



Giving Guava to Increase HB Levels in Anemic Pregnant Women at PMB Dince Safrina Pekanbaru

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Abstract - Pregnancy is a normal, natural process that begins with the growth and development of an intrauterine fetus and starts from conception to delivery. (Dewi, 2011). Hemodilution occurs from 10 weeks of gestation and peaks at 32-36 weeks of gestation. If the hemoglobin is before about 11 g%, the occurrence of hemodilution will result in physiological anemia and Hb will be 9.5 to 10 g%. Based on the report of the Pekanbaru City Health Office (2012), the number of pregnant women suffering from mild-moderate anemia in Pekanbaru City in 2011 was 1105 people and in 2012 there were 703 people. This research aims to determine the effectiveness of giving guava in increasing HB levels in pregnant women with anemia at PMB Dince Safrina Pekanbaru. This type of research is quasi experimental (quasi-experimental) with a one group pretest posttest approach. Sampling in this study using non random sampling technique with purposive sampling. The population in this study were all anemia pregnant women at PMB Dince Syafrina in November 2020. The analyzes used were univariate and bivariate. The results showed that there was an effect of giving Fe tablet and guava juice therapy to the increase in Hb levels of anemia in pregnant women. It is hoped that the special medical personnel for the Independent Practice of Midwife Dince Syafrina, SST, can formulate ways to treat anemia in pregnant women, namely not only providing therapy with iron tablets, but can combine it with 100 gr of guava per day and consumed 2 times a day. The results showed that there was an effect of giving Fe tablet and guava juice therapy to the increase in Hb levels of anemia in pregnant women. It is hoped that the special medical personnel for the Independent Practice of Midwife Dince Syafrina, SST, can formulate ways to treat anemia in pregnant women, namely not only providing therapy with iron tablets, but can combine it with 100 gr of guava per day and consumed 2 times a day. The results showed that there was an effect of giving Fe tablet and guava juice therapy to the increase in Hb levels of anemia in pregnant women. It is hoped that the special medical personnel for the Independent Practice of Midwife Dince Syafrina, SST, can formulate ways to treat anemia in pregnant women, namely not only providing therapy with iron tablets, but can combine it with 100 gr of guava per day and consumed 2 times a day.

Keywords: Pregnancy, Anemia, Guava

1. Introduction

Pregnancy is a time when a woman has stopped menstruating for some time until labor is over. This usually lasts for about 9 months, or 40 weeks, or 280 days. Meanwhile, a normal pregnancy will last for 38-40 weeks (Sulistiyawati, 2011). (Wiknkosatro, 2018) defines pregnancy as a process that occurs between the combination of sperm and ovum cells so that conception occurs until the birth of the fetus, the length of normal pregnancy is 280 days or 40 weeks, calculated from the first menstruation to the last day (HPHT).

Anemia is a medical condition in which the number of red blood cells or hemoglobin is less than normal. Normal hemoglobin levels are generally different in men and women. For men, anemia is usually defined as a hemoglobin level of less than 13.5 grams / 100ml and in women as hemoglobin less than 12.0 grams / 100ml.

According to WHO (2013), most women experience anemia during pregnancy, both in developed and developing countries, 35-75% of pregnant women in developing countries and 18% of pregnant women in developed countries experience anemia. However, many of them have anemia in at conception, with an estimated prevalence of 43% in nonpregnant women in developing countries and 12% in more developed countries.

Basic Health Research data in 2013 shows the prevalence of anemia in Indonesia is 37.1% of pregnant women from the total population who experience anemia with a nearly equal proportion between urban (36.4%) and rural (37.8%) (Ministry of Health, 2014).

Riau Province had 47.8% of pregnant women with anemia in 2011 (Riau Health Office, 2011). Based on the report of the Pekanbaru City Health Office (2012), the number of pregnant women suffering from mild-moderate anemia in Pekanbaru City in 2011 was 1105 people and in 2012 there were 703 people. Most locations were found in Sail District with 216 people in 2012.

Anemia in pregnant women is defined when the Hb level is below 11 g / dl (Manuaba, 2010) Anemia is a medical condition in which the number of red blood cells or hemoglobin is less than normal. Hemoglobin levels in general in women are 12gr / dl (Proverawati, A and Wati, 2011).

Guava is psidium guajava. Psidium comes from the Greek word "psidium" which means pomegranate, "guajava comes from the name given to it by the Spanish. Red guava is a multi-branched shrub, its height can reach 3 - 10 m. Generally, the age of guava plants is around 30-40 years. Plants that come from seeds are relatively longer than those of grafting or grafting. Guava (Psidium guajava) or often called guava, siki guava and guava klutuk is a tropical plant originating from Brazil, spread to Indonesia via Thailand. Guava has green fruit with white or red flesh and sweet-sour taste. Guava fruit is known to contain lots of vitamin C49. The nutritional content of red guava fruit (100 gr) is 49 calories,

This made researchers interested in taking the research title Giving Bji Guava in Increasing Hb Levels in Anemic Pregnant Women at PMB Dince Safrina Pekanbaru.

