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The Effectiveness of Giving Red Spinning Juice on Increasing Hb Levels for Pregnant Anemia in the Work East Lahewa Health Center Year 2020

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ABSTRACT

Iron anemia that occurs during pregnancy is a condition where the Hb level of pregnant women in the first and third trimesters is below 11 gr/dl. The proportion of pregnant women who experienced anemia in 2013 was 37,1% and increased in 2018 to 48,9%.The purpose of this study was to determine the effectiveness of giving red spinach juice in increasing Hb level in anemic pegnant women.This type of research is quantitative with a quasi-experimental approach through one group pre-post test.This research was carried out in the Work Area of the East Lahewa Health Center in November 2020.The population in this research were all 52 pregnant women who were anemic.The sample in this study were 20 Pregnant mothers.The analysis was carried out by statistical testing, namely the paired t-test to identify the effectiveness of giving red spinach juice in increasing the HB content of pregnant women with anemia before and after treatment.The results showed that there was an effect of consuming red spinach juice on the increase in Hb content in pregnant women with a p-value of 0.000.The results of this research are expected to be able to overcome the problem of pregnant mothers anemia with red spinach juice.

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1. Introduction

Iron anemia that occurs during pregnancy is a condition where the HB level of pregnant women in the first and third trimesters is below 11 grams per dl and in the second trimester it is 10.5 grams per deciliter. According to WHO, 40% of maternal deaths in developing countries are related to anemia in pregnancy due to iron deficiency and chronic bleeding. Anemia often occurs due to a lack of iron content in food. The absorption of iron from food is low due to the presence of inhibitory substances sourced from information from the World Health Organization in 2012 stated that the prevalence of anemia in pregnant women in the world was 41.8% in Asia, 48.2%, Africa 57.1%, America 24.1% and Europe 25.1% seen from the magnitude of the incidence rate. Anemia is the main trigger for the 2nd rank in the world as a cause of disability this is one of the public health problems that must be considered.

The proportion of pregnant women who experienced anemia in 2013 was 37.1% and increased in 2018 to 48.9% the percentage of anemia in pregnant women aged 15- 24 years is 84.6%, aged 25-34 years is 32.7%, aged 35-44 years is 33.6% and aged >45 years is 24%. Nilawati et al's research in 2019 stated that there was an effect of consuming red spinach and Fe tablets on the increase in HB levels in pregnant women with anemia. This result is in line with study which showed that pregnant women with anemia experienced an increase in HB with a correlation coefficient of 0.084 where the average HB level before being given red spinach leaf capsules was 7.1 grams/dl and after giving the capsules. red spinach by 9.6 grams/dl.

Merida, N., Misrawati, Wasisto, 2014 research results show that pregnant women in the control group who consume spinach and tomato juice had an average increase of Hb 0,01 gr/dl and in the experimental group who consumed spinach and tomato juice had average increase of Hb 0,47 dr/dl. So it can be concluded that giving red spinach juice can increase Hb levels in pregnant women anf can be avery efficient suggestion.

2. Methods

a. Research Type and Design

This type of research is a quantitative research with a quasi-experimental approach through a one

group pre-post test approach, where measurements are taken before and after with 1 intervention group that is tried for 7 days with a frequency of 2 times a day.

b. Research Place and Time

This research was carried out in the Work Area of the East Lahewa Health Center where there are still many anemic mothers of two bodies. The research was carried out in November 2020. Starting with the submission of the title, the preliminary survey, completing the thesis until the research was carried out.

c. Population and Sample

The population is the totality of the research subject or the subject under study. The population in this study were all anemic pregnant women in Tugala Lauru Village, East Lahewa Health Center working area, as many as 52 mothers. The sample is a part taken from the whole subject under study and can represent the population. The sample in this study were some pregnant women who had anemia representing a population of 20 people.

d. Data Collection Procedure

Primary data is information obtained from direct observation, namely HB levels of pregnant women who are anemic before and after giving red spinach juice to pregnant women by checking HB levels. Secondary data is information obtained from data from the East Lahewa Health Center about the number of mothers suffering from anemia in 2020 and other linked reports and reference books.

e. Data analysis method

The data obtained will be analyzed by univariate and bivariate analysis. Univariate analysis used in this research is percentage analysis. Next, the data is tabulated, after that it is processed using the SPSS program. The results of this study were analyzed by statistical testing, namely the paired t-test to determine the effectiveness of giving red spinach juice in increasing the HB levels of pregnant women with anemia before and after treatment.

3. Results

a. Characteristics of Respondents

Characteristics of respondents can be seen from the age and education and occupation of pregnant women who suffer from anemia in Tugala Village are housewives.

TABLE 1.
DISTRIBUTION OF RESPONDENTS BY AGE

Age	Frequency	Percent
20-30	9	45,0
31-40	10	50,0
> 40	1	5,0
Total	20	100,0

Based on the table above, it is known that the majority of respondents aged 31-40 years are as many as 10 people 50%.

