The Effectiveness Of Giving Beet Juice On Hb Levels In Third Trimester Pregnant Women At Budhi Asih Hospital In 2022

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Abstract.
Anemia in pregnancy is a condition of the mother with a hemoglobin level of less than 11.0 gram/dl. Anemia can be prevented by consuming a balanced nutritious diet with sufficient iron intake to meet the body's needs. Heme iron is found in green vegetables, red meat, egg yolks, raisins, prunes, liver, oysters and some fortified cereals. Knowing the effectiveness of giving beetroot juice on Hb levels in third trimester pregnant women at Budh Asih Hospital. The research design is Quasi Experimental, with the Pretest and Posttest Control Group design. The population in this study were third trimester pregnant women with a gestational age of 28-36 weeks in the working area of Budhi Asih Hospital. The sampling technique used purposive sampling with the number of respondents being 30 third trimester pregnant women. The statistical tests used are the Mann-Whitney and Wilcoxon tests. The mean level of anemia before being given beetroot juice therapy in the intervention group was 6.33 and 6.93 in the control group. The mean level of anemia after being given beetroot juice therapy in the intervention group was 11.20 and in the control group was 4.80. beetroot juice therapy is effective for reducing the level of anemia in third trimester pregnant women with p value = 0.000 ≤ 0.05. Giving beetroot juice is effective for increasing hemoglobin levels in third trimester pregnant women at Budhi Asih Hospital. It is hoped that midwives can provide regular education to mothers who experience anemia about the benefits of beetroot juice to increase hemoglobin levels in third trimester pregnant women. Reading List : 16 (Year 2013-2022).

Keywords *: Anemia and Third trimester pregnant women.*

I. INTRODUCTION

According to WHO (2015), prevalenceanemia of pregnant women in the world ranges on average 14%, in industrialized countries 56%, and in countries Develops between 35-75%. In a manner Globally, 52% of pregnant women in countries develops anemia. Number this is larger when compared toThe rate of anemia in pregnant women in industrialized countries is 20%. Countrywith the prevalence of anemia in pregnant women the highest is India (88%), followed by Africa (50%), while Indonesia is at Ranked 58th with a prevalence of anemiain pregnant women it was 44.3%. Anemia in pregnancy is a condition of the mother with a hemoglobin level of less than 11.0 gram/dl (Rahmayanti, Mariati & Susilawati, 2019). Anemia being wrong one indirect cause of death pregnant women.Riskesdas (2018) shows that data on pregnant women with anemia reached 48.9%. There has been an increase inRiskesdas data for 2013 which shows a percentage of 37%. Ages 15-24 year by 84.6% ranks first in the incidence of pregnant womenwith anemia, followed by ages 25-34 by 33.7%, aged 35-44 years by 33.6%, and ages 45-5424%. (the effectiveness of dates and beets Husada Semarang). One of the causes high prevalence of anemia in pregnant womeni.e. increased iron demandas a result of physiological changes andmetabolism in the mother, inadequate intake (especially iron, folic acid and vitamin B12), impaired absorption,infections (malaria and helminthiasis), pregnancy, recurrent, thalassemia and sickle cell disease, social, economic, cultural conditions and maternal education (Rahayu, 2017) (Astuti & Hartinah, 2019).Data from (Provincial Health Office DKI Jakarta, 2018) based on results examination of pregnant women who experience the most anemia at the age of 15-24 years at 84.6 percent, ages 25-34 at 33.7 percent, ages 35-44 at 33.6 percent, and ages 45-54 24 percent of West Jakarta Region ranked fifth out of 4 regions in DKI Jakarta, this is due to lack of intake of nutrients, especially iron.

