JKM (Jurnal Kebidanan Malahayati), Vol 11, No. 7. July 2025,
ISSN (Print) 2476-8944 ISSN (Online) 2579-762X, Hal 707-713

THE EFFECT OF EGG CONSUMPTION ON THE ENHANCEMENT OF HEMOGLOBIN LEVELS IN ADOLESCENT GIRLS

Ermawati[1], Vida Wira Utami[2], Yuli Yantina[3*], Dina Dewi Nuryani[4]

[1,2,3,4] Diploma IV Program in Midwifery,Faculty of Health Sciences, Malahayati University
Correspondence Email : yantina_yy@yahoo.com

ABSTRAK : PENGARUH KONSUMSI TELUR TERHADAP PENINGKATAN KADAR HEMOGLOBIN PADA REMAJA PUTRI

Latar belakang : Anemia merupakan keadaan dimana masa *eritrosit* dan atau masa Hb yang beredar tidak dapat memenuhi fungsinya untuk menyediakan oksigen bagi jaringan tubuh. Data prevalensi pada remaja pada tahun 2018 di Kota Metro 42,02%, Mesuji 35,22%, Pringsewu 33,03% dan Lampung Tengah 18,81%. Upaya yang bisa dilakukan untuk mengatasi anemia ada dua cara yaitu konsumsi telur. Penelitian bertujuan diketahui pengaruh konsumsi telur dengan kenaikan Hb pada remaja putri di Wilayah Kerja Puskesmas Seputih Banyak Tahun 2023. Metode penelitian : Desain penelitian dilakukan dengan *Pra Eksperimental* dengan pendekatan *one group pretest – posttest design*. Populasi dalam penelitian ini adalah remaja putri yang mengalami anemia di Wilayah Kerja Puskesmas Seputih Banyak sebanyak 27 responden dengan sampel sebanyak 20 responden menggunakan teknik *purposive sampling*. Penelitian ini telah dilaksanakan di Wilayah Kerja Puskesmas Seputih Banyak Tahun 2023 pada bulan Mei-Juni 2023. Pengumpulan data menggunakan lembar observasi. Analisis data secara univariat dan bivariat (*t test*). Hasil penelitian diketahui rata-rata kadar Hb sebelum diberikan konsumsi telur pada remaja putri adalah 10,8 dan sesudah diberikan konsumsi telur pada remaja putri adalah 12,0. Ada pengaruh konsumsi telur dengan kenaikan Hb pada remaja putri di Wilayah Kerja Puskesmas Seputih Banyak Tahun 2023 dengan nilai (*p-value* = 0,000). Saran bagi petugas esehatan untuk mengembangkan program penanganan anemia, melalui media promotif tentang manfaat makanan yang mengandung zat besi dan murah

Kata Kunci : kadar Hb, konsumsi telur, remaja putri

ABSTRACT

Background: Anemia is a condition where the circulating mass of erythrocytes and/or Hb is insufficient to fulfill its function of providing oxygen to body tissues. The prevalence data in adolescents in 2018 in Metro City were 42.02%, Mesuji 35.22%, Pringsewu 33.03%, and Lampung Tengah 18.81%. There are two ways to address anemia, one of which is egg consumption. This study aims to determine the effect of egg consumption on the increase in Hb levels in adolescent girls in the Working Area of Seputih Banyak Primary Health Care in 2023.

Research Method: The research was conducted using a Pre-Experimental design with a one-group pretest-posttest approach. The population in this study consisted of anemic adolescent girls in the Working Area of Seputih Banyak Primary Health Care, totaling 27 respondents, with a sample of 20 respondents using purposive sampling technique. This study was conducted in the Working Area of Seputih Banyak Primary Health Care in the year 2023, during May-June 2023. Data collection used observation sheets. Data analysis included univariate and bivariate analyses (t-test).

The research results : showed that the average Hb level before egg consumption for adolescent girls was 10.8, and after egg consumption, it was 12.0. There is an effect of egg consumption on the increase in Hb levels in adolescent girls in the Working Area of Seputih Banyak Primary Health Care in the year 2023 with a p-value of 0.000.

Recommendations for health workers include developing anemia management programs through promotive media highlighting the benefits of iron-rich and affordable foods.

