Volume 16 No 1, Hal 15-23, Januari 2025
ISSN: 2087 – 5002 | E-ISSN: 2549 – 371X

The Influence of Eating Habits on the Incidence of Anemia in Young Women in Jogosetran Village Kalikotes-Klaten

Satiyem 1), Dewi Murtiningsih 2)

[1,2] Midwifery Study Program, Health Polytechnic of Surakarta
sty.polkesta@gmail.com

ABSTRACT

Anemia is more common in young women. Menstruation, low nutritional intake and hemolytics are risk factors for anemia in adolescent girls. The research aims to determine the effect of consuming eggs and lime on hemoglobin levels in young women. The research was conducted in August 2024. The sample in this study was 21 young women. Non-probability sampling and determining samples using inclusion and exclusion criteria. Research Place This research was conducted in Jogosetran Village, Kalikotes Klaten. Quasi-experimental research method. Giving eating habits (lime and eggs) as an independent variable and anemia status in adolescent girls as a dependent variable. The Wilcoxon T-test was used as a two-variable analysis test. Early Adolescent Stage 19 (95%) was the age of the most respondents. Before treatment the average Hb level was 10,21 gr/dL and the most moderate anemia was 17 (81%) while after treatment the average Hb level was 12,89 gr/dL namely not anemic 17 (81%). There is a significant influence of eating habits (lime and eggs) on increasing Hb levels in adolescent girls in Jogosetran Village Kalikotes Klaten with a z score of -4,016 and a p-value 0.00.

***Keywords**: anemia, eating habits, eggs, lime, young women*

1. INTRODUCTION

The incidence of anemia according to WHO (World Health Organization) in developing nations is 53.7% of female adolescents (WHO Organization, 2017). Indonesia has a high number of cases of anemia in adolescent girls (Young women). In 2018, the results of basic health research showed that the incidence of adolescent anemia was 32 percent, meaning that three to four out of ten adolescents were in the anemia category. (Riskesdas, 2018). The ratio of anemia in male and youn women is 20% versus 27% in the adolescent age group 15 to 24 years. The health problems in Central Java is anemia with an incidence rate of 57,7% (Director of Nutrition Development 2015). Klaten District Health Service data (2019) there is anemia experienced by teenagers, namely 36,2%.

Research on giving oranges and the incidence of anemia in adolescent girls was conducted by Siswatiningsih et al., (2024) which compared giving lemon juice (Hb levels 9.8 to 12) with red guava juice (Hb levels 9.5 to 12.4), both were able to increase hemoglobin levels in young women, but red guava juice raised levels faster. Meanwhile, research on egg consumption and the incidence of anemia in young women was carried out by Amanda and Kamidah (2024) at Senior High School 07 OKU showed that there was an effect of giving boiled eggs on increasing hemoglobin levels, there was an increase in Hemoglobin levels in young women by 1.47gr/dl. Research using a combination of lime and spinach to

Volume 16 No 1, Hal 15-23, Januari 2025
ISSN: 2087 – 5002 | E-ISSN: 2549 – 371X

increase hemoglobin levels was also carried out by Kusumawati (2020) in Kediri, the results showed an increase in hemoglobin levels in young women who experienced mild anemia from an average of 10.12 to 11.07 with a p value of 0.000. In this study, eggs and lime were combined to reduce the incidence of anemia in young women.

In 2018, anemia experienced by adolescent girls was caused by blood loss due to menstruation, low nutrient intake, hemolytics as mentioned in the Book of Prevention and Management of Anemia in young women and women of reproductive age. (Kemenkes RI, 2018). Dheny R, et al (2020) conducted research. The results of the research were that teenage girls experienced anemia caused by menstruation and nutritional status. The research was carried out at Senior High School I Prambanan Klaten (Rohmatika, 2020). Meanwhile, Eruka D, et al stated that the incidence of anemia is related to healthy breakfast habits in research at Senior High School I Karanganom Klaten in 2017 (Risanti *et al.*, 2017).

