Journal Of Health Science Community
ISSN: 2714 7789 (print) – 2745 3561 (online)
DOI : https://doi.org/10.30994/jhsc.v5i2.255
Vol. 5 No. 2 November 2024, Page. 127-133

Behavior Of Consuming Betel Nut On The Incidence Anemia In Pregnant Women At Posyandu Wasur Kampung, Working Area Of Rimba Jaya Health Center Merauke District - Merauke Regency

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ABSTRACT
The incidence of anemia suffered by pregnant women at the Wasur Kampung Posyandu was caused by the majority of respondents consuming betel nut which has become a culture in the WasurKamping community. This study aims to determine the behavior of consuming betel nut on the incidence of anemia in pregnant women. This study uses a secondary data research design of anemia with a cross sectional *approach*. With *the Total Sampling technique* , a sample of 25 respondents was obtained, the independent variable of betel nut consumption using a questionnaire and the dependent variable of anemia incidence by looking at the records in the Register of Pregnant Women Cohort Wasur Kampung was used *by the Spear-Mann statistical test* to determine the relationship between the two variables. The results of the study from 25 respondents were obtained that most of the respondents consumed betel nut as many as 20 respondents (80%), of the 20 respondents who consumed betel nut areca nut all consumed betel nut ≥ 2 times a day and ≥ 2 pieces a day (100%). And it was found that most of the 20 respondents who consumed betel nut had moderate anemia as many as 17 people (85%). The analysis using the Non-Parametric Spear-Mann test obtained a correlation coefficient of 0.403*. This means that the level of strength of the relationship (correlation) between the free variable and the bound variable is 0.403 or strong. Based on the output, it is known that the significance value or Sig. (2-tailed) is 0.046, because the value of Sig. (2-tailed) 0.046 > is smaller than 0.05 or 0.01, it means that there is a significant relationship between areca nut consumption and the incidence of anemia.

Keywords: Behavior, Betel Consumption, Incidence of Anemia

INTRODUCTION
Based on data from the World Health Organization (WHO) 2013, 40% of maternal deaths in developing countries are related to anemia in pregnancy. Most anemia in pregnancy is caused by iron definition and acute bleeding, even the distance between the two is mutually instructive. Anemia in pregnancy is a major health problem in developing countries with high levels of mobility in pregnant women (Adawiyani, 2013).

The maternal mortality rate (MMR) in Indonesia is currently still high compared to AKI in other ASEAN countries. The Maternal Mortality Rate in Indonesia in 2017 was 359 per 100,000 live births. This means that AKI has not reached the target in 2017, which is 102/100,000 live births. Based on the data above, there are five causes of maternal death, namely bleeding (30.1%), hypertension in pregnancy (26.9%), infection (5.5%), old partus (1.8%), abortion (1.6%) and others (34.5%) (Ministry of Health, 2015). Based on data from the 2018 National Health Survey, the anemia rate in pregnant women is 40.1%. This shows that anemia is still above 40%, so there will be maternal deaths of 18 thousand per year due to bleeding after childbirth. This condition will cause 3-7% of mothers to die due to indirect causes, namely anemia. (Perce, 2010).

The tradition of chewing betel nut is carried out by almost all circles in Merauke. Men and women, young and old, chew betel nut as their daily habit. This is also supported by the rise of areca nut sellers that we can find in every corner of Merauke city. According to several existing articles, it turns out that this fruit has existed since 3000 years ago which was introduced by Austronesian humans who migrated to the coast of Papua. As a fruit plant that can grow well only in the lowlands, it is only natural that this fruit grows very well and flourishes in Merauke. It is from this small fruit that the wheels of Merauke's economy can turn a little.

Another thing that can occur as a result of excessive consumption of betel nut betel nut especially in women, in a study conducted by Ome-Kaius et al., 2015 found that chewing betel nut excessively will contribute to the incidence of anemia. Yang et al., (2008) have also found that women of childbearing age with the habit of consuming betel nut areca nut are associated with pregnancy and birth outcomes. The substances contained in areca nut, namely tannins, can inhibit the absorption of nutrients such as iron and protein for the body (Setty Siamtuti et al., 2017). Therefore, betel nut will have a bad impact on health such as the risk of anemia if consumed in excess (Ome-Kaius et al., 2015).