Keywords: Hb levels, egg consumption, adolescent girls

INTRODUCTION

Anemia is a condition characterized by lower than normal levels of hemoglobin and erythrocytes. Hemoglobin (Hb) is a protein that carries oxygen within red blood cells, giving them their characteristic red color (Proverawati, 2019). The World Health Organization (WHO) estimates that there are two billion cases of anemia worldwide, with approximately 50% of all anemia cases being due to iron deficiency.

In adolescents, anemia can lead to delayed physical growth, behavioral and emotional disturbances. It can impact brain development, leading to reduced immunity, fatigue, increased hunger, disrupted concentration, and decreased work productivity (Mawaddah, 2019). Decreased Hb levels can result in lethargy, rapid fatigue, palpitations, tachycardia, shortness of breath, and angina pectoris (Bakta, 2018).

Providing iron supplements to adolescent girls aims to meet the iron needs of future mothers. Early iron intake is expected to reduce the occurrence of anemia during pregnancy, bleeding during childbirth, Low Birth Weight (LBW) infants, and stunted toddlers (Kemenkes RI, 2018). Studies indicate that the prevalence of anemia tends to increase with age, aligning with the rapid growth phase during adolescence. Iron-deficiency anemia can lead to decreased physical capacity, work productivity, and cognitive abilities. Furthermore, it can lower antibody levels, making individuals more susceptible to infections (Fajriyah, 2016).

According to the 2018 Riskesdas data, the overall prevalence of anemia in adolescents in Lampung Province was 10.9%, lower than the national prevalence (13.6%). Notably, five districts in Lampung had higher prevalence rates than the provincial average, including Metro City, Mesuji, Pringsewu, West Lampung, and East Lampung. The prevalence in three of these districts exceeded the national prevalence: Metro City at 42.02%, Mesuji at 35.22%, Pringsewu at 33.03%, and Central Lampung at 18.81%.

The causes of anemia include excessive destruction of red blood cells, blood loss, and decreased red blood cell production (Proverawati, 2019). Attention should be given to the iron needs of adolescent girls, especially with the onset of menarche (Rosul, 2011). Iron loss for women remains constant at around 0.8 mg per day. However, menstruating women experience additional iron loss, raising the daily requirement to about 1.4 mg to fulfill 90% of the need during menstruation. To cover the remaining 10% of need, a daily absorption of at least 2.4 mg of iron is required to balance the high loss during menstruation (Titsamudfa, 2021).

In accordance with the Circular Letter of the Director-General of Public Health, Ministry of Health Number HK.03.03/V/0595/2016, iron supplements are provided to adolescent girls and women of reproductive age through school health units. The recommended dosage is one tablet per week throughout the year to prevent anemia (Permenkes, 2018).

According to WHO, adolescence spans from 10 to 19 years of age. According to the Indonesian Ministry of Health (2016), early adolescence ranges from 11 to 15 years, and late adolescence spans from 16 to 20 years. Late adolescent girls (16-20 years) are more susceptible to anemia than their male counterparts, largely due to monthly menstruation and the tendency to diet and reduce food intake to maintain a slim appearance. An imbalanced diet can lead to deficiencies, such as iron deficiency. Iron-deficiency anemia can result in decreased work productivity and academic performance (Jabbar et al., 2023).

A single chicken egg contains protein, iron, zinc, selenium, fats, cholesterol, vitamin A, vitamin D, riboflavin, folic acid, vitamin B12, choline, phosphorus, and zinc. The egg white of a chicken egg contains protein, fats, vitamin A, riboflavin, folic acid, vitamin B12, phosphorus, iron, zinc, selenium, and zinc. The yolk of the egg contains iron, zinc, selenium, fats, cholesterol, vitamin A, vitamin D, riboflavin, folic acid, vitamin B12, choline, phosphorus, and zinc (Suheni et al., 2020).

Chicken eggs from a domesticated breed are rich in high-quality animal protein. Additionally, these eggs contain significant amounts of essential nutrients, including 6.5 mg of iron, 6.0 mg of zinc, and 5.8 mg of selenium. Furthermore, chicken eggs provide additional components such as fats, cholesterol, vitamin A, vitamin D, riboflavin, folic acid, vitamin B12, choline, phosphorus, and zinc. Eggs are a good source of iron, with 6.5 mg in the whole egg, 0.2 mg in the egg white, and 6.3 mg in the egg yolk. The zinc content in chicken eggs is 6.0 mg in the whole egg, 0.2 mg in the egg yolk, and 5.8 mg in the egg white. Moreover, chicken eggs contain 5.8 mg of selenium in the whole egg, 1.6 mg in the egg white, and 4.2 mg in the egg yolk (Lutfiasari & Yanuaringsih, 2020). The absorption mechanism of egg protein is responsible for regulating metabolic processes through hormones and enzymes. This mechanism serves as the body's defense against various toxic substances and other microbes, while also maintaining the integrity of tissues and cellular structures (Sari et al., 2021).

