

**PENGARUH PEMBERIAN JUS BUAH BIT DENGAN KENAIKAN HB
REMAJA PUTRI DI SMK GUNA DHARMA KOTA
BANDAR LAMPUNG**

Sera Agustina^{1*}, Susilawati², Anggraini³, Yuli Yantina⁴

¹⁻⁴Program Studi D4 Kebidanan, Fakultas Ilmu Kesehatan, Universitas
Malahayati

Email Korespondensi: Sheraa330@Gmail.Com

Submitted: 26 August 2023

Accepted: 30 November 2023

Published: 01 January 2024

Doi: <https://doi.org/10.33024/mahesa.v4i1.11854>

ABSTRACT

Iron nutrition anemia can cause a decrease in physical ability, work productivity, and thinking ability. SMK GUNA DHARMA Bandar Lampung City found the highest population of adolescent girls with anemia as many as 92 adolescent girls and 30 adolescent girls of whom had anemia (31.5%) based on the results of laboratory checks and characteristics during physical examination. In addition, based on the results of interviews, young women said they never took drugs or foods that could help increase blood regularly. The purpose of this study is to determine the effect of giving beet juice with an increase in Hb for young women at SMK Guna Dharma Bandar Lampung City in 2023. Type of quantitative research. Pre-experimental research design with one group pretest - posttest design approach. The population of grade 1 and 2 girls at SMK Guna Dharma Bandar Lampung City with a total of 92 people in 2023. Purposive sampling technique. Data analysis using univariate and bivariate using Wilcoxon test. An influence of giving beet juice with an increase in Hb for young women at SMK Guna Dharma Bandar Lampung City in 2023. The average Hb in adolescent girls before being given beetroot juice with a Mean of 10.470gr / dl which means adolescent girls have mild anemia. The average Hb in adolescent girls after being given beetroot juice with a mean of 11.117gr / dl which means adolescent girls are no longer anemic / normal. The results of the statistical test obtained a mean difference test of 1.06 P-value = 0.000 (<0.05) which means that there is an influence of giving beet juice with an increase in Hb for young women at SMK Guna Dharma Bandar Lampung City in 2023. It is expected for young women to always consume beet juice, and consumption of foods that contain lots of iron is highly recommended in adolescents who have anemia, because it will help the process of increasing Hb.

Keywords: Beetroot Juice, HB Rise, Young Women

INTRODUCTION

Adolescence is a critical period in life, and as such, is considered a high-risk group for health problems. Many teenagers suffer from anemia, a problem with their blood that can cause problems in other areas of their lives. Anemia

is a condition in which there are fewer red blood cells or less hemoglobin in those cells. Red blood cells contain hemoglobin, which helps transport oxygen from the lungs throughout the body. Adolescents are at higher risk of

anemia due to rapid growth and physical activity (Halim, 2018).

Adolescents are very at risk of suffering from anemia, especially iron. It is estimated that 25% of Indonesian adolescents are anemic. Although not contagious, anemia is very dangerous because it can affect the degree of health of the prospective baby later. If since adolescence anemia, during pregnancy and giving birth to the baby will also be anemic. Though iron is very beneficial for brain development. As a result, babies with intelligence below average will be born (Natalia, 2015)

According to World Health Organization (WHO) data for 2023, the prevalence of anemia worldwide ranges from 70% to 82%. In Southeast Asia, mild to severe anemia affects 39% of adolescent girls (WHO, 2023). In Indonesia, there are 26.2% of adolescents (10-19 years old), 50.9% of whom are men and 49.1% are women (Ministry of Health, 2020). The prevalence rate of anemia in all age categories in the country is 21.70%, according to the Ministry of Health of the Republic of Indonesia (2019). Women are more likely than men to have anemia (23.90%) than men 18.40%. Based on place of residence, anemia is more prevalent (22.80%) in rural areas than in urban areas (20.60%), and more (22.70%) in women aged 15 years and over. According to data from Riskedas results in 2020, adolescent girls experience anemia, which is 48.9%, with the proportion of anemia in the age group of 15-24 years and 25-34 years (Ministry of Health, 2020).

