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Article

Effectiveness Vigna Cylindrica L leaves Consumption on increasing hemoglobin levels in third trimester pregnant women

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A B S T R A C T

Anemia in pregnancy is a condition of the mother with a hemoglobin level <11 g% in the first and third trimesters or a hemoglobin level <10.5 g% in the second trimester. One way to overcome anemia is by giving Fe tablets, in addition to that, another alternative to increase hemoglobin levels in anemic pregnant women is by consuming Vigna Cylindrica leaves. The highest anemia rate in the city of Bukittinggi in 2018 is in the Puskesmas plus Mandiangin in the city of Bukittinggi. This study aims to determine the relationship between the provision of Vigna Cylindrica leaves to the hemoglobin level of the third trimester of pregnant women in the working area of the health center plus bathangin. The design used was the Pre-test-posttest Control Group Design, the instrument used was the observation sheet, with a sample of 14 people using total sampling. The results of this study indicate the effect of giving Vigna Cylindrica leaves to pregnant women in trimester III who experience anemia in the work area of the health center plus bathangin, Bukittinggi city in 2018. In the results of the Independent Smple T-Test statistical test, the p-Value = 0.031, so it can be concluded that there is a difference. Between the intervention group and the control group on the increase in hemoglobin levels for pregnant women in the third trimester in the work area of the Puskesmas plus Mandiangin Kota Bukittinggi in 2018. It is recommended that respondents increase their knowledge so that they can overcome anemia and it is recommended for the puskesmas to provide education to the community about anemia.

I. INTRODUCTION

Anemia, a condition in which the number and size of red blood cells or hemoglobin concentrations are below normal limits, as a result it can interfere with the capacity of the blood to carry oxygen around the body. Anemia is an indicator for poor nutrition and poor health. Anemia in pregnant women is strongly associated with maternal and infant mortality and morbidity, including the risk of miscarriage, stillbirth, prematurity and low birth weight (WHO, 2014).

Data from the World Health Organization (WHO) 2010, 40% of maternal deaths in developing countries are related to anemia during pregnancy. Most anemia in pregnancy is caused by iron deficiency and acute bleeding, even when the two interact. Anemia in pregnancy is a major health problem in developing countries with high morbidity rates in pregnant women. The average pregnancy caused by anemia in Asia is estimated at 72.6%. The high prevalence of anemia in pregnant women is a problem currently facing the Indonesian government (Adawiyani, 2013).

The highest prevalence of anemia is found in Central Asia and West Africa, but anemia affects half of one billion women of reproductive age worldwide. Globally, the prevalence of anemia between 1995-2011 fell 12%, from 33% to 29% (496 million) in pre-pregnant women and 43% to 38% (32,400,000) in pregnant women aged 15-49 years (WHO, 2014). And based on data from Basic Health Research (Riskesdas) in 2013, it shows iron nutrition anemia (Fe) in pregnant women in Indonesia has increased, namely 37.1% with a similar prevalence between pregnant women in urban areas (36.4%) and rural areas (37 , 8%).

According to data from Riskesdas (2013), a group of pregnant women is one of the groups at high risk of anemia, although the anemia experienced is generally a relative anemia due to physiological changes in the body during pregnancy. Anemia in the population of pregnant women according to the criteria determined by WHO and the 1999 Ministry of Health guidelines, which is 37.1% and the prevalence is almost the same between urban (36.4%) and rural (37.8%) pregnant women. This shows that this figure is close to severe public health problems with an anemia prevalence limit of more than 40% (BPPK, 2014).

The most common causes of anemia in pregnancy are iron deficiency anemia and acute blood loss (Cunningham et al., 2012). Anemia due to iron deficiency accounts for 75% of all types of anemia in pregnancy worldwide (Gian Carlo Di Renzo et al, 2015). Iron anemia in pregnancy is a condition of mothers with Hb levels below 11 g% in the first and third trimesters and levels less than 10.5 g% in the second trimester of pregnancy (Tuyu, 2013). Iron is needed to

supply the growth of the fetus and placenta in the uterus and to increase the number of red blood cells for pregnant women (Aritonang, 2010).

Efforts to treat iron nutrition anemia in pregnant women are carried out by increasing the coverage of iron tablet supplementation, another effort that can be made by paying attention to the consumption patterns of pregnant women who must still refer to healthy and balanced foods contained in the general message of balanced nutrition (PUGS). The dietary arrangement for pregnant women is not on the amount or quantity but on the quality or composition of iron such as milk, meat and green vegetables such as green spinach, brikoli, kale, and Vigna Cylindricas etc. or fruits such as apples, pomegranates, guava seeds, and others (Fanny et al, 2012)

In 100 grams of Vigna Cylindrica L leaves there are 6.2 mg of iron, 29 mg of Dewi Andang Prastika, the effect of consumption of Vigna Cylindrica L leaves 143 vitamin C, 4.1 grams of protein, and 88.10 ± 0.28% water. Dietary iron derived from Vigna Cylindrica L leaves is absorbed in the stomach (pH 1.5) as much as 17.4%, while in the duodenum (pH 7.5) is absorbed by 15.5 ± 0.29% .. (Dewi, 2016)

Based on the description of the data above, the researcher is interested in knowing "The Effect of Vigna Cylindrica Leaves on Hemoglobin Levels in Third Trimester Pregnant Women at the Puskesmas Plus Mandiangin, Bukittinggi City 2018"

II. METHODS

This research was Quasi Eksperiment, two Group Pretest – Posttest Design with control group. Conducted in work area of Mandiangin Plus Public health. The population in this study were pregnant women with anemia in third semester . Samples were taken using the Total Sampling method, which is the object studied by all populations as samples, 14 pregnant women who experience anemia in pregnancy. Data collection tools used in this study were observational sheet. Haemoglobin measure was done before and and after intervention. The analysis was done by univariate and bivariate using SPSS for Windows applications.

