

Article

The Effect Of Fe Tablet And Date Palm On Improving Hemoglobin Level Among Pregnant Women In The Third Semester

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Anemia is a nutritional problem with a high prevalence in the world. Basic Health Researcrh in 2018, around 48,9% of pregnant women in Indonesia experience anemia. This shows that anemia in pregnant women is still a public health problem because the proportion is quite high compared to the results of the 2013 Basic Health Research, which amounted to 37,1%. This research aims to identify the effect of Fe tablet and date palm on improving hemoglobin level among pregnant women in the third semester at the Rita Marningsih Clinic 2020. This study was quasy-experiment by using two group pre-test and post-test and used dependent t test with control group. There were 30 respondents and purposive sampling was conducted, and an independent t-test was used to data analyzed. The Result showed that the p value was 0,044<0,05, which means that there was an effect of giving Fe tablets and dates to the hemoglobin levels of pregnant women. Conclusion and recommendation : Fe tablets and dates affect the increase in hemoglobin levels. For pregnant women it is recommended to consume Fe tablets regularly and maintain the nutrition of their food, one of which adds dates to food consumed.

I. INTRODUCTION

Maternal Mortality Rate is one indicator to see the degree of public health. According to the World Health Organization (WHO) the maternal mortality rate (MMR) in the world in 2015 was 216 / 100,000 live births.

AKI in Indonesia based on the 2015 Indonesian Health Demographic Survey (IDHS) of 305 / 100,000 live births while the 2014-2019 National Medium-Term Development Plan (RPJMN) target is 102 / 100,000 live births, and the Sustainable Development Goals (SDG's) target for maternal mortality to 70 / 100,000 live births in 2030 this shows that MMR in Indonesia is still far from the target (IDHS, 2017). The causes of maternal death are due to bleeding caused by iron deficiency anemia in pregnancy (UNIC, 2014).

The maternal mortality rate in Bekasi City in 2016 was recorded as 16 people and in 2017 the number decreased to 11 people, but in 2018 it increased again quite high, that was recorded 18 people died while undergoing childbirth, where the most cause was due to bleeding (DINKES BEKASI, 2018).

The cause of the high maternal mortality rate in Indonesia is inseparable from the complications of pregnancy, childbirth and the puerperium. Three causes of the high maternal mortality rate consisted of bleeding (28%), eclampsia (24%), and infection (11%). Indirect causes are nutritional problems consisting of anemia in pregnancy (40%), chronic energy shortages (27%), and pregnant women who consume energy below the minimum requirement (44.2%) (Ministry of Health, 2010).

According to the Basic Health Research in 2018, around 48.9% of pregnant women in Indonesia experience anemia. This shows that anemia in pregnant women is still a public health problem because the proportion is quite high compared to the results of the Basic Health Research in 2013 which amounted to 37.1% (Ministry of Health Republic of Indonesia, 2018).

The number of maternal deaths caused by anemia is 19.7% of the total maternal mortality rate of 70% according to research obtained by Chi et al. 15-20% directly or indirectly occurs in maternal deaths caused by anemia. Increased maternal morbidity associated with anemia. The main cause of anemia occurs in pregnant women due to iron deficiency, but rarely pregnant women experience anemia due to iron nutritional anemia (Kautshar, 2013).

In West Java, the percentage of pregnant women who still have anemia according to the Basic Health Research in 2018 is around 42.8%. This shows that anemia in pregnant women is still a public health problem because the proportion is still quite high compared to the results of the 2013 Basic Health Research, which amounted to 38.9% (Ministry of Health Republic of Indonesia, 2018).

There are two types of anemia treatment, namely by means of pharmacology that is by consuming 1 tablet of Fe every day during pregnancy and non-pharmacological treatment by consuming dates. Protein molecules that carry red blood cells as O₂ transport media are called hemoglobin which are formed by red blood cells and spinal cord. If the lack of protein can affect the formation of hemoglobin. In the dates there are Fe, B12, vitamin C and folic acid which is a factor forming hemoglobin.

Based on the Basic Health Research in 2018, around 73.2% of pregnant women had consumed Fe tablets but those who consumed > 90 new items 38.1% and the remaining 61.9% were still consuming <90 items. While pregnant women are expected during pregnancy should consume at least 90 fe tablets (Ministry of Health Republic of Indonesia, 2018)

After conducting a preliminary study in PMB Rita Marningsih Bintara, West Bekasi District on October 5, 2019 with a prevalence of events in the last 2 months from August to September 2019 with a total number of trimester III pregnant women patients at 76 people. Of the 76 pregnant women, the incidence of anemia was obtained in August with 44 pregnant women and 28 with anemia and 16 without anemia, in September there were 32 pregnant women and 21 with

anemia, without anemia. 11 people. So that the prevalence of 2 months from August to September got 64.47% of pregnant women in PMB Rita Marningsih having anemia.