Young women will have a bad impact from anemia. The consequences of anemia in teenagers include: being easily infected with disease due to decreased immunity, impaired fitness, unproductive work, decreased learning achievement due to impaired concentration, and further impacts if the teenager becomes a pregnant mother, it will have an impact on the health of the fetus and mother. So based on the Indonesian Ministry of Health (2022) A quality next generation is also determined by healthy young women free from anemia.

Based on this background, the aim of the researchers was to conduct research on the influence of eating habits (egg and lime consumption) on hemoglobin levels in young women.

2. METHOD

The research was done in August 2024. The research place was carried out in Jogosetran Village, Kalikotes Klaten. This research method was quantitative quasi-experimental and did not use a control group.

A group of subjects/objects that have the same characteristics and qualities according to the researcher's determination that can be used in research and concluded is called a population (Sugiyono, 2016). In this study, female adolescents in Jogosetran Kalikotes Klaten village are the population, while the sample is a small portion of the population which can represent the population (Sugiyono, 2016).

According to Sugiyono (2016) sampling with inclusion and exclusion criteria called purposive sampling, obtained a total sample of 21 young women as samples using non-probability sampling.

Young women who are willing to be research samples, Young women who experience anemia, Young women aged 10-24 years are the inclusion criteria for determining the research sample. Adolescent girls who not suitable to eat animal protein, Adolescent girls who change residence in the middle of the research, Adolescent girls who have blood disorders are the exclusion criteria for determining the sample for this study.

The treatment in this study by giving eggs and lime made a daily eating habit within two weeks, this became the independent variable. The incidence of anemia in Young women by measuring Hemoglobin levels before-after being given food habituation treatment (consume 1 boiled egg and 1 glass of lime water once every day for 2 weeks) is the dependent variable.

Volume 16 No 1, Hal 15-23, Januari 2025
ISSN: 2087 – 5002 | E-ISSN: 2549 – 371X

The independent variables and dependent variables were analyzed univariately. The analysis is presented in descriptive form, with calculations using percentages and frequency distribution. The data described univariately is in the form of data on age and hemoglobin levels and the level of anemia in the adolescent girls pre-post treatment. In this research, the data scale is ordinal, so the Wilcoxon test is the choice for testing these two variables.

This research is guided by research ethics codes, among others anonymity, informed consent or agreement to be a research subject as well as ethical approval and confidentiality. The Ethics Permit was approved on July 25 2024 with No: 1.870/VII/HREC/2024 issued by Regional Public Hospital Dr. Moewardi by the Health Research Ethics Committee.

3. RESULTS

3.1 Univariate Analysis

The research took place in Jogosetran Village, Kalikotes-Klaten with the aim of finding out the effect of the habit of eating eggs and lime on hemoglobin levels in adolescent girls, with a sample size of 21 people.

Table 1 Frequency of sample age and level of anemia before-after treatment

Sample Age Group	f	%
10-16 years (Early Teenagers)	19	95
17-25 years (Late Teenagers)	2	5
Total	21	100
Pretest Anemia Status	**f**	**%**
Mild Anemia	4	19
Moderat Anemia	17	81
Total	21	100
Posttest Anemia Status	**f**	**%**
Not Anemia	17	81
Mild Anemia	4	19
Total	21	100

Table 2 Sample age and hemoglobin levels before and after treatment

	N	Min	Max	Mean	SD
Age	21	10	18	13.52	2.015
Pretest-Hb level		8.7	11.8	10.205	0.7890
Posttest-Hb level		11.2	15.5	12.886	1.0258

The table above describes that the age of the sample in the research falls into the 95% group of early adolescents, namely 19 people at most. The results of the measurement of Hemoglobin levels before treatment, the average Hemoglobin level was 10.21 gr/dL, including moderate anemia level, namely 81% for 17 people and after treatment the results of examination of hemoglobin levels averaged 12.89 gr/dL, there was an increase so that it was in the no category. anemia was 81%, namely 17 people, see Table 1 and Table 2.

