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THE EFFECT OF GIVING DATES ON INCREASING HEMOGLOBIN LEVELS IN PREGNANT WOMEN AT PMB LASMI HANDAYANI BANDAR AGUNG, EAST LAMPUNG DISTRICT

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Abstract

Background Decreased Hemoglobin levels are a major health problem in pregnant women. *World Health Organization* (WHO) states that globally more than 20% of pregnant women suffer from anemia throughout the world (WHO, 2019). Basic health research data (Riskesdas) shows that the incidence of anemia in pregnant women in Indonesia is still quite high, namely 37.1% in 2013 and rose to 47.9% in 2018 (Ministry of Health of the Republic of Indonesia, 2018). Data from the Lampung Provincial Health Service, in 2018 the prevalence of anemia reached 22.4% of 6,200 pregnant women, in 2019 it reached 20.7% of 5,800 pregnant women and in 2020 the prevalence of anemia increased again to 23.2% from 6,230 pregnant women, while the incidence of anemia in pregnant women in Pringsewu Regency was 27.8% in 2020 (Lampung Province Health Office Profile, 2021). Purpose of Writing To know The effect of giving dates on increasing hemoglobin levels in pregnant women at PMB Lasmi Handayani Bandar Agung, East Lampung Regency. Research methods The population used in this research is Quasy quasi-experimentPregnant women in third trimester and second trimester with anemia in PMB Lasmi Handayani Bandar Agung East Lampung Regency in the period December 2023 to January 2024 as many as 38 respondents. The number of samples in this research was 38 respondents.The sampling technique used in this research is T *Total Sampling.* Analyze data using analysis univariate and bivariate analysis use *T-test Independent*. Research result Statistical test results with T-test *Independent* shows that There is p The effect of giving dates on increasing hemoglobin levels in pregnant women at PMB Lasmi Handayani Bandar Agung, East Lampung Regency with a p-value of 0.000. Conclusions and recommendations It is hoped that future researchers can develop research by using different methods or research plans in providing health education to pregnant women about complementary management that can be given to pregnant women with anemia.

Keywords: Increased Hemoglobin Levels, Pregnant Women, Giving Dates

Introduction

The pregnancy process causes changes in the body's systems as an adaptation to the pregnancy process. Pregnancy will cause an increase in the number of red blood cells along with the increased need for iron which is caused by the increased need for oxygen by the fetus. The increasing blood volume and the amount of blood serum is greater than the growth of blood cells, causing blood thinning (hemodilution) which has an impact on reducing hemoglobin levels in pregnant women (Armini, et al, 2016).

Decreased Hemoglobin levels are a major health problem in pregnant women.*World Health Organization*(WHO) states that globally more than 20% of pregnant women suffer from anemia throughout the world (WHO, 2019). Basic health research data (Riskesdas) shows that the incidence of

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anemia in pregnant women in Indonesia is still quite high, namely 37.1% in 2013 and rose to 47.9% in 2018 (Indonesian Ministry of Health, 2018). Data from the Lampung Provincial Health Service, in 2018 the prevalence of anemia reached 22.4% of 6,200 pregnant women, in 2019 it reached 20.7% of 5,800 pregnant women and in 2020 the prevalence of anemia increased again to 23.2% from 6,230 pregnant women, while the incidence of anemia in pregnant women in Pringsewu Regency was 27.8% in 2020 (Lampung Province Health Office Profile, 2021).

Low hemoglobin levels in pregnant women can cause various negative impacts on the health of the mother and fetus. Low Hemoglobin levels can cause thismiscarriage (abortion), premature birth, prolonged labor due to tiredness of the uterine muscles contracting (uterine inertia), postpartum bleeding due to the absence of uterine muscle contractions (uterine atony), shock, infections both during labor and postpartum and severe anemia (<4 gr%) can cause cord decompensation. Hypoxia due to a decrease in HB levels in pregnant women can also cause shock and maternal death during childbirth (Wiknjosastro, 2017).