The need for iron in the body of pregnant women constantly improving according to gestational age and usually pregnant women just checked her pregnancy at early pregnancy only. That's what the possibility of causing territories West Jakarta ranked fifth out of 4 regions, therefore this is issues to be resolved by the

party government, especially health services (1 Esa Unggul University, 2016).Anemia in pregnancy is a condition of the mother with levels ofhemoglobin less than 11.0 grams/dl (Rahmayanti, Mariati & Susilawati, 2019). Anemia is a condition thatdescribes hemoglobin levels or abnormal amount of erytocytes in the bloodor low. Hemoglobin works carries oxygen (oxyhemoglobin) andcirculated throughout the body for metabolic needs. Degree of anemia In pregnant women can be classifiedinto 4 parts, namely: No anemia :Hb 11 gr%, mild anemia : Hb 9-10 gr%,moderate anemia : Hb 7-8 gr%, severe anemia: Hb <7 gr%. Pregnancy anemia is called "potentional danger to mother and child"(potential harm to mother and child), That's why anemia requiresserious attention from all parties that Related in health care (Fitria,2019) (Astuti & Hartinah, 2019).Anemia is a condition which marked a decrease in blood cell count red, hemoglobin levels, and hematocrit below normal. Anemia can be prevented by consuming nutritious meals balanced with sufficient iron intake for meet the needs of the body. Ironheme contained in greens, red flesh, yolk, raisins,fruit plums, liver, oysters and some cereals enriched by iron (Putri et al., 2021).How to deal with anemia in the mother pregnant in accordance with the recommendations government usually through 2 ways i.e. pharmacology and nonpharmacology.

Consumption of Fe tablets (60mg) and acidfolic acid(50 nanograms) during pregnancy is his pharmacological therapy, while non-pharmacological therapies in the form of eating green vegetables, fruit consumptiondates and beetroot (Cahya et al., 2021)Efforts to overcome nutritional anemia iron in pregnant women is carried out through Increased coverage of tablet supplementation iron. Other efforts that can be made by paying attention to maternal consumption patterns pregnant who should still refer to the pattern healthy and balanced eating in the general message of balanced nutrition (PUGS). Feeding arrangements in the mother pregnant not on quantity or quantity rather on quality or composition nutrients, because this factor is more effective and functional for maternal health and her fetus. For example toincrease consumption of foodstuffs high in iron such as milk, meat, and green vegetables such as green spinach, broccoli, kale, yellow squash shoot leaves, and others or fruits such as apples, pomegranates, guavas, and miscellaneous (Prima Nusantara Bukittinggi et al., 2019).Beetroot is a plant that comes from the family Amaranthaceae Chenopodiaceae. Which means, beetrootStill a family with rapeseed vegetables and other rooted vegetables. Generallythis fruit is used only the root that tastes sweet for medicine health, but over time, the flesh of the fruit and the leaves as well Consumed. Beetroot fruit or also calledwith Beta Vulgaris L.iscolored, tuber-like plants reddish purple. The shape resemblespotato. Usually beets are consumed by means of juice or processing again Become a delicate with a soft texture (Sembiring & Kadir, 2021).Beetroot has many benefitsespecially for increased levels hemoglobin in the body due to beet fruit has iron and acid contentFolat, so that pregnant women are focused onpharmacological treatment and notunderstand the way that it canincreases hemoglobin levels in addition to Fe tablets.

II. METHODS

In this study, researchers using Quasi-Experimental methods with a Pretest And Posttest approach Control Group. This research was used to identify effectiveness Beet juice administration to levels hemoglobin of pregnant women with anemia in Budhi Asih Hospital. The timing of this study conducted in November 2022.Research design used i.e. pretest posttest control group design.This design was chosen to know Effect of treatment on groups Intervention by way of comparison with the control group. Previously both groups are first launched pretest to find out the level hemoglobin, then treated is given.

Intervention group administered Fe tablets and beetroot juice, the administration of beetroot juice 1 week 4 times for 14 days, while Control group only given tablets Fe and not given beet juice. Furthermore, the researcher conducts a posttestto see the effect of the treatment given, by using cross sectional approach.The population in this study, i.e. all pregnant women with anemia at rsud Budhi Asih from November- December 2022. The sample in the study isas many as 30 people by dividing them into 2 groups i.e. groups intervention and control group of 15 respondents each with Techniques sampling in this researcher using purposive sampling.