3.2 Bivariate Analysis

The influence of the habit of consuming lime and eggs on hemoglobin levels in teenage girls in Jogosetran Village. The analysis test for the two variables used the Wilcoxon test because the data is an ordinal scale. Table 3 is the result of the Wilcoxon-test analysis.

Analysis of the Wilcoxon test data showed that there was a significant influence between the habit of eating eggs and lime on the increase in Hemoglobin levels in teenage girls in

Volume 16 No 1, Hal 15-23, Januari 2025
ISSN: 2087 – 5002 | E-ISSN: 2549 – 371X

Jogosetran Village, Kalikotes-Klaten with a p-value of 0,00 and a Z -4,016. So, there is an influence between eating habits (drinking lime and eating eggs) and reducing the incidence of Hb levels that are less than normal in young women in Jogosetran Village, Kalikotes-Klaten., can be seen in table 3.

Table 3 The influence of the habit of consuming lime and eggs on hemoglobin levels in Young women

		N	Mean Rank	Z	p
Posttest_Hb level Pretest_Hb level	Negative Ranks	0[a]	0,00	-4,016[b]	0,000
	Positive Ranks	21[b]	11,00		
	Ties	0[c]			
	Total	21			

4. DISCUSSION

Based on the Central Government Regulation (2014) Child Protection Law, teenagers are in the age group 10 to 18 years. Meanwhile, based on the regulation of the Minister of Health No. 25 of 2014, teenagers are citizens in the age group 10 to 18 years. Slightly different, statement to WHO, teenagers are residents in the age group 10 to 19 years, and statement to Population and Family Planning Agency teenagers are an unmarried group aged 10 to 24 years. In this study, the results obtained were that the age of the juvenile sample was in the 10 to 18 years age group, and 19 people were in the vulnerable age group of 10-16 years. So, the majority are in the early adolescent stage due to the classification of late adolescents 17 to 25 years and early adolescents 10 to 16 years. During adolescence, there is increased activity, development and growth.

Anemia often occurs in young women because female need more calories, protein and other nutrients than man, especially. According to Sari *et al* (2021), the nutrient Ferrum (Fe) is really needed by young women to repair and restore Fe which is lost because it is excreted during menstruation every month. So, that iron is very useful during the growth period, this must be understood by adolescent girls. To increase hemoglobin level you can consume foods rich in Ferrum nutrients in the form of chicken, meat, liver, fish, eggs which are sources of protein from animals, and you can also eat tempeh, tofu, dark green vegetables and nuts which are protein from plants as an effort to treat anemia cases naturally without pharmaceutical drugs. This research has also been carried out by previous researchers with conflicting results hemoglobin level in pre-test adolescents was 11.1 ± 0.95 gr/dL, which was categorized as anemia (Rohimah and Haryati, 2014). The process of growth and development in young women requires a lot of Fe nutrients, but consumption of balanced nutritional food is not met, so many respondents experience moderate anemia, the same as the results of this study.

The Ministry of Health (2022) states that young women often experience anemia, because they menstruate regularly every month and do not consume enough balanced nutritional food on a daily basis that is rich in the nutrients needed to grow and develop during adolescence. Fe needs are many times higher than men's Fe needs, namely 3x the daily needs.

The Hemoglobin level from the examination results before treatment had a maximum value of 11,8gr/dL and a min value of 8,7gr/dL with an average Hb level of 10,32gr/dL. This condition shows that the body is deficient in berries with an Hemoglobin level value that is less

