

The Incidence Of Anemia In Teenagers Viewed From Habits Of Consuming Areca Nut In The Working Area Of The Ulilin Community Health Center, Merauke Regency, South Papua Province.

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ABSTRACT

In Indonesia, the habit of chewing areca nut is a habit carried out by various tribes, including the Papuan tribe. Papuan people chew areca nut to flavor their mouths. Then it continues to be enjoyable and feels good so it is difficult to let go. This study aims to determine the incidence of anemia in adolescents viewed from the habit of consuming areca nut in the working area of the Ulilin Community Health Center, Merauke Regency, South Papua Province. This research uses a research design *Observational Analytics* with approach *cross sectional*. With technique *purposive sampling* A sample of 35 respondents was obtained, the independent variable was the habit of consuming areca nut and the dependent variable was the incidence of anemia. Statistical tests are used *Chi-Square* to find out the relationship between the two variables. The results of research from 35 respondents showed that most of the respondents had criteria for the incidence of anemia Most of them suffer from anemia as many as 23 respondents (65.7%) and most of the young women often consume areca nut as many as 24 respondents (68.6%). Analysis uses statistical tests *Chi-Square* results were obtained $p = 0.013 < 0.05$, then H₀ is rejected and H₁ is accepted, which means there is a relationship between the incidence of anemia and the habit of teenagers consuming areca nuts in the working area of the Ulilin Community Health Center. It is hoped that the local community, especially young women, can gain knowledge regarding the negative impacts of the habit of consuming areca nut and it is hoped that women of childbearing age can pay attention to the nutritional status (protein and iron) that the body needs in an effort to reduce the risk of developing anemia.

Keywords: Anemia, Areca Nut And Teenagers

INTRODUCTION

Anemia in teenage girls can also cause anemia during pregnancy. As a result, the growth and development of the fetus in the womb is disrupted. In addition, anemia during pregnancy has the potential to cause complications during pregnancy and childbirth, and can even cause death of the mother and child (Ministry of Health of the Republic of Indonesia, 2018a).

According to WHO (World Health Organization) 2022, adolescence is a phase between childhood and adulthood in the age range between 10 and 19 years. Meanwhile, in Regulation of the Minister of Health of the Republic of Indonesia N0.25, teenagers are residents in the age range between 10 and 18 years (Kemkes.go.id, 2018). Apart from that, the National Population and Family Planning Agency (BKKBN) said that the age range for teenagers is 10 to 24 years and they are not married, so it can be interpreted that adolescence is a period of transition from children to adults (Brief Notes of the FEB UI Demographic Institute, 2020).

Lack of hemoglobin means lack of oxygen in the body. If oxygen is reduced, the body will. Until now, the prevalence of anemia in teenagers is still high. Based on 2018 Riskesdas data, the proportion of anemia in the 15-24 year age group was 32% (Riskesdas, 2018). Meanwhile, the percentage of young women aged 12-18 years who received blood supplement tablets (TTD) in Indonesia is 12.4% (Ministry of Health of the Republic of Indonesia, 2018b).

Until now, the prevalence of anemia in adolescents is still high. Based on 2018 Riskesdas data, the proportion of anemia in the 15-24 year age group was 32% (Riskesdas, 2018). Meanwhile, the percentage of adolescent girls aged 12-18 years who received blood supplement tablets (TTD) in Indonesia is 12.4% (Indonesian Ministry of Health, 2018b).

The habit of giving birth to Papuan people does not pay attention to age, race, rank and class. Papuan tribes believe that the benefits of chewing areca nut for dental and oral health are that it eliminates toothache and makes teeth strong. This causes the habit of chewing areca nut to increase. Papuan people are not yet aware of the dangers of consuming areca nut if consumed continuously, one of the problems is anemia in teenagers.

Based on an initial survey conducted by researchers in the working area of the Ulilin Community Health Center, the majority of Papuan people, especially young women, still consume areca nuts, while most of the community or migrant population do not consume areca nuts. Based on the results of interviews conducted with several teenagers, it can be seen that some teenagers who consume areca nuts continuously suffer from anemia, for teenagers who consume areca nuts occasionally or not continuously, there are teenagers who experience anemia, there are also teenagers who not anemic, whereas for teenagers who did not consume areca nuts at all, these teenagers did not experience anemia.

