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## The Effectiveness of Giving Iron Tablets and a Combination of Iron Tablets and Date Palm Juice on Increasing Hb Levels in Anemic Pregnant Women at Cigeulis and Picung Community Health Centers in 2025

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### Abstract

*Anemia during pregnancy is a condition in which pregnant women experience iron deficiency in the blood. The purpose of this study was to determine the effectiveness of administering iron tablets and a combination of iron tablets and date palm juice on increasing Hb levels in anemic pregnant women at Sobang and Picung Health Centers in 2025. Quantitative research method, quasi-experimental research design with control group design. Simple random sampling technique. The population was pregnant women, a sample of 30 people, 15 people as the control group (group 1) who were only given iron and 15 people as the intervention group (group 2) were given treatment by consuming iron and date palm juice every day for 7 days. The results of the univariate study showed that the educational characteristics of pregnant women were mostly low education (60%) and high education (40%). The results of the bivariate study obtained an average Hb level before being given iron tablets of 10.2267 and an average Hb level after being given iron tablets of 10.9333 and an average Hb level before being given a combination of iron tablets and date palm juice of 10.360 and an average Hb level after being given a combination of iron tablets and date palm juice of 11.253. Both groups of research results showed an increase in Hb levels but there was a comparison of the increase in Hb levels, so that giving a combination of iron tablets and date palm juice was more effective in increasing hemoglobin levels compared to those only given iron tablets. This may occur because there are differences in characteristics of pregnant women in Education. It is hoped that it can be used as a source of information for pregnant women to increase their insight and knowledge about anemia and anemia prevention in their pregnancy.*

**Keywords:** Anemia, Date Juice, Fe Tablets.

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## INTRODUCTION

Anemia during pregnancy is a condition in which pregnant women experience iron deficiency in their blood. This anemia is characterized by hemoglobin levels below 11 g/dL in the first and third trimesters, while in the second trimester hemoglobin levels should be below 10.5 g/dL. Ideally, the hemoglobin level of pregnant women should be above 11 g/dL. Anemia is a condition in which the body has too few red blood cells (erythrocytes), which contain hemoglobin that functions to transport oxygen throughout body tissues.

Based on data from the World Health Organization (WHO), the global prevalence of anemia in pregnant women was 36.5% in 2019, 33% in 2020, and reached 37% in 2023 (WHO, 2023). According to the Indonesian Health Survey (SKI, 2023), the prevalence of anemia among pregnant women in Indonesia was 27.7%. In Banten Province, the prevalence in 2023 was recorded at 30%. In Pandeglang Regency, the prevalence of anemia in pregnant women was 41% in 2021, decreased to 35% in 2022, and increased again to 40% in 2023 (Lestari, 2024). At Cigeulis Public Health Center, the prevalence of anemia among pregnant women was 39% in 2021, 37% in 2022, and 35% or 215 out of 742 pregnant women in 2023 (Cigeulis Health Center Profile, 2025).

Anemia during pregnancy can cause harmful effects for both mother and fetus. The dangers of anemia during pregnancy include abortion, premature delivery, increased susceptibility to infection, threat of decompensation (Hb < 6), hydatidiform mole, hyperemesis gravidarum, antepartum hemorrhage, and premature rupture of membranes. During labor, anemia may cause uterine inertia, prolonged first stage, prolonged labor, prolonged second stage, placental retention in the third stage,

and primary or secondary postpartum hemorrhage in the fourth stage. Meanwhile, the effects of anemia on the fetus include impaired fetal growth and development, intrauterine death, low birth weight, congenital abnormalities, and increased susceptibility to infection. Therefore, anemia requires special attention from all parties involved in frontline health services.

In pregnant women, plasma volume increases earlier than red blood cell production. This causes a decrease in hemoglobin (Hb) and hematocrit levels in the first and third trimesters. Hemoglobin is a protein found in erythrocytes that functions to transport oxygen from the lungs to the entire body and carry carbon dioxide back to the lungs for excretion. During pregnancy, blood volume increases, commonly referred to as hydremia or hypervolemia. However, the increase in blood cells is less than the increase in plasma, resulting in hemodilution. The proportions are as follows: plasma 30%, blood cells 18%, and hemoglobin 19%. Pregnant women generally experience iron deficiency, thus providing only limited iron to the fetus, which is required for normal iron metabolism. Iron deficiency can cause disturbances or inhibition of fetal growth, including both body cells and brain cells.