Volume 16 No 1, Hal 15-23, Januari 2025
ISSN: 2087 – 5002 | E-ISSN: 2549 – 371X

than normal, namely 12 gr/dl, based on the WHO statement explaining that teenagers who experience anemia are an indication that the body has an iron deficiency. According to Nidianti *et al* (2019), for early detection of anemia in teenagers, examination of a small blood sample carried out simply with the Easy Touch Hemoglobin stick detector is stated to be quite accurate. Junita and Wulansari (2021) stated that nutritional deficiencies and poor health can be indicated by the occurrence of anemia. According to the Ministry of Health (2022), a person will look pale and feel dizzy, short of breath, easily tired, dim eyes, tachycardia, palpitations, weakness and lethargy are usually symptoms or signs of anemia. Examination of the face, lips, eyelids, nails, palms and conjunctiva to ensure there are signs of paleness. The feeling weak, tired, lethargic, and inattentive, blurred or unclear vision, get sleepy easily, dizziness and headaches, get tired quickly and forgetful, difficulty concentrating are signs that are often felt by someone who experiencing Hemoglobin levels less than normal.

According to Ayuningtyas *et al*., (2022) and Pinasti *et al*., (2020) that predisposing factors that cause anemia include insufficiency of Ferrum, Vitamins A, proteins, Vitamins B-12 and folic acid. However, inadequate Fe nutrition is the main cause of anemia. Meanwhile, according to the Ministry of Health (2022), the factor that causes anemia is that young women prefer or eat more vegetable protein than animal protein. So, the body's nutritional needs are not met (Alamsyah, 2020). Supported by the statement of Nasrudin *et al*., (2021), Kumalasari et al., (2019) and Irianti (2019) that young women who have menstruated will lose red blood cells every month, while young women are experiencing growth which requires nutrients. inside his body. To replace the red blood cells lost during menstruation, the body will form new red blood cells or erythrocytes. Therefore, a lot of Ferrum nutrients are needed for the process of forming erythrocytes. It is estimated that ± 1.3 mg of iron is lost every day per month during menstruation. This is what causes anemia if a lot of blood comes out.

Eating a balanced nutritional diet is an effort to prevent and treat anemia. Eating portion sizes according to nutritional standards which include carbohydrates, protein, fat, vitamins and minerals not only from vegetable originate but also from animal sources is a balanced nutritional diet. Meat, liver, eggs, fish and cow's milk are good sources of Fe nutrients from animals. Meanwhile, the nutrient that helps Fe to be easy absorption in the small intestine is vitamins C. Foods that are high in vitamins C come from fruit that is orange or has a sour taste.

The Hb level is said to be normal if it is more than 12 gr/dL, as explained in previous research that the results of the post-test examination were many who did not experience anemia by providing intervention by giving half-boiled eggs within 10 days, and obtained a post-test Hemoglobin examination result of 13,31 gr/dL (Rohimah and Haryati, 2014).

The impact of anemia in teenagers will also have an impact on pregnancy after the teenager becomes a prospective mother. The impact of anemia during pregnancy can be a risk factor for bleeding during childbirth, and may even result in infertility due to not healthy growth of reproductive organs. Therefore, based on previous research and the researchers' own results, the need for iron can be overcome by consuming eggs as an alternative food ingredient that is cheap and easy compared to other sources of animal protein. And apart from consuming animal protein, there

Volume 16 No 1, Hal 15-23, Januari 2025
ISSN: 2087 – 5002 | E-ISSN: 2549 – 371X

is also a need for additional food ingredients from fruit that contain vitamin C to help more optimal absorption of Ferrum in the body. As in this research, lime is used which is often found in the community at a relatively cheap price.

Research in Jogosetran Village Kalikotes-Klaten regarding the influence of eating habits of eating eggs and lime on hemoglobin levels shows that there is a significant influence between egg and lime consumption on hemoglobin levels in young women. The results of measuring Hemoglobin levels after being given treatment increased compared to the results of measurements before treatment, where the average Hb level after intervention was 12,73 gr/dL compared to the average before intervention which was only 10,32 gr/dL. So, there is an influence of eating egg and lime (eating habits) on Hemoglobin levels in adolescent girls, Jogosetran Village, Kalikotes, Klaten with a p-value 0,000.

