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EFFECT OF WATER DECOCTION OF THE GEDI LEAVES (*Abelmoschus Manihot* (L) Medical) PREGNANT WOMEN WITH MILD ANEMIA IN THE VILLAGE OF MAHIA CENTRAL TOBELO DISTRICT NORTH HALMAHERA REGENCY

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ABSTRACT

Background: Anemia is a condition when hemoglobin in the blood is less than 10 mg / dl. Anemia during pregnancy can pose various risks of health problems and can even endanger the lives of mothers and babies. The anemia rate in Indonesia in 2018 reached 48.9% and there are still many pregnant women who have anemia in North Halmahera Regency, as many as 355 people in 2018. One strategic step to overcome the problem of anemia is by developing traditional medicines that can improve hemoglobin level is Gedi leaf (Abelmoschusmanihot IL Medik). Objective: to determine the effect of Gedi leaf boiled water on pregnant women with mild anemia in Mahia Village.

This type of research is Quasy Experiment with the design designs used are pretest and posttest with control group design. The population in this study were all pregnant women with mild anemia as many as 6 people in which pregnant women were divided into two groups consisting of 3 pregnant women intervention group who were given boiled red spinach leaf water and 3 pregnant women as a control group given Fe tab sampling techniques with using a total sampling of 6 pregnant women with mild anemia.

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Research Results: the average mean value of Hb levels in the intervention group before treatment was 9.8 gr / dl, and after treatment that was 10.2 gr / dl, the increase in Hb levels of pregnant women who were given Water Decoction Of The Gedi Leaves 2 times a day which is an average of 0.4 gr / dl. Whereas in the control group the average value of Hb levels before treatment was 10.0 gr / dl, and after treatment or administration of Fe tablets once a day which was 10.1 gr / dl, the increase in Hb levels of pregnant women who consumed Fe tablets was an average of 0.1 gr / dl. The results of the analysis test with the T-Test obtained a value (p value) of 0.008<value (p value) 0.05.

Conclusions: there is an effect of giving Water Decoction Of The Gedi Leaves on increasing hemoglobin levels in pregnant women pregnant mother Suggestion: It is expected that pregnant women with mild anemia can consume Water Decoction Of The Gedi Leaves regularly and health workers are expected to further improve IEC (communication of information and education) to pregnant women

INTRODUCTION

Anemia in pregnancy cannot be separated by physiological changes occurring during the pregnancy process, fetal age, and the condition of the Pregnant women before. When you are pregnant, your body will undergo a significant change, the amount of blood in the body increased by about 20-30%, thus requiring an increase in the supply of iron and vitamin needs to make hemoglobin (Hb). When pregnant, the mother's body will make more blood to share with her baby. The body needs up to 30% more blood than before pregnancy.[1]

World Health Organization (WHO) Anemia is a condition when the hemoglobin in the blood is less than 10 mg/dl, so the number of red blood cells or the oxygen carrying capacity in the blood is insufficient to meet the needs of the body[2]. In the year 2015 the global prevalence of anemia in pregnancy was estimated at about 41.8%, 75% in the Gambia, while 5.7% in the United States. Some women have anemia even before becoming pregnant and others become increasingly anemic during pregnancy.[3]

Indonesia is a country that has a maternal mortality ratio (MMR) is the highest in ASEAN and in Indonesia the risk of mother dying in childbirth is 1 in 65, the figure is relatively high when compared with other ASEAN countries. This is what makes the health of the mother and fetus as a priority in the health sector that must be prevented. One indirect factor that can exacerbate the increase in maternal mortality is anemia in pregnancy.. This is what makes the health of the mother and fetus as a priority in the health sector that must be prevented. One indirect factor that can exacerbate the increase in maternal mortality is anemia in pregnancy. Anemia during pregnancy can pose various risks of health problems and can even endanger the lives of mothers. Anemia rate in pregnant women in Indonesia in 2013 was 37.1%, and in 2018 an increase that reached 48.9%. This incident can be classified as a public health problem because according to WHO the prevalence of anemia in the range of 20-39.9% is classified as moderate public health problem.[4,5] Preliminary Data obtained from the Health office of North Halmahera Regency in 2018 the number of Pregnant womens as many as 4,124 people, and 355 Pregnant womens who have Anemia.[6]