Based on the previous study conducted by (Sari et al., 2021) titled "The Influence of Egg Consumption on Hemoglobin Increase in Adolescent Girls with Anemia," respondents consumed 6 boiled

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

eggs daily as part of the therapy, administered over a span of 6 days. This regimen involved consuming 6 boiled eggs per day, distributed as 2 in the morning, 2 during lunch, and 2 in the evening. Consequently, the values prior to the implementation of the egg therapy were observed. The statistical analysis yielded a p-value of 0.001. The therapy involved consuming a total of 36 boiled eggs over 6 days, following the distribution of 6 eggs per day as mentioned. Before the initiation of the egg therapy, the maximum hemoglobin level observed was 11.7 g/dl, and after the therapy, the maximum hemoglobin level recorded was 12.0 g/dl.

Based on the results of the pre-survey conducted on 6 adolescent girls in the Seputih Banyak Primary Health Care Area regarding adolescent anemia, it was found that 4 respondents (60%) had a limited understanding of what adolescent anemia entails. Additionally, these respondents exhibited symptoms associated with anemia such as paleness, weakness, fatigue, and lethargy. After conducting hemoglobin (Hb) tests, varying Hb values were obtained, ranging from 8.5 to 10.6 mg/dl. Conversely, the remaining 2 respondents (20%) displayed a good understanding of adolescent anemia and did not exhibit any symptoms associated with anemia.

The Seputih Banyak Primary Health Care has implemented a prevention program for anemia in adolescent girls. One of the strategies involves providing iron supplements through health promotion efforts conducted by midwives and healthcare personnel at the health center. However, in practice, adolescent girls do not adhere to the recommended iron supplement regimen for various reasons, such as the odor resembling "iron," the onset of acne, and complaints of constipation. As a result, the effectiveness of the iron supplement program in addressing anemia in adolescent girls has not been optimal. Considering the background, the researcher was motivated to conduct a study titled "The Influence of Egg Consumption on Hemoglobin Increase in Adolescent Girls in the Seputih Banyak Primary Health Care Area in 2023."

RESEARCH METHODS

This study employed a quantitative research design. The research was conducted in June 2023 within the working area of Seputih Banyak Primary Health Care.

The population for this study consists of anemic adolescent girls in the Seputih Banyak Primary Health Care area. From examinations conducted between May and June, a total of 27 adolescent girls were found to have anemia. The sample size used in this study is 20 adolescent girls within the Seputih Banyak Primary Health Care

The variables examined in this research include the independent variable, which is egg consumption, and the dependent variable, which is the Hb levels in adolescent girls.

RESEARCH RESULTS

Table 1
Respondent Characteristics

Variable	Category	N	%
Age	16 years old	6	30.0
	> 16 Years old	14	70.0
Weight	38-50	10	50.0
	>50	10	50.0
Height	1.5 -1.55	11	5.50
	>1.55	9	4.50
BMI	Underweight	6	30.0
	Overweight	4	20.0
	Normal	10	50.0

Based on Table 1, it is known that out of 20 respondents, 14 (70.0%) were aged > 16 years, 10 (50.0%) had a weight of 38-50 kg, 11 (5.50%) had a height of 1.5-1.55 meters, and 10 (50.0%) had a normal BMI.

Univariate Analysis

Based on the above Table 2, it is known that the average Hb level before egg consumption in adolescent girls was 10.8, with a standard deviation of 0.4. The minimum value was 10.2, and the maximum value was 11.5.

Table 2
Mean Hb Levels Before Egg Consumption in Adolescent Girls in the Working Area of Seputih Banyak Primary Health Care in 2023

Hb Levels	Mean	SD	Min	Max	N
Before	10.8	0.4	10.2	11.5	20

Table 3
Mean Hb Levels After Egg Consumption in Adolescent Girls in the Working Area of Seputih Banyak Primary Health Care in 2023

Hb Levels	Mean	SD	Min	Max	N
After	12.0	0.3	11.4	12.6	20

Table 4
Normality Data Test

Hb Levels	*Shapiro-Wilk*	Ket
Before egg consumption	0.123	Normal
After egg consumption	0.088	Normal

Based on the above Table 3, it is known that the average Hb level after egg consumption in adolescent girls was 12.0, with a standard deviation of 0.3. The minimum value was 11.4, and the maximum value was 12.6.