The body's protein needs can be met by consuming alternatives to meat such as eggs. Insufficient nutritional needs that cause anemia can be met by consuming an egg every day. Because an egg is high in protein and antioxidants and contains 1 mg of Fe. Based on previous research, it has been revealed that eggs can be useful in preventing or treating anemia because they contain the nutrients the body needs to overcome anemia so that the hemoglobin produced in the body increases.

The heme type of iron is found in chicken eggs, while the heme type of Fe is easier to absorb in the body. The results of the research after receiving treatment for ten days showed a p value of 0,000 with the results of an increase in Hemoglobin levels to 13,31 gr % from the previous result of 11,1 gr % (Rohimah and Haryati, 2014). The increase in hemoglobin levels caused by heme iron in young women is the result of this research.

Research by Sari et al., (2021) also supports previous research which revealed that a person's body gets nutrients in the form of protein from eggs results in increased hemoglobin levels because this protein contains iron which the body needs, resulting in an increase in hemoglobin levels. These results are due to the provision of intervention for three days routinely which can meet the need for iron which comes from food that contains animal protein, namely eggs, where the protein in eggs is in the form of heme protein which is in accordance with the body's needs.

Similar research on the consumption of free-range chicken eggs and purebred chicken eggs at Junior High School 3 Lirung Talaud Islands, showed that there was an increase in the hemoglobin levels of teenager girls after eating purebred and free-range chicken eggs. After being given the intervention to eat laying hen eggs, the hemoglobin level rose by 1,95gr/dL, while those who received the intervention to eat free-range chicken eggs rose by 2,4gr/dL, while the p-value for both was 0,001. The conclusion of the study was that the increase in consumption of free-range chicken eggs increased significantly compared to the group given purebred chicken eggs (Makansing *et al.*, 2019).

Treatment with a combination of lime and eggs makes the ferrum nutrients in eggs easily absorbed optimally in the body with the vitamin C contained in lime. Vegetables and fruit contain vitamin C which is very useful in the small intestine in absorbing Fe (Putrianti, 2020). Based on the positive number of rank 21 samples, p 0.000 means that the

Volume 16 No 1, Hal 15-23, Januari 2025
ISSN: 2087 – 5002 | E-ISSN: 2549 – 371X

hemoglobin level has increased using the Wilcoxon test.

Previous research found a relationship between vit-C intake and Hb levels, the correlation coefficient value was 0,780 p 0.000. The strength of the positive correlation is strong, which means that the higher the consumption of vitamin C, the higher the Hb levels will be and vice versa (Sholicha and Muniroh, 2019).

According to Hughes (2010), one of the nutrients that functions as an antioxidant is Vit C. Reduction and oxidation reactions in body tissues are influenced by Vit C, so that all living cells have vitamin C (Ascorbic Acid) (Krisnanda, 2020). Vitamin C is found in many vegetables and fruits. Vitamin C is a water-soluble chemical compound that is very beneficial in the body. In the body, vitamin C has many functions, namely as an antioxidant, forming collagen, increasing iron absorption and preventing stress.

The process of transportation Fe in the blood, absorption in the intestines, and absorption into living human tissue. In the small intestine, the chemical compound Ferric is converted into Ferrous by Vit C. After the Fe compound becomes Ferrous, it can be absorbed by the body. We are familiar with the process of iron metabolism in the bodies of living creatures, whose metabolism involves vitamin C. Absorption will occur four times more with the help of ascorbic acid. Ascorbid acid, potassium, iron, citric acid and sugar are contained in lime. All ages are good to consume lime.

From the discussion regarding the egg and lime research above, it can be concluded that there is an influence of consumption habits on the incidence of anemia in teenage girls. The research results showed that there was an effect of eating eggs and lime which could reduce the Hb levels that are less than normal. It is meaningful that hemoglobin levels can be increased by consuming lime containing vitamin C and eggs containing Fe as a food ingredient for natural therapy for non-pharmacological treatment of anemia.

