

The Effect of Giving Ambon Banana to Increasing Haemoglobin Levels in Takengon Adolescence in the Junior High School 42 In 2022

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ARTICLE INFO

Article history:

Received Sep 17, 2022

Revised Sep 24, 2022

Accepted Okt 15, 2022

Keywords:

Ambon Banana

Haemoglobin

Adolescence

ABSTRACT

The incidence of anemia in Indonesia is still quite high. Based on data from Riskesdas 2018, the prevalence of anemia in adolescents is 32%, meaning that 3-4 out of 10 adolescents suffer from anemia. This is influenced by the habit of nutritional intake that is not optimal and lack of physical activity. Ambon bananas are enriched with iron which is effective for controlling iron deficiency and almost entirely can be absorbed by the body. Ambon bananas also contain vitamin C which can help increase iron absorption. Vitamin C increases absorption because it reduces iron in the form of ferric to ferrous. Vitamin C increases the absorption of iron from food through the formation of ferrous ascorbate complexes. The combination of 200 mg of ascorbic acid with iron salts can increase iron absorption by 25% - 50% (Fenni, 2018.) The purpose of this study was to analyze the effect of giving Ambon bananas to increase hemoglobin levels in adolescents at SMP 42 Takengon in 2022. Types of research used in this research is quantitative research with Quasy Experiment research design with Two Group with pre test post test design which consists of 2 groups, control group and experimental group. This research was conducted at SMP 42 Takengon A total of 68 people with a total sample of 26 people who have anemia. The sampling technique used is purposive sampling. Bivariate analysis using Mann Whitney statistical test. This study obtained the results of P-Value 0.037 (P <0.05) it can be concluded that Ha is accepted, namely the effect of giving Ambon bananas to the increase in hemoglobin in adolescents.

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INTRODUCTION

The incidence of anemia in Indonesia is still quite high. Based on data from Riskesdas 2018, the prevalence of anemia in adolescents is 32%, meaning that 3-4 out of 10 adolescents suffer from anemia. This is influenced by the habit of nutritional intake that is not optimal and lack of physical activity.

Iron nutritional anemia in adolescent girls is at a higher risk because it causes a person to experience a decrease in body resistance so that they are susceptible to health problems. This is because young women experience menstruation every month and are in a period of growth so they need more iron intake. In addition,

an imbalance in nutrient intake is also a cause of anemia in adolescents. One of the factors that trigger anemia is the condition of an abnormal menstrual cycle. Actual blood loss when experiencing excessive menstrual levels for more than 3-4 days, always wet pads or tampons every hour and change them frequently, if during menstruation you look pale or feel like passing out, don't wait for three days. Losing a lot of blood during menstruation is thought to cause anemia (Herwandar & Soviyati, 2020).

The Ministry of Health has carried out specific interventions by giving Blood Add Tablets (TTD) to adolescent girls and pregnant women. In addition, the Ministry of Health also undertakes prevention of anemia through education and promotion of balanced nutrition, fortification of iron in foodstuffs and the application of clean and healthy living (Kemenkes RI, 2021).

Factors that cause the high incidence of anemia in adolescents include low intake of iron and other nutrients such as vitamin A, vitamin C, folate, riboflavin and B12, errors in iron consumption such as iron consumption along with other substances that can interfere with iron absorption. (Briawan, 2014).

Ambon bananas are enriched with iron which is effective for controlling iron deficiency and almost entirely can be absorbed by the body. Ambon bananas also contain vitamin C which can help increase iron absorption. Vitamin C increases absorption because it reduces iron in the form of ferric to ferrous. Vitamin C increases the absorption of iron from food through the formation of ferrous ascorbate complexes. The combination of 200 mg of ascorbic acid with iron salts can increase iron absorption by 25% - 50% (Fenni, 2018).

RESEARCH METHOD

The type of research used in this research is quantitative research with Quasy Experiment research design with Two Group with pre test post test design which consists of 2 groups, control group and experimental group. In the intervention group, a pretest was carried out by measuring the hemoglobin level and then Ambon banana and Fe tablets 1 (one) tablet per week were given and during menstruation they were given 1 (one) tablet per day for 10 (ten) days, after which the post test was carried out again with measuring hemoglobin levels, while in the control group a pretest was performed by measuring hemoglobin levels and given 1 (one) tablet of fe 1 (one) tablet per day for 10 (ten) days, a post test was performed. This research was conducted at SMP 42 Takengon A total of 68 people with a total sample of 26 people who have anemia. The sampling technique used is purposive sampling. Bivariate analysis using Mann Whitney statistical test.

RESULTS AND DISCUSSIONS

Univariate Analysis

Based on data obtained from 26 respondents, namely 13 control groups and 13 intervention groups, after statistical processing, the distribution and sample frequency results are as follows :

Table 1. Frequency Distribution of Increased Hemoglobin Levels in the Control Group

Control Group	Normal		Mild Anemia		Moderate Anemia		Severe Anemia	
	F	%	F	%	F	%	F	%
Pre Test	-	-	10	76,9	3	23,1	-	-
Post Test	1	7,7	10	76,9	2	15,4	-	-

Table 1 shows that in the control group before administration of Fe tablets, the majority were mild anemia with a frequency of 10 respondents (76.9%) and a minority with moderate anemia with a frequency of 3 respondents (23.1%). Meanwhile, after administration of Fe tablets, the majority were mild anemia with a frequency of 10 respondents (76.9%) and a normal minority (not anemic) as many as 1 respondent (7.7%).