Based on the table 4 above, the normality test using Shapiro-Wilk indicates that the hemoglobin level data before and after consumption yielded a significance value > 0.05, implying that the data is normally distributed.

Bivariate Analysis

Table 5
The Influence of Egg Consumption on Hemoglobin Increase in Adolescent Girls in the Working Area of Seputih Banyak Primary Health Care in 2023

Hb Levels	Mean	Beda Mean	P- Value
Before	10.8	1.1	0,000
After	12.0		

Based on the table 5 above, the statistical test results yielded a p-value of 0.000 (p-value < α = 0.05), indicating that there is a significant influence of egg consumption on the increase in hemoglobin levels among adolescent girls in the service area of Seputih Banyak Community Health Center in 2023.

DISCUSSION

Average Hemoglobin Levels Before Egg Consumption in Adolescent Girls in the Working Area of Seputih Banyak Primary Health care in 2023

Based on the research findings, the average hemoglobin level before introducing egg consumption to adolescent girls was 10.8, with a standard deviation of 0.4, a minimum value of 10.2, and a maximum value of 11.5.

Anemia is a condition that occurs when the quantity of red blood cells (erythrocytes) and the amount of hemoglobin within them fall below normal levels. Red blood cells and the hemoglobin they contain are essential for transporting and delivering oxygen from the lungs throughout the body. Insufficient oxygen supply can disrupt various tissues and organs throughout the body (Proverawati, 2018).

In line with the study by Herawati et al. (2022), hemoglobin levels before boiled egg consumption among adolescent girls at SMAN 3 Siak Hulu were mostly below 12 g/dL (anemic), with 12 respondents (85.7%). Sari's study (2021) revealed that the average hemoglobin level prior to the research was 10.58 (0.60) g/dL, with a median value of 9.7 g/dL and a maximum value of 11.7 g/dL. Katili's research (2019) showed that the hemoglobin levels of pregnant women before consuming boiled chicken eggs, in the intervention group experiencing anemia, were categorized as mild anemia in 10 individuals (50%), with a value of 10.16 g/dL.

Pharmacological treatment for managing nutritional deficiency anemia involves administering oral iron supplements, typically in the form of 60 mg/day iron tablets. Conversely, non-pharmacological approaches can involve consuming protein-rich foods obtained from both animals and plants, such as eggs. According to the researcher's perspective, the decrease in Hb levels or the occurrence of anemia in adolescents can be influenced by factors like age, where adolescent girls often focus on body image, potentially leading to limitations in consuming iron-rich foods like eggs.

In the researcher's opinion, adolescent girls are more susceptible to anemia due to their higher energy, protein, and other nutrient requirements compared to adolescent boys, especially their need for iron. The requirement for iron is crucial for adolescent girls to replace the iron lost each month during menstruation, making it vital for them to understand that a deficiency in iron intake can disrupt their growth phase. The researcher assumes that

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

adolescents are at risk of anemia due to the growth process. Adolescents also experience monthly menstruation, leading to blood loss. Irregular eating patterns also contribute to adolescent anemia. The researcher believes that providing iron tablets can influence hemoglobin levels in adolescents with anemia. This is supported by other factors that affect the increase in hemoglobin levels among research respondents, including eating patterns, activity, nutrition, rest, and the absence of a history of infections such as diarrhea and parasitic infestations among respondents.

Average Hemoglobin Levels After Egg Consumption in Adolescent Girls in the Working Area of Seputih Banyak Primary Health care in 2023

Based on the research findings, the average hemoglobin level after egg consumption among adolescent girls was 12.0, with a standard deviation of 0.3, a minimum value of 11.4, and a maximum value of 12.6.

Anemia is a common blood disorder occurring when the quantity of red blood cells (erythrocytes) in the body falls too low. Anemia prevention involves consuming foods rich in iron and consuming foods high in vitamin C, which aids in iron absorption. Additionally, taking an iron supplement every day during menstruation is recommended (Astuti & Kulsum, 2020). There are two approaches to address anemia: pharmacological and non-pharmacological. Pharmacological approach involves daily iron tablet consumption during menstruation. However, many adolescents refuse to take iron tablets due to side effects like nausea, vomiting, and dark-colored stools. The second approach focuses on preventing anemia through a balanced and nutritious diet, ensuring adequate nutrient intake. Iron can be obtained from green leafy vegetables and protein sources like meat, chicken, fish, and eggs (Herawati et al., 2022).