TABLE 2.
DISTRIBUTION OF RESPONDENTS BASED ON EDUCATION

Education	Frequency	Percent
SD	7	35,0
SMP	12	60,0
SMA	1	5,0
Total	20	100,0

Based on table 2, it is known that the majority of respondents' education is junior high school as many as 12 people (60%)

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TABLE 3.
DISTRIBUTION OF RESPONDENTS BASED ON HB LEVELS BEFORE BEING GIVEN RED SPINACH JUICE

HB levels before administration Red Spinach Juice	Frequency	Percent
8,90	1	5,0
9,30	1	5,0
9,70	4	20,0
9,80	1	5,0
9,90	1	5,0
10,00	6	30,0
10,10	1	5,0
10,20	1	5,0
10,30	2	10,0
10,50	1	5,0
11,00	1	5,0
Total	20	100,0

Based on the results of the study, the average HB level of anemic pregnant women before being given Red Spinach juice was 10.00 g/dl

TABLE 4.
DISTRIBUTION OF RESPONDENTS BASED ON HB LEVELS BEFORE BEING GIVEN RED SPINACH JUICE

HB levels after giving red spinach juice	Frequency	Percent
10,20	1	5,0
10,30	1	5,0
10,50	1	5,0
10,80	2	10,0
10,90	2	10,0
11,00	7	35,0
11,50	2	10,0
11,60	1	5,0
11,80	3	15,0
Total	20	100,0

Based on table 4 above, it is known that the average HB level of anemic pregnant women after being given red spinach juice is 11.00 g/dl.

Table 5.
Distribution of respondents based on the effectiveness of red spinach juice on increasing Hb levels in pregnant women with anemia

No	HB levels before giving red spinach juice	HB levels after giving red spinach juice	Mean before	Mean after	t	Pvalue
1	10	11,5				
2	10,3	10,9				
3	9,7	11				
4	9,3	11				
5	10,1	11,8				
6	10,2	11,6				
7	9,9	11				

8	10	11				
9	10,3	11				
10	9,7	10,8				
11	10	11	9,9550	11,0700	-14,636	0,000
12	10,5	11,8				
13	10	11				
14	9,7	10,3				
15	8,9	10,2				
16	9,8	10,9				
17	9,7	10,5				
18	10	10,8				
19	11	11,8				
20	10	11,5				

From table 5 it is known that the average Hb level of anemic pregnant women before being given red spinach juice was 9,955 and after being given red spinach juice for 14 days the average Hb level of anemic pregnant women was 11,070, this means that there is an increase in the Hb level of pregnant women who are anemic with an average increase of HB levels of 1,115. The statistical test results of the paired T test are known to have a t value of -14, 636 with a P value of 0.000 < 0.005 meaning red spinach juice is efficient in increasing the Hb content anemic pregnant women in Tugala Lauru village in 2020.

4. Discussion

Based on the results of the study, it was found that the average Hb content of anemic pregnant women before being given red spinach juice was 9,955 and after being given red spinach juice for 14 consecutive days the average Hb of anemic pregnant women was 11,070. an increase in the Hb level of pregnant women who are anemic with an average increase in the Hb content of 1,115. The statistical test results of the paired T test are known to have a t value of -14, 636 with a P value of 0, 000 < 0, 005 meaning red spinach juice is efficient in increasing Hb levels anemic pregnant women in Tugala Lauru village in 2020.

The Hb content of pregnant women has decreased as a result of the hemodilution process, so pregnant women need to consume Fe tablets which help increase hemoglobin levels. According to increasing the needs of pregnant women by giving Fe can form the placenta and red blood cells by 200-300%. Red blood cells are required to carry more oxygen for the fetus. Meanwhile, during childbirth, it takes the addition of iron as much as 300-350 milligrams due to loss of blood. Until after giving birth Mothers need about 40 milligrams of iron per day or twice the need when not pregnant.

Overcoming anemia (lowering Hb levels) can be done by consuming food or vegetables that contain iron, such as red spinach. Red spinach is a high-level plant that grows in the lowlands to the mountains, not only that, red spinach contains a lot of substances in it. In every 100 grams of red spinach there is 41.2 kcal of energy, 2.2 grams of protein, 0.8 grams of fat, 520 mg of calcium, 6.3 grams of carbohydrates, 2.2 grams of fiber, 62 mg of vitamin C, and vitamins. As much as 7 mg of iron, therefore the consumption of this type of spinach is very suitable for consumption every day and avoids anemia. In line with this theory, spinach is popular with vegetables as a source of iron, not only has vitamin A, vitamin C, and calcium.

The main type of carotenoid in spinach is beta carotene, while the other active substance is chlorophyll. The types of flavonoids contained in spinach are lutein and quercetin are powerful antioxidants that can trap superoxide free radicals and limit the oxidation of LDL cholesterol. It is further said that there are 2 types of spinach, namely green spinach and red spinach. Both are rich in vitamin C, but green spinach is richer in vitamin A, whereas red spinach has more iron. Red spinach can be used properly as an alternative to avoid and overcome iron deficiency anemia. According to the therapy of giving spinach juice combined with guava can be an alternative for pregnant women who do not want to consume iron supplement tablets because it has side effects such as nausea, it can be replaced with this juice therapy because it has been proven to increase hemoglobin levels in pregnant women. . The iron in spinach forms hemoglobin and maintains red blood cells for pregnant women. Based on the opinion of researchers that the nutritional needs of

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pregnant women increase during pregnancy, these nutrients are used by both the mother and the baby. If pregnant women lack these substances, they can suffer from anemia, in this case health workers can play a role in reducing the incidence of maternal anemia by providing counseling in the form of proper nutritional intake for pregnant women so that mothers do not experience anemia, increasing mother's knowledge of foods that contain high iron, especially Red spinach that can be juiced plus honey which is consumed once a day has been shown to increase Hb levels.

5. Conclusion

Based on the results of the research and reviews above, it can be concluded that the average value of Hb levels before being given red spinach juice was 9.795mg/dl% and the average value of Hb levels after being given red spinach juice was 11.495mg/dl% with a value of 11.495mg/dl%. p-value 0, 000. There is an effect of consuming red spinach juice on the increase in Hb levels in pregnant women in Tugala Lauru Village in 2020.

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