The main cause of anemia in pregnancy is iron deficiency, followed by folate deficiency. It is estimated that 50% of anemia cases are iron deficiency anemia. Several observations indicate that most anemia in the community is caused by nutritional deficiencies, commonly found in rural areas with malnutrition, closely spaced pregnancies and deliveries, as well as in pregnant women with low educational and socioeconomic levels.

Early detection of anemia in pregnant women is very important, and management must be appropriate. Anemia treatment can be carried out through several methods, including blood transfusion, corticosteroids, or other immunosuppressive drugs, administration of erythropoietin (a drug that helps bone marrow produce more blood cells), as well as consumption of iron and vitamin B12 supplements. The government has implemented an anemia control program for pregnant women through the provision of iron tablets during pregnancy to reduce anemia.

The government's effort to reduce anemia prevalence includes the provision of 90 iron supplementation tablets (TTD) during pregnancy with a dose of 60 mg, which is expected to increase hemoglobin levels by 1 g/dL per month (Riskasdas, 2018). However, compliance among pregnant women in consuming iron tablets for 90 days is very low, at only 38%, due to unpleasant side effects (UNICEF, 2019). Pregnant women who take iron tablets may experience side effects such as nausea, vomiting, constipation, and epigastric pain.

Prevention and management of anemia can also be carried out through non-pharmacological methods, such as consuming date palm extract. Date extract can help increase hemoglobin levels. Date extract is a special beverage that functions for treatment and health maintenance. It contains iron, which helps increase hemoglobin levels, particularly needed by pregnant women. Pregnant women who experience discomfort due to the side effects of iron tablets are advised to consume date extract.

One alternative to meet iron requirements is by consuming dates. Dates (*Phoenix dactylifera*), belonging to the *Palmae* family and commonly called date palm, contain various nutrients and can function as medicinal food. Dates are high-energy foods with an ideal composition, containing carbohydrates, tryptophan, omega-3, vitamin C, vitamin B6, Ca<sup>2+</sup>, Zn, and Mg. Date extract is obtained by processing dates into a thick liquid form, black in color, sweet in taste, and rich in nutrients. With its complete nutritional content, date extract is expected to increase hemoglobin levels in pregnant women (Widowati et al., 2017). Date extract contains essential minerals, particularly iron, which is necessary for hemoglobin formation and increasing hemoglobin levels in the body.

One method to increase hemoglobin levels in pregnant women is through date consumption. This is in line with the study by Herayono et al. (2022), which proved that date extract is effective in increasing hemoglobin levels. Date extract contains 1.5 mg of iron per fruit. There is a significant effect of date extract administration on increasing hemoglobin levels in pregnant women with anemia ( $p = 0.000$ ), with hemoglobin levels before treatment of 10.356 g/dL and after treatment of 11.567 g/dL. The hemoglobin increase over 10 days was 1.211 g/dL.

Based on a preliminary study at Cigeulis Health Center in June 2024, there were 50 third-trimester pregnant women who underwent antenatal care, with 25 women (50%) experiencing anemia. Interviews with 10 pregnant women revealed that 4 women had normal hemoglobin levels and 6 women had hemoglobin levels below normal, indicating mild anemia. Meanwhile, at Picung Health Center, among 40 third-trimester pregnant women, 20 women (50%) experienced anemia. Interviews with 10 pregnant women showed that 5 women had normal hemoglobin levels and 5 women had hemoglobin levels below normal, indicating mild anemia.

Based on the above background, the researcher is interested in conducting a study entitled “The Effectiveness of Iron Tablet Administration and the Combination of Iron Tablets and Date Extract on Increasing Hemoglobin Levels in Anemic Pregnant Women at Cigeulis and Picung Health Centers in 2025.”

## RESEARCH METHODS

### Type of Research

#### Method

This study used a quantitative research approach. The research design applied was a quasi-experimental design with a control group. The study provided an intervention in the form of a combination of iron (Fe) tablets and date extract for the management of mild anemia in pregnant women. Meanwhile, the control group only received iron tablets for the treatment of mild anemia in pregnant women.

A quasi-experimental method is a research method in which random assignment is not used; instead, existing groups are utilized (Sugiyono, 2018).

#### Location and Time

This study was conducted at Cigeulis Public Health Center and Picung Public Health Center, Pandeglang Regency, from August to September 2025.