Based on a preliminary study conducted at the Wasur Kampung Posyandu in the working area of the Rimba Jaya Health Center, Merauke District - Merauke Regency is as follows: The number of pregnant women from January to September 2023 at the Wasur Kampung Posyandu is 25 pregnant women, and there are 5 pregnant women who do not consume betel nut, out of 25 pregnant women there are 3 people who do not suffer from anemi, 3 people had mild anema and 17 people had moderate anemia. (Source: Register of Pregnant Women Cohort of Wasur Kampung Posyandu, 2023).

From the data above, the researcher is interested in researching whether there is an effect of consuming betel nut on the incidence of anemia in pregnant women at the Wasur Kampung Posyandu.

METHODS

This study uses a Correlational Analytical design research design, with a cross sectional approach. With a total sampling technique, a sample of 25 respondents was obtained, the variable was bound by betel nut consumption and the free variable was in the form of anemia incidence. The Spearmans rho statistical test was used to determine the relationship between the two variables. Analysis using the Spearmans rho statistical test obtained the result $p = 0.046 < 0.05$, then H0 was rejected and H1 was accepted, which means that there is a relationship between betel nut consumption and the incidence of anemia in pregnant women in Wasur Kmpung

RESULTS

Table 1. Distribution of Respondent Characteristics and Variables

Research Results	Frequency	Percent (%)
Age of Pregnant Women		
< 20 years	4	16
20 – 35 years old	11	44
>35 years old	10	40
Sum	***25***	***100***
Education		
SD	5	20
JUNIOR	7	28
SMA	13	52
Sum	***25***	***100***
TYPE OF JOB		
IRT	25	100
Civil servants	0	0
Self employed	0	0
Sum	***25***	***100***
GESTATIONAL AGE		
3 Months	3	12
4 Months	4	16
5 Months	3	12
6 Months	6	24
7 Months	5	20
8 Months	4	16
Sum	***25***	***100***
FREQUENCY OF CONSUMPTION OF BETEL NUT		
No Consumption	5	20
< 2 times a day	0	0
≥ 2 times a day	20	80
Sum	***20***	***100***
NUMBER OF BETEL NUT CONSUMPTION		
No Consumption	5	20
< 2 pieces a day	0	0
≥ 2 pieces a day	20	80
Sum	***25***	***100***
Hb LEVEL Before being monitored		
Normal Hb (≥ 11 gr/dl)	5	20
Hb Light (10 – 10.9 gr/dl)	3	12
Medium Hb (7 – 9.9 gr/dl)	17	68
Hb Weight (< 7 gr/dl)	0	0
Sum	***25***	***100***
Hb LEVELS After Monitoring		
Normal Hb (≥ 11 gr/dl)	8	32
Hb Light (10 – 10.9 gr/dl)	8	32
Medium Hb (7 – 9.9 gr/dl)	9	36
Hb Weight (< 7 gr/dl)	0	0
Sum	***25***	***100***

Table 2 Cross-tabulation Between Variables

Before being monitored

			Incidence of anemia in pregnant women			Total
			No Anemia	Mild Anemia	Moderate Anemia	
Consumption of betel nut	Not consuming	Count	0	0	5	5
		% of Total	0.0%	0.0%	20.0%	20.0%
	Always consume	Count	5	4	11	20
		% of Total	20.0%	16.0%	44.0%	80.0%
Total		Count	5	4	16	25
		% of Total	20.0%	16.0%	64.0%	100.0%

After being monitored

			Incidence of anemia in pregnant women			Total
			No Anemia	Mild Anemia	Moderate Anemia	
Consumption of betel nut	Not consuming	Count	0	1	4	5
		% of Total	0.0%	4.0%	16.0%	20.0%
	Always consume	Count	8	6	6	20
		% of Total	32.0%	24.0%	24.0%	80.0%
Total		Count	8	7	10	25
		% of Total	32.0%	28.0%	40.0%	100.0%

