information through books and other media and following programs implemented by the school UKS, as well as implementing healthy living behavior so that measures to prevent anemia increase. in a better direction

Keywords : Knowledge, Action, Young Women, Menstruation, Anaemia.

INTRODUCTION

Anemia is a condition of the body when the level of hemoglobin (HB) in the blood does not match the normal limit or is lower (WHO, 2011, in (Ministry of Health, 2018). Hemoglobin is a component of red blood cells (erythrocytes) which work to transport and deliver oxygen to the body. all cells in the body's tissues that are needed to carry out their functions. The brain and muscle tissue that experience a lack of oxygen will be disturbed and cause symptoms such as reduced concentration and weakened physical strength when combined with protein and iron will form hemoglobin which will produce red blood cells (erythrocytes). Anemia is a manifestation whose cause needs to be identified and treated appropriately (Ministry of Health, 2018). The diagnosis of anemia is made by examining the hemoglobin/Hb blood concentration using the cyanmethemoglobin method. This decision is based on Minister of Health Regulation Number 37 of 2012 concerning the Implementation of Community Health Center Laboratories.

Young women and WUS are said to be anemic if the hemoglobin concentration in the blood has a value lower than 12 g/dL (Ministry of Health of the Republic of Indonesia, 2018)

The World Health Organization (WHO) in its 2021 global health statistics shows that the incidence of anemia in women of childbearing age or aged 15 to 49 years in 2019 is around 29.9% and the incidence of anemia in non-pregnant women aged 15 to 49 years where teenagers are included is around 29.6%. (Auliya.Y, 2022)

The 2018 Riskesdas report shows that in Indonesia, the incidence of anemia increased from 21.7% in 2013 to 27.7% in 2018. Based on the age group 15 to 24 years, the incidence of anemia was 18.4% in 2013, but increased by 32.0% in 2018. (Ministry of Health, 2018).

In 2017, the North Sumatra Health Service reported that in North Sumatra alone, there were 322,000 young women who had symptoms of anemia. According to the Medan City Health Service itself, the frequency of risk of anemia due to iron deficiency among students in the city of Medan in 2016 was around 1,182 people. The results of a survey conducted on teenagers in 19 schools in the city of Medan in 2016 showed that there were 1,303 female students (88.51%) who were at risk of suffering from anemia due to iron deficiency, according to an assessment of health status regarding diseases experienced in the previous 13 years. (Sulistiana.E, 2022)

The vulnerability of young women to anemia is due to the puberty period that young women are experiencing, which is a period of rapid growth in young women which causes an increase in the need for iron in the body to encourage growth. In addition, menstruation occurs every month in young women, which causes them to lose a lot of blood.

Anemia experienced by teenagers can have a bad impact. Adolescent girls who experience anemia are at risk of experiencing anemia later in pregnancy, which can affect the growth and development of the fetus in the womb, can result in complications during pregnancy and childbirth, and can even result in the death of both mother and child. Anemia that is not treated immediately will have an impact on the fetus and is at risk of low birth weight (LBW) or birth length <48 cm (Riskesdas, in (Yuliati.R, 2021). Seeing the impact that can occur due to anemia, teenagers It is necessary to prevent anemia, especially during menstruation.

Based on Mularsih's 2017 research regarding the relationship between young women's knowledge about anemia and their behavior in preventing anemia during menstruation at Nusa Bhakti Vocational School, Semarang City, out of 61 people, most of the 40 students (65.6%) had less knowledge and the majority had unsupportive behavior in prevented anemia during menstruation as many as 36 students (59.0%). The test results obtained show that there is a relationship between young women's knowledge about anemia and behavior to prevent anemia during menstruation. (Mularsih.S, 2017)

Then according to research conducted by Situmeang, et al regarding the relationship between knowledge, attitudes and socioeconomics with anemia prevention behavior in young women in Sirnagalih village, Bogor in 2022, of the 72 respondents, the majority had less knowledge about anemia, 46 people (63.9%) and the majority had good anemia prevention behavior as many as 38 people (52.8%). The test results obtained show that there is a relationship between the knowledge variable and anemia prevention behavior in adolescent girls. (Situmeang.A.M.N, 2022).