A whole chicken egg contains protein, iron, zinc, selenium, fats, cholesterol, vitamin A, vitamin D, riboflavin, folic acid, vitamin B12, choline, phosphorus, and zinc. The egg white contains protein, fats, vitamin A, riboflavin, folic acid, vitamin B12, phosphorus, iron, zinc, selenium, and choline. The egg yolk contains iron, zinc, selenium, fats, cholesterol, vitamin A, vitamin D, riboflavin, folic acid, vitamin B12, choline, phosphorus, and zinc (Suheni et al., 2020).

Chicken eggs are rich in high-quality animal protein and various essential nutrients. They contain vital nutrients, such as 6.5 mg of iron, 6.0 mg of zinc, and 5.8 mg of selenium, alongside fats, cholesterol, vitamin A, vitamin D, riboflavin, folic acid, vitamin B12, choline, phosphorus, and zinc. The iron content in chicken eggs is substantial, with 6.5 mg in the whole egg, 0.2 mg in the egg white, and 6.3 mg in the egg yolk. The zinc content in chicken eggs is 6.0 mg in the whole egg, 0.2 mg in the egg white, and 5.8 mg in the egg yolk. Selenium content is 5.8 mg in the whole egg, 1.6 mg in the egg white, and 4.2 mg in the egg yolk (Lutfiasar, 2020). Eggs play a crucial role in maintaining metabolic processes as they contain essential proteins, hormones, enzymes, and mechanisms for the body's defense against toxins and microbes, contributing to tissue and cell maintenance (Sari et al., 2021).

Consistent with Katili et al. (2020), the Hb levels of pregnant women after consuming boiled chicken eggs in the intervention group shifted to the normal category in 10 individuals (50%), with an increase of 12.16 g/dL. Herawati's study (2022) reported that hemoglobin levels after egg consumption among adolescent girls at SMAN 3 Siak Hulu were mostly ≥ 12 g/dL (non-anemic), with 8 respondents (57.1%). Research by Sari et al. (2021) found that the average Hb level after their study was 10.840 (0.54) g/dL, with a median of 10.2 g/dL and a maximum of 12.0 g/dL.

Based on the researcher's explanation, it can be concluded that egg consumption has an impact on the increase in Hb levels in anemic adolescent girls. This is supported by other factors influencing the increase in hemoglobin levels among the research respondents, such as BMI of the adolescent girls who were on average in the normal range, allowing for optimal results. Considering the results, the researcher assumes that the average hemoglobin level increased after the study. This increase can be attributed to the protein and iron content of eggs, which contribute to higher hemoglobin levels. The egg composition also includes vitamins A, D, and B complex, including B12. Eggs also contain various minerals such as iron, calcium, phosphorus, sodium, and magnesium.

Based on the research findings and elaboration, the researcher assumes that the 1.1 g/dL increase in hemoglobin levels indicates greater iron absorption in anemic patients. Furthermore, the study only spanned six days due to the gradual process of hemoglobin level increase. The test results show that egg consumption significantly contributes to the rise in hemoglobin levels among adolescent girls.

Based on the research results, with respondents consuming 36 boiled eggs over six days (6 eggs per day, 2 in the morning, 2 at noon, and 2 in the evening), the average Hb level

increased from 10.8 g/dL to 12.0 g/dL, resulting in a 1.1 g/dL increase in hemoglobin levels. Therefore, it can be concluded that egg consumption can be used as a therapy to increase Hb levels in adolescent girls.

Bivariate Analysis

The Effect of Egg Consumption on Hemoglobin Increase in Adolescent Girls in the Working Area of Seputih Banyak Primary Health care in 2023

Based on the statistical analysis, a p-value of 0.000 (p-value < α = 0.05) was obtained, indicating that there is a significant influence of egg consumption on hemoglobin (Hb) increase among adolescent girls in the Service Area of Seputih Banyak Primary Health care in 2023.

