

Factors affecting the Anemia Incidence to Pregnant at Public Health Centre of Timika, Mimika Regency

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ABSTRACT

Introduction: Anemia in pregnant can be influencing to bad in pregnant, partus and post partum. Anemia is prevalence got to pregnant caused of immediately and intermediately.

Target of research: To know the factors affecting with anemia incidence to pregnant at public health centre Timika Jaya Mimika Regency.

Method Research: Analytic of observational with sectional cross study design. Research executed on April and May 2018 in Public health centre Timika with population is mother pregnant trimester III with purposive sampling. Data approach used observation medical record and analyzed used chi square test and logistics binary regression.

Result of research: There is not correlation anemia incidence in public health centre Timika Mimika regency is age umur (*p-value* 0,206; RP = 1,571; CI95% (0,901– 2,741), paritas (*p-value* 1,000; RP = 0,848 CI95% (0,315– 2,285), parity, (*p-value* 0,167; RP = 1,596 CI95% (0,887– 2,871), job performance (*p-value* 0,174; RP = 0,596 CI95% (0,303-1,173), economic social (*p-value* 0,865; RP = 0,889 CI95% (0,501-1,576) and antenatal care frequency (*p-value* 0,882; RP = 0,894 CI95% (0,493-1,619). There is correlation anemia incidence in public health centre Timika, Mimika regency is nutrient state (*p-value* 0,002; RP = 2,500 CI95% (1,493-4,185), Fe tablet consumption (*p-value* 0,002; RP = 3,189 CI95% (1,454-6,994) and malaria (*p-value* 0,001; RP = 2,629 CI95% (1,606– 4,303). The dominant variable anemia incidence is nutrient state, iron tablet consumption and malaria, where malaria is high risk with anemia incidence.

Keyword: Anemia, Pregnant Mother, Timika Public Health Centre

1. INTRODUCTION

Anemia is a condition of a person suffering from iron and blood deficiency marked with normal Hb levels. Low Hb levels are caused by low Fe in daily diarrhea, chronic iron deficiency such as parasitic infections and high demand among others during pregnancy and growth (Manuaba, 2013).

World Health Organization (WHO, 2016), 40% of deaths in developing countries are associated with anemia in pregnancy. Based on data from Ministry of Health RI (2015), Maternal Mortality Rate (AKI) is 309 / 100,000 live births. The high rate of AKI is caused by bleeding (30.3%), hypertension (27.3%), infection (7.3%) and other maternal diseases that cause death (40.8%), bleeding complications anemia (MoH RI, 2017). Data from the Provincial Health Office of Papua Province, maternal mortality in Papua was recorded at 575 / 100,000 due to bleeding (11.2%), hypertension (32%), infection (8%) and others (49 %) (Papua Province Health Office, 2015).

One of the causes of maternal death is due to anemia. Basic Health Research Report 2013, reported the prevalence of anemia in pregnancy is 37.1% of 5,298,285 pregnant women (Ministry of Health RI, 2014). While the incidence of Anemia in Papua Province in 2017 was 38.5% from 57,203 pregnant women (Papua Province Health Office, 2017). Anemia in pregnancy

can adversely affect the moment pregnancy, childbirth and childbirth. Prevalence of high anemia results negatives such as disorders and obstacles to growth, both body cells and brain cells, Hb deficiency in the blood, resulting in lack of oxygen under / transferred to body cells and to the brain is likely to experience postpartum hemorrhage (Purwandari, 2016). The cause of anemia in pregnancy is caused by iron deficiency and acute haemorrhage, and often even interacts with each other. Anemia is the world's largest public health problem especially for women of childbearing age (WUS) especially in pregnancy (Kautshar, 2013). Lack of hemoglobin (Hb) levels of pregnant women is one of the most vulnerable health problems during pregnancy. Hb levels less than 11 g / dl indicate pregnant women suffer from anemia. Severe anemia in pregnant women increases the risk of delivering Low Birth Weight (LBW), the risk of bleeding before and during labor, may even lead to maternal and infant deaths if the pregnant woman is severely anemic (Manuaba, 2013).

Causes associated with malnutrition are associated with food intake, food quality, sanitation and health behaviors that may lead to iron deficiency (Fe). In addition, the mother is not adherent in taking Fe tablets. The maternal risk factors are maternal age, high number of children and childbearing education, occupation and family income that affect nutritional intake and access to health services (Department of Nutrition and Public Health, 2013). Non-adherence of pregnant women to consume iron tablets and the lack of knowledge about the importance of iron tablets during pregnancy is one of the factors that can cause anemia. In addition, nutritional status, gestational distance, education, parity number, maternal age, and frequency of Antenatal Care (ANC) also affect the incidence of anemia in pregnant women. Impacts that cause anemia such as infectious diseases such as malaria in the mother hamilyang impacting bleeding during delivery, low birth weight baby (LBW), IQ

is not optimal, infants are easily infected and easily suffer from bad gizib (Ariyani, 2016)

Data of Mimika Regency in 2017 the incidence of anemia in pregnant women was 41%. Puskesmas Timika in 2017, the number of pregnant women as much as 437 people with the provision of Fe1 tablets as much as 437 (100%) and Fe3 as much as 125 (28.60%). These data indicate that Fe tablet has not reached the target which has high anemia, 185 (42,33%) and mild anemia 3 (0,68%). This indicates the low consumption of Fe tablets by pregnant women who had anxiety in anemia. Based on these problems, the authors are interested in conducting research on "Factors - Factors Related to the Genesis of Anemia in Pregnant Women at Puskesmas Timika Kabupaten Mimika".