Based on the data above, the number of adolescent anemia in Indonesia is still high, because the majority of Papuan people consume areca nuts, this situation attracted the attention of researchers to conduct research on "Incidence of Anemia Seen from the Habit of Consuming Areca Nuts in the Ulilin Community Health Center working area."

METHODS

This research uses an observational analytical research design with a cross sectional approach. Using a purposive sampling technique, a sample of 35 respondents was obtained, the independent variable was the habit of consuming areca nut using a questionnaire and the dependent variable was the incidence of anemia using observation. The Chi-Square statistical test was used to determine the relationship between the two variables. Analysis using the Chi-Square statistical test resulted in $p = 0.000 < 0.05$, so H_0 was rejected and H_1 was accepted, which means there is a relationship between the incidence of anemia in adolescents and the habit of consuming areca nut in the working area of the Ulilin Health Center. Merauke Regency, South Papua Province.

RESULTS

Table.1 Distribution of Respondent Characteristics and Variables

Research result	Frequency (f)	Percent (%)
Age		
10 th - 12 th	8	22.9
May 13 - May 14	10	28.6
May 15 - May 16	11	31.4
17 May - 18 May	6	17.1
Total	35	100.0
Anemia Occurrence		
anemia	23	65.7
not anemic	12	34.3
Total	35	100.0
Habits of Consuming Pinang Fruit		
often	24	68.6
not often	11	31.4
Total	35	100.0

Source: Research Questionnaire, 2024

Table 2 Cross Tabulation Between Variable

			Anemia Occurrence		Total
			anemia	not anemic	
Age	10 th - 12 th	Frequency	4	4	8
		%	11.4%	11.4%	22.9%
	May 13 - May 14	Frequency	7	3	10
		%	20.0%	8.6%	28.6%
	May 15 - May 16	Frequency	8	3	11
		%	22.9%	8.6%	31.4%
	17 May - 18 May	Frequency	4	2	6
%		11.4%	5.7%	17.1%	
Total		Frequency	23	12	35
		%	65.7%	34.3%	100.0%
Pinang Fruit Consumption Habits	often	Frequency	19	5	24
		%	54.3%	14.3%	68.6%
	not often	Frequency	4	7	11
		%	11.4%	20.0%	31.4%
Total		Frequency	23	12	35
		%	65.7%	34.3%	100.0%

Source: Research Questionnaire, 2024

Based on table 4.6 above, it is known that that respondents aged 15-16 years experienced anemia the most, namely 8 respondents (22.9%), while respondents who often consumed areca nut and experienced anemia were 19 respondents (54.3%).

Analysis of Research Statistical Test Results

		Value	Approx. Sig.
Nominal by Nominal	Contingency Coefficient	.386	.013
N of Valid Cases		35	

The results of research analysis regarding the relationship between the incidence of anemia and the habit of teenagers consuming areca nuts based on statistical tests using the Chi-Square test showed that $p = 0.013 < 0.05$, so H_0 was rejected and H_1 was accepted, which means there is a relationship between the incidence of anemia and the habit of teenagers consuming areca nut in Ulilin Health Center working area. With a correlation coefficient value of 0.386, which means the level of relationship is in the low relationship category, where the

correlation value range is between 0.20-0.399, which is included in the low relationship category (Sugiyono, 2010).

DISCUSSION

Identity of Respondent Characteristics Based on Age

Based on table 4.1 above, it is known that of the 35 respondents, the majority of respondents were aged 15-16 years, 11 people (31.4%).

Teenagers is a period of growth and development characterized by very rapid changes (growth spurt) physically, psychologically and cognitively. The growth spurt in girls starts at the age of 10-12 years, while in boys at the age of 12-14 years. Rapid growth is usually accompanied by increased physical activity so that nutritional needs will increase (Banowati, 2019)

Teenagers is a development to become an adult, so guidance and experience are needed to lead to good maturity including mental, emotional, social and physical maturity. The age limit for teenagers according to WHO is 12 to 24 years. According to the Indonesian Ministry of Health in 2017, the age limit for teenagers is 10 to 19 years and not yet married. Adolescence is a period of human growth and development and is a transition period from childhood to adulthood which includes biological, psychological, social and intellectual changes (Pritasari et al, 2017).