#### Population and Sample

##### Population

Population is a generalization area consisting of objects or subjects that have certain qualities and characteristics determined by the researcher to be studied and then conclusions are drawn (Sugiyono, 2018).

The population in this study consisted of third-trimester pregnant women with mild anemia in the working area of Cigeulis Public Health Center (30 people) and Picung Public Health Center (20 people) in August 2025.

##### Sample

A sample is a part taken from the total population and is considered representative of the entire population. This study used a simple random sampling technique, in which every member of the population had the same opportunity to be selected as a sample (Sugiyono, 2018).

From a total population of 50 people, 30 respondents were selected as samples:

- 15 respondents as the control group (Group 1), who were only given iron tablets, and
- 15 respondents as the intervention group (Group 2), who were given iron tablets and date extract daily for 14 days.

The criteria in this study were as follows:

##### Inclusion Criteria

1. Third-trimester pregnant women.
2. Pregnant women with mild anemia or Hb levels of 9–10 g/dL.
3. Pregnant women in the working area of UPT Cigeulis and Picung Public Health Centers.
4. Pregnant women who were willing to become respondents.

**Exclusion Criteria**

1. Pregnant women with comorbid diseases requiring prior consultation with a doctor, such as gestational diabetes.  
 First- and second-trimester pregnant women.

**RESULTS AND DISCUSSION**

**Bivariate Analysis Results**

**Normality Test**

**Table 1.** Normality Test Results

Tests of Normality				
	Statistic	Df	Sig.	Description
Difference in Fe tablet intervention	.084	15	0.004	Abnormal
Difference between Fe tablet and date palm extract intervention	0.939	15	0.376	Normal

Sumber: *Software IBM SPSS Versi 25*

Based on the results of the normality test, the appropriate statistical test can be determined for each data group. Because the data on the difference between the iron tablet and date palm juice interventions were normally distributed (Sig. > 0.05), the analysis of the pre- and post-intervention differences in this group could be continued using a paired sample t-test. This test is appropriate because the data meet the assumption of normality and aims to determine whether there is a significant difference after administering the combined iron tablet and date palm juice intervention.

Conversely, the data on the difference between the iron tablet and date palm juice interventions were not normally distributed (Sig. < 0.05), so the analysis of the differences in this group could not use parametric tests. Therefore, the Wilcoxon Signed Rank Test was performed, a nonparametric test used as an alternative to the paired sample t-test when the assumption of normality is not met. The Wilcoxon test aims to determine whether there is a significant change in the median between the pre- and post-intervention values of iron tablet administration.

Thus, the statistical test selection was adjusted to the data distribution, namely the paired t-test for normally distributed data (the difference between the iron tablet and date palm extract interventions) and the Wilcoxon test for non-normally distributed data (the difference between the iron tablet and date palm extract interventions).

**Paired Samples T-Test**

**Table 2.** Paired Samples Test

		t	df	Sig. (2-tailed)
Pair 1	Pre-test of Fe Tablet Intervention - Post-test of Fe Tablet Intervention	-14.491	14	.000
Pair 2	Pre-Test of Iron Tablet and Date Palm Juice Intervention - Post-Test of Iron Tablet and Date Palm Juice Intervention	-17.157	14	.000

Source: IBM SPSS Software Version 25

Based on the results of the previous normality test, it was found that the data for the difference in the iron tablet intervention were not normally distributed, while the data for the difference in the iron tablet and date palm juice interventions were normally distributed. Therefore, the statistical test chosen was adjusted to the distribution characteristics of each data set.

For the iron tablet and date palm juice intervention group, because the data were normally distributed (Sig. > 0.05), a paired sample t-test was used. The test results showed a significant difference between the pre-test and post-test scores (Sig. = 0.000 < 0.05), with an average difference

of -0.89333. This indicates that the combination of iron tablets and date palm juice resulted in a significant improvement in outcomes after the intervention.

### Wilcoxon Test

**Table 3. Wilcoxon Test**  
**Wilcoxon Test**

<b>Z</b>	<b>-3.422<sup>b</sup></b>
<b>Asymp. Sig. (2-tailed)</b>	<b>.001</b>

Source: IBM SPSS Software Version 25

Based on the Wilcoxon Signed Rank Test results presented in the figure above, the nonparametric Z-value was -3.422 with a significance value (Asymp. Sig., 2-tailed) of 0.001. Because this significance value is less than 0.05, it can be concluded that there is a significant difference between the pre-test and post-test scores in the iron tablet and date palm juice intervention group.

