

The Effect of Green Bean Side Effect on Changes in Hemoglobin Levels in Pregnant Women with Anemia

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ARTICLE INFO

Article history:

Received: March 8, 2021

Revised: April 24, 2021

Accepted: May 12, 2021

Keywords:

Anemia,

Hemoglobin,

Green Bean Juice.

ABSTRACT

Hemoglobin is an iron-carrying oxygen transport protein protein in red cells in the blood of mammals and other animals. Hemoglobin consists of iron which is the carrier of O₂. High and abnormal hemoglobin levels occur due to hemoconcentration due to dehydration. The number of red blood cells and hemoglobin molecules is not always increasing and decreasing simultaneously, for example the decrease in red blood cells along with slightly elevated or normal hemoglobin levels occur in cases of pernicious anemia, as well as slightly elevated or normal hemoglobin levels of hemoglobin decreases, occurs in iron deficiency anemia. The purpose of this research is to know the effect of green bean extract on changes of hemoglobin (Hb) level in Pregnant Women. The research design used was pre experimental research. The population in detail is all Pregnant Women, with accidental sampling technique in obtaining a sample of 16 people. The research instrument used is observation sheet and digital hemoglobin gauge and statistic test used is T test. The result of research of hemoglobin level before giving of green bean has average value (mean) is 10,494 and hemoglobin level after giving of green bean has average value (mean) is 11.238 this indicates an increase of hemoglobin level in student result of research done shows that there is an increase of Hb level in get p value 0,756 and 0,89. Then the T.Test data distribution test can be concluded p value <0.05 which means H₀ rejected and H₁ accepted " The Effect Of Green Bean Side Effect On Changes in Hemoglobin Levels In Pregnant Women With Anemia". Based on the results of the study is expected people can consume green beans as an effort to prevent the occurrence of anemia and the fulfillment of nutrition, especially iron in Pregnant Women.

I. Introduction

Anemia is one of the most common nutritional disorders and is a major nutritional problem in Indonesia [1]. Anemia can be defined as a condition in which the level of hemoglobin (Hb) in the blood is less than normal, which is different for each age group and gender. Iron deficiency anemia is a form of nutritional disorder which is an important public health problem throughout the world, especially in developing countries including Indonesia. Consumption of iron from food is often lower than two-thirds of the recommended intake of iron, and the composition of the food menu consumed belongs to the type of food that has low iron absorption [2].



Globally, the incidence of Hb levels in pregnant women below 11g/dl decreased by 12% from the initial 43% to 38% in pregnant women. In Indonesia, the incidence of hemoglobin levels in pregnant women below 11g/dl during pregnancy is still high, which is around 40.1%. In the survey data of the East Java Health Office, there are 42.6% of pregnant women experiencing anemia [3]. In general, the causes of anemia are inadequate nutritional intake and iron breakfast, chronic blood loss, increased demand and impaired absorption (malabsorption).[4].

The impact of anemia in pregnancy can affect pregnancy because anemia can reduce the body's resistance which results in fetal death in the womb, abortion, congenital defects, low birth weight (LBW). In childbirth, it can cause uterine inertia, the mother becomes weak, causing prolonged labor, while during the puerperium bleeding can occur and in this condition the body cannot tolerate it like a healthy mother does not suffer from anemia. This causes significantly more morbidity and mortality and perinatal mortality. high [5]

Prevention in pregnant women can be done by meeting the needs of iron. In addition, with a balanced diet, it is very important to become a pregnant woman's menu. Foods rich in iron include red meat, green leafy vegetables, cereals with iron content that the body needs, nuts and eggs. One of the foods that can prevent iron deficiency is green beans, green beans are one of the foodstuffs that contain substances needed for the formation of blood cells so that can overcome the effect of decreasing Hb. Green beans can play a role in the formation of red blood cells and prevent anemia because the phytochemical content in green beans is very complete so that it can help the process of hematopoiesis. Green beans also contain vitamins and minerals. Minerals such as calcium, phosphorus, iron, sodium, and potassium[6].

Green beans are a source of food that contains a source of protein, rich in fiber, low in carbohydrates, contains healthy fats, rich in vitamins such as B vitamins, riboflavin, B6, pantothenic acid, and niacin. The vitamins contained in it help increase the body's energy and metabolism and are rich in minerals and active enzymes. Based on the description of the background above, the researcher is interested in researching further about "Giving Green Bean Extract to Changes in Hemoglobin Levels in Pregnant Women with Anemia"

Method

A. Design and Samples

The research site at BPM Ny. I Tales Village, Ngadiluwih District, Kediri Regency in December 2020. The research design is a pre-experimental one group pretest-posttest design. The sampling technique used was purposive sampling with a sample of 16 pregnant women.

