



## THE HONEY CONSUMPTION TO HAEMOGLOBIN CONTESTS WHEN MENSTRUAL AT TEENAGE OF PRINCIPLES IN SITUBONDO

Catur Prasastia lukita Dewi<sup>1</sup>, Husnul Hatimah<sup>2</sup>

Stikes Bina Sehat PPNI Mojokerto

Email : [humeyra.dewi@gmail.com](mailto:humeyra.dewi@gmail.com)

### **ABSTRACT**

Menstruation is one factor that can reduce hemoglobin levels in young women. Hemoglobin is a protein in the form of an iron-rich oxygen-carrying pigment. Pharmacological therapy that can increase hemoglobin levels include the consumption of honey. This study aims to determine the effect of honey consumption on changes in hemoglobin levels during menstruation in Situbondo Year 2017. This research design using pre-experiment design. A sample of 150 respondents who confirm the inclusion criteria. Sampling technique is by proportional stratified random sampling . From the 150 respondents , all of them in the given consumption of honey . The Analysis of the data used is the Wilcoxon signed rank test trials . The results showed that the effect of honey on changes in Haemoglobin levels during menstruation in adolescent girls, performed by statistical test using Wilcoxon test with the help of SPSS for 16.0 windows obtained result  $p = 0,001 < \alpha = 0,05$ . Thus  $H_0$  is rejected and  $H_1$  accepted which means there is influence of giving honey to changes of hemoglobin level during menstruation in adolescent daughter. Honey is able to increase hemoglobin levels because the iron content contained in honey is very effective in raising the levels of hemoglobin in the blood, especially during menstruation. Therefore, it is expected that honey still needs to be continued so that the risk of anemia in adolescent menstruation can be minimized

### **Keywords**

***Haemoglobin, Honey Consumption, Menstruation,***

## INTRODUCTION

Hemoglobin is a protein in the form of an iron-rich oxygen-carrying pigment. Hemoglobin has the power to join oxygen to form hemoglobin in red blood cells. With the start of the function, oxygen is carried from the lungs to the tissues. The amount of hemoglobin in the blood is normally about 15 grams per 100 ml of blood, and this amount is usually called 100 percent. (Syaifuddin, 2011 in Fitriyah 2014).

Menstruation is a process of release of the uterine wall (endometrium) which is accompanied by bleeding and occurs repeatedly every month except during pregnancy. Recurrent menstruation each month will eventually form the menstrual cycle (Sunita, 2001 in Nugrahani, 2013). If the blood that comes out the normal limit so that iron which seems insignificant this made important because it comes down to the iron reserves that include hemoglobin.

The iron loss needed of women is 0.8 mg per day. However, adult women have additional iron loss due to menstruation and this increases the average amount each day so that iron must be absorbed 1.4 mg per day, this amount meets 90% in women who are menstruating to complete the needs of which 10% again required daily absorption of at least 2.4 mg of iron in order to compensate for the very high loss during menstruation (Gibney et al, 2009 in Sulistiyowati Journal, 2015).

Decreased levels of hemoglobin in adolescent girls during menstruation can affect the absence of passion and concentration, pale face, often feel tired of lack of energy, the body feels weak and easily sleepy. In addition, the

immune system decreases so easily attacked by disease. Anemia can also lead to decreased energy production and lactate accumulation in muscle (Moore, 1997 in MOHRI, 2010 in Sulistiyowati Journal, 2015).

Efforts that can be done to overcome anemia with non-pharmacologically, can use honey, In general, honey is efficacious to produce energy, increase endurance, and increase stamina. Honey contains magnesium and iron. Mineral content of magnesium in honey turned out to be equal to the content of magnesium present in blood serum. Besides that, the iron content in honey can increase the number of erythrocytes so that can increasing hemoglobin levels.