The nonparametric Z-value indicates that most of the score differences are in the negative ranks, meaning that the post-test scores are higher than the pre-test scores. Therefore, these results indicate that the combination of iron tablets and date palm juice significantly improved post-intervention outcomes.

In conjunction with the results of the previous normality test, the use of the Wilcoxon test is appropriate because the data is not normally distributed. Therefore, overall, it can be confirmed that both the paired sample t-test and the Wilcoxon test indicate a significant improvement after the intervention, particularly in the combination group with iron tablets and date palm juice, which provided a stronger improvement effect than the single intervention.

### Independent t-test

**Table 4. Independent t-test**  
**Independent Samples Test**

	F	Sig.	T	Df	Sig. (2-tailed)	Mean Difference	Std. Error Difference
Fe Tablet Intervention	.474	.497	-7.279	28	.000	-.60000	.08242
Iron Tablet and Date Palm Juice Intervention	.440	.513	-10.129	28	.000	-.89333	.08819

Source: IBM SPSS Software Version 25

Based on the results of the Independent Samples t-Test shown in the table above, we examined the difference in mean scores between the two intervention groups: the iron tablet group and the combination of iron tablet and date palm juice.

Levene's Test for Equality of Variances results showed a significance value of 0.497 for the iron tablet group and 0.513 for the combination of iron tablet and date palm juice. Because both values are greater than 0.05, it can be concluded that the variances of the two groups are homogeneous, or equal. Therefore, the t-test results can be interpreted using the line "Equal variances assumed."

In the iron tablet intervention group, the t-value was -7.279 with a significance value (Sig. 2-tailed) of 0.000 (<0.05), indicating a significant difference between the pre-test and post-test results. The mean difference of -0.600 indicates an increase in scores after the iron tablet intervention.

Meanwhile, in the intervention group combining iron tablets and date palm juice, the t-value was -10.129, with a significance level (Sig. 2-tailed) of 0.000 (<0.05), indicating a highly significant difference between pre- and post-intervention results. The mean difference of -0.89333 indicates a greater improvement in results compared to administering iron tablets alone.

Thus, these test results indicate that both interventions significantly improved post-treatment results, but the combination of iron tablets and date palm juice proved to have a stronger effect than administering iron tablets alone. This finding corroborates previous test results (normality test, paired t-test, and Wilcoxon test), which consistently demonstrated that the combination of the two substances produced more optimal improvements.

## **Discussion**

### **Results of Univariate Analysis**

#### **1. Frequency Distribution of Educational Characteristics of Pregnant Women**

Based on the data obtained, among pregnant women who were given Fe tablets, the majority had a low educational level (60%). Meanwhile, among pregnant women who received the combination of Fe tablets and date extract, the majority also had a low educational level (40%).

Educational level plays an important role in shaping an individual's breadth of knowledge, as a person's ability to understand and accept information is strongly influenced by the level of education attained. Generally, individuals with higher education are able to absorb and comprehend information better than those with lower levels of education (Sanyoto et al., 2023).

#### **2. Average Hemoglobin Levels of Pregnant Women with Anemia Before and After Fe Tablet Administration at Cigeulis and Picung Public Health Centers in 2025**

The average hemoglobin level of pregnant women with anemia before receiving Fe tablets at Cigeulis and Picung Public Health Centers in 2025 was 10.226 g/dL. After Fe tablet administration, the mean hemoglobin level increased to 10.933 g/dL. The post-intervention mean value was higher than the pre-intervention mean value, indicating a difference before and after Fe tablet administration. Iron (Fe) is a mineral that plays an essential role in hemoglobin formation in red blood cells. Iron tablets are sugar-coated tablets containing iron equivalent to 60 mg of elemental iron (in the form of ferrous sulfate, ferrous fumarate, or ferrous gluconate) and 0.400 mg of folic acid. Iron supplementation improves iron status as measured by hemoglobin and ferritin levels. Folic acid plays a role in nucleoprotein synthesis, which is crucial for the formation and production of normal red blood cells in the bone marrow (6).

Iron is also beneficial as a building material for red blood cells, namely hemoglobin. Therefore, insufficient iron intake affects hemoglobin formation. Iron tablets are mineral supplements that play a role in hemoglobin synthesis. Iron is the most important element in the hemoglobin formation process. Iron also functions as a component of myoglobin, a protein that transports oxygen to muscles, forms enzymes, and contributes to collagen formation. Iron is essential for pregnant women because it improves nutritional status, prevents iron deficiency anemia, prevents bleeding during childbirth, and reduces the risk of maternal mortality due to hemorrhage during delivery (Ministry of Health of the Republic of Indonesia, 2020).