B. Data Collections

The type of data collected is the type of primary data. obtained from the results of observations of Hb levels before giving mung bean juice with a digital Hb measurement tool to determine the hb of pregnant women before being applied. Then the Hb level after giving mung bean juice for 1 week and checked with digital hb to determine changes in the hb level of pregnant women after being given treatment.

C. Data Analysis

The analyzed data used to T test. All tests are done by using SPSS for Windows 24.

II. Results and Discussion

The results of this study indicate that the benefits of consuming green bean juice on changes in hemoglobin levels in pregnant women.

Table 1. Hemoglobin levels before giving green bean juice

hemoglobin levels	N	Mean	Median	SD	Min	Max
Pre Test	16	10.494	10.450	.7784	9.0	11.8

Based on table 1, The hemoglobin level before giving mung bean juice had an average value (mean) of 10,494, this value indicates low hemoglobin levels in pregnant women.

Table 2. Hemoglobin levels after giving green bean juice

hemoglobin levels	N	Mean	Median	SD	Min	Max
Post Test	16	11.238	11.200	.6417	10.0	12.0

The hemoglobin level after administration of green bean juice had an average value (mean) of 11.238. This value indicates an increase in hemoglobin levels in pregnant women

Table 3. Characteristics based on hemoglobin levels of pregnant women before and after giving green bean juice

hemoglobin levels	N	Mean	Std.Deviation	Sig
Pre Test	16	10.494	.7784	.756
Post Test	16	11.238	.6417	.089

The Hemoglobin levels before giving mung bean juice had an average value (mean) of 10,494 and hemoglobin levels after administration of mung bean juice had an average value (mean) of 11,238, this indicates an increase in hemoglobin levels in pregnant women.

Based on table 3, The results of the T.test difference before and after giving mung bean juice to the increase in hemoglobin levels were obtained with p values of 0.756 and 0.89. Then the T.Test test data distribution can be concluded p value <0.05 which means H0 is rejected and H1 is accepted "there is an effect of giving green bean juice to increase hemoglobin levels.

That consuming mung bean juice can increase hemoglobin levels, because consuming 2 cups of mung bean juice can meet 50% of the daily iron needs and 80% meet the needs of vitamin C and other vitamins such as thiamine, riboflavin and niacin.[7]

Anemia is a condition when the number of red blood cells or the amount of hemoglobin (oxygen carrying protein) in red blood cells is below normal. Anemia is a condition where the level of red blood substance or hemoglobin is lower than the normal value .[8]

In the opinion of researchers, mung bean juice has a fairly high iron content, so mung bean juice can trigger the development of red blood cells, this will certainly help female students have good blood quality, can prevent anemia or lack of blood.

III. Conclusion

The results of this study showed that the benefits of consuming bean juice that it can be realized in everyday life and as the first alternative in an effort to prevent anemia which is very easy to find and at an economical price.

Acknowledgment

The author is thankful to BPM Ny. I Talas Village, Ngadiluwih District, Kediri Regency, East Java respondents for their valuable information and their awareness to participate in this research.

References

- [1] Gultom, 2003. Buku ajar Fisiologis Kedokteran. Edisi 9. Jakarta : EGC
- [2] Rasmaliah. (2004). Anemia kurang Besi Dalam Hubungannya Dengan Infeksi Cacing Pada Ibu Hamil. Universitas Sumatera Barat. <http://www.library.usu.ac.id>.
- [3] Depkes RI 2017. Profil Kesehatan Indonesia: Jakarta
- [4] Arisman M, (2007). Gizi Dalam Daur Kehidupan : buku ajar ilmu gizi. Jakarta : EGC
- [5] Manuaba, (2010). Ilmu kebidanan Penyakit Kandungan dan KB . Jakarta : EGC
- [6] Astawan, (2009). *Prinsip Dasar Ilmu Gizi*. Jakarta. Gramedia Pustaka Utama.
- [7] Anwar, 2011. *Buku Ajar Ilmu Gizi*: Jakarta
- [8] Hidayat, 2012. Faktor-faktor yang berhubungan dengan kejadian anemia gizi pada wanita. Bogor. IPB