Good management is needed in an effort to prevent complications due to low HB levels during pregnancy and childbirth. Management of anemia in pregnancy in general can be done by administering therapy in the form of oral iron preparations, perinatal iron preparations and administering transfusions. The pharmacological management given tends to be more effective but can cause various side effects on pregnancy such as the appearance of disorders in the digestive tract such as nausea, vomiting, abdominal pain, constipation and black stools due to bleeding. Complementary therapy is one of the recommended treatments for overcoming the problem of anemia while increasing the effectiveness of increasing Hb levels in pregnant women (Wibowo, Irwinda & Hiksas, 2021).

Dates are one of the complementary treatments used to increase the Hb levels of pregnant women. Dates are a fruit with very high levels of iron, namely 0.90mg/100g of dates, where iron is a component in the blood to carry oxygen in the blood and also to form red blood cells or hemoglobin, so that it can maintain the balance of substances. iron in the body of pregnant women. Dates also have various ingredients that can increase the mother's Hb, where 100 grams contains 2.81 grams of protein, 7.1 grams of fiber, 88.78 grams of carbohydrates and 1.02 mg of iron. Iron is a component of hemoglobin in red blood cells. Dates also contain vitamins such as riboflavin, biotin, thiamine, folic acid and ascorbic acid which are important for the body (Fadhila, 2023).

Based on the background above, researchers are interested in conducting research with the title"The effect of giving dates on increasing hemoglobin levels in pregnant women at PMB Lasmi Handayani Bandar Agung, East Lampung Regency."

Research Methods

The research design used in this research is a quasi-experimental quasi-experimental research design used to look for causal relationships, this experiment does not have or does not have the characteristics of a true experimental design, because the variables that should be controlled or manipulated cannot or are difficult to do (Notoatmodjo, 2018).

The population in this study were pregnant women in the third trimester and second trimester with anemiaPMB Lasmi Handayani Bandar Agung East Lampung Regency in the period December 2023 to January 2024 as many as 38 respondents.The number of samples in this research was 38 respondents.

The sampling technique used in this research is T*Total Sampling*namely a sampling technique when all members of the population are used as samples (Notoatmodjo, 2018).

Research Result

5.1 Research Results

The number of samples required in this research is 20 respondents. The process of collecting and implementing the intervention in the form of providing research went smoothly, research respondents had no problems in following the researcher's instructions.

5.1.1 Respondent Characteristics

Analysis of research data is the result of a research presentation that was carried out with the title "Relationship between the duration of 3-month use of birth control injections and menstrual disorders and weight gain at the "R" clinic in 2023" which was carried out for 5 weeks, where the following results were obtained:

a. Respondent's Age

Table 5.2.1. Frequency distribution of respondents' agesat PMB Lasmi Handayani Bandar Agung, East Lampung Regency

Respondent's Age	Frequency	Percentage
<20 Years	2	5.3
20-35 Years	30	78.9
>35 Years	6	15.8
Total	38	100.0

Based on table 5.2.1, it is known that the majority of respondents were aged 20-35 years, namely 30 respondents (78.9%).

b. Respondent's Education

Table 5.2.2. Frequency distribution of respondents' educationat PMB Lasmi Handayani Bandar Agung, East Lampung Regency

Education	Frequency	Percentage
JUNIOR HIGH SCHOOL	3	7.9
SENIOR HIGH SCHOOL	29	76.3
College	6	15.8
Total	38	100.0

Based on table 5.2.2, it is known that the majority of respondents had a high school education, namely 29 respondents (76.3%).

c. Pregnancy History

Table 5.2.3. Frequency distribution of respondents' pregnancy historyat PMB Lasmi Handayani Bandar Agung, East Lampung Regency

Pregnancy History	Frequency	Percentage
Primigravida	11	28.9
Multigravida	26	68.4
Grandemultigravida	1	2.6
Total	38	100.0

Based on table 5.2.3, it is known that the majority of respondents were multigravida mothers with 26 respondents (68.4%).