2. Method

This type of research is quasi experimental (quasi experimental). The research was conducted to find out Effectiveness of Guava Giving in Increasing HB Levels in Anemic Pregnant Women at PMB Dince Safrina Pekanbaru. In this study, the population is All anemic pregnant women at PMB Dince Syafrina in November 2020, Sampling in this study used non-random sampling techniques with purposive sampling. Primary and secondary data were collected. Primary data is taken using survey Preliminary, interview and direct observation of anemic mothers at the time of giving guava juice and secondary data of this study in the form of respondent data and examination history of respondents contained in PMB Dince Syafrina's records. Data analysis was performed by univariate and bivariate analysis.

3. Result and Discussion

a. Univariate Results

1) Characteristics of Respondents Based on Hb Levels of Pregnant Women Before giving Guava Juice

Table 1.

Characteristics of Respondents Based on Hb Levels of Pregnant Women before giving Fe Tablets and Guava Juice

Hb levels	Freq (N)	Pers (%)
7.2	1	2.9
7.7	1	2.9
7.8	2	5.7
7.9	3	8.6
8.1	1	2.9
8.2	3	8.6
8.5	2	5.7
8.6	3	8.6
8.8	5	14.3
8.9	2	5.7
9.1	1	2.9
9.3	2	5.7

9.4	1	2.9
9.6	1	2.9
9.7	2	14.3
9.9	1	2.9
10.1	1	2.9
10.4	1	2.9
10.6	1	2.9
10.8	1	2.9
Total	35	100

Based on table 1 above, the majority of respondents' Hb levels before being given Fe Tablets and Guava Juice therapy were with an Hb level of 8.8, amounting to 5 people (14.3%).

2) Characteristics of Respondents Based on Hb Levels of Pregnant Women After giving Guava Juice

Table 2.

Characteristics of Respondents Based on Hb Levels of Pregnant Women after giving Fe Tablets and Guava Juice

Hb levels	Freq (N)	Pers (%)
7.6	1	2.9
8.1	3	8.6
8.4	1	2.9
8.5	1	2.9
8.6	1	2.9
8.7	1	2.9
8.8	2	14.3
8.9	2	5.7
9.1	2	5.7
9.2	2	5.7
9.7	5	2.9
9.8	3	8.6
10.1	2	5.7
10.2	2	5.7
10.3	1	2.9
10.4	1	2.9
10.9	1	2.9
11.0	1	2.9
11.1	1	2.9
11.2	1	2.9
11.3	1	2.9
11.5	1	2.9
Total	35	100

Based on table 2 above, the majority of respondents' Hb levels after being given Fe Tablets and Guava Juice therapy 100 grams per day which are processed in the form of juice, and consumed 2 times a day in the morning and evening for 14 consecutive days are with an Hb level of 9.7, which amounts 5 people (14.3%).

b. Results of bivariate analysis

The data analysis used in this study is the dependent t test, namely for To test whether or not the effectiveness of guava juice on Hb levels in anemic pregnant women at the Dince Syafrina Midwifery Independent Practice, SST Pekanbaru.

Table 3.

Paired Samples Statistics

	N	Mean	Std. Deviation	Correlation	P. Value
Before given	35	8.92	0.9067	0.967	0,000
Once given		9.48	1,0456		

Based on table 3 paired samples statistics, the results show that the average hemoglobin level of anemic pregnant women before being given Fe tablet therapy and guava juice in the first measurement was 8.92 (moderate anemia), while the average hemoglobin level of anemic pregnant women in the measurement second is 9.48 (mild anemia)

In the statistical test, the value of $p = 0,000$ was obtained so that H_0 was rejected, it was concluded that there was an effect of giving Fe and Guava juice tablets therapy to an increase in hemoglobin levels in anemic pregnant women ($p < 0,000$)