## MATERIALS AND METHODS

The design of this research was Pre-Experiment one Group Pre-test-Postest Design. The population of this research is Teen daughter in Situbondo, as many as 150 people teenagers who have menstruation. Sampling technique in this research was consecutive sampling, with inclusion criteria (consecutive sampling, with inclusion criteria, not taking anemia drugs, and has no history of blood disorders)

Data gathering method consisted of administrative procedures. Research was conducted from 2nd of February to 29th of June 2017. Measuring tool used is Electrical Hb Gauge (hemoglobin testing system Quick-Check) and observation sheet. Intervention in the form of Honey as much as 300 grams equivalent to 0.8 mg of iron requirement per day, given during the first 3 days of menstruation then Hb level measured on day 4 menstruation.

Data analysis in this research used Wilcoxon signed ranks test, the analysis is used to

know the change hemoglobin level after on day 4 menstruation.

## RESULTS

The characteristics of those respondents are presented in a chart of frequency distribution and percentage as the followings:

Table 1 Distribution of respondents by age, the Menstrual Cycle, bandages used during Menstruation.

NO	VARIABLE	Frequency	Percentage
1.	Age		
	13	30	20%
	14	20	13%
	15	100	67%
	TOTAL	150	100%
2.	The Menstrual Cycle		
	<24 days	30	20%
	24-35 days	120	80%
	TOTAL	150	100%
3.	Bandages used during Menstruation		
	<2 bandages	0	0%
	2-6 bandages	130	87%
	>6 bandages	20	13%
	TOTAL	150	100%

The result of this research suggested that the average of respondent's age is 15 years old. According to Novia and Puspitasari theory (2012), The older the person's age the wider of the uterus so

the secretion of the hormone prostaglandin as a hormone that plays a role to limit the flow of menstrual blood more and more elongated.

Based on table it was suggested that the majority of menstrual cycle 24 -35 days and bandages 2-6 every day, this condition is normal. The required amount of iron in women is about 0.8 mg per day, adult women experience an additional loss due to menstruation and this raises the average requirement each day so that the iron that should be absorbed is 1.4 mg per day, this amount meets 90% of the needs of women who are menstruating: to meet the needs of 10 % more needed daily absorbs of at least 2.4mg of iron to compensate for very high loss during menstruation (Gibney, 2009 in Susilowati, 2015)

Table 2 Distribution of respondents by Haemoglobin Level before and after Honey consumption

No	Hb levels	Before		After	
		f	%	F	%
1.	< 12 mg/dl	120	80,0	10	6
2.	12 mg/dl	30	20,0	70	47
3.	> 12 mg/dl	0	0	70	47
	TOTAL	150	100	150	100

that there are 12 respondents who have hemoglobin levels before given honey and most of the hemoglobin level to rise by 14 people after consuming honey. The results of analysis through the test Wilcoxon with help SPSS for 16, at the level of error  $\alpha = 0.05$  or value  $\rho = 0.001 < 0.05$  then H1 accepted or H0 rejected which means there is an influence of honey with changes in hemoglobin levels

## DISCUSSION

In the honey contained substances needed in the formation of iron hemoglobin and vitamin B6. This substance is needed in the formation of hemoglobin. The iron in the human body is mostly present in red blood cells (erythrocytes) of about 65%, in liver tissue, spleen and bone marrow 30% and about 5% are present in the cell nucleus, in plasma and in muscle as myoglobin. As we know, in red blood cells there is hemoglobin (Hb) is a protein molecule that contains iron and is a blood pigment that makes blood red. Iron is a very important component of hemoglobin. Likewise from the fact that the field of research conducted that by consuming honey, respondents have a change in the rate of hemoglobin more quickly.

From the results of previous research in the results, obtained research indicates that honey has a positive impact on hemoglobin. Honey is able to increase levels of hemoglobin in the blood from 75% to 80% in the first week of the first week after healing therapy with honey. But in this study researchers just want to know the difference of hemoglobin level changes through the consumption of honey, it turns out from the results of research to prove that honey really has differences in changes in hemoglobin levels through the consumption of honey. So honey can be applied in the healing of anemia in adolescents because the content in honey contains a very good substance especially for the increase of hemoglobin levels.

## CONCLUSIONS

The honey consumption is effective on the improve of the hemoglobin level at the time of menstruation.

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