Fe tablets are only a temporary solution. Pregnant women need to understand and consume foods that are rich in iron, such as eggs, fish, red meat, chicken, mung beans, spinach, and other green vegetables. To enhance iron absorption, Fe tablets should be consumed together with vitamin C-rich fruits and the intake of substances that inhibit iron absorption, such as tea and coffee, should be limited. The provision of Fe tablets to pregnant women aims to prevent and manage anemia in pregnancy (Ministry of Health, 2018).

According to the researcher's assumption, after Fe administration, the average Hb level increased because Fe is the main component of hemoglobin, the protein in red blood cells responsible for transporting oxygen throughout the body. Fe tablets, especially in the form of ferrous sulfate, are more easily absorbed by the body compared to dietary iron sources, allowing hemoglobin levels to increase more rapidly than relying solely on dietary intake.

#### **3. Average Hemoglobin Levels of Pregnant Women with Anemia Before and After the Combination Intervention of Fe Tablets and Date Extract at Cigeulis and Picung Public Health Centers in 2025**

The average hemoglobin level of pregnant women with anemia before the combination intervention of Fe tablets and date extract at Cigeulis and Picung Public Health Centers in 2025 was 10.360 g/dL. After the intervention, the mean hemoglobin level increased to 11.253 g/dL. The post-intervention mean value was higher than the pre-intervention mean value, indicating a difference before and after the intervention.

The study by Handayani, Karubuy, and Dewi (2024) showed that date extract administration significantly increased hemoglobin levels in pregnant women at Jagakarsa Public Health Center, South Jakarta, in 2023. The magnitude of the effect can be seen from the increase in hemoglobin levels between pre-test and post-test in respondents who received date extract intervention. In line with the study by Winaningsih (2025), hemoglobin levels increased to 11.853 g/dL after date consumption. The average hemoglobin level before intervention in the control group was 10.16 g/dL and increased to 11.173 g/dL after intervention. Pregnant women with anemia can increase their hemoglobin levels by routinely consuming Fe tablets and adding the intake of seven dates every morning for 14 days (Winaningsih, 2025).

Anemia is a condition in which the body has a low number of red blood cells. These red blood cells contain hemoglobin, which transports oxygen to all body tissues. Anemia occurs when the number of red blood cells or the concentration of hemoglobin in the blood decreases. In non-pregnant women, hemoglobin levels are considered low if they are below 11 g/dL, while in pregnant women, hemoglobin levels below 10.5 g/dL are considered low (2).

According to the World Health Organization (WHO), anemia in pregnancy is defined as hemoglobin levels <11 g/dL. Meanwhile, the Centers for Disease Control and Prevention define anemia as hemoglobin levels <11 g/dL in the first and third trimesters, <10.5 g/dL in the second trimester, and <10 g/dL postpartum (Winaningsih, 2025).

According to the researcher's assumption, the average hemoglobin level of pregnant women with anemia increased after receiving the combination of Fe tablets and date extract due to a synergistic effect in improving hemoglobin levels. Fe tablets provide readily absorbable iron, while date extract contains iron as a key component of hemoglobin formation and vitamin C, which enhances the absorption of non-heme iron from food. This helps the body utilize iron more effectively for hemoglobin synthesis.

### **Bivariate Analysis Results**

It was found that the mean difference before and after the administration of Fe tablets combined with date palm extract was  $-8.933$ , while the mean difference before and after the administration of Fe tablets alone was  $-7.067$ . The mean difference in the Fe tablet and date palm extract combination group was greater than in the Fe tablet-only group, indicating that the combination of Fe tablets and date palm extract is more effective than Fe tablets alone.

Based on the research results on pregnant women before and after receiving Fe tablets and date palm extract, as well as those who only received Fe tablets, there was a significant effect of the combination of Fe tablets and date palm extract on increasing hemoglobin levels ( $H_0$  rejected and  $H_1$  accepted), and there was also a significant effect of Fe tablet administration on increasing hemoglobin levels ( $H_0$  rejected and  $H_1$  accepted).