5. CONCLUSION

The average age of the sample was 14 years from 21 people. Hemoglobin levels after treatment with eggs and lime increased with an average hemoglobin level of 12,886 gr/dL without anemia, whereas previously the average was 10,21 gr/dL with moderate anemia of 81% for 17 people. The results of the analysis of 2 variables with a p value of 0,000 mean that there is an influence of egg eating and drinking lime (eating habits) on hemoglobin levels in adolescent girls in Jogosetran Village Kalikotes Klaten.

REFERENCES

Alamsyah, W., 2020. FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN KEJADIAN PENYAKIT ANEMIA PADA IBU HAMIL USIA KEHAMILAN 1-3 BULAN DIWILAYAH KERJA PUSKESMAS BONTOMARANNU KABUPATEN GOWA. *Jurnal Inovasi Penelitian*, (Vol 1 No 2: Juli 2020), pp.41–48. Available at: https://stp-mataram.e-journal.id/JIP/article/view/48/41.

Amanda, S.D. and Kamidah, K., 2024. Pengaruh Pemberian Telur Rebus Terhadap Peningkatan Kadar Hemoglobin pada Remaja Putri dengan Anemia di SMA Negeri 07 OKU. *Calory Journal: Medical Laboratory Journal*, 2(3), pp.1–12.

Ayuningtyas, I.N., Tsani, A.F.A., Candra, A. and Dieny, F.F., 2022.

Volume 16 No 1, Hal 15-23, Januari 2025
ISSN: 2087 – 5002 | E-ISSN: 2549 – 371X

Analisis asupan zat besi heme dan non heme, vitamin B12 dan folat serta asupan enhancer dan inhibitor zat besi berdasarkan status anemia pada santriwati. *Journal of Nutrition College*, 11(2), pp.171–181.

Dinas Kesehatan Kabupaten Klaten, 2019, *Profil Kesehatan Klaten* [Online].

Hughes, R., 2010. Uji Kualitatif Vitamin C Pada Berbagai Makanan. *Journal of Chemical Information and Modeling*, 53(9), p.287.

Irianti, B., 2019. Hubungan volume darah pada saat menstruasi dengan kejadian anemia pada mahasiswa Akademi Kebidanan Internasional Pekanbaru tahun 2014. *Ensiklopedia of Journal*, 1(2).

Junita, D. and Wulansari, A., 2021. Pendidikan Kesehatan tentang Anemia pada remaja putri di SMA N 12 Kabupaten Merangin. *Jurnal Abdimas Kesehatan (JAK)*, 3(1), pp.41–46.

Kemenkes, R., 2022. Kamis, 19 05 2022. *Kemenkes Ri Anemia*.

Kemenkes RI, 2018. Buku Pencegahan dan Penanggulangan Anemia pada Rematri dan WUS.pdf.

Krisnanda, R., 2020. Vitamin C helps in the absorption of iron in Iron Deficiency Anemia. *Jurnal Penelitian Perawat Profesional*, 2(3), pp.279–286.

Kumalasari, D., Kameliawati, F., Mukhlis, H. and Kristanti, D.A., 2019. Pola Menstruasi dengan kejadian anemia pada remaja. *Wellness and healthy magazine*, 1(2), pp.187–192.

Kusumawati, L.S., 2020. Pengaruh Konsumsi Jus Bayam Air Jeruk Nipis Terhadap Kadar Hemoglobin Remaja Putri Dengan Anemia Di SMAN 5 Kota Kediri. *Java Health Jounal*, 6(2).

Makansing, N.Y., Kusmiyati, K. and Adam, S.K., 2019. Efektifitas Pemberian Telur Ayam Ras Dan Telur Ayam Kampung Terhadap Peningkatan Hb Pada Remaja Putri Di Smp Negeri 3 Lirung Kecamatan Salibabu Kabupaten Kepulauan Talaud.

Nasruddin, H., Syamsu, R.F. and Permatasari, D., 2021. Angka kejadian anemia pada remaja di indonesia. *Cerdika: Jurnal Ilmiah Indonesia*, 1(4), pp.357–364.