According to data from DKP Lampung (2020), the incidence of anemia is found in toddlers aged 0-5 years by 40.5%, school age by (Adolescents) by 26.5%, Women of Childbearing Age 2 (WUS) by 39.5%, in pregnant women by 43.5% (Yuviska., Armiyanti, 2021).

A period when emotional tension rises as a result of physical and glandular changes. Adolescents are easily influenced by the environment including diet, by following a diet to maintain body image. As a result, many nutritional problems arise in this age group, especially for adolescent girls. One of the problems that often arises in adolescent girls is anemia. Anemia is the impact of nutritional problems in adolescent girls. Nutritional anemia is caused by a lack of nutrients that play a role in the formation of hemoglobin, can be due to lack of consumption or impaired absorption. These nutrients are iron, vitamin B6 protein which acts as a catalyst in the synthesis of hemoglobin in hemoglobin molecules, vitamin C, zinc which affects iron absorption and vitamin E which affects the stability of cell membranes in the blood. Most of these are iron nutritional anemia. The cause of iron nutrition anemia is lack of iron intake, especially in the form of iron-hemp (Alamatsier, 2009; Junita, 2021).

Iron deficiency is the most common type of anemia, which occurs when we lose a lot of blood from the body, (either due to bleeding wounds or due to menstruation) or because the food we consume contains less iron. Hookworm infection, malaria or dysentery can also cause severe blood deficiency. There are several stages until our body is deficient in iron. At first, iron stores in the body decrease. With the decrease in iron, the production of hemoglobin and red blood cells is reduced. Iron nutrition anemia can cause a decrease in physical ability, work productivity, and thinking ability. In addition, nutritional anemia can also cause a decrease in antibodies so that it is easy to get sick due to infection. (Ikawati et al, 2018).

Based on data from the 2016 Medium-Term Development Plan Survey (RPJM), about adolescent knowledge about anemia, it was found that 87.3% of adolescents had heard of anemia, while those who had never heard of anemia were 12.7%. Among the signs of anemia, the highest answer answered pale face by 52.8%, followed by firefly eyes by 46.5%. According to the survey results, there is still a need for socialization about adolescent knowledge about anemia because there are still many unknowns for adolescents about how to prevent and handle anemia. (Ikawati et al, 2018).

Treatment of anemia can be done in 2 ways, namely pharmacologically and non-pharmacologically. Pharmacological handlers use tablets (Fe), but this method is often not preferred because it often causes nausea and vomiting due to the smell of iron. Therefore, a healthy and safe breakthrough is needed by consuming beets (*Beta vulgaris*). Beetroot is rich in nutrients needed for the formation and maturation of red blood cells (Ikawati et al, 2018).

Among all fruits, beets are one of the fruits that are high in folic acid levels which is 108 mg from other fruits. This fruit is also recommended by naturopaths as a colon cleanser (Owen, 2011; Wenda et al, 2018). Beetroot known as beet root or red beet is one type of plant from the Amaranthaceae group and has the Latin name *Beta Vulgaris*. Beetroot contains copper and folic acid which is very good to help the formation of the baby's brain and overcome the problem of anemia.

. Based on the results of a presurvey that has been conducted at SMK GUNA DHARMA Bandar Lampung City, the highest population of adolescent girls with

anemia was 92 adolescent girls and 30 adolescent girls of whom had anemia (31.5%) based on laboratory checks, results of 10 g / dl and characteristics during physical examination. In addition, based on the results of interviews, young women said they never took drugs or foods that could help increase blood regularly

From the background above, researchers are interested in conducting research on "The Effect of Beetroot Juice with an Increase in Hb for Young Women at SMK Guna Dharma Bandar Lampung City in 2023".