The earliest puberty in girls occurs at the age of 6-7 years and the latest at the age of 13 years is marked by menarche or first menstruation and is related to breast growth. In boys, the earliest occurs at age 8 years and the latest at age 13.5 years (Mardalena, 2016).

Based on the research results, it is known that the majority Teenagers girls aged 15-16 years, 11 people (31.4%), during this period require increased iron absorption for development, which is characterized by rapid growth rates and consequently iron reserves. Adolescent girls need the most iron, which is used to replace iron wasted with menstrual blood, in addition to supporting growth and sexual maturation.

The results of this research are in line with research conducted by Apriyanti, F. (2019) regarding "The relationship between nutritional status and the incidence of anemia in adolescent girls at SMAN 1 Pangkalan Kerinci, Pelalawan Regency in 2019" with the results of the study explaining that adolescent girls are more susceptible to anemia because teenagers are during the growth period which requires higher levels of nutrients including iron. The prevalence of anemia among children aged 5-12 in Indonesia is 26%, among women aged 13-18 it is 23%. In Riau Province, the prevalence of anemia is 25.1% and 19.4% are aged 15-24 years.

Identification of Anemia Events

Based on table 4.2, it is known that the incidence rate of anemia in teenagers in the Ulilin Community Health Center working area was found to be mostly anemia, namely 23 respondents (65.7%).

Anemia or lack of red blood cells is a condition where the number of red blood cells or hemoglobin (a protein that carries oxygen) in red blood cells is below normal. Red blood cells themselves contain hemoglobin which plays a role in transporting oxygen from the lungs and delivering it to the lungs. all parts of the body. (Hasdianah & Suprpto, 2016).

Anemia in teenage girls can also cause anemia during pregnancy. As a result, the growth and development of the fetus in the womb is disrupted. In addition, anemia during pregnancy has the potential to cause complications during pregnancy and childbirth, and can even cause death of the mother and child (Ministry of Health of the Republic of Indonesia, 2018a).

The incidence of anemia in adolescents is defined as a condition where the level of hemoglobin (Hb) in the blood decreases so that it cannot fulfill its function as measured using

Hb sahli. Blood collection was carried out by researchers by collecting young women and then checking their Hb. Based on the research results, it is known that the Hb of most teenage girls is less than or equal to 11 g/dl.

Based on several research results, it can be seen that there are still many young women who experience anemia. Adolescent girls have a ten times greater risk of suffering from anemia compared to adolescent boys. This is because young women menstruate every month and are growing, so they need more iron intake. Apart from that, the habit of consuming areca nuts/areca fruit excessively will contribute to the incidence of anemia because the substances contained in areca nuts, namely tannins, can inhibit the body's absorption of nutrients such as iron and protein (Setty Siamtuti et al 2017). Apart from that, young women who experience anemia are also caused by never taking blood supplement tablets every month, while menstruation results in a loss of iron through menstruation of 0.5 mg per day so that if the blood that comes out is not replaced by consuming adequate nutritional intake and assisted by It is feared that blood supplement tablets will cause young women to experience anemia.

The results of this research are in line with research conducted by Nurjannah, S. N., & Putri, E. A. (2021) regarding "The relationship between nutritional status and the incidence of anemia in adolescent girls at SMP Negeri 2 Garawangi, Kuningan Regency" with the results of the research showing that of the 110 adolescent girls, most experiencing anemia, namely 82 teenagers (74.5%)

Identify the Habits of Consuming Areca Fruit

Based on table 4.3, it is known that the majority of teenagers in the working area of the Ulilin Community Health Center often consume areca nut, as many as 24 respondents (68.6%).