5.1.2 Univariate Analysis

a. Average hemoglobin levelscontrol group respondents

Table 5.2.4. Average hemoglobin levelspregnant women in the control groupat PMB Lasmi Handayani Bandar Agung, East Lampung Regency

Variable	Mean	Median	Min	Max
Control group hemoglobin levels	10,042	10,100	9.2	10.6

Based on table 5.2.4, it is known that the average hemoglobin level in the control group was 10.042 mg/dl, the lowest Hb level was 9.2 mg/dl and the highest Hb level was 10.6 mg/dl.

b. Average hemoglobin levelsIntervention group respondents

Table 5.2.5. Average hemoglobin levelspregnant women in the intervention groupat PMB Lasmi Handayani Bandar Agung, East Lampung Regency

Variable	Mean	Median	Min	Max
Intervention group hemoglobin levels	11,242	11,200	9.7	12.8

Based on table 5.2.5, it is known that the average hemoglobin level in the intervention group was 11.242 mg/dl, the lowest Hb level was 9.7 mg/dl and the highest Hb level was 12.8 mg/dl.

5.1.3 Univariate Analysis

a. Data Normality Test

Table 5.2.6. Data Normality Test

	Kolmogorov-Smirnov			Shapiro-Wilk		
	Statistics	df	Sig.	Statistics	df	Sig.
Hemoglobin	,176	38	,004	,930	38	,020

The data normality test on the respondent's hemoglobin level variable showed that the data was normally distributed based on the testShapiro-Wilkwhich is indicated by the sig value. 0.020<0.05 so the hypothesis test used is a parametric test with an independent T test.

b. The effect of giving dates on increasing hemoglobin levels in pregnant women

Table 5.2.7. EffectivenessThe effect of giving dates on increasing hemoglobin levels in pregnant women at PMB Lasmi Handayani Bandar Agung, East Lampung Regency

	Group	n	Mean	Std. Deviation	Std. Error Mean	p-value
Hb After	Control	19	10,042	,4247	,0974	0,000
	Intervention	19	11,242	,8903	,2042	

The results of statistical tests using the T-Independent test showed that the p-value was 0.000, meaning $p < \alpha$ (0.05), the hypothesis was proven, so it could be concluded that there wasThe effect of giving dates on increasing hemoglobin levels in pregnant women at PMB Lasmi Handayani Bandar Agung, East Lampung Regency.

Discussion

6.1 Research Limitations

Limitations contained in this research include the following:

1. Researchers were unable to control and control the intake of nutrients and other food sources consumed by pregnant women or respondents during the research and implementation of research interventions, it is feared that this condition could affect the respondents' Hb levels so that the research results would be biased.

6.2 Kpresence of hemoglobinpregnant women in the control group

The research results showed that the average hemoglobin level in the control group was 10.042 mg/dl, the lowest Hb level was 9.2 mg/dl and the highest Hb level was 10.6 mg/dl.

The results of this research are in line with research conducted by Wulandari (2019) which examined the influence of pregnant women's compliance in consuming Fe tablets on the third trimester pregnant women's Hb levels. The results of this study show that there is a relationship between pregnant women's consumption of Fe tablets and Hb levels.

Decreased Hemoglobin levels are a major health problem in pregnant women. The pregnancy process causes changes in the body's systems as an adaptation to the pregnancy process. Pregnancy will cause an increase in the number of red blood cells along with an increase in iron requirements caused by an increase in oxygen requirements by the fetus. The increasing blood volume and the amount of blood serum is greater than the growth of blood cells, causing blood thinning (hemodilution) which has an impact on reducing hemoglobin levels in pregnant women (Armini, et al, 2016).