LITERATURE REVIEW

Beetroot comes from the Mediterranean and North Africa. With spread to eastern and western regions of India. Covering the Canary Islands and the west coast of Europe, including England and Denmark. Many British people eat beets. Red beets were the first beets that were widely consumed as a vegetable, especially the leaves, but interest in the tubers only came later. Beetroot is an annual plant in the form of a plant, the stem of the beetroot is very short, just like the onion plant where you can't see the stem. The root of this plant is a taproot which will later grow into fruit or tubers. Red beet tubers apparently contain anticarcinogenic elements that ward off cancer (dedefwin, 2021). The leaves grow collected at the neck of a single root or base of the tuber. Because of this, the stem of this fruit is not very visible. Apart from that, the tubers are round and resemble gangsing. Beetroot is popular because it tastes slightly sweet and delicious. Beetroot is generally red, or white and purple. Because of their good color, it is not uncommon for beets to be used as a natural food coloring. Apart from that, the

benefits and quality of beets are beyond doubt. Due to its high iron content, beets can increase blood volume and remove fat deposits. Red beets are rich in vitamin A. These tubers also contain carotenoids, folic acid and potassium. In this way, beets are efficacious as antioxidants. Potassium plays a role in maintaining stable blood pressure, controlling blood cholesterol levels, and maintaining eye health (Sunarjono, 2018).

Red beet tubers contain many nutritious substances, such as 34% folic acid which functions to grow and replace damaged cells, 14.8% potassium, to facilitate fluid balance in the body, 13.6% fiber, 10 vitamin C, 2% to grow tissue and improve blood flow, magnesium 9.8% maintains nerve muscle function, tryptophan 1.4%, iron 7.4% for energy metabolism and immunity, copper 6.5% for bones, to prevent tumors and to prevent cancer.

There are usually 2 ways to treat anemia in pregnant women, namely pharmacological and non-pharmacological. The pharmacological method is by administering 60 mg of Fe tablets and 50 nanograms of folic acid during pregnancy (Central Java Health Office, 2016). One of the non-pharmacological ways to treat anemia and prevent it is by consuming beets which are rich in

antioxidants and nutrients, including magnesium, sodium, potassium, iron and vitamins C and betaine. Food is one thing that influences the incidence of anemia. This is because the nutritional components in food are used to form hemoglobin, including iron and protein. The choice of food consumption patterns, such as the type of food and the frequency of food consumed, can influence a person's Hb level value. The content of beets is iron, vitamin C, B1. B2, B3, antioxidant, anticarcinogenic and silica. Iron intake that is not sufficient for the body's needs will result in anemia due to disruption of red blood cell formation (Setyayiningsih, 2020); (Rahayu, 2020).

RESEARCH METHODOLOGY

This type of research is a type of quantitative research. The research design used is a Quasi-Experimental research design with a one group pretest - posttest design approach. The population in this study is grade 1 and 2 girls at SMK Guna Dharma Bandar Lampung City with a total of 92 people in 2023. The sampling method in this study was using purposive sampling techniques. Data analysis using univariate and bivariate using dependent t-test.

RESEARCH RESULTS

Table 1. Characteristics of respondents at SMK Guna Dharma Bandar Lampung City

Age of Menarche	F	P (%)
9 Years	6	20,0
10 Years	14	46,7
11 Years	8	26,7
12 Years	2	6,6
IMT	F	P (%)
Normal	20	66,7

Tidak Normal	10	33,3
History of Anemia	F	P (%)
Mild anemia	20	66,7
Moderate anemia	10	33,3
Total	30	100,0

Based on table 1, it is known that the characteristics of respondents based on menarche age are at most 14 respondents (46.7%),

normal BMI as many as 20 respondents (66.7%) and history of mild anemia as many as 20 respondents (66.7%)

Table 2. Average Hb in Young Women Before Being Given Beetroot Juice at SMK Guna Dharma Bandar Lampung City

Variable	n	Mean	SD	Min	Max
Hb rate before intervensi	30	10,470	0,3923	9,8	10,9

From table 2 above, it can be known that the average Hb in young women before being given beet juice at SMK Guna Dharma Bandar Lampung City in 2023 with a Mean of 10.470gr/dl which means that

adolescent girls have mild anemia with the lowest Hb level value of 9.8gr/dl which means moderate anemia, the highest Hb level value of 10.9gr/dl which means mild anemia.