III. RESULT

Univariate Analysis

Table 5. 1 Average Distribution of Changes in He moglobin Levels in the III TrimesterBefore and After Giving Bi Fruit Juice

Group Intervention	Mean	SD	Min	Max	P
Before the Intervention	6.33	1.397	5	9	0,001
After the Intervention	11.20	1.424	8	13	0,001

Based on the table above can be It is known that in the intervention group, before administration of beetroot juice therapy obtained the majority of anemia levels in the category weight i.e. 9 people (60%), and after given beet juice obtained the majority Non-Anemic Category, 11 People (73,3%). While in the control group, before the intervention period is obtained The majority of severe anemia level categories, namely 10 people (66.7%).

Bivariate Analysis

Table 1.2. Anemia rates before and after beetroot juice in groups Intervention

Anxiety Levels Before Intervention							
	Mean	Median	SD	Min	Max	Mean Rank	P
Intervention	2.53	3.00	0.640	1	3	16.17	0.639
Control	2.40	3.00	0.737	1	3	14.83	0.639

Based on the table above, you can Known averagelevel of anemia in intervention groups before administration Beet juice therapy obtained on average rate anemia is 6.33 while after given beet juice obtained on average the level of anemia is 11.20, so there is an increase in the yield of anemia levels A total of 4.87 points.From the Wilcoxon test obtained the value of pvalue = 0.001 ($\alpha < 0.05$) inferred that statistically there is a difference significant level of anemia between before and after being given fruit juice therapy beets on the intervention group. Get It was concluded that there was an increase anemia rate in pregnant women in the III trimester in the group given juice therapy beetroot.

Table 1.3. Anemia rates before and after the administration of beet juice in the group Control

Control Group	Mean	SD	Min	Max	P
Before the Intervention	6.33	1.580	5	10	6.00
After the Intervention	4.80	2.077	3	9	6.00

Based on the table above, you can Known average rate of group anemia the control before the intervention period is 6.33 while after the intervention period obtained the average level of anemia is 11.20 so there is a decrease in the rate anemia as much as 4.87 points.The Wilcoxon test returns the value p = 0.083 ($\alpha < 0.005$) concludes that statistically there is a difference significant level of anemia between before the intervention period with after period of intervention in the control group. It can be concluded that there is a decrease anemia rate in pregnant women in the III trimester in the group that was not given juice therapy beetroot.

Table 1.4. Differences in Anemia Rates After Intervention in Intervention Groups and Groups Control

Anxiety Levels Before Intervention							
	Mean	Median	SD	Min	Max	Mean Rank	P
Intervention	0.68	0.00	0.617	0	2	8.30	0.001
Control	2.60	3.00	0.632	1	3	22.70	0.001

Based on table 5.5 can be known that there is diference in rate change anemia after intervention in groups interventions and control groups with an average of 22.70. Mean rank anemia rate in 8.30 smaller intervention group compared mean rank anemia rate in control group 22.70.Whitney's mann test result obtained P = 0,001 ($\alpha < 0,005$). Thus, it is concluded that there is a difference in the level of anemia in intervention groups and control groups after being given beet juice therapy.

IV. DISCUSSION

Anemia Rate of Pregnant Women in the III Trimester before and after juice administration Beetroot at Budhi Asih Hospital in 2022