Low hemoglobin levels in pregnant women can cause various negative impacts on the health of the mother and fetus, such as: miscarriage (abortion), premature birth, prolonged labor due to fatigue of the uterine muscles contracting (uterine inertia), postpartum bleeding (uterine atony), shock and infection during labor. Hypoxia due to a decrease in HB levels in pregnant women can also cause shock and maternal death during childbirth (Wiknjosastro, 2017). Management of anemia in pregnant women can be done by consuming blood supplement tablets (Fe) and by consuming food sources that support iron absorption. Food ingredients that can support iron absorption include vegetables and fruit, because vegetables and fruit contain vitamins (C, A, B6, thiamine, niacin, E) and minerals that can prevent iron deficiency anemia (Kristiyanasari, 2015).

The haemodilution process that occurs during pregnancy and the increasing needs of the mother and fetus, as well as the lack of iron intake through food causes the Hb levels of pregnant women to decrease. To prevent this incident, the mother's and fetus' needs for iron tablets must be met. Iron deficiency anemia as a result of lack of iron intake during pregnancy not only has a negative impact on the mother, but also has a negative impact on the well-being of the fetus. Fe tablets are really needed by pregnant women to prevent anemia. Pregnant women must consume Fe tablets at least 1 tablet every day, up to 90 tablets (Kristiyanasari, 2016).

According to researchers, anemia is a condition that is often found in pregnant women. Anemia is a clinical manifestation of changephysiology and biochemistry of pregnant women as an effort to maximize fetal growth and development which has an impact on increasing the mother's nutritional needs during pregnancy. Insufficient nutritional intake, especially iron, during pregnancy will cause disruption in the formation of red blood cells, resulting in anemia. The need for iron is greater after mid-pregnancy, therefore iron needs will not be met without iron supplementation. Without supplementation, Hb and Hematocrit (Ht) concentrations decrease significantly as blood volume increases. The amount of Fe consumed by pregnant women during pregnancy is related to the incidence of anemia in pregnancy.

6.3 Flat-average hemoglobin levelIntervention group respondents

The research results showed that the average hemoglobin level in the intervention group was 11.242 mg/dl, the lowest Hb level was 9.7 mg/dl and the highest Hb level was 12.8 mg/dl.

The results of this research are in line with research conducted by Tisa, Ginting, et al (2021) entitled The effect of giving dates on increasing hemoglobin levels in pregnant women with anemia. The results of this study show that there is an effect of giving dates on increasing hemoglobin levels in pregnant women with anemia with a p-value of 0.000.

Good management is needed in an effort to prevent complications due to low HB levels during pregnancy and childbirth. The pharmacological management given tends to be more effective but can cause various side effects on pregnancy such as the appearance of disorders in the digestive tract such as nausea, vomiting, abdominal pain, constipation and black stools due to bleeding. Complementary therapy is one of the recommended treatments for overcoming the problem of anemia while increasing the effectiveness of increasing Hb levels in pregnant women (Wibowo, Irwinda & Hiksas, 2021).

Dates are one of the complementary treatments used to increase the Hb levels of pregnant women. Dates are a fruit with very high levels of iron, namely 0.90mg/100g of dates, where iron is a component in the blood to carry oxygen in the blood and also to form red blood cells or hemoglobin, so that it can maintain the balance of substances. iron in the body of pregnant women. Dates also have various ingredients that can increase the mother's Hb, where 100 grams contains 2.81 grams of protein, 7.1 grams of fiber, 88.78 grams of carbohydrates and 1.02 mg of iron. Iron is a component of hemoglobin in red blood cells. Dates also contain vitamins such as riboflavin, biotin, thiamine, folic acid and ascorbic acid which are important for the body (Fadhila, 2023).

In the opinion of researchers, dates are a non-pharmacological treatment that is quite effective in increasing Hb levels in pregnant women. Dates are a food with a high content of iron, which is one of the components that forms red blood cells or hemoglobin. Dates also contain various important ingredients that can synthesize the formation of hemoglobin, protein, fiber and carbohydrates. Regular and regular consumption of dates will increase the Hb levels of pregnant women and prevent anemia.