Based on Table 2 above, it is known that 11 respondents (44%) experienced moderate anemia before being monitored who consumed betel nut betel nut (44%), while after monitoring to reduce the consumption of betel nut both the frequency of the number, the respondents who experienced moderate anemia became 6 respondents (24%)

Analysis of Research Statistical Test Results

			Consumption of betel nut	Incidence of anemia in pregnant women
Spearman's rho	Consumption of betel nut	Correlation Coefficient	1.000	.403*
		Sig. (2-tailed)	.	.046
		N	25	25
	Incidence of anemia in pregnant women	Correlation Coefficient	.403*	1.000
		Sig. (2-tailed)	.046	.
		N	25	25

The results of the analysis of the research on the relationship between betel nut consumption and the incidence of anemia in pregnant women based on a statistical test using the Spearman's rho test obtained the result p = 0.046< 0.05 then H0 was rejected and H1 was accepted which means there is a relationship between betel nut consumption and the incidence of anemia in pregnant women at the Wasur Kampung Posyandu with a correlation coefficient value of 0.403 which means that the level of relationship is in the category of strong relationship, where the correlation value range between 0.60-0.799 is included in the category of strong relationships (Sugiyono, 2010).

DISCUSSION

Identification of Consuming Betel Nut

The results of the study showed that pregnant women who had the behavior of always consuming betel nut showed that the low knowledge and awareness of pregnant women about the impact of betel nut consumption on pregnant women and the fetus in their womb. The substances contained in areca nut, namely tannins, can inhibit the absorption of nutrients such as iron and protein for the body (Setty Siamtuti et al., 2017). Therefore, betel nut will have a bad impact on health such as the risk of anemia if consumed in excess (Ome-Kaius et al., 2015).

The results of the study showed that pregnant women before monitoring related to the influence of areca nut consumption in the pregnancy phase many experienced mild to moderate anemia. Pregnant women in general who have low hemoglobin levels are caused by a lack of knowledge about the impact of betel nut consumption that causes anemia. One of the tannins contained in betel nut if consumed in excess will have a bad impact on the body, such as inhibiting the absorption of nutrients. This is supported by research from Rima et al., 2023 The substances contained in areca nuts, namely tannins, can inhibit the absorption of nutrients such as iron and protein for the body. Therefore, betel nut will have a bad impact on health, such as the risk of anemia if consumed in excess (Rima et al., 2023). Therefore, it is an important role for health workers to be able to provide information related to the importance of blood supplement tablets for the prevention of anemia experienced by pregnant women from an early age.

In the opinion of the researcher, monitoring the consumption of betel nut in pregnant women accompanied by education can increase maternal knowledge about the dangers of betel nut consumption to prevent anemia. By giving advice to switch consumption to foods that are more nutritious and do not harm pregnancy. It is suggested that this effort can be continued in the context of reducing anemia in pregnant women in the working area of the Rimba Jaya Health Center which has become a routine habit for the consumption of betel nut in their daily lives. This is reinforced by research from Fatimah, et al. 2019, Knowledge obtained through sensing pregnant women of health information during pregnancy will affect the behavior of pregnant women in maintaining their health.

Identification of Anemia Incidence

Anemia in pregnancy is a condition of mothers with *haemoglobin* levels below 11 gr% in the first and third trimesters or <10.5 gr% in the second trimester (Saifuddin, 2017). In the first six weeks of pregnancy, the volume of plasma, red blood cells, and total blood circulation can be compared to the volume in normal non-pregnant women. At around the 8th week of gestation, the volume of plasma increases continuously and by the 20th week, the increase reaches 21%. As a result, a *hemodilution occurs* because the volume of red blood cells does not increase by a meaningful degree. After the 24th week of pregnancy, the volume of maternal plasma stabilizes to about 67-68 ml/kg and is fairly constant throughout the rest of pregnancy. The volume of red blood cells also remains constant, which is 27 ml/kg. The total plasma volume increases by approximately 50% and the total red blood cells increase by approximately 20% during the gestation period. The consistency of this volume of plasma and red blood cells as the fetus grows, is necessary to carry an adequate supply of oxygenated blood. Iron intake during pregnancy also affects efforts to maintain adequate red blood cell volume. The fetus is totally dependent on the mother in determining its nutritional needs.