Apart from the two studies above, there is also research conducted by Indriasari, et al regarding knowledge, attitudes and actions related to preventing anemia in lower middle socio-economic teenagers at SMA Negeri 10 Makasar in 2022, of 150 teenage girls, the majority 98 people (65.3%) had poor knowledge about anemia and 130 people (86.7%) had poor anemia prevention measures. The test results obtained show that knowledge is not related to action, while attitude is related to action. In summary, young women in this research location still have little knowledge and action regarding anemia and its prevention, although most of their attitudes are positive. (Indriasari.R, 2022).

Based on the results of a preliminary study carried out at SMA Negeri 17 Medan, it was found that 10 female students said they knew about anemia, but only in general terms. They don't know enough about the signs and symptoms of anemia and how to prevent it. Based on the interviews and examinations carried out, 8 of them had symptoms of anemia such as often feeling tired and weak, having difficulty concentrating when studying and getting sleepy easily, and looking pale, especially in the conjunctiva of the eyes.

The aim of this research is to determine the relationship between adolescent girls' knowledge and measures to prevent anemia during menstruation at SMA Negeri 17 Medan.

METHODE

The research method used is quantitative research, namely analytical observational, which is designed to see the relationship between two or more variables without any treatment or intervention, with a cross-sectional design carried out to determine the relationship between the independent variable and the dependent variable, where measurements are carried out over time. the same time. (Indra.I.M, 2019). The population in this study is all students of class XI MIPA and IPS SMA Negeri 17 Medan which totals 173 students with a sample size of 63 people using the Slovin formula. The sampling technique uses purposive sampling which is determined through inclusion and exclusion criteria.

RESULTS AND DISCUSSION

The results of this research are as follows:

Table 1. Frequency Distribution of Knowledge of Young Women and Actions to Prevent Anemia During Menstruation at SMA Negeri 17 Medan

Variable	(f)	(%)
Knowledge		
Good	33	52.4
Enough	22	34.9
Not enough	8	12.7
Total	63	100.0
Action		
Good	27	42.9
Enough	29	46.0
Not enough	7	11.1
Total	63	100.0

Table 1 above shows that in the knowledge variable, the majority of respondents had good knowledge with 33 respondents (52.4%) and the fewest respondents had poor knowledge with 8 respondents (12.7%). Meanwhile, in the action variable, the majority of respondents took measures to prevent anemia in the sufficient category with 29 respondents (46.0%) and the fewest respondents took measures to prevent anemia in the insufficient category with 7 respondents (11.1%).

Table 2. Analysis of Young Women's Knowledge of Measures to Prevent Anemia During Menstruation at SMA Negeri 17 Medan

Knowledge	Anemia Prevention						Total	p-value	
	Baik		Cukup		Kurang				
	n	(%)	n	(%)	n	(%)	n		(%)
Good	21	63.6	12	36.4	0	0.0	33	100.0	0.000
Enough	5	22.7	15	68.2	2	9.1	22	100.0	
Not enough	1	12.5	2	25.0	5	62.5	8	100.0	
Total	27	42.8	29	46.0	7	11.1	63	100.0	

*Uji Spearman, signifikan $p < 0.05$

In table 2, it can be seen that the majority of respondents who have good knowledge also have good anemia prevention measures, namely 21 respondents (63.6%). The

results of the bivariate test using the Spearman's rho test showed that the p-value was 0.000 or <0.05 , so it can be said that there is a significant relationship between the knowledge of young women and measures to prevent anemia during menstruation at SMA Negeri 17 Medan.

Table 3. Diagram of Young Women's Knowledge About Anemia Prevention



Table 3 above shows that of the 63 respondents, the majority of respondents had good knowledge regarding anemia prevention, 33 respondents (52.4%). This is because the majority of respondents have heard and received information about anemia, either through print media, electronic media, or non-media (people). In print media, most young women receive information about anemia through books, followed by brochures, pamphlets, newspapers and magazines. In electronic media, most young women get information through social media such as Facebook, Instagram, WA, etc., followed by the internet, television and radio. Meanwhile, in non-media, most young women receive information through health workers such as doctors, nurses, midwives, etc., followed by teachers, parents and siblings.