Table 2. Frequency Distribution of Increased Hemoglobin Levels in the Intervention Group

Experimental Group	Normal		Mild Anemia		Moderate Anemia		Severe Anemia	
	F	%	F	%	F	%	F	%
Pre Test	-	-	6	46,2	7	53,8	-	-
Post Test	6	46,2	7	53,8	-	-	-	-

Table 4.2 shows that in the intervention group before giving Fe tablets and Ambon bananas, the majority were moderate with a frequency of 7 respondents (53.8%) and the minority was mild anemia with a frequency of 6 respondents (46.3%). Meanwhile, after giving Fe tablets and Ambon bananas, the majority of

them were mild anemia with a frequency of 7 respondents (53.8%) and a normal minority (not anemic) as many as 6 respondents (46.2%).

Bivariate Analysis

This analysis aims to see the effect of giving Ambon bananas to increase hemoglobin levels in pregnant women using statistical methods. The results of the data processing are as follows :

Table 3. Effects of Giving Ambon Bananas on Increased Hemoglobin in Adolescents

Group	Mean	Std. Deviation	P Value
Control	1,08	0,494	0,037
Experimental	0,54	0,519	

Based on Table 3, it can be seen that the results of the analysis test in this study using Mann Whithney showed a P-Value of 0.037 ($P < 0.05$), namely the effect of giving Ambon bananas to increase hemoglobin in adolescents.

Discussion

Based on the results of the analysis test in this study using Mann Whithney showed a P-Value of 0.037 ($P < 0.05$), namely the effect of giving Ambon bananas to increasing hemoglobin in adolescents. Ambon bananas contain iron and also high vitamin C which this vitamin plays a role in maximizing the absorption of iron in the body and plays a role in the formation of hemoglobin in the blood.

Bananas are fortified with iron which is effective for controlling iron deficiency and is almost completely absorbed by the body. Ambon bananas also contain vitamin C which can help increase iron absorption. Vitamin C increases absorption because it reduces iron in the form of ferric to ferrous. Vitamin C increases the absorption of iron from food through the formation of ferrous ascorbate complexes. The combination of 200 mg of ascorbic acid with iron salts can increase iron absorption by 25% - 50% (Fenni, 2018).

Micronutrients are nutrients needed by the body in small amounts but have a very important role in the formation of hormones Enzyme activity and regulate the function of the immune system and reproductive system, although only needed by the body in very small amounts, micronutrients are needed by the body. Pregnant women who lack micronutrients can increase the risk of maternal death during childbirth and give birth to babies with low body weight. Taking heme and nonheme iron together can increase the absorption of non-heme iron. Organic acids such as vitamin C are also known to help the absorption of non-heme iron (Yulia, 2015 in Yuliani, 2021).

This research is in line with the theory that the iron contained in Ambon banana stimulates the growth of red blood cells and in addition to this iron content. The content in other Ambon bananas that play a role is vitamin C, where vitamin C plays a role in helping the absorption of iron in the body so that Hb levels in the blood will increase.

This study is also in line with the research conducted by Erni Muslikah on the effectiveness of giving Ambon Banana and Fe Tablets with Fe Tablets in Increasing Hemoglobin Levels of Anemia in Students at SMA 1 Nguter, Sidoharjo Regency. Ambon banana fruit with Fe tablet group.

According to the researchers' assumptions, the increase in hemoglobin levels is influenced by many factors, one of which is iron and how iron is metabolized in the body. Iron can be obtained from the consumption of Fe tablets, vegetables and consumption of iron fruits, while to maximize absorption and metabolism it is obtained by consuming fruits containing vitamin C contained in bananas so that hemoglobin levels can increase significantly.

CONCLUSION

The results of the bivariate test using the Mann Whitney test showed that the P-Value was 0.037 ($P < 0.05$). It could be concluded that H_a was accepted, namely the effect of giving Ambon bananas to the increase in hemoglobin in adolescents.

ACKNOWLEDGEMENTS

The author would like to thank the parties involved in this activity. Thank you to the principal of SMP 42 Takengon 2022 who has given permission to the author to carry out the research. Thanks to Mr. Drs. Imran

Saputra Surbakti, MM as chairman of the board of the Mitra Husada Medan foundation. Thanks to Dr. Siti Nurmawan Sinaga, SKM, M.Kes as the head of STIKes Mitra Husada Medan who gave motivation to the author.

References

- Fenni, et al. (2018). Differences in Hb Levels Before and After Giving Ambon Bananas to Pregnant Women with Anemia in the Working Area of Sumowono Health Center. Indonesian Journal of Midwifery (IJM) [Http://Jurnal.Unw.Ac.Id/Index.Php/Ijm](http://Jurnal.Unw.Ac.Id/Index.Php/Ijm), Vol 1, No(ISSN 2615-5095 (Online) Vol 1, No 2). <https://doi.org/http://dx.doi.org/10.35473/ijm.v1i2.104>
- Briawan, D. 2014. Anemia. Nutritional Problems in Adolescent Girls. Jakarta : EGC
- Muslikah, Erni., Sulastrri. 2017. efektifitas Pemberian Tablet Fe dan Buah Pisang Ambon Dengan Tablet Fe Dalam Meningkatkan Kadar Hemoglobin Siswi Anemia DI SMA 1 Nguter Sidoharjo Regency. Muhammadiyah University of Surakarta. <http://eprints.ums.ac.id/51078/>
- Herwandar, F. R., & Soviyati, E. (2020). Comparison of Hemoglobin Levels in Premenarchal and Postmenarche Adolescents in Ragawacana Village, Kramatmulya District, Kuningan Regency 2018. *Jurnal Ilmu Kesehatan Bhakti Husada: Health Sciences Journal*, 11(1), 71–82.
- Yuliani, D, R, Dkk. 2021. Pregancy Care. Our Writing Foundation : North Sumatra