Chewing areca nut is the process of concocting a mixture of selected elements which is wrapped in areca leaves and then chewed within a few minutes (Samad, 2013). Menginang is chewing green areca leaves plus a mixture of gambier, white lime and young areca nut. The tradition of areca leaves does not only use areca leaves (Rosdiana and Pratiwi 2014). Menginang is concocting a mixture of several ingredients such as areca, areca nut, lime and gambier which are then chewed simultaneously (Kamisorei, 2017). Chewing areca nut is a form of community custom that has been passed down from generation to generation. In the beginning, people used areca for nothing other than mouth flavoring. This habit continues to be enjoyable and feels good so it is difficult to let go (Siagian, 2012)

Papuan people chew areca nuts to taste in their mouths. Then it becomes a pleasure and tastes so good that it is difficult to let go. Another function of bedding concerns relationships and social values. This is reflected in the habit of hosting as part of a dish of honor for guests, as a means of conveying speech, as a wedding dowry and as traditional medicine (Siagian, 2012). The habit of hosting in Papuan people does not pay attention to age, race, rank and class. Papuan tribes believe that the benefits of chewing areca nut for dental and oral health are that it eliminates toothache and makes teeth strong. This causes the habit of chewing areca nut to increase. Papuan people are not yet aware of the dangers of consuming areca nut/areca fruit if consumed continuously, one of the problems is anemia in teenagers.

The habit of consuming areca nuts excessively, especially women, in a study conducted by Ome-Kaius et al, 2015 found that excessive chewing of areca nuts will contribute to the incidence of anemia. The substances contained in areca nuts, namely tannins, can inhibit the absorption of nutrients such as iron and protein for the body (Setty Siamtuti et al 2017). Therefore, areca nuts will have a bad impact on health such as risk of anemia if consumed excessively (Ome-Kaius et al. al 2015).

Based on research, it is known that teenagers who consume areca nuts from local people have started from a young age until now. The habit of chewing areca nut originates from the teachings of parents and the surrounding environment. Chewing areca nut is done

without knowing the time. In a day, people can consume areca nut 3-5 times, some even consume areca nut 20-30 times a day.

The results of this research are in line with research conducted by Nusawakan, A. W., Rima, I. R., & Pariama, A. M. (2023) regarding "Areca nut culture in Sumba and the incidence of anemia in women of childbearing age" with the results of qualitative research showing the theme of areca nut as a cultural material. Sumbanese people, Sumbanese people's perception of the benefits of areca nut both physically and psychologically. Lack of consumption of iron and protein, as well as Hb measurement results showed that 24 out of 50 WUS had anemia. The conclusion of this research is that eating areca nut is still maintained because it has an important role in preserving culture and has become a daily lifestyle for the people of Sumba. Women of childbearing age who have the habit of consuming areca nut mostly experience anemia, this may be influenced by the level of consumption of the substance iron and protein are less than the RDA or as a result of consuming excessive amounts of areca nut.

Analysis of the Relationship between the Incidence of Anemia and the Habits of Adolescents Consuming Areca nut in the Ulilin Health Center Working Area

The results of the research analysis regarding the relationship between the incidence of anemia and the habit of teenagers consuming areca nut are based on statistical tests using tests *Chi-Square* results were obtained $p = 0,013 < 0,05$ eye H_0 rejected and H_1 accepted, which means there is a relationship between the incidence of anemia and the habit of teenagers consuming areca nut in the working area of the Ulilin Community Health Center. With value *correlation coefficient* 0.386, which means the level of relationship is in the low relationship category, where the correlation value range is between 0.20-0.399, which is included in the low relationship category (Sugiyono, 2010).

Nutritional anemia is caused by a deficiency of one or several nutrients needed for the formation of hemoglobin, including iron, vitamin B12, folic acid, protein and vitamin C. Based on research in Indonesia, it is stated that the main cause of nutritional anemia in adolescents is a lack of nutritional intake iron, called iron anemia (AGB) (Dieny, 2014).

In healthy people, red blood cells contain hemoglobin, which is red blood cells responsible for carrying oxygen and other nutrients such as vitamins and minerals to the brain and other body tissues. Anemia occurs when the overall number of red blood cells or the amount of Hb in the red blood decreases. With reduced Hb or red blood, of course the ability of red blood cells to carry oxygen throughout the body is reduced. As a result, the body receives less oxygen supply, which causes the body to become weak and tired quickly (Ardiani and Wirjatmadi, 2012).