Changes in the level of anemia before and after intervention in the intervention group there is an increase in the level of anemia after given beet juice with a value of P = <0.05.Based on the results of research on pregnant women in the III trimester who are given therapy beetroot juice obtained average anemia score Pretest of 2.53 and average rat-anemia score posttest of 0.33. In addition from the analysis bivariate known p value in group the intervention is 0.000 < α 0.05, which means that in the intervention group there is differences in the level of anemia before and after being given beetroot juice therapy to the mother pregnant in the third trimester at Budhi Asih Hospital. If judging from the results of data analysis can be inferred on the intervention group experiencing a decrease in the level of anemia that Significant. With the feeding of beet juice in pregnant women iii trimester can help increase Hb levels of pregnant women.The results of this study are in accordance with the once performed by D. Astuti, D. Hartinah (2019), on the effectiveness of juice feeding Beetroot against maternal hemoglobin level pregnant with anemia at Tayu Health Center the year is 2018. From D. Astuti, D. Hartinah (2019) says the level of anemia in mothers pregnant in the III trimester in Pekanbaru City have been given beet juice experienced significant increase (p = 0.000), and average results of hemoglobin levels of pregnant women with anemia in the puskesmas work area Pekanbaru city before being given fruit juice by 9.0 in the intervention group and 9.18 in the control group. Meanwhile, the average hemoglobin level of pregnant women with anemia after applying beet juice as big as 11.27 in the intervention group and 9.22 control group.

And according to D. Anggraini, N. Saragita (2019), on The effect of beet juice on Hb levels in pregnant women in the III Trimester it was obtained that most (56.2 %) mothers pregnant in the III trimester experiences niennia Hb levels in pregnant women and obtained p = 0,004 < α 0,05. Which means there is an influence The significant from the feeding of beet juice on the increase in Hb levels of pregnant women in III trimester.Food is one of the things which affects the incidence of anemia. It is due to the compensatory nutrients in food used to compose the formation of hemoglobin among which substances iron and protein. Selection of consumption patterns foods such as types of food, and the frequency of food consumed can be effect on the value of Hb levels somebody. Beet content, namely iron Vitamin c, B1, B2, B3, antioxidants, anticarcinogenic and silica. Iron intake insufficient need for resulting in the occurrence of anemia due to disruption of the formation of red blood cells (Princess et al., 2021).The intervention group experienced decrease in the level of anemia due to This group of respondents was monitored when drink 200gr of beet juice with a frequency of 14 days as much as 260ml every day. On the 7th and 14th days it is carried out monitoring via direct control in poly obstetrics and there are also some via zoom and WhatsApp video calls. So that the condition respondents when to be given beetroot juice can be controlled. Beet juice feeding given in the morning after breakfast and nights before bedtime and respondents still allowed to consume food and other vitamins such as Fe tablets. Respondents are required to regularly drink juice beetroot so that it produces a result that maximum.

This is in line with Research Triana (2020) provides intervention in the form of beetroot powder supplementation sebnyak 8gr which is administered for 14 days effectively capable of increases the hemoglobin level of pregnant women. This study provides intervention with more quantity as much as 200gr for 14 days.From the results of the study can It is concluded that the feeding of beets is good in the form of juices, extracts / supplements effectively able to increase maternal hemoglobin levels pregnant with a duration of at least 7 days. It is certainly supported by the motivation of pregnant women and family support to obey on the interventions provided as well as researchers orderly in exercising control observance of the intervention carried out.

Anemia Levels Before and After Giving Beet Juice to Groups Control

Based on the results of research on pregnant women in the III trimester obtained on average Pretest anemia score of 6.93 and average Posttest anemia score of 4.80. Moreover From the bivariate analysis, it is known that the value of the P value in the control group is 0.083 < α 0.005, which means that the control

group there is a difference in the level of anemia before intervention period with after period intervention in pregnant women of the III trimester in Budhi Asih Hospital. When viewed from the data inferred on the control group occurs increased anemia rate of pregnant women III trimester.The results of this study are in accordance with the theory which indicates that the level of anemia in pregnant women III trimester tends to be high due to a decrease in Hb levels and hematocrit in the I and II trimesters while the formation of red blood cells occurs in mid-late pregnancy so that concentration begins to increase in the III trimester pregnancy (Anggraini & Saragita, 2019).