Based on research from Pandie and Froulina (2023), the high tannin content in areca nuts and betel nuts is considered to interfere with iron absorption by the formation of complexes with iron in the intestinal lumen, an antinutrient-mineral complex that is insoluble so that it cannot be absorbed by the body, making iron less available for absorption. Tannins have

biological properties, namely as a binder for iron metal (Fe). In general, Fe binds to adjacent hydroxyl groups on a galloyl group (a type of hydrolyzed tannins (tannic acid)) which is hydrolyzed by the acid to form galic acid and glucose. Each molecule of gallic acid (the base unit of polyester) contains one galloyl group. This galloyl group is involved as a structure responsible for inhibiting Fe uptake by phenolic compounds. If the absorption of iron (Fe) is disturbed, the formation of hemoglobin will also be disrupted, which eventually causes low hemoglobin levels and anemia. And according to Purbadewi (2013), if pregnant women know and understand the consequences of anemia and how to prevent anemia, they will have good health behaviors so that they are expected to avoid various consequences or risks of anemia in pregnancy. Such health behaviors can affect the reduction of the incidence of anemia in pregnant women.

Identification of Consuming Betel Nut on the Incidence of Anemia in Pregnant Women at the Wasur Village Posyandu Working Area of the Rimba Jaya Health Center – Merauke District – Merauke Regency

The results of the analysis of the research on Consuming Betel Nut on the Incidence of Anemia in Pregnant Women at the Wasur Village Posyandu Village Health Center Rimba Jaya – Merauke District – Merauke Regency, From table 4.21, a correlation coefficient of 0.403* was obtained. This means that the level of strength of the relationship (correlation) between the free variable and the bound variable is 0.403 or strong. An asterisk (*) means a significant correlation with a significance number of 0.05. The correlation coefficient number has a positive value, which is 0.403, so the relationship between the two variables is unidirectional (type of unidirectional relationship), thus it can be interpreted that areca nut consumption, the incidence of anemia will also decrease and based on the output it is known that the significance value or Sig. (2-tailed) is 0.046, because the value of Sig. (2-tailed) 0.046 > is smaller than 0.05 or 0.01, it means that there is a significant relationship (meaning) between areca nut consumption and the incidence of anemia.

In the opinion of researchers, there is a relationship with reducing the frequency and amount of betel nut consumption in pregnant women can increase Hb levels. Therefore, all pregnant women in Wasur Kampung are expected to maintain their health and be able to control the consumption of betel nut during pregnancy by eating nutritious local foods to support an increase in Hb levels which will be beneficial for the mother and the fetus conceived.

CONCLUSION

Based on the results of research that has been conducted at the Wasur Kampung Posyandu on 25 respondents about the behavior of consuming betel nut on the incidence of anemia in pregnant women, it is concluded as follows:

1. The habit of consuming betel nut before monitoring pregnant women in Wasur Kampung based on table 4.5. It can be interpreted that the majority of respondents (80%) consume betel nut ≥ 2 times a day and ≥ 2 pieces a day, which is as many as 20 respondents.
2. The condition of Hb levels before monitoring in pregnant women in Wasur Kampung Based on table 4.4, it can be interpreted that the majority of respondents (68%) with moderate Hb levels are 17 respondents.
3. Condition of Hb levels after monitoring pregnant women in Wasur Kampung Based on table 4.5, it can be interpreted that the majority of respondents (36%) with moderate Hb levels are 9 respondents
4. Based on the Wilcoxon non-parametric statistical test, the result was 0.00, meaning that Ha was accepted and there was a behavioral relationship to the incidence of anemia before and after the treatment of reducing betel nut consumption for 14 days

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