To overcome the problem of anemia, the Government of Indonesia has launched an even distribution of Fe tablets at each Antenatal Care (ANC) visit and dissected to Fe1 containing 30 Fe2 tablets containing 60 tablets and Fe3 containing 90 iron tablets during pregnancy. Coverage of pregnant women get Tablet Fe in 2015 amounted to 85.17%, in which the highest Fe coverage DKI Jakarta (97.12%) and the lowest is the province of Papua (24.36%), while North Maluku coverage of pregnant women getting Fe was 69, 82%. One other strategic step to overcome the problem of anemia is by developing traditional medicines (herbs) that can increase the degree of hemoglobin is Gedi Leaves. according to previous studies the chemical content in Gedi leaves are calcium, iron, vitamin A, vitamin B6, flavonoids, and vitamin C. According to research Mapanawang Gedi leaves can overcome anemia because in Gedi leaves contain minerals that can facilitate the process of formation of hemoglobin.[7,8]

Gedi plant (*Abelmoschus manihot* (L.) Medik.) Is a plant of the tribe *Malvaceace* widely known in North Sulawesi. Aside from being a vegetable, gedy plants are also traditionally used for the treatment of inflammation, urinary tract infections, and wound healing. Gedi plant (*Abelmoschus manihot* (L.) Medik.) Is a plant of the tribe Malvaceace widely known in North Sulawesi. Aside from being a vegetable, gedy plants are also traditionally used for the treatment of inflammation, urinary tract infections, and wound healing. Plant parts that are used for treatment include flowers, leaves, stems, to roots. Gedi is one of the alternative plants in meeting the needs of iron in Pregnant womens. According to research conducted by Kumar stated that vegetables Gedi is a green vegetable that can treat anemia, as green vegetables have a source of vitamins, minerals and Iron most.[9]

METHOD

This type of research is a Quasy Experiment research with pretest and posttest control groups, there are two groups. one measurement was carried out in the front (pretest) for the two groups, then treated in the first group (Experimental Group) and the second group (Control Group) was not given treatment. After that, measurements were taken again (posttest) in both groups, this aims to see an increase in hemoglobin levels in the group treated with Gedi leaves (Experimental Group) and the group not treated**.**[19]

POPULATION AND SAMPLE

Population is the number that consists of objects that have characteristics and specific quality set by researchers for the study. The population in this study is Pregnant womens in the village of Mahia, District Central Tobelo, North Halmahera regency as many as six pregnant women. The sample is part of a number of characteristics possessed by the population used for research or small section of members of the population are taken according to specific procedures.

Sampling methods and ways is by using total sampling 6 pregnant women with mild anemia.The inclusion criteria in this study are:

1. Pregnant women with mild anemia (Hb: 9-10 gr%)
2. Pregnant women willing to become respondents (signature infoment consent)
3. Pregnant women who do not / were consuming drugs raise hemoglobin blood booster for example ferrous sulphate or other types of drugs.

Exclusion Criteria :

Exclusion criteria in this study are:

1. Pregnant women who are not anemic
2. Pregnant women who are not willing to be the respondent.

RESULTS

The research was conducted in the village of Mahia with the aim to see the Effect of Water decoction of Gedi leaves (*Abelmoschus manihot* (L) Medical) in pregnant women with mild anemia in the village of Mahia Middle District of North Halmahera Tobelo 2019.

The total sample in this study are 6 people who have met the inclusion criteria, which consists of three groups of respondents and 3 Responen Experiment Control Group. Results of research in the form of the data has been processed into information in accordance with the purpose of the study described in the form of tables and explanations. The data obtained is then processed using the SPSS for windows program, which is distinguished by univariate, bivariate analysis. The complete results of data processing are presented as follows:

Table 1. Frequency Distribution of Hemoglobin Levels Before Gedi Leaf Stewed Water is Given in Pregnant Women Experiment Group and Fe Tablets in the Control Group.

Variable	N	Mean	Std Deviation
Before Hb levels (Intervention Group)	3	9.83	0.15275
Before Hb levels (Control Group)	3	10.0	0.10

Source: Primary Data, 2019

Frequency Distribution Hemoglobin Before Granted water decoction of the leaves gedi On Pregnant Women

Experimental and Control Group (n = 3) Based on Table 2 shows the average level of hemoglobin (Hb) before being given water decoction of the gedi leaves in 3 pregnant women experimental group was 9.83 gr / dl, with a standard deviation of 0.15275 and the control group before being given a tablet Fe was 10.0 g / dL, with a standard deviation of 0.10.

Based on Table 2 shows the average level of hemoglobin (Hb) after being given water decoction gedi leaves of three pregnant women experimental group was 10.20 g / dl, with a standard deviation of 0.10 and in the control group after being given iron tablet is 10.16 gr / dl, with a standard deviation of 0.05774.

Table 2. Frequency Distribution of Hemoglobin Levels After Water Decoction Gedi in Pregnant Women Experiment Group and Fe Tablets in the Control group.