6.4 Influencegiving dates to increase hemoglobin levels in third trimester pregnant women

The results of statistical tests with the T-Independent test show that there isThe effect of giving dates on increasing hemoglobin levels in pregnant women at PMB Lasmi Handayani Bandar Agung, East Lampung Regencywith a p-value of 0.000.

In line with the results of research conducted bySumitran (2023) who researchedEffectiveness of giving dates to increase hemoglobin levels in pregnant women with anemia. The results of this research show thatThere is an effect of giving dates on increasing hemoglobin levels in pregnant women with anemia*p-value*0.004. Another research was conducted by Wahyuni, et al (2023) who examined the effectiveness of consuming dates to increase hemoglobin levels in pregnant women in the third trimester of the study at PMB "S", Panekan District, Magetan Regency. The results of this study show that there is an effect of giving dates on increasing hemoglobin levels in pregnant women with anemia with a p-value of 0.003.

Dates are one of the complementary treatments used to increase the Hb levels of pregnant women. Dates are a fruit with very high levels of iron, namely 0.90mg/100g of dates, where iron is a component in the blood to carry oxygen in the blood and also to form red blood cells or hemoglobin, so that it can maintain the balance of substances. iron in the body of pregnant women. Dates also have various ingredients that can increase the mother's Hb, where 100 grams contains 2.81 grams of protein, 7.1 grams of fiber, 88.78 grams of carbohydrates and 1.02 mg of iron. Iron is a component of hemoglobin in red blood cells. Dates also contain vitamins such as riboflavin, biotin, thiamine, folic acid and ascorbic acid which are important for the body (Fadhila, 2023).

Regular consumption of dates can help increase iron intake in pregnant women. Iron is very important for the production of hemoglobin in the body, which plays a role in transporting oxygen throughout the body. Therefore, dates can contribute to increasing hemoglobin levels in pregnant women who experience pregnancy anemia or iron deficiency. Iron tablets are one of the supplements that are often prescribed by health professionals to pregnant women who experience iron deficiency or anemia. Iron tablets can help meet the body's iron needs, especially during pregnancy which requires a larger blood supply to support fetal growth. Giving iron tablets can help increase hemoglobin levels significantly in pregnant women who are iron deficient. The combination of consuming iron-rich dates and iron tablet supplementation can provide additional benefits in increasing hemoglobin levels in pregnant women. Dates are a nutritional source that is rich in iron, fiber and various other important nutrients (Isnawati, Ciptiasrini & Yolandia, 2023).

In the opinion of researchersDates and iron tablets have an important role in increasing hemoglobin levels in pregnant women. A combination of intake of foods rich in iron such as dates and supplementation with iron tablets can be an effective strategy in overcoming the problem of pregnancy anemia or iron deficiency in pregnant women. Dates contain certain nutrients that have the potential to increase hemoglobin levels, such as iron, vitamin C, or other nutrients that are relevant and good for pregnant women who experience anemia.

Conclusion

Based on the results of research with the title "The effect of giving dates on increasing hemoglobin levels in pregnant women at PMB Lasmi Handayani Bandar Agung, East Lampung Regency" So the author concludes as follows:

1. The average hemoglobin level in the control group was 10.042 mg/dl.
2. The average hemoglobin level in the intervention group was 11.242 mg/dl
3. There is p The effect of giving dates on increasing hemoglobin levels in pregnant women at PMB Lasmi Handayani Bandar Agung, East Lampung Regency with a p-value of 0.000.

Suggestions

7.1.1 Share Research Locations

For PMB Lasmi Handayani Bandar Agung, East Lampung Regency to be able to provide health education to pregnant women about the benefits of giving dates to pregnant women, as well as management that can be carried out by pregnant women both pharmacologically and non-pharmacologically to overcome anemia.

