

Article

# The Effect Of Giving Red Guava Juice To Grade of Pregnant Women's Hemoglobin

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## A B S T R A C T

According to the World Health Organization (WHO) in 2014, as many as 41.8% of maternal deaths in developing countries were associated with anemia in pregnancy and most were caused by iron deficiency and acute bleeding, not even the two interacting frequently. Red guava juice can increase hemoglobin levels that can treat anemia. The purpose of this study was to determine the effect of giving red guava juice (*psidium guajava*, linn) to hemoglobin levels.

This type of research is quasi-experimental (quasi-experimental) with a non-equivalent pretest-posttest design carried out in the village of Kuok working area PUSKESMAS Kuok on July 26 -1 August 2018. The population in this study were all pregnant women who suffer from anemia with hemoglobin levels of 8-11 gr%. The research sample amounted to 15 respondents using *total sampling* techniques. Hemoglobin level examination use *haemometer digital*. The data analysis use T-test.

The results of this study obtained mean hemoglobin levels before administration of red guava juice (*Psidium Guajava*, Linn) was 8.80, mean hemoglobin level after administration of red guava juice (*Psidium Guajava*, Linn) is 12.60. Hb levels before and after administration of red guava juice were 3.8. The statistical test results obtained p-value 0,000 (<0.05). Conclusion This study has the effect of giving red guava juice (*Psidium Guajava*, Linn) to the hemoglobin level of pregnant women.

## I. INTRODUCTION

Maternal Mortality Rate (MMR) in Indonesia is still a priority issue in the health sector. Besides showing the degree of public health, it can also describe the level of community welfare and the quality of health services. The direct cause of maternal death is trias bleeding 40-60% preeclampsia and eclampsia 20-30%, infection 20-30%, Among the three factors, bleeding is ranked first. The cause of bleeding is due to adhesions of the placenta, uterine tears or uterine muscles that relax due to frequent labor. This can be anticipated by often carrying out the investigation to determine whether there is a risk of bleeding. Also

important is hemoglobin examination, especially in the sixth and seventh months of pregnancy. Hb test is important to avoid the possibility of anemia (Wiknjosastro, 2010)

Anemia is a red blood cell deficiency that can be caused by too much red blood cell loss or the formation of red blood cells that are too slow. Anemia is a decrease in the number of red blood cells in the circulation, abnormal red blood cell hemoglobin content or both. pregnancy has a very large impact. Pregnant mothers who experience anemia can experience miscarriages, premature birth, low birth weight, bleeding before and during labor can even lead to death in the mother and fetus (Tarwoto, 2010).

Anemia can be caused by disorders of red blood cell formation or increased loss of red blood cells through chronic bleeding, sudden bleeding or excessive lysis (destruction) of red blood cells. All anemia results in a decrease in hematocrit and hemoglobin values and all symptoms are ultimately related to the reduction in transport oxygen to the cells and organs of patients so that it interferes with the function and health status (Muhammad, 2014).

According to the World Health Organization (WHO) in 2014, as many as 41.8% of maternal deaths in developing countries were associated with anemia in pregnancy and most were caused by iron deficiency and acute bleeding, not even the two interacting frequently. In pregnant women are very susceptible to iron deficiency anemia, the etiology of iron deficiency anemia in pregnancy is hemodilution which causes blood dilution, blood gain is not proportional to the increase in plasma, lack of iron in the food and increased iron requirements and digestive disorders and absorption. Anemia prevalence in Indonesia it is still quite high at 50.9% while in Riau Province the incidence of anemia in pregnant women is still relatively high at 37.1% (Riskesdas, 2015).

## II. METHODS

This study was an observational study, with a Pre and Post-study design. This study was conducted in Kuok Village, the working area of PUSKESMAS Kuok for check of hemoglobin levels on July 26, August 1, 2018. The population of this study were pregnant women who suffered from anemia with hemoglobin levels of 8-11 gr% with a total sample of 15 using total sampling technique. The research material in the form of red guava juice was examined for hemoglobin levels using *haemometer digital*.