Anemia is a common blood disorder occurring when the quantity of red blood cells (erythrocytes) in the body falls too low (Proverawati, 2019). According to Notoatmodjo (2014), adolescents are a vulnerable nutritional group due to their rapid growth during this period. Women of reproductive age are more prone to anemia due to their monthly menstruation cycles, and this can worsen with low daily iron intake. Anemic women of reproductive age are more susceptible to illness due to their weakened immune system, leading to reduced work productivity (Permenkes, 2014).

In line with the study by Sari et al. (2021), there is an increase in hemoglobin levels of 0.26 (0.17) g/dL (95% CI 0.1375 – 0.3825), indicating that egg consumption can influence hemoglobin increase in adolescent girls. Katili's study (2019) found a significant effect on increased Hb levels in pregnant women, with a p-value of 0.000 for the intervention group (α = 0.05). The research by Herawati et al. (2022) demonstrated a significant impact of chicken egg consumption on hemoglobin increase among adolescent girls at SMAN 3 Siak Hulu, with a p-value of 0.000.

There are two approaches to address anemia: pharmacological and non-pharmacological. The pharmacological approach involves daily iron tablet consumption during menstruation. However, many adolescents refuse iron tablets due to side effects like nausea, vomiting, and dark-colored stools. The second approach focuses on preventing anemia through a balanced and nutritious diet, ensuring adequate nutrient intake. Iron can be obtained from green leafy vegetables and protein sources like meat, chicken, fish, and eggs (Herawati et al., 2022).

A whole chicken egg contains protein, iron, zinc, selenium, fats, cholesterol, vitamin A, vitamin D, riboflavin, folic acid, vitamin B12, choline, phosphorus, and zinc. The egg white contains protein, fats, vitamin A, riboflavin, folic acid, vitamin B12, phosphorus, iron, zinc, selenium, and choline. The egg yolk contains iron, zinc, selenium, fats, cholesterol, vitamin A, vitamin D, riboflavin, folic acid, vitamin B12, choline, phosphorus, and zinc (Suheni et al., 2020).

Chicken eggs are rich in high-quality animal protein and various essential nutrients. They contain vital nutrients, such as 6.5 mg of iron, 6.0 mg of zinc, and 5.8 mg of selenium, alongside fats, cholesterol, vitamin A, vitamin D, riboflavin, folic acid, vitamin B12, choline, phosphorus, and zinc. The iron content in chicken eggs is substantial, with 6.5 mg in the whole egg, 0.2 mg in the egg white, and 6.3 mg in the egg yolk. The zinc content in chicken eggs is 6.0 mg in the whole egg, 0.2 mg in the egg white, and 5.8 mg in the egg yolk. Selenium content is 5.8 mg in the whole egg, 1.6 mg in the egg white, and 4.2 mg in the egg yolk (Lutfiasari & Yanuaringsih, 2020). The mechanism of egg absorption as a protein is to regulate metabolic processes through hormones and enzymes, acting as the body's defense against toxins and other microbes while maintaining tissue and cell health (Sari et al., 2021).

According to the researcher, adolescent hemoglobin levels tend to decrease. Generally, the high prevalence of anemia is caused by various factors, including low intake of iron and other nutrients such as vitamin A, C, folate, riboflavin, and B12. To meet daily iron needs, one can consume animal-based foods as a source of easily absorbable iron or consume plant-based foods that are high in iron but less absorbable.

Respondents were provided with 36 boiled eggs over six days, consuming 6 eggs per day—2 in the morning, 2 at noon, and 2 in the evening.

Based on the research results, it was found that the respondents experienced an average increase of 1.1 g/dL in hemoglobin levels. Observing the respondent characteristics, 4 individuals had above-normal BMI, 11 individuals had normal BMI, and 5 adolescent girls had below-normal BMI. The highest increase was 1.8 g/dL, and the lowest was 0.3 g/dL. The respondents with the highest increase had a normal BMI and were 16 years old. This increase can be attributed not only to consuming 36 boiled eggs but also to the overall nutritious daily diet of the respondents, resulting in a higher hemoglobin level compared to other respondents. Overall, all respondents experienced an increase in hemoglobin levels, leading to the conclusion that consuming 36 boiled chicken eggs over six days—6 eggs per day—2 in the morning, 2

 DOI 10.33024, http://ejurnalmalahayati.ac.id/index.php/kebidanan

at noon, and 2 in the evening—is beneficial for increasing hemoglobin levels in adolescent girls.