Table 3. Average Hb in Young Women After Being Given Beetroot Juice at SMK Guna Dharma Bandar Lampung City

Variable	N	Mean	SD	Min	Max
Hb levels after intervention	30	11,117	0,2102	10,8	11,5

From table 3 above, it can be seen that the average Hb in young women after being given beet juice at SMK Guna Dharma Bandar Lampung City in 2023 with a Mean of 11.117gr/dl which means adolescent

girls are no longer anemic / normal, with the lowest Hb level value of 10.8gr/dl which means mild anemia, the highest Hb level value of 11.5gr/dl which means normal Hb levels.

Table 4. Normality Test

Variable	Statistic	df	Sig.
HB Pretes	0,874	30	0,002
Hb Postes	0,929	30	0,046

The normality test is a prerequisite test before the comparison or influence test is carried out. In this study, researchers used the shapiro-wilk normality test with the following

conditions: If the p-value > from 0.05, then the normal distribution. If the p-value value < from 0.05 measurement results obtained a sig value of 0.002-0.046 < 0.05, then the data is abnormally distributed, and

then the Wilcoxon test can be carried out.

Table 5. The Effect of Giving Beetroot Juice with an Increase in Hb for Young Women at SMK Guna Dharma Bandar Lampung City

Variable	N	Mean	Beda Mean	Std. Dev	P -Value
Pretes	30	10,470		0,3923	
Postes	30	11,117		0,2102	

From table 5, it can be seen that from 30 respondents, the average Hb in adolescent girls before being given beetroot juice at SMK Guna Dharma Bandar Lampung City in 2023 with a Mean of 10.470gr/dl which means that adolescent girls experience mild anemia. After consumption of beetroot juice for 20 days, an average Hb was obtained in adolescent girls with a mean of

11.117gr / dl which means adolescent girls are no longer anemic / normal

The results of the statistical test obtained an average difference test of 1.06 P-value = 0.000 (<0.05) which means that there is an effect of giving beet juice with an increase in Hb in adolescent girls at SMK Guna Dharma Bandar Lampung City in 2023

DISCUSSION

Univariate Analysis Average Hb in adolescent girls before being given beet juice at SMK Guna Dharma Bandar Lampung City in 2023

The average Hb in adolescent girls before being given beet juice at SMK Guna Dharma Bandar Lampung City in 2023 with a Mean of 10.470gr/dl which means that adolescent girls have mild anemia with the lowest Hb level value of 9.8gr/dl which means moderate anemia, the highest Hb level value of 10.9gr/dl which means mild anemia.

In line with research conducted by Utaminingtyas (2013) Benefits of Beetroot (*Beta Vulgaris*) on Increasing Hemoglobin (Hb) Levels of Pregnant Women. Based on the results of Sundari and Happinasari's research in 2013, there was a difference in the increase in Hb levels after being given Fe and Fe+ beets in the South Purwokerto health center work area with a value of $\rho=0.009$, with the treatment group given 500 ml of beet juice for

seven consecutive days while still consuming Fe tablets that had been given by the Puskesmas/Midwife.

Adolescents are very at risk of suffering from anemia, especially iron. It is estimated that 25% of Indonesian adolescents are anemic. Although not contagious, anemia is very dangerous because it can affect the degree of health of the prospective baby in the future. If since adolescence anemia, during pregnancy and giving birth to the baby will also be anemic. Though iron is very beneficial for brain development. As a result, babies with intelligence below average will be born (Natalia, 2015). Anemia is a condition that occurs when the number of red blood cells (erythrocytes) and the amount of Hb found in red blood cells decrease below normal. Red blood cells and hemoglobin contained therein are needed for the transport and delivery of oxygen from the lungs throughout the body. Without

adequate oxygen supply, many tissues and organs throughout the body can be disrupted (Rukiyah, 2015).