III. RESULT

3.1 haemoglobin pretest level in intervention and control group

Table 1
Average of Haemoglobin pretest level in intervention group

Mean	SD	Min-max	N
10.100	0.7371	9.0-10.7	7

Based on Table 1 we know that average of haemoglobin level seven pregnant women of intervention group (pretest) are 10.100

Table 2
Average of Haemoglobin pretest level in control group

Rata-rata	SD	Min-max	N
10.229	0.7432	9.0-10.9	7

Based on Table 2 we know that average of haemoglobin level seven pregnant women of control group (pretest) are 10.229

3.2 haemoglobin posttest level in intervention and control group

Table 3
Average of Haemoglobin posttest level in intervention group

Mean	SD	Min-max	N
10.614	0.6040	9.7-11.2	7

Based on Table 3 we know that average of haemoglobin level seven pregnant women of intervention group after intervention are 10.614

Table 4
Average of Haemoglobin posttest level in intervention group

Mean	SD	Min-max	N
10.529	0.6969	9.4-11.2	7

Based on Table 3 we know that average of haemoglobin level seven pregnant women of control group after intervention are 10.529

3.3 differences in the mean of the intervention and control group on hemoglobin levels in pregnant women

Table 5
Average of Haemoglobin posttest level in intervention group

	Mean	SD	SE	P value	N
Intervention group	0.500	0.1528	0.0577	0.031	7
Control group	0.300	0.1528	0.0577	0.031	7

Based on Table 3 show that the results of the independent t-test statistical test showed that the value of p = 0.031 (<0.05) shows that there is a difference in the average increase in hemoglobin levels in the intervention group with the control group in TM III pregnant women in the work area of mandiangin plus public health.

IV. DISCUSSION

Bleeding occupies the highest percentage of maternal deaths, one of which is anemia (Almatsier, 2009). Anemia in pregnancy as a whole was 47% in the first trimester (Hb concentration 11.0 ± 1.6 g / dL), 56.1% in the second trimester (Hb concentration 10.1 ± 1.3 g / dL) and 66, 9% during the third trimester (Hb concentration 8.7 ± 1.4 grams / dL) (Salahat & Abdallah, 2012). Anemia in the third trimester occurs due to hemodulation which peaks at 32-36 weeks of gestation (Wiknjosastro, 2002)

The most common causes of anemia in pregnancy are iron deficiency anemia and acute blood loss (Cunningham et al., 2012). Iron deficiency anemia accounts for 75% of all types of anemia in pregnancy worldwide (Gian Carlo Di Renzo et al, 2015). Iron anemia in pregnancy is a condition of mothers with Hb levels below 11 g% in the first and third trimesters and levels less than 10.5 g% in the second trimester of pregnancy (Tuyu, 2013). Iron is needed to supply the growth of the fetus and placenta in the uterus and to increase the number of red blood cells for pregnant women (Aritonang, 2010).

The results of statistical tests using the Paired T-test showed an average of 10,100 before intervention was given and an average of 10,614 after intervention was carried out with the results of p value = 0,031 (p <0.05) indicating the effect of giving Vigna Cylindrica leaves on hemoglobin In the third trimester pregnant women in the work area ofMandiangin plus health center, Bukittinggi city in 2018, the average statistical test with the control group in the pre-test was 10,229 and the average post-test hemoglobin level was 10,529, the p value = value 0.002

(0,000 <0, 05) shows the effect of giving Fe tablets on the hemoglobin levels of pregnant women in trimester III in the work area of Mandiangin Plus public Health Center, Bukittinggi city in 2018

While the results of statistical tests using the Independent Paired T-Test showed that there was no difference in giving Vigna Cylindrica leaves because the p value = 0.000 (0.000 <0.05) showed that there was an effect of giving Vigna Cylindrica leaves on hemoglobin levels in pregnant women.

The conclusion of the researcher Dewi Andang Prastika stated that giving supplements in the form of Vigna Cylindrica leaves was proven to significantly increase Hb levels up to 76%. The results showed that giving Vigna Cylindrica leaf supplements was proven to significantly increase Hb levels, can be applied practically and safely, because besides being easy and cheap, Vigna Cylindrica leaves are also a good natural supplement to increase Hb levels. High levels of Vitamin C in Vigna Cylindrica leaves are also very good for increasing Fe absorption in the body, increasing levels of red blood cells and Hb in third trimester pregnant women.

According to the researchers' assumptions, the increase in hemoglobin of the mothers who consumed Fe tablets with Vigna Cylindrica leaves, and women who consumed Fe alone, both experienced an increase in hemoglobin levels, but there were differences in the average hemoglobin levels in the two groups. Because from the control group from an economic point of view and their daily needs are met so that iron needs and other needs are met. So it is recommended to respondents that regularly consuming Vigna Cylindrica leaves and Fe will have an effect on the increase in hemoglobin levels of pregnant women in the third trimester in the work area of the Puskesmas plus Mandianagin, Bukittinggi city.

V. CONCLUSION

Vigna Cylindrica leaves are also a good natural supplement to increase Hb levels. High levels of Vitamin C in Vigna Cylindrica leaves are also very good for increasing Fe absorption in the body. It is recommended for health workers to educate pregnant women to consumpt Vigna Cylindrica leaves as one of Haemoglobin booster as anemia prevention.

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