The researcher's perspective is that the nutritional needs of adolescents are crucial, as they are in a growth phase. Insufficient iron or anemia can hinder growth and concentration. Adolescents should take care of their health, follow health education provided by healthcare professionals, and consider taking iron tablets once a week to prevent anemia. Since adolescent girls experience monthly menstruation, which is a major cause of anemia, healthcare workers can play a role in reducing anemia incidence by providing education on appropriate nutrition intake, emphasizing the importance of iron-rich foods like chicken eggs to improve hemoglobin levels.

CONCLUSION

Based on the research findings, it can be concluded that the average Hemoglobin (Hb) level before egg consumption among adolescent girls was 10.8 with a standard deviation of 0.4, a minimum value of 10.2, and a maximum value of 11.5. After egg consumption, the average Hemoglobin (Hb) level among adolescent girls increased to 12.0 with a standard deviation of 0.3, a minimum value of 11.4, and a maximum value of 12.6. The study established a significant influence of egg consumption on the increase in Hemoglobin (Hb) levels among adolescent girls in the working area of Seputih Banyak Primary Health Care in the year 2023 (p-value = 0.000).

SUGESTION

For adolescents, it is advisable to enhance their knowledge about anemia, its prevention, and management. Additionally, raising awareness among adolescents about methods to increase hemoglobin levels, such as the complementary therapy of consuming boiled chicken eggs – 36 eggs over 6 days – could be beneficial.

REFERENCES

Bakta. (2018). *Hematologi klinik ringkas.* (EGC (Ed.)). EGC.

Herawati, M., Rahayu, A. O. S., & Fatmawati. (2022). Pengaruh Konsumsi Telur Ayam Terhadap Peningkatan Kadar Haemoglobin Dalam Remaja Putri Di Sman 3 Siak Hulu. *Jurnal Ilmiah Kebidanan Imelda*, *8*(1), 20–24. https://doi.org/10.52943/jikebi.v8i1.785

Jabbar, A., Akib, N. I., Parawansah, P., Yani, E., Fadilah, F., Irmawati, I., Hastria, R., Darmin, W. O. Y. P. N., & Mubarak, M. (2023). Edukasi Bahaya Anemia Dan Penggunaan Tablet Tambah Darah (Fe) Pada Siswi Di Smp Negeri 5 Kendari. *EJOIN : Jurnal Pengabdian Masyarakat*, *1*(6), 543–548. https://doi.org/10.55681/ejoin.v1i6.1046

Lutfiasari, D., & Yanuaringsih, G. P. (2020). Pengaruh Konsumsi Telur Ayam Ras Terhadap Kadar Hemoglobin Pada Ibu Hamil. *Jurnal Bidan Pintar*, *1*(1), 11. https://doi.org/10.30737/jubitar.v1i1.749

Notoatmodjo, S. (2014). *Kesehatan masyarakat Ilmu dan Seni.* (Rineka Cipta (Ed.)). Rineka cipta.

Proverawati, A. (2018). *Anemia dan Anemia kehamilan.* (Nuha Medika (Ed.)). Nuha Medika.

Rosul, D. N. (2011). *Asuhan Kebidanan Pada Kesehatan Reproduksi Normal Nn. P Umur 15 Tahun Dengan Dismenore Di Desa Bumi Agung (Doctoral Dissertation, Universitas Muhammadiyah Pringsewu). 2012*.

Sari, R., Septiasari, Y., Fitriyana, F., & Saputri, N. (2021). Pengaruh Konsumsi Telur Terhadap Peningkatan Kadar Hemoglobin Pada Remaja Putri Yang Mengalami Anemia. *Jurnal Wacana Kesehatan*, *5*(2), 574. https://doi.org/10.52822/jwk.v5i2.151

Suheni, R., Indrayani, T., & Carolin, B. T. (2020). Pengaruh Pemberian Telur Ayam Ras Rebus Terhadap Peningkatan Kadar Hemoglobin Pada Ibu Hamil di Puskesmas Walantaka Kota Serang. *Jakhkj*, *6*(2), 1–12.

Titsamudfa. (2021). *Pengaruh Tablet Fe Dan Vitamin C Terhadap Kadar Ferritin Dan Hemoglobin Pada Ibu Hamil Trimester Ii= Effect Of Fe And Vitamin C Tablet On Ferritin And Hemoglobin Conditions In Trimester (Doctoral Dissertation, Universitas Hasanuddin)*. 6.