Variable	N	Mean	T	Std Deviation	P Value
Hb Levels Before	3	9.83	11.000	0.15275	0.008
Hb levels after	3	10.20		0.10	

Source: Primary Data, 2019

Based on table 3 it can be seen that the results of the analysis showed the average value of hemoglobin levels before being given water decoction of Gedi leaves 9,83 g / dL and the mean hemoglobin levels after being given the value of water decoction of leaves Gedi is 10.20 g / dl. Results obtained from the processing of data with statistical tests T-Test Paired sample obtained p value of 0.008 ($p \leq 0.05$), so it can be concluded that there is the effect of water decoction of leaves Gedi on hemoglobin levels of pregnant women with anemia Light weight.

Table 3 Analysis of the Differences in Hemoglobin Levels Before and After Water Decoction Of The Gedi Leaves in Pregnant Women Experimental Group.

Table 4. Difference Analysis of Hemoglobin Before And After Cast Tablet Fe.

Variable	N	Mean	T	Std Deviation	P Value
Hb levels after (Intervention Group)	3	10.2		0.10	
Hb levels after (Control Group)	3	10.16		0.05774	
Hb levels before	3	10.0	2.500	0.10	0.130
Hb levels after	3	10.16		.5774	

Source: Primary Data, 2019

Based on table 4 it can be seen that the results of the analysis showed the average value of hemoglobin levels before being given a Tablet Fe was 10.0 g / dL and the mean hemoglobin levels after being given the value of the Tablet Feadalah 10.16 g / dl. Results obtained from the processing of data with statistical tests T-Test Paired sample obtained p value of 0.130 ($p \leq 0.05$), so it can be concluded that there is the effect of Fe tablets to pregnant women with hemoglobin levels Mild anemia but not significantly. Therefore it can be said that in this study H0 is rejected and Ha accepted.

Table 5. Difference Analysis Values Mean average intervention group and control group after treatment

Variable	N	Mean Defreance	T	Min-max	Sig.(2-tailed
After (intervention)	3	0.05383	0.500	-.15176-.21843	0.643
After (control)	3				

Source: Primary Data, 2019

Based on Table 5 above, the known value of the difference Mean average intervention group and keompok control after treatment is 0.05383, where the resulting value is a positive value so that the average value of the mean for the intervention group compared with the control group and obtained the value of P = 0.05383 (value> 0.05) It can be concluded that there are significant differences between Hb levels in pregnant women who give water decoction of the gedi leaves and Hb levels in pregnant women who are given a tablet Fe.

DISCUSSION

Based on the results of the Hb level recorded through observation sheet known hemoglobin levels in pregnant women respectively. Table 1 shows that the mean Hb of pregnant women in the experimental group was 9.83 gr / dl, pregnant women had mild anemia. While the control group's hemoglobin level was 10.0 gr / dl. Known, the effect of anemia in pregnancy can be fatal if not addressed them can cause miscarriage, prematus parturition, uterine inertia, prolonged labor, atonic uterus, causing bleeding and shock. From the observations made by Simanjuntak suggests that about 70% of pregnant women suffer from anemia diIndonesia nutrient deficiency and anemia suffered by most people either because of pregnancy and childbirth, closely spaced, pregnant women with education and low socioeconomic level. The most common causes of anemia in pregnancy are iron deficiency, folic acid, and acute bleeding that can occur due to interactions between the two.[1]

Pregnant women need extra iron to increase the number of red blood cells and form red blood cells of the fetus and placenta, the more often a woman experiencing pregnancy and childbirth will be more and more iron loss and become increasingly anemic. Pregnancy relative anemia because the blood of pregnant women experience hemodilution (dilution) with an increase in volume of 30% - 40% of the peak at 32-34 weeks gestation. Blood cell counts increase 18% -30%, and hemoglobin around 19%. If the maternal hemoglobin before pregnancy is 11 gr%, the occurrence of hemodilution will result in physiological pregnancy anemia, and the maternal hemoglobin will be 9.5 to 10 gr%.[18]

Based on table 2 shows that the average Hb levels of pregnant women in the experimental group after the treatment of Water Decoction Of The Gedi Leaves was 10.20 gr / dl in the experimental group there was an increase of 0.37 gr / dl. This data shows that the administration of leaf decoction is very influential in increasing the levels of hemoglobin in pregnant women, this is because gedi leaves contain calcium, iron, vitamin A, Vitamin B6, Flavonoids, Vitamin C, and also contain minerals. According to Mapanawang AL, gedi leaves can overcome anemia (lack of iron) because Gedi leaves contain minerals that can accelerate the process of hemoglobin formation. While the average Hb levels of pregnant women in the control group given Fe tablets are 10.16 g / dl. and in the control group only increased slightly by 0.16 gr / dl. The pregnant woman's need for iron is 900 mg Fe, in the second trimester, and if the supply of Fe is minimal, then each pregnancy will deplete the body's iron supply and eventually cause anemia in subsequent pregnancies.[19] Based on a statement from the Midwife in the village of Mahia (Midwife Leli) that many pregnant women who are not compliant in consuming Fe tablets because of the side effects felt when consuming that is nausea, vomiting, constipation and heartburn.