According to researchers, Hb levels of adolescent girls have decreased as a result of menstruation, so adolescent girls need the intake of Fe tablets that help to increase maternal haemoglobin levels. By consuming Fe tablets can help increase Hb levels, where with increased Hb levels will improve the quality of adolescents so as not to get tired easily, and can avoid the risk of other diseases.

In the opinion of researchers, iron needs are different in each individual, so it can be seen in different Hb level variations. In the opinion of researchers, reduced Hb levels or the occurrence of anemia that occurs in adolescents can be influenced by age, namely the age of adolescent girls is very concerned about body shape, so many limit the consumption of iron foods derived from animals, namely; meat, chicken, fish, eggs. Iron derived from nuts, leafy greens, and beets.

Average Hb in Young Women After Being Given Beetroot Juice at SMK Guna Dharma Bandar Lampung City in 2023

The average Hb in adolescent girls after being given beetroot juice at SMK Guna Dharma Bandar Lampung City in 2023 with a Mean of 11.117gr/dl which means adolescent girls are no longer anemic / normal, with the lowest Hb level value of 10.8gr/dl which means mild anemia, the highest Hb level value of 11.5gr/dl which means normal Hb levels.

Red beets (*Beta vulgaris*) are rich in carbohydrates and energy as well as iron that helps the blood transport oxygen to the brain. Beetroot is red because it contains a combination of betacyanin and

betacyanin yellow pigments. By drinking a glass of beets every day will increase stamina, lower hypertension, increase red blood cells, strengthen the circulatory system and immune system. Beetroot has many functions, namely folic acid, potassium, fiber, vitamin C, magnesium, Tryptophan, iron, copper, phosphorus and Betasianin. the substance contained in beets is folic acid, which serves to grow and replace damaged cells. Beetroot (*Beta vulgaris*) is one fruit that is often used as a natural coloring for various types of food, rich in folate which is potent to prevent heart disease and anemia. The purple or purplish red color produced by beets is very good to be used as a natural food or drink coloring

This beet contains fiber, both soluble and difficult to dissolve, fiber that is not easily soluble helps facilitate the work of the intestine, while soluble fiber blood sugar and cholesterol levels remain stable (Utaminigtyas, 2013) In the opinion of researchers based on the results of research the increase in hemoglobin levels of respondents after being given consumption of beets is different, it is caused by nutritional factors, Where adolescent girls consume different foods every day, so the increase in hemoglobin levels of respondents also varies, besides that it is also influenced by beverage factors consumed every day such as tea and coffee consumption which can slow the absorption of vitamin C and iron in beets.

In the opinion of researchers, the increase in hemoglobin levels in adolescent girls is caused by the consumption of beet juice where the beets contain high food ingredients, including 108 mg folic acid, 27.0 mg calcium, 43.0 mg phosphorus, 43 mg vitamin C, 23 mg magnesium, 9.6 mg

carbohydrates, 1.0 mg iron, (Ministry of Health RI, 2016; Wenda et al, 2018) which can help accelerate the absorption of iron in food consumed every day and good iron to increase hemoglobin levels in adolescent girls, so that hemoglobin levels in adolescent girls can increase.

Bivariate Analysis

The Effect of Giving Beetroot Juice with an Increase in Hb for Young Women at SMK Guna Dharma Bandar Lampung City in 2023

The average Hb in adolescent girls before being given beetroot juice at SMK Guna Dharma Bandar Lampung City in 2023 with a Mean of 10.470gr/dl which means that adolescent girls have mild anemia. After consumption of beetroot juice for 20 days, an average Hb was obtained in adolescent girls with a mean of 11.117gr / dl which means adolescent girls are no longer anemic / normal.