This research is similar to research conducted by (Dewi.Indrian, 2018) where the research results showed that from 83 samples, there were 71 respondents (85%) who had good knowledge, 4 respondents (5%) who had sufficient knowledge, and 8 respondents (10%) who have less knowledge, which shows that the majority of respondents' level of knowledge about anemia is good because most respondents have received information from school lessons and from various informal sources such as magazines, the internet, television and radio.

Parents are an important source of non-media information for their children to gain knowledge. Mothers as parents have a very close relationship with their daughters, because they can talk to each other about personal experiences, which can enable children to get information, including information about anemia and its prevention.

Based on the results of the cross tabulation between adolescent girls' knowledge and their mothers' education and occupation, it is known that of the 33 respondents (52.4%) who had good knowledge, 13 respondents (39.4%) had mothers who mostly had high school/vocational education and 12 respondents worked as entrepreneurs (36.4%). In this way, it can be said that respondents who have mothers with higher education and work tend to have better knowledge. According to researchers, this is because mothers who have higher education and work can easily obtain and access information to convey to their families. On the other hand, mothers who have low education and do not work have difficulty and are limited in getting information. This assumption is supported by (Kubilawati.S, 2019) who states that the mother's general level of family education influences the family's health status in achieving optimal health. The higher the level of formal education, the higher the level of health education, because health education is a form of intervention, especially in terms of health behavior factors. (Notoatmodjo, 2003, in (Kubilawati.S, 2019)

This is in line with research (Musfiroh. et al, 2016) which states that there is a relationship between parental (mother's) education and young women's knowledge about dysmenorrhoea and its treatment with a p-value of 0.010 or <0.05. The higher the level of education of parents (mothers), the higher the level of knowledge of young women. It is true, the higher a person's level of education, the easier it is to receive information, so the more knowledge he has, and vice versa.

There are still young women who have sufficient or insufficient knowledge about anemia, this does not mean that they have never heard or received information, but that they do not understand or do not fully understand even though they have received information about anemia. Not all individuals can capture all information well; Teenage girls will have difficulty remembering if given too much information. (Dewi. Indrian, 2018)

Table 4. Young Women's Action Diagram
About Anemia Prevention



Table 4 above shows that of the 63 respondents, the majority of respondents had measures to prevent anemia during menstruation with 29 respondents (46.0%) in the sufficient category.

Even though there has never been any counseling or health education about anemia and its prevention at SMA Negeri 17 Medan, the school provides blood supplement tablets to female students through UKS every week. This supports female students to take measures to prevent anemia, where the majority of female students receive and consume blood supplement tablets provided by the school. There are also several female students who obtain and consume blood supplement tablets by buying them themselves and receiving them from the health center. However, unfortunately, there are still some female students who do not take the blood supplement tablets that are given. According to researchers, this is because they do not fully understand anemia and the benefits of iron supplements given to them.

According to (Rahmawati, 2021), knowledge or attitudes are not necessarily expressed through actions (overt behavior). Enabling and supporting factors are needed to make it a real action or deed. 3 factors that can influence a person's actions, namely, the first is predisposing factors which include a person's knowledge, attitudes and values. Second are enabling factors which include the availability or affordability of facilities and resources. And the last one is reinforcing factors which include the attitudes and actions of health workers, as well as regulations in their social environment.

Based on the results of the cross tabulation between measures to prevent anemia in adolescent girls and their father's work and mother's work, it is known that of the 29 respondents (46.0%) who took measures to prevent anemia in the sufficient category, they had fathers who mostly worked as entrepreneurs with a total of 16 respondents (55.2%) and have mothers who work as housewives with a total of 14 respondents (48.3%). In this way, it can be said that respondents who have parents who work tend to take better measures to prevent anemia. According to researchers, this is because working parents have income that is used to finance daily needs, one of which is food/drink intake. With adequate food/drink intake, anemia prevention measures taken by young women will automatically increase.