## III. RESULT

**Tabel 4.1. Frequency Distribution of Characteristics of Respondents by Age, Education, Mother's Work in Kuok Village, the work area of PUSKESMAS Kuok**

Variable	Frequency	(%)
<b>Mother's age</b>		
20-25 years old	6	40
26-35 years old	9	60
Total	15	100
<b>Education</b>		
Low	10	66,7
High	5	33,3
Total	15	100
<b>Work</b>		
IRT	4	26,7
Wiraswasta	8	53,3
PNS	3	20,0
Total	15	100

Based on table 4.1, it can be seen that the age of the respondents is in the range of 26-35 years, namely as many as 9 respondents (60%), most of the respondents' education is as low as 10 respondents (66.7%), and most respondents work as entrepreneurs as many as 8 respondents (53.3%).

**Table 4.2 Frequency Distribution Before Given Red Guava Juice in Kuok Village, the working area of PUSKESMAS Kuok**

Variabel	Mean	CI 95%	SD	Median
Hb's grade before given red guava juice	8,80	8,43	0,676	8-10
Hb's Grade after given rwd guava juice	12,60	12,1	0,910	11-14

Based on table 4.2 it can be seen that the Hb level before being given red guava juice is 8.80 with a standard deficiency of 0.676 and after being given red guava juice the Hb content is 12.60 with a standard deficiency of 0.910.

**Table 4.3 Effect of Giving Red Guava Juice on Hb Level in Kuok Village in the working area of PUSKESMAS Kuok**

Variabel	Mean	Selisih Mean	SD	SE	P value
Hb's grade before given red guava	8.80		0,676	0,175	
		-3,8			0,000
Hb's grade after given red guava	12.6		0,910	0,275	

Based on table 4.3, it can be seen that the average difference in Hb levels before and after administration of red guava juice is -3.8. The statistical test results obtained a p-value of 0,000 ( $<0.05$ ) which means that there is an effect of giving red guava juice to the levels of Hb in Kuok Puskesmas in 2018

## IV. DISCUSSION

### Effect of Guava Juice

#### Red Beans (*Psidium Guajava*, Linn) Against Hemoglobin Levels in Pregnant Women in Kuok Village The Working Area of PUSKESMAS Kuok in 2018.

After the bivariate analysis was obtained the results that the difference in average Hb levels before and after administration of red guava juice was 3.8. The statistical test results obtained p-value 0,000 ( $<0.05$ ) which means that there is an effect of giving red guava juice (*Psidium Guajava*, Linn) to the hemoglobin level of pregnant women in Kuok Village in the area of PUSKESMAS Kuok in 2018.

Respondents in this study are pregnant women with mild anemia and moderate anemia, this is because pregnant women with mild anemia and moderate treatment can still be done independently as mothers often consume foods that contain lots of iron and mothers routinely control Hb. Whereas in pregnant women with severe anemia the treatment must be done by medical personnel and must be hospitalized because it can

endanger the mother and fetus. Mild anemia and moderate anemia can be overcome by giving red guava juice every day.

Giving red guava juice can increase the hemoglobin level of pregnant women. The content in guava juice per 200 gr contains vitamin C 456 mg, vitamin E 01.46 mg, folate 98 µg, iron 2.6 mg, zinc 0.46 and lycopene 1.040 4 µg. Vitamin C is one substance that very helps absorb iron.

The results of this study are in accordance with the study of Kartika (2013) with the title of the influence of consumption of red guava on increasing hemoglobin levels in Brebet Polindes Malang Regency stating that after being given red guava juice the hemoglobin level increased to 3.5 mg/dl with p-value 0.003.

According to the assumption the researchers gave red guava juice very influential on the increase in hemoglobin levels of pregnant women because they contain vitamin C, by increasing absorption and iron metabolism, so that adequate vitamin C and animal protein then increased hemoglobin in the blood.

For pregnant women who do not like to consume drugs, pregnant women can consume red guava juice because red guava juice can increase hemoglobin levels. Red guava juice also has no side effects if taken naturally. Red guava juice absorbs faster than iron tablets. Pregnant women are easy to get red guava because red guava is not only easy to find but also inexpensive. Therefore, it is good for pregnant women who have low hemoglobin levels to consume red guava juice every day.

#### IV. CONCLUSION

The mean hemoglobin level before administration of red guava juice (*Psidium Guajava*, Linn) is 8.80

The mean hemoglobin level after administration of red guava juice (*Psidium Guajava*, Linn) is 12.60

There is an effect of giving red guava juice (*Psidium Guajava*, Linn) to the hemoglobin level of pregnant women in Kuok Village in the area of PUSKESMAS Kuok in 2018.

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