In line with research conducted by Ikawati (2018) The effect of beets (*Beta vulgaris*) on erythrocyte index in adolescent girls with anemia. The results of the different tests obtained a value of $P < 0.05$. There was a significant increase in the value of the erythrocyte index after consuming beets.

In line with the opinion expressed by Meiriska (2016), Red Beetroot (*Beta vulgaris*) is rich in carbohydrates, energy, and iron which helps blood transport oxygen to the brain. Beetroot is red because it contains a combination of betacyanin and betacyanin yellow pigments. By drinking a glass of beets every day will increase stamina, lower hypertension, increase red blood cells, strengthen the circulatory system and immune system. Beetroot has many functions, namely folic acid, potassium, fiber, vitamin C,

magnesium, tryptophan, iron, copper, phosphorus and betacyanin, the substance that is widely contained in beets is folic acid which serves to grow and replace damaged cells.

Beets significantly contain vitamins A, C, calcium, iron, phosphorus, potassium, proteins and carbohydrates. Beetroot is also high in folate, dietary fiber, antioxidants, high in betaine which is prescribed to lower levels of toxic homocysteine (Hcy) (which contributes to the development of heart disease, stroke and peripheral vascular disease). The highest nutrient and vitamin content is available when vegetables are eaten raw. Beetroot vegetables are high in vitamin A (Sundari., Happinasi., Utamingtyas, 2013).

. According to researchers According to the theory of beets (*Beta Vulgaris*) is one fruit that is often used as a natural coloring for various types of food, rich in folate which is potent to prevent heart disease and anemia. Benefits of beets include overcoming liver and gallbladder disorders, destroying tumor cells and cancer cells, strengthening blood function and overcoming anemia, producing blood cells, lowering bad cholesterol levels, cleansing and neutralizing toxins in the body, strengthening the circulatory system and immune system, fighting infection and inflammation, overcoming kidney stone problems and energizing and balancing the body.

Bit merupakan sumber Vitamin C yang membantu proses absorpsi zat besi baik pada makanan ataupun tablet FE, selain itu Bit juga banyak mengandung Vitamin B dan Vitamin A sehingga baik untuk kesehatan tubuh. Oleh karena itu, Bit pun dianjurkan di konsumsi dalam jumlah yang banyak bagi penderita darah rendah (Sunarjono, 2004).

Anemia pada ibu hamil ini dapat dicegah dengan mengkonsumsi zat besi minimal 90 tablet Fe berdasarkan program pemerintah dan dengan mengkonsumsi buah bit. Buah bit (*Beta vulgaris*) merupakan tanaman yang tumbuh didalam tanah sejenis umbi-umbian yang berwarna merah keunguan (Utaminingsyas, 2017).

. The results of the study conducted on 20 respondents before the treatment found an average Hb level of 10.4 g / dl and Hb levels after the intervention obtained an average increase in Hb levels of 11.1 g / dl can be said Hb increased but not significant. The increase in Hb levels of each respondent varies, some rise to 1.5 g / dl and the lowest rises only 0.1 g / dl. And there was 1 respondent who did not experience an increase in Hb levels. This is due to many factors influenced by conditions or habits at the cottage such as not having breakfast before going to school, then the habit of drinking tea in the morning or after eating, or the habits of teenagers who do not like to eat vegetables and fruits at home or also activity activities that are too tired or sleep too late at home, Many things influenced the onset of the intervention that beetroot juice did not significantly affect the increase in Hb in adolescent anemia.