Nidianti, E. et al., 2019. Pemeriksaan Kadar Hemoglobin dengan Metode POCT (Point of Care Testing) sebagai Deteksi Dini Penyakit Anemia Bagi Masyarakat Desa Sumbersono, Mojokerto. *Jurnal Surya Masyarakat*, 2(1), p.29.

Pemerintah Pusat, R., 2014. Undang-undang (UU) Nomor 35 Tahun 2014 tentang Perubahan atas Undang-Undang Nomor 23 Tahun 2002 Tentang Perlindungan Anak. *Undang-undang*.

Pinasti, L., Nugraheni, Z. and Wiboworini, B., 2020. Potensi tempe sebagai pangan fungsional dalam meningkatkan kadar hemoglobin remaja penderita anemia. *AcTion: Aceh Nutrition Journal*, 5(1), pp.19–26.

Putrianti, B., 2020. Efektivitas Buah Jeruk Nipis (Citrus Aurantifolia) Dan Jeruk Lemon (Citrus Medica) Terhadap Peningkatan Kadar Hemoglobin Pada Remaja. *Jurnal Kesehatan Karya Husada*, 1(8), pp.57–67. Available at: http://jurnal.poltekkeskhjogja.ac.id/index.php/jkkh/article/view/377.

Volume 16 No 1, Hal 15-23, Januari 2025
ISSN: 2087 – 5002 | E-ISSN: 2549 – 371X

Risanti, E.D. et al., 2017. Gizi, Konsumsi Tablet Tambah Darah (TTD) dan Sarapan dalam Meningkatkan Kadar Hemoglobin pada Remaja Putri. *Politeknik Kesehatan Tanjung Karang*, 8(3), pp.23–32.

Riskesdas, 2018. Prevalensi Anemia Menurut Karakteristik.

Rohimah, Y.T. and Haryati, D.S., 2014. Pengaruh pemberian zat besi hem dan non hem pada diet harian terhadap kadar hemoglobin remaja putri yang mengalami anemia. *Interest: Jurnal Ilmu Kesehatan*, 3(2).

Rohmatika, D., 2020. FAKTOR-FAKTOR YANG BERHUBUNGAN DENGAN KEJADIAN ANEMIA PADA REMAJA PUTRI DI STIKES KUSUMA HUSADA SURAKARTA.pdf.

Sari, R., Septiasari, Y., Fitriyana, F. and Saputri, N., 2021. Pengaruh Konsumsi Telur Terhadap Peningkatan Kadar Hemoglobin Pada Remaja Putri Yang Mengalami Anemia. *Jurnal Wacana Kesehatan*, 5(2), p.574.

Sholicha, C.A. and Muniroh, L., 2019. HUBUNGAN ASUPAN ZAT BESI, PROTEIN, VITAMIN C DAN POLA MENSTRUASI DENGAN KADAR HEMOGLOBIN PADA REMAJA PUTRI DI SMAN 1 MANYAR GRESIK
<i>[Correlation Between Intake of Iron, Protein, Vitamin C and Menstruation Pattern with Haemoglobin Concentration among . *Media Gizi Indonesia*, 14(2), p.147.

Siswatiningsih, O., Syarah, M. and Darmi, S., 2024. Efektivitas Jus Jambu Biji Merah Dan Air Jeruk Lemon Terhadap Peningkatan Kadar Hemaglobin Pada Remaja Putri Dengan Anemia Di UPT Puskesmas Petir Kabupaten Serang Tahun 2023. *Innovative: Journal Of Social Science Research*, 4(3), pp.7782–7793.

Sugiyono, 2016. *Metode Penelitian Kuantitatif Kualitatif Dan R&D* 17th ed., Alfabeta, Bandung.

WHO Organization, W.H., 2017. Nutritional Anaemias : Tools for Effective Prevention. *World Health Organization*, pp.1–83.