Signs seen in anemia sufferers include: the face looks pale; eyelids, lips, tongue, skin and palms become pale, look restless; fast heart rhythm (tachcardia) and reduced appetite. General symptoms of anemia arise due to ischemia of target organs and due to the body's compensatory mechanism for a decrease in hemoglobin. This symptom appears in every case of anemia after hemoglobin decreases to a certain level ($Hb < 7$ g/dL). Symptoms commonly experienced by anemia sufferers include: weakness, tiredness, lethargy, tiredness and weakness (5L); dizziness, dizzy eyes; out of breath; ears ringing (tinnitus) and feet feel cold (Dieny, 2014).

Chewing areca nut is a form of community custom that has been passed down from generation to generation. In the beginning, people used areca for nothing other than mouth flavoring. This habit continues to be enjoyable and feels good so it is difficult to give up (Siagian, 2012). Areca nut is the main component of chewing areca nut. Areca nut contains alkaloids that can increase nitrosamines, some of these alkaloids are N nitroguvacolin, 3-(methylnitrosamine), propionitil, 3 methyl nitro saminopropinaldehyde and N- nitrosogucasin which are carcoigenic. Therefore, areca nut will have a bad impact on health, such as the risk of anemia if consumed in excess.

Until now, eating areca nut seems inseparable from the lives of Papuan people, especially residents of coastal areas such as the Menyah, Arfak, Biak and Serui tribes. Papuan people are not yet aware of the dangers of consuming areca nut/areca fruit if consumed continuously, one of the problems is anemia in teenagers (Siagian, 2012)

In the opinion of researchers, there is a relationship between the incidence of anemia and the habit of teenagers consuming areca nuts in the Ulilin Community Health Center Work Area. In this study, this research proves that the habit of consuming areca nuts by teenagers really has an impact on the incidence of anemia. This is proven by the results of this study, namely that there is a relationship between the incidence of anemia and the habit of teenagers consuming areca nut. Another thing that supports the respondent's habit of consuming areca fruit is the habitual behavior carried out by the respondent. The habit of giving birth to Papuan people does not pay attention to age, race, rank and class. Papuan tribes believe that the benefits of chewing areca nut for dental and oral health are that it eliminates toothache and makes teeth strong. This causes the habit of chewing areca nut to increase. Papuan people are not yet aware of the dangers of consuming areca nut/areca fruit if consumed continuously, one of the problems is anemia in teenagers.

The results of this research are in line with research conducted by Pandie, P. F. J., & Froulina, L. (2023) regarding "The Relationship between the Habit of Consuming areca Nut and the Incidence of Anemia in School Children in Yawosi District, Biak Numfor Regency" with the research results showing that 14 respondents were suffer from anemia. It was found that the habit of consuming areca nut is at risk of developing anemia, that is, this respondent consumed areca nut, areca nut and lime when it was seen that he had consumed areca nut twice a day in the last 3 months by consuming more than two areca nuts in one day, with a long age of areca nut consumption. > 5 years.

CONCLUSION

1. Based on table 4.1 above, it is known that of the 35 respondents, the majority of respondents were aged 15-16 years, 11 people (31.4%).
2. Based on table 4.2 above, from 35 respondents, it is known that the incidence of anemia in teenagers in the Ulilin Community Health Center working area was found to be mostly anemia, namely 23 respondents (65.7%).
3. Based on table 4.3 above, it is known that of the 35 teenage respondents in the Ulilin Community Health Center working area, the majority often consume areca nut, 24 respondents (68.6%).
4. Based on statistical tests using the Chi-Square test, the result was $p = 0.013 < 0.05$, so H_0 was rejected and H_1 was accepted, which means there is a relationship between the incidence of anemia and the habit of teenagers consuming areca nut in the Ulilin Health Center working area. With a correlation coefficient value of 0.386, which means the level of relationship is in the low relationship category

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