Hasil ini terlihat pada rata-rata responden yang mengalami kenaikan dengan intervensi buah bit selama 20 hari berturut - turut. Buah bit memiliki banyak kelebihan bagi kesehatan maupun pengobatan. Kandungan betasinin pada buah bit bermanfaat sebagai anti kanker, karena zat tersebut dapat menghancurkan sel tumor dan kanker. Keasaman di lambung yang terjadi karena vitamin C dapat membantu meningkatkan penyerapan zat besi sebanyak 30%. Vitamin C akan membantu

meningkatkan absorbs zat besi non heme hingga empat kali lipat. Kandungan pigmen dalam buah bit merupakan Senyawa antioksidan berpengaruh terhadap ketahanan dinding eritrosit, Membran eritrosit merupakan salah satu membran sel yang rentan terhadap serangan radikal bebas. Apabila radikal bebas menyerang membran eritrosit, maka fluiditas membran sel akan terganggu yang dapat menyebabkan lisis bahkan kematian sel sehingga akan terjadi perubahan pada jumlah eritrosit dan kadar hemoglobin.

. Based on the results of the study, it is known that overall respondents experienced an increase in Hb levels, the lowest increased by 0.4 g / dl and the highest by 2.1 g / dl. This non-uniformity of results is possible due to other factors that influence the condition of adolescents such as activity and knowledge about food intake. In fact, not all young women like to consume foods that contain lots of vitamin B12 or foods that contain lots of iron. This is due to the ignorance factor of the importance of consuming foods that contain lots of protein or that contain lots of iron, vegetables and foods that contain lots of B12 to prevent anemia. This is also possible in adolescents who experience elevated high Hb levels because in addition to adolescents consuming beet juice also consume other foods that contain high iron that cannot be controlled by researchers. Iron deficiency can be caused by insufficient iron intake through food, and impaired reabsorption, or because too much iron comes out of the body such as bleeding. Based on the opinion of researchers that the nutritional needs of adolescent girls increase during menstruation. If the deficiency of these substances, the patient can experience anemia, in this case, health workers can play a

role in reducing the incidence of anemia by providing counseling in the form of proper nutritional intake so as to help prevent adolescent girls who have anemia, one of which is consuming beets.

CONCLUSION

The average Hb in adolescent girls before being given beet juice with a Mean of 10.470gr / dl which means adolescent girls have mild anemia with the lowest Hb level value of 9.8g / dl which means moderate anemia, the highest Hb level value of 10.9g / dl which means mild anemia. Hb adolescent girls after being given beet juice with a mean of 11.117gr / dl which means adolescent girls are no longer anemic / normal, with the lowest Hb level value of 10.8g / dl which means mild anemia, the highest Hb level value 11.5g / dl which means normal Hb levels. The results of the statistical test obtained a mean difference test of 1.06 P-value = 0.000 (<0.05), which means that there is an influence of giving beet juice with an increase in Hb for young women at SMK Guna Dharma Bandar Lampung City in 2023.

Suggestion

For young women to always consume beet juice, and consumption of foods that contain lots of iron is highly recommended for adolescents who have anemia, because it will help the process of increasing Hb. For SMK Guna Dharma Bandar Lampung City other health workers, to routinely provide counseling to adolescents, provide IEC education to consume beet juice to prevent anemia in adolescents. For the next researcher to create a control group as a comparison to find out the differences that may appear between the experimental group and the control group. In addition, it is

expected that other researchers make beet extract in a more attractive form and composition so that it can be consumed more easily, or increase the number of days in giving beets so that better effectiveness is obtained.

REFERENCE

- Al-Aboud, N. M. (2018). Effect Of Red Beetroot (*Beta Vulgaris* L.) Intake On The Level Of Some Hematological Tests In A Group Of Female Volunteers. *Isabb Journal Of Food And Agricultural Sciences*, 8(2), 10-17.
- Arikunto, S. (2013). *Prosedur Penelitian Suatu Pendekatan Praktik*. (Rineka Cipta (Ed.); Iv). Rineka Cipta.
- Arisman. (2010). *Gizi Dalam Daur Kehidupan: Buku Ajar Ilmu Gizi*. Jakarta: Egic.
- Bakta. (2017). *Hematologi Klinik Ringkas*. Jakarta: Egic.
- Chris, Tanto. (2014). *Kapita Selekta Kedokteran Essential Mediciene*. Media Aesculapius: Fakultas Kedokteran Indonesia.
- Dedefwin, D. (2021). *Pemanfaatan Buah Bit (*Beta Vulgaris*) Sebagai Alternatif Pengganti Pada Pewarnaan Gram* (Doctoral Dissertation, Universitas Perintis Indonesia).
- Diyah. (2014). *Efektifitas Buah Bit (*Beta Vulgaris*) Sebagai Disclosingsolution (Bahan Identifikasi Plak)*.
- Filah. (2017). *Pengaruh Pemberian Sari Umbi Bit (*Beta Vulgaris*) Terhadap Kadar Hemoglobin Dan Performa Atlet Sepak Bola*.
- Hastono, S. P. (2016). *Analisis Data Pada Bidang Kesehatan* (Rajawali Pres. (Ed.); 1 Ed.). Rajawali Pres.