On this variable the juice of beetroot is very Effect on the level of niennia levels maternal hemoglobin, with the mother consuming this beet juice can routinely help Mother to increase hemoglobin levels mother. Beet juice is a solution for anemic mothers to cope with anemia-related problems experienced by the mother. Thing It can increase hemoglobin levels mother and is an undertaking to megurangi the occurrence of possible things that are not desired at the time of delivery such as Bleeding.Thus the researcher concluding that the feeding of beet juice may affect rising levels hemoglobin in pregnant women III trimester. If consume regularly and accordingly with directions conveyed by researchers then the level of maternal hemoglobin levels will increase and give fruit juice Beets will also affect anemia pregnant women in the III trimester. Family support also a form of interpersonal relationship that protects the mother from the effects of fear and anxiety with the condition of the mother at the time of experiencing Anemia. With family support which always reminds mom to always consume beetroot juice for 14 days being a good thing too for provide smoothness to this research.

Differences in Anemia Levels in Intervention groups and groups Control

The results of statistical tests show that there is a difference in anemia of pregnant women in the III trimester on intervention groups and groups control after administered beetroot juice in Budhi Asih Hospital, this is shown from The average difference in anxiety of pregnant women II trimester in the Intervention Group sebasar 8.30 while in the group control 22.70 and p value 0.000 < α 0,05.The results of this study are in line with with the results of the study (Stephana et al.,2016). Which states that Consumption Beetroot (which has already been made juice) willincreases the plasma concentration of nitrates inpatients with arterial abnormalities, wherethis patient experienced addition failure blood supply and oxygen for tissues during work resulting in a sense ofpain when walking. Patients who haveconsuming the juice of this beetroot fruit undergoes plasma enhancement after three hours and able to run longer 18% before the appearance of pain. Cystole and diastole in the case group as well Decreased. This is evidenced with a p value of ≤0.05 (Info, 2022).In the study there are differences Hemoglobin levels of pregnant women due to on control groups not given intervention so that the results obtained occur decrease in maternal Hemoglobiin levels with maximum and minimum pretest scores of 1-3 and maximum and minimum posttest scores of 1-3.

Increased haemoglobin in the mother pregnant after consuming this beetroot fruit shows that in coping anemia of pregnant women can not only be performed pharmacologically however can also be used by means of non pharmacological by giving beetroot (Sylvana et al., 2020). Fruitbeets contain useful folic acid for the development of bone sums behind the baby, reducing the risk of defects in babies and boosting a woman's immune systempregnant (Yana. 2014). For moderate motherspregnant, consumption of efficacious beets improves the immune system, prevents osteoporosis and anemia and someOther health problems that affect motherspregnant. Processing make beets for pregnant women must be careful gar nutrient content inthe depth does not decrease. Bitcontains a low glycemic content, so that consuming beets during pregnancyhelps stabilize glucose levels in the blood (Selby, 2021).Thus the researcher Summing up the fulfillment of nutritional needs In pregnant women should not always be from tablets Fe or vitamins provided by energy health but can also be through counseling which we give by bathing the motherin order to be able to process their own food ingredients so that the quality of nutrition andfree from preservatives, It canwe recommend mom to make beet juicebecause based on the results of the study may increase hemoglobin levels, which became the first step as prevention of anemia in pregnant women.

V. CONCLUSION

Based on the results of research on Effectiveness of Beet Juice Administration in Efforts to increase maternal hemoglobin levels pregnant in the third trimester at Budhi Asih Hospital for the year 2022 can be summed up as follows :

1. From the results of the analysis obtained the degree of anemia in the pre-test average intervention group is 6.33 while the posttest average is 11.20, so there is an increase The anemia rate is 2.2 points.
2. From the results of the analysis obtained the degree of anemia mothers on the average invervention pre test is 2.40 while the average post test is 2.60, resulting in an increase in the rate anemia by 0.2 points.
3. The presence of an increase in the level of anemia in pregnant women in the III trimester after administration beetroot juice.

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