This is in line with research (Situmeang.A.M.N, 2022) which states that there is a relationship between family income and anemia prevention behavior in adolescent girls in Sinargalih Village, Bogor Regency, with a p-value of 0.021 or <0.05.

Even though the majority of respondent mothers work as housewives and may not play a big role in financing daily needs, housewives tend to have a lot of time to take care of their families,

one of which is preparing food and their family's nutritional needs. This can support young women to take better measures to prevent anemia.

Table 5. Diagram of Cross Tabulation Results Between Knowledge of Young Women and Actions to Prevent Anemia During Menstruation



Based on the results of the Spearman's rho correlation test, it is known that the p-value is 0.000. Because $p=0.000$ or <0.05 , H_0 is rejected and H_a is accepted, so it can be concluded that there is a significant relationship between knowledge of young women and measures to prevent anemia during menstruation at SMA Negeri 17 Medan. The results of the cross tabulation between the knowledge of young women and measures to prevent anemia during menstruation at SMA Negeri 17 Medan in Table 5 above show that the majority of respondents who have good knowledge also have good measures to prevent anemia with a total of 21 respondents (63.6%). This shows that young women's actions to prevent anemia are formed and realized from the knowledge they have. The better the knowledge that young women have, the better the actions that young women can take to prevent anemia.

This assumption is reinforced by the opinion (Faridi.A, 2022) which states that humans have no basis for making decisions and determining actions related to the problems they face, without knowledge. Action is the realization of knowledge and attitudes of a real action. (Faridi.A, 2022)

This research is similar to research (Mularsi.S, 2017) which shows that there is a relationship between young women's knowledge about anemia and anemia prevention behavior during menstruation at Nusa Bhakti Vocational School, Semarang City with a p-value of 0.016 or <0.05 . Respondents who have good knowledge about anemia tend to have supportive behavior in preventing anemia during menstruation and vice versa. The low knowledge of female students about anemia is one of the causes of unsupportive behavior in preventing anemia

during menstruation. Incomplete knowledge is caused by female students not understanding or not receiving complete information. A person's knowledge influences their behavior, including behavior in preventing anemia during menstruation. (Mularsihi.S, 2017)

Similar to Anggraini's research, which states that there is a relationship between knowledge and efforts to prevent anemia in midwifery students at the Blora Health Polytechnic, Ministry of Health, Semarang, with a p-value of $0.001 < 0.05$. (Anggraini, 2020)

Other research that is in line with this is research (Izdihar.M.S, 2022) which states that there is a relationship between knowledge about and behavior to prevent anemia in young women at SMAIT Ukhuwah Banjarmasin with a p-value of 0.000 or <0.05 . If female students are not given education about anemia, then they will not be equipped with knowledge about how to prevent anemia during menstruation. Knowledge does not guarantee that it will bring changes to a person's behavior, but knowledge is one of the most important aspects that allows a person to change behavior, one of which is the behavior of preventing anemia. (Izdihar. M.S, 2022). Based on several research results above which state that knowledge is related to measures to prevent anemia, researchers assume that the knowledge possessed by young women is related to the actions taken to prevent anemia and it is true that knowledge has a relationship with action. Although there are several other factors that may be related to or support young women to take action to prevent anemia when menstruating, knowledge is one of the important points that young women need to have to prevent anemia, because the knowledge they have can manifest an individual's action on something.

CONCLUSION

Based on the results of research on the relationship between adolescent girls' knowledge and measures to prevent anemia during menstruation at SMA Negeri 17 Medan, it can be concluded that:

1. Knowledge of young women about preventing anemia at SMA Negeri 17 Medan is mostly good with 33 respondents (52.4%).
2. The actions of young women in terms of preventing anemia during menstruation at SMA Negeri 17 Medan are mostly adequate with 29 respondents (46.0%).
3. There is a significant relationship between the knowledge of young women and measures to prevent anemia during menstruation at SMA Negeri 17 Medan