7.1.2 For Institutions

For STIKes Abdi Nusantara to be able to play a role in providing health education to pregnant women about the benefits of giving dates to pregnant women, as well as how anemia can affect pregnancy and childbirth.

7.1.3 For Further Researchers

For future researchers to be able to develop research by using different methods or research plans in providing health education to pregnant women about complementary management that can be given to pregnant women with anemia.

References

[1] Armini, NKA (2016). Maternity Nursing Textbook 2. Faculty of Nursing, Airlangga University: Suarabaya.

[2] Lampung Health Department. (2021). Lampung Province Health Data Profile for 2021. Lampung Provincial Health Service. Lampung.

[3] Fadhila, UT, Royani, I., Murfat, Z., Mappaware, NA & Khalid, N. (2023). The Effect of Consuming Ajwa Dates (Phoenix Dactylifera) on the Hemoglobin Levels of Anemic Pregnant Women. Malahayati Health Student Journal, Volume 3 Number 10 2023.

[4] Farhati & Resmana, R. (2020). Monograph Overcoming Anemia with Mixed Juice of Dutch Dates and Eggplant. Bandung: Bandung Ministry of Health Polytechnic.

[5] Ginting, WM, Girsang, DMB, Ginting, KA, Karo, DMBK & Sirait, RA (2021). The effect of giving dates on increasing hemoglobin levels in pregnant women with anemia. Journal of Midwifery & Health Research Vol. 3 No. 2 Edition: November 2020 – April.

[6] Hastono, SP (2018). Data Analysis in the Health Sector. Faculty of Public Health, University of Indonesia.

[7] Irianto, K. (2015). *Anatomy and Physiology*. Bandung: Alphabeta.

[8] Isnawati, Ciptiasrini, U. & Yolandia, RA (2023). The effect of giving Fe tablets and dates on increasing hemoglobin levels in pregnant women. Sentri: Journal of Scientific Research. Vol.2, No.10 October 2023

[9] Indonesian Ministry of Health. (2018). Basic Health Research 2018. Jakarta: Indonesian Ministry of Health.

[10] Kristiyanasari, W. (2016). Nutrition for Pregnant Women. Yogyakarta: Nuha Medika.

[11] Notoatmodjo, S. (2018). Research Methodology. Jakarta. Rineka Cipta.

[12] Supriyatiningsih. (2016) Monograph on Anemia in Pregnancy with Hyperemesis Gravidarum. Yogyakarta: Institute for Research, Publication and Community Service

[13] Sumitran, AS (2023).Effectiveness of giving dates to increase hemoglobin levels in pregnant women with anemia. Journal of Health Sciences Research Innovation. Vol. 1 No. November 4, 2023.

[14] Susanti., & Ulpawati. (2022). Midwifery Care in Pregnancy: Smart Book for Pregnant Women. Eureka Medika Literacy. Purbalingga.

[15] Wahyuni, S., Ngestiningrum, AH, Herlina, T. Hanifah, AN (2023). Effectiveness of consuming dates to increase hemoglobin levels in third trimester pregnant women. Study at PMB "S", Panekan District, Magetan Regency.*Forikes Voice Health Research Journal. Volume 14 Number 1, January 2023.*

[16] WHO. (2019). World Health Organization. Prevention and management of anemia in pregnancy. WHO/FHE/MSM/93.5.Geneva: WHO.

[17] Wibowo, N., Irwinda, R. & Hikas, R. (2021). Iron Deficiency Anemia in Pregnancy. Depok: University of Indonesia Publishing

[18] Wiknjosastro, H. (2017). Gynecology. Jakarta: Bina Pustaka Sarwono Prawirohardjo Foundation.

[19] Wulandari, R. (2019). The Influence of Pregnant Women's Compliance in Consuming Fe Tablets on the Hb Levels of Pregnant Women in the Third Trimester.*DIV Midwifery Study Program Advanced Indonesian College of Health Sciences.Vol.8. No.2, June 2018.*