3.1 Discussion

Analysis of differences in hemoglobin levels for anemic pregnant women before (pre-test) and after (posttest) administration of Fe tablets and guava juice therapy, the highest intensity of hemoglobin levels in pregnant women with anemia in the pre-test data before administration of Fe tablet and guava juice therapy is highest Hb levels of 8.8 which belonged to the moderate anemia group, amounting to 5 people (14.3%), and in the post-test data after giving Fe Tablets and Guava Juice 100 grams per day processed in the form of juice, and consumed 2 times a day in the morning and evening for 14 consecutive days the highest was with an Hb level of 9.7 which was classified into the mild anemia group, amounting to 5 people (14.3%). From the results of data analysis using t dependent test to determine the strength of the effect of Fe tablets and guava juice therapy on the increase in hemoglobin levels of anemia pregnant women resulting in an average (mean) hemoglobin levels of anemia pregnant women before being given Fe tablets and guava juice therapy 8.92 with a standard deviation 0.9067. The average (mean) hemoglobin level of anemic pregnant women after being given Fe Tablets and Guava Juice therapy 100 gr per day processed in the form of juice, and consumed 2 times a day in the morning and evening for 14 consecutive days is 9.48 with the standard deviation 1,0456. From the results of statistical tests, it was found that the p value (α) was 0.000.

Thus the p value is smaller than 0.5 so that H_0 is rejected, it can be concluded that there is a significant difference in the mean hemoglobin levels of anemic pregnant women between before giving Fe Tablets and Guava Juice therapy and after giving Fe Tablets and Guava Juice therapy. and it can be concluded that the hypothesis is that there is an effect of giving Fe Tablets and Guava Juice therapy on the increase in hemoglobin levels for anemia in pregnant women at the Midwife Dince Syafrina Independent Practice, SST Pekanbaru.

Anemia in pregnancy is a condition of the mother with a hemoglobin level below 11 g%. According to the Indonesian Ministry of Health (2019) the normal limit of hemoglobin levels for pregnant women is ≥ 11 g / dl6. Hemoglobin is a red pigmented protein found in red blood cells which functions to transport oxygen from the lungs to be distributed throughout the body.

Provision of Fe tablets with the addition of vitamin C can help increase hemoglobin levels in pregnant women. One of the fruits that is very rich in vitamin C is guava. The vitamin C content in guava is equivalent to 6 times the vitamin C content in oranges, 10 times the vitamin C content in papaya, 17 times the vitamin C content in water guava and 30 times the vitamin C content in bananas. (Hadieti and Apriyanti, 2015).

This research is in line with the research conducted by (Fitriani, 2017) The results showed that before giving guava juice 57.1% (8 respondents) had Hb levels ≥ 11 g% and 42.9% (6 respondents) had Hb levels between 9 - 10.9 g% or mild anemia. After giving 250 ml of guava juice per day for 7 consecutive days before consuming iron tablets, it was shown that 100% (14 respondents) had Hb levels ≥ 11 gr%.

This research is also in line with research (Prasetyanti, 2015) The effectiveness of giving red guava to changes in maternal hemoglobin levels. The results showed a very clear difference in the average increase in Hb levels in third trimester pregnant women who consumed Fe tablets and guava juice was higher than those who took Fe tablets alone. This is in accordance with the theory that vitamin C contained in guava juice has a very important role in increasing iron absorption and can increase maternal hemoglobin levels. So that Fe tablets are more effective when taken together with foods containing vitamin C than just Fe tablets alone.

The results of this study prove that consuming Fe tablets together with 100 grams of guava consumption per day which is processed in the form of juice, and consumed 2 times a day in the morning and evening for 14 consecutive days can increase hemoglobin levels in anemic pregnant women, because a mother Pregnant requires 85 mg of vitamin C per day, while 100 grams of guava contains 87 mg of vitamin C and this is effective in helping to increase iron absorption in pregnant women so that it can increase Hb levels in anemic pregnant women.

4. Conclusion

- a. The majority of respondents' Hb levels before being given Fe tablets and guava juice therapy were with an Hb level of 8.8, amounting to 5 people (14.3%)
- b. The majority of respondents' Hb levels after being given Fe tablet therapy and Guava Juice 100 grams per day which are processed in the form of juice, and consumed 2 times a day in the morning and evening for 14 consecutive days is with an Hb level of 9.7, which is 5 people (14.3 %)
- c. From the results of data analysis using t dependent test to determine the strength of the effect of Fe tablets and guava juice therapy on the increase in hemoglobin levels of anemia pregnant women resulting in an average (mean) hemoglobin levels of anemia pregnant women before being given Fe tablets and guava juice therapy 8.92 with a standard deviation 0.9067. The average (mean) hemoglobin level of anemic pregnant women after being given Fe Tablets and Guava Juice therapy 100 gr per day processed in the form of juice, and consumed 2 times a day in the morning and evening for 14 consecutive days is 9.48 with the standard deviation 1,0456.
- d. In the statistical test, the value of $p = 0,000$ was obtained so that H_0 was rejected, it was concluded that there was an effect of giving Fe and Guava juice tablets therapy to an increase in hemoglobin levels in anemic pregnant women ($p < 0,000$)

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