II. METHODS

The method in this study was an experimental research design with Quasi Experiment Design. This study used a pretest-posttest design. The population in this study were all third trimester pregnant women who conducting antenatal care visits. The sampling technique used purposive sampling technique. Based on the opinion of Gay and Diehl in Riyanto (2020) for experimental research is 15 respondents per group (control and intervention). Data analysis was Independent t test with a significance degree of 0.005

III. RESULT

1. Univariate Analysis

Table 1. The frequency distribution of third trimester pregnant women in the control and experimental groups increased and decreased HB levels

Hemoglobin Level	Control Group		Experiment Group	
	n	%	n	%
Increase Hb	13	86,67%	14	93,33%
Decrease Hb	2	13,33%	1	6,67%
Total	15	100%	15	100%

Based on table 1, we know that the experimental group the number of pregnant women whose Hb levels increased by 14 people or 93.33% and decreased by 1 respondent or 6.67% and in the control group 13 respondents experienced an increase or 86.67% and 2 13.33% respondents experienced a decrease in Hb levels.

2. Bivariate Analysis

Table 2. Differences between Pretest and Posttest Hemoglobin Levels in the Trimester III Pregnant Women Experiment Group

Group	Pretest		Posttest		p
	M	SD	M	SD	
Eksperiment	9,6	1,0	11,1	1,08	0.000

M = Mean, SD = Standar Deviation

The analysis test used the Dependent T test with an error rate of 5% ($\alpha = 0.05$). In the above results, the average Hb level of pregnant women in the experimental group before treatment was 9.67 with a standard deviation of 1.027. While the average Hb level after being given treatment was 11.1 with a standard deviation of 1.088. And the statistical test results obtained p-value = 0,000. This showed the p-value <0.005 then Ho was rejected and Ha was accepted. So it can be concluded that there was a significant difference in the Hb levels of pregnant women in the experimental group before and after they are given Fe tablets and date pulms.

Table 3. Differences Between Pretest and Posttest Hemoglobin Levels in the Trimester III Pregnant Women Control Group

Group	Pretest		Posttest		p
	M	SD	M	SD	
Control	10,1	0,6850	10,5	0,7516	0.013

M = Mean, SD = Standar Deviation

The analysis test used the Dependent T test. In the above results, the average Hb level of pregnant women in the control group before treatment was 10.1 with a standard deviation of 0.6850. While the average Hb level after treatment was 10.5 with a standard deviation of 0.7516. And the statistical test results obtained p-value = 0.013. This shows the p-value <0.005 then H0 is rejected and Ha is accepted. So it can be concluded that there are differences in the Hb levels of pregnant women in the control group before and after fe tablets are given.

Table 4. Effect of Giving Fe Tablets and Date Palm Against Pregnant Mother's Hb Levels in the Experimental Group and the control group

Variable	Eksperimen		Control		p
	M	SD	M	SD	
Posttest	11,1	1.088	10,5	0.751	0.044

The analysis test used was the Independent t test with an error rate of 5% ($\alpha = 0.05$). In the above results, the average Hb level of pregnant women in the experimental group after being treated was 11.1 with a standard deviation of 1.088. While the average Hb level of the control group after treatment was 10.5 with a standard deviation of 0.751. And the statistical test results obtained p-value = 0.044. This showed the p-value <0.005 then H0 was rejected and Ha was accepted. So it can be concluded that there was an effect of giving Fe tablets and date pulms to hemoglobin levels in pregnant women.

IV. DISCUSSION

Dates that are rich in vitamins and minerals that are high in folic acid, vitamin C, vitamin B1, vitamin B2, Vitamin A, calcium, iron, potassium and vitamin B12 are very capable of increasing iron absorption and the formation of red blood cells where hemoglobin is located (Al-Shahib, 2013). The content of iron in dates can be used for the treatment of anemia. The presence of iron in the dates will be absorbed by the intestine and carried by the blood for hemopoiesis (the process of blood formation). Iron will bind to heme and globin, which in turn will form a whole into hemoglobin. So, indirectly dates can help increase hemoglobin up to normal levels for people with anemia (Sari, 2013).

According to researchers, the potential for dates is very high in the health sector, one of which is to increase hemoglobin levels in the blood, where dates are a good source of antioxidants and fiber and high enough mineral vitamins can be very helpful in the formation of hemoglobin. Can be seen in many studies that prove that dates have the potential to increase Hb levels, so that they can be used as supportive therapy for anemia other than Fe tablets.

Iron is an essential microelement for the body. This substance is especially needed in hemopoiesis (blood formation). Some iron is in hemoglobin, which is a protein molecule that functions to transport oxygen in the blood to cells that need it for metabolism of glucose, fat and protein into energy (Almatsier, 2010). And dates are fruits that contain iron, protein, carbohydrates and fats that can increase hemoglobin levels so that they can prevent anemia (Sotolu et al, 2011).

According to researchers the administration of Fe tablets and dates greatly affects the hemoglobin levels of pregnant women because as we know the content of vitamins and minerals in Fe tablets is very complete especially if consumed every day during pregnancy, coupled with dates which are indeed fruits full of nutrients, vitamins and minerals so it is very capable of helping the formation of hemoglobin and increasing it. Moreover, the dates used in this study are Egyptian dates which are a type of dry dates, where these dates contain more minerals and vitamins than those of wet dates.

V. CONCLUSION

Consuming Fe tablets accompanied by consuming date pulms can increase Hb levels, because date pulms can help absorption process of Fe in the body. So that the provision of dates accompanied by Fe can be one of the programs for health workers to reduce the incidence of anemia.

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BIOGRAPHY

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