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REFERENCE

- Anggraini, S. &. (2020). Analisis Sikap dan Pengetahuan Terhadap Upaya Pencegahan anemia Pada Mahasiswa Bidan. *Jurnal Kebidanan dan Kesehatan Tradisional*.
- Auliya.Y, S. N. (2022). Analisis Anemia pada Remaja Putri. *Jurnal Penelitian Perawat Profesional* 4 (*Anemia pada Remaja Putri*), 1377-1386.
<http://jurnal.globalhealthsciencegroup.com/index.php/JPPP>.
- Dewi.Indrian, E. P. (2018). Hubungan Pengetahuan Remaja Tentang Anemia dengan Sikap Penegahan Anemia di SMK PGRI 3 Nganjuk Kabupaten Nganjuk. *Indonesian Midwifery Journal*, Vol 2. NO1.
- Faridi.A, d. (2022). *Etika, Perilaku dan Hukum Kesehatan*. Yayasan Kita Menulis.
- Indra.I.M, C. (2019). *Cara Mudah Memahami Metodologi Penelitian*. Jogjakarta: Deepublish.
- Indriasari.R, M. T. (2022). Pengetahuan, Sikap dan Tindakan Terkait Pencegahan Anemi Pada Remaja Berlatar Belakang Sosial-Ekonomi Menengah ke Bawah di Makasar. *Amerta Nutrition*, 6 (3), 256-261. <https://doi.org/10.20473/amnt.v6i3.2022.256-261>.
- Izdihar.M.S, N. I. (2022). Hubungan Pengetahuan dan Sikap Tentang Anemia dengan Perilaku Pencegahan Anemia Pada Remaja Putri di SMA IT Ukhuwah Banjaemasin. *Homeostasis*, 5, 333-342.
- Kemenkes. (2018). *laporan Hasil Riset Kesehatan Dasar (Riskesdas) Nasional Tahun 2018*. Jakarta.

- Kementerian Kesehatan RI. (2018). *Pedoman Pencegahan dan Penganggulangan Anemi pada Remaja Putri dan Wanita Usia Subur (WUS)*. Jakarta: <https://promkes.kemkes.go.id/buku-pedoman-pencegahan-dan-penanggulangan-anemia-pada-remaja-putri-dan-wanita-usia-subur>.
- Kubilawati.S, W. (2019). Perbedaan Jenis Kelamin, Pendidikan Ibu, Pekerjaan Ibu dan Kebiasaan Sarapan Terhadap Kejadian Anemia Pada Remaja. *Jurnal Kesehatan dan Kebidanan*, <https://smrh.ejournal.id/Jkk/article/view/54>.
- Mularsi.S. (2017). Hubungan Pengetahuan Remaja Putri Tentang Anemia Dengan Perilaku Pencegahan Anemia Pada Saat Menstruasi di SMK Nusa Bhakti Kota Semarang. *Jurnal Kebidanan*, 6 (2), 80.
- Musfiroh.dkk. (2016). Hubungan Antara Pendidikan Orang Tua (Ibu) dengan Pengetahuan Remaja Putri Tentang Dismenorea dan Penanganannya di MA An Nur Kota Cirebon.
- Rahmawati. (2021). *Ilmu Kesehatan Masyarakat*. Pekalongan: PT Nasya Expanding Management.
- Situmeang.A.M.N, A. W. (2022). Hubungan Pengetahuan, Sikap dan Sosioekonomi dengan Perilaku Pencegahan Anemia pada Remaja Putri si Desa Sirnagalih Bogor. *Jurnal Kesehatan Komunitas*, 8 (1), 32-39.
- Sulistiana.E, S. (2022). Pengaruh Pemberian Jus Buah Bit (Beta Vulgaris) Terhadap Peningkatan Kadar Hemoglobin Pada Remaja Putri Kelas X IPS di MAN 2 Model Medan Tahun 2022. *Jurnal Penelitian Kebidanan dan Kespro*, 5 (1), 112.
- Yulianti.R. (2021). *Anemia Pada Usia Remaja*. <https://rsupsoeradji.id/anemia-pada-usia-remaja/#;~:text=Kejadiananemiapadaremajaakanberdampakkepadajanin,panjangbada,nsaatlahir48cmRisksdas2018>.