- Hidayat, A. Azis Alimul (2007). *Metode Penelitian Keperawatan Dan Teknik Analisis Data*. Jakarta: Salemba Medika.
- Ikawati (2018) *Pengaruh Buah Bit (Beta Vulgaris) Terhadap Indeks Eritrosit Pada Remaja Putri Dengan Anemia*.
- Manuaba, Ibg. (2010). *Ilmu Kebidanan, Penyakit Kandungan Dan Keluarga Berencana Untuk Pendidikan Bidan*. Jakarta: Egc.
- Meriska. (2016). *Efek Antianemia Buah Bit (Beta Vulgaris L.)*. Fakultas Kedokteran, Universitas Lampung.
- Notoatmojo, S. (2012). *Metodologi Penelitian Kesehatan Rineka Cipta*: Jakarta.
- Panjaitan, C. P. (2020). *Pengaruh Penambahan Sari Buah Bit (Beta Vulgaris) Terhadap Daya Terima Donat*.
- Pinem, Saroha. (2016). *Kesehatan Reproduksi Dankontrasepsi*. Jakarta: Trans Info Media.
- Rahayu, D. E. (2020). *Efektifitas Pemberian Jus Jambi Terhadap Kadar Hemoglobin Ibu Hamil Trisemester Ii Dengan Anemia*. *Jurnal Pendidikan Kesehatan*, 9(1), 65-71.
- Rukiyah, Ai, Yeyeh. (2015) *Asuhan Kebidanan Patologi Kebidanan 4*. Jakarta: Trans Infomedia.
- Setyianingsih, S., Widayati, W., & Kristiningrum, W. (2020). *Keefektifan Jus Buah Bit Dan Lemon Dalam Kenaikan Kadar Hb Pada Ibu Hamil*. *Jurnal Kebidanan Malahayati*, 6(1), 71-76.
- Sibagariang, Ellya Eva. (2016). *Kesehatan Reproduksi Wanita*. Jakarta: Trans Info Medis.
- Sukarni, Icesmi. (2019). *Kehamilan Persalinan Dan Nifas*. Yogyakarta: Nuha Media.
- Supariyasa, I D. (2012). *Penilaian Status Gizi*. Jakarta: Penerbit Buku. Kedokteran Egc.
- Triananda, A., Suryani, D., Oktavianti, Y., Natan, O., & Maigoda, T. C. (2022). *Hubungan Asupan Zat Besi, Protein Dan Vitamin C Dengan Kejadian Anemia Pada Remaja Putri Di Sma Negeri 7 Kota Bengkulu Tahun 2022* (Doctoral Dissertation, Poltekkes Kemenkes Bengkulu).
- Utamingtyas. (2013). *Manfaat Buah Bit (Beta Vulgaris) Terhadap Peningkatan Kadar Haemoglobin (Hb) Ibu Hamil*.
- Wenda Dkk. (2018). *Efektivitas Pemberian Jus Buah Bit Terhadap Kadar Hemoglobin Ibu Hamil Dengan Anemia*. Program Studi Ilmu Keperawatan universitas Riau.
- Yuni, Erlina Natalia. (2015). *Kelainan Darah*. Yogyakarta: Nuha Medika.