The findings indicate that Fe tablet administration is effective in increasing hemoglobin levels in pregnant women. Likewise, the combination of Fe tablets and date palm extract is also effective in increasing hemoglobin levels. Both groups of pregnant women experienced an increase in hemoglobin levels; however, there was a difference between the group that received only Fe tablets and the group that received the combination of Fe tablets and date palm extract. The increase in hemoglobin levels was greater in the combination group, indicating that the combination intervention is more effective than Fe tablets alone. This difference may be influenced by differences in educational characteristics among the pregnant women.

The group receiving the combination of Fe tablets and date palm extract had a higher proportion of women with higher education compared to the group receiving only Fe tablets. This factor may contribute to differences in hemoglobin levels, as pregnant women with higher education tend to have better knowledge regarding balanced nutrition and foods that can improve hemoglobin levels during pregnancy. Educational level plays an important role in shaping behavior, identifying causes, and finding solutions in daily life. The higher a person's level of education, the more realistic their mindset and the broader their knowledge, including in understanding conditions such as anemia. Anemia in

pregnant women often occurs due to a lack of understanding of the impact of hemoglobin deficiency and limited knowledge about nutritious food intake (Sanyoto et al., 2023).

According to a study conducted by Samsu Alam et al. (2025), the results showed that the administration of date palm extract and Fe significantly affected hemoglobin levels in third-trimester pregnant women with anemia, with a p-value of 0.008 and an average increase of 0.27 g/dL within 14 days. This is consistent with the study by Winaningsih (2025), which stated that there was a significant difference in hemoglobin levels before and after the administration of date palm extract in both the intervention and control groups (p-value = 0.000) (Winaningsih, 2025).

Dates contain high levels of iron, which help increase hemoglobin levels and prevent or treat anemia. Dates are an excellent source of iron, which is a key component of hemoglobin in red blood cells and determines the blood's oxygen-carrying capacity. Dates are also high in carbohydrates, providing sufficient energy. Most of their sugar content consists of glucose, fructose, and sucrose (Wibowo, 2020).

Daily consumption of date palm extract can help increase hemoglobin levels. Data from the Ministry of Health for Hajj services indicate that the iron content in dates is relatively high, at 0.91 mg per 100 g of dates (11% of the Recommended Dietary Allowance), where iron is an essential component of blood to maintain iron balance in the body. Consuming 25 g of dates per person per day for 30 days can increase hemoglobin levels in pregnant women, as 25 g of dates contains approximately 0.225 mg of iron (Pringsewu, 2024).

According to the researcher's assumption, the combination of Fe tablets and date palm extract is more effective in increasing hemoglobin levels in third-trimester pregnant women than Fe tablets alone because date palm extract contains vitamin C, which enhances the absorption of non-heme iron from Fe tablets. With more optimal absorption, hemoglobin levels can increase more rapidly. Dates are also rich in folic acid (vitamin B9), which is essential for red blood cell formation. Folic acid deficiency can cause megaloblastic anemia; therefore, date consumption supports better hemoglobin production compared to Fe tablets alone.

In the third trimester, the need for iron and other nutrients increases due to rapid fetal growth. The combination of Fe tablets and date palm extract provides additional nutrients such as vitamins B6, B12, and antioxidants, which support hemoglobin production and maternal and fetal health. Fe tablets often cause side effects such as constipation or digestive disturbances, while dates help improve digestion because they contain dietary fiber that facilitates bowel movements. In addition, dates contain amino acids that stimulate digestion. This allows nutrients to be absorbed more efficiently and distributed throughout the body.

## CONCLUSIONS

There is evidence of effectiveness after the administration of Fe tablets in pregnant women with mild anemia, with the mean hemoglobin level before Fe tablet administration of 10.267 g/dL and the mean hemoglobin level after Fe tablet administration of 10.933 g/dL at Cigeulis and Picung Public Health Centers in 2025.

There is evidence of effectiveness after the administration of a combination of Fe tablets and date palm extract in pregnant women with mild anemia, with the mean hemoglobin level before the combination intervention of 10.260 g/dL and the mean hemoglobin level after the combination intervention of 11.253 g/dL at Cigeulis and Picung Public Health Centers in 2025.

There is a significant difference between the administration of Fe tablets alone and the combination of Fe tablets and date palm extract in increasing hemoglobin levels in pregnant women with mild anemia, with a significance value (2-tailed) of  $0.000 < 0.05$ . The combination of Fe tablets and date palm extract is more effective in increasing hemoglobin levels than Fe tablets alone.

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