Differences in Hemoglobin Before and After given water decoction of the leaves gedi On Pregnant Women Group Experimental and Control group analysis results showed the average value of hemoglobin levels of pregnant women experimental group before being given water decoction of the leaves gedi was 9.83 g / dl and the mean value of hemoglobin levels after cooking water gedi leaves is 10.20 gr / dl. Results obtained from the processing of data with statistical tests T-

Test Paired sample obtained p value of 0.008 ($p \leq 0.05$) so that it can be concluded that there is the effect of water decoction of the gedi leaves to hemoglobin levels of pregnant women with mild anemia. In the control group, the mean value of hemoglobin levels of pregnant women at the first examination was 10.0 g / dL and the mean value of the hemoglobin in the second examination was 10.16 g / dl..

The results obtained from the processing of data by statistical test Paired sample T-Test obtained p value of 0.130 ($p \leq 0.05$) so that it can be concluded that there is also an influence. based on table 5, note the value of the difference Mean average intervention group and the control group after treatment is 0.05383, where the resulting value is a positive value so that the average value of the mean for the intervention group compared with the control group and obtained the value of P = 0.643 (Value <0.05) So that it can be said that there is a significant difference between Hb levels in pregnant women who give Water Decoction Of The Gedi Leaves and Hb levels in pregnant women who are given Fe tablets.

The results showed that after consuming the water decoction of the leaves gedi hemoglobin levels of pregnant women can be improved compared with pregnant women who consumed only tablet Fe. In addition to increasing hemoglobin, green gedi leaf extract obtained and then tested qualitatively against the presence of saponin compounds, can protect gastric mucosa, Gedi leaves also have antioxidant and anti-inflammatory activity. [20,21] Tannin compounds contained in gedi stimulate glucose and fat metabolism so that the heap these two sources of calories in the blood can be avoided. In addition, tannins also serves as an astringent or chelating which can furrowed epithelial membrane of the small intestine, thereby reducing the absorption of nutrients and as a result inhibit glucose intake and the rate of increase of blood glucose is not too high, based on research conducted by Said Kudo et al extracts of Gedi also widely used to treat kidney failure.[22,23]

Gedi leaves are rich in vitamin A, iron and fiber which are good for the digestive tract. Collagen contained in the leaves is also useful as an antioxidant, much human consumption to maintain healthy skin and blood circulation. Flavonoids are found in the leaves gedi also has the potential to prevent, even inhibit and kill cancer cells. Gedi is also one of the non-pharmacological methods to treat pain during labor effectively. Pregnant women in the third trimester who already feel the labor of impending labor are given two glasses of decoction of Gedi leaves in the morning and evening. In addition, this treatment is also given to treat constipation. This practice has continued to this day, especially in villages in Halmahera, North Maluku.[24,25]

So according to the researcher leaves Gedi is very useful, and the results of this study can be concluded that the consumption of Gedi leaf decoction can affect the increase in Hb levels in pregnant women with mild anemia. Water decoction of the leaves gedi can also be an alternative treatment nonfarmakologi to increase hemoglobin levels of pregnant women are anemic, as already explained above that leaves gedi contains useful as a treatment for anemia, so anemia experienced by pregnant women can be reduced by consuming decoction water gedi leaves. This shows that water consumption regularly gedi Leaves decoction can affect the increase in hemoglobin levels of pregnant women who experience mild anemia in the village of Mahia Central Tobelo

CONCLUSION

Based on the results of research and discussion described in the previous chapter, the following conclusions can be drawn:

1. The mean average hemoglobin levels before the intervention group Giving Water Decoction Of The Gedi Leaves 9.83 mg / dl
2. The mean average hemoglobin levels In the control group before granting Tablet 10.0 mg Fe / dl
3. The mean value of the average levels of Hemoglobin In Group Intervention After Water Decoction Of The Gedi Leaves 10:20 mg / dl
4. The difference in average Mean between the intervention and control groups was 0.05383 and the average value of the intervention group mean is greater than the control group and P = 0.008 (P <0.05), no significant differences between the intervention group and the hemoglobin concentration control group.

5. There is the effect of water decoction of Gedi leaves (*Abelmoschus manihot* (L) Medical) to increase hemoglobin levels in pregnant women with anemia Lightweight.

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