2. MATERIALS AND METHODS

Analytical observational with cross sectional study design. The research was conducted on April - May 2018 at Timika Health Center with population is trimester third pregnant mother as many as 92 people by purposive sampling. Data were obtained using medical record sheets and analyzed using chi square test and logistic binary regression.

3. RESEARCH RESULTS

3.1 Bivariate Analysis

a. Age relationship to the incidence of anemia in pregnant women

Table 1. The age relationship with the incidence of anemia in pregnant women at the Puskesmas Timika of Mimika Regency Year 2018

No	Age	Anemia occurrence				n	%
		Anemia		Not Anemia			
		n	%	n	%		
1	< 20 and > 35 year	11	47,8	12	52,2	23	100
		21	30,4	48	69,6	69	100
2	20-35 year						
Total		32	34,8	60	65,2	92	100
<i>p-value = 0,206; RP = 1,571; CI95% (0,901– 2,741)</i>							

Table 1 shows that of 23 mothers aged <20 years and over 35 years there were 11 people (47.8%) with anemia and 12 (52.2%) were not anemic. Whereas from 69 mothers

aged 20-35 years there were 21 people (30,4%) with anemia and 48 people (69,6%) not anemia. The result of chi square = 0,05) obtained p-value α statistic test at significance value 95% (0,206 or $p > \alpha$ (0,05). This means that there is no relationship between maternal age and the occurrence of anemia in Timika Puskesmas Mimika Regency. The result value of RP = 1,571; CI95% (0.901- 2.741) with the lower <1 , so age is not a significant factor with the incidence of anemia.

b. Relationship parity with the incidence of anemia in pregnant women

Table 2. The relationship of parity with the incidence of anemia in pregnant women at Puskesmas Timika, Mimika regency Year 2018

No	Paritay	Anemia occurrence				n	%
		Anemia		Not anemia			
		n	%	n	%		
1	High	3	30	7	70	10	100
2	Low	29	35,4	53	64,6	82	100
Total		32	34,8	60	65,2	92	100
<i>p-value</i> = 1,000; RP = 0,848 CI95% (0,315– 2,285)							

Table 2 shows that of 10 high-parity mothers there were 3 (30%) with anemia and 7 (70%) were not anemic. Whereas of 82 mothers with low parity there were 29 people (35,4%) with anemia and 53 people (64,6%) were not anemic. = 0,05) obtained p-value 1,000 or $p > \alpha$ The result of chi square statistic test at significance value 95% ($> \alpha$ (0,05). This means that there is no mother parity relationship with the incidence of anemia in the Puskesmas Timika of Mimika Regency. The result of RP = 0.848 CI95% (0.315 - 2.285) with the lower <1 , so parity is not a significant factor with the incidence of anemia.

c. The relationship of education with the incidence of anemia in pregnant women

Table 3. The relationship of education with the incidence of anemia in pregnant women at Timika Health Center, Mimika Regency Year 2018

No	Education	Anemia occurrence				n	%
		Anemia		Not anemia			
		n	%	n	%		
1	Low	20	42,6	27	57,4	47	100
2	High	12	26,7	33	73,3	45	100
Total		32	34,8	60	65,2	92	100
<i>p-value</i> = 0,167; RP = 1,596 CI95% (0,887– 2,871)							

Table 3 shows that of 47 low educated mothers there were 20 people (42.6%) with anemia and 27 (57.4%) were not anemic. Whereas from 45 high education mothers there were 12 people (26,7%) with anemia and 33 people (73,3%) not anemia. = 0,05) obtained p-value 0,167 or $p > \alpha$ The result of chi square statistic test at significance value 95% ($> \alpha$ (0,05). This means that there is no relationship of maternal education with the incidence of anemia in the Timika Puskesmas Mimika Regency. The value of RP = 1.596 CI95% (0.887 - 2.871) with the lower <1 , so that education is not a significant factor with the incidence of anemia.

d. Relationship of work with the incidence of anemia in pregnant women

Table 4. Employment relationship with the incidence of anemia in pregnant women at Puskesmas Timika Mimika Regency Year 2018

No	Occupation	Anemia occurrence				n	%
		Anemia		Not anemia			
		n	%	n	%		
1	Work	8	24,2	25	75,8	33	100
2	Not work	24	40,7	35	59,3	59	100
Total		32	34,8	60	65,2	92	100
<i>p-value</i> = 0,174; RP = 0,596 CI95% (0,303– 1,173)							

Table 4 shows that of 33 working mothers there were 8 people (24.2%) with anemia and 25 people (75.8%) were not anemic. Whereas from 59 mothers who did not work there were 24 people (40,7%) with anemia and 35 people (59,3%) not anemia. = 0,05) obtained p-value 0,174 or $p > \alpha$ The result of chi square statistic test at significance value 95% ($> \alpha$ (0,05). This means that there is no maternal relation with anemia occurrence at Timika Health Center of Mimika Regency. The result of RP = 0,596 CI95% (0,303-1,173) with value lower <1 , so work is not a significant factor with the occurrence of anemia.

e. Relationship of socioeconomic status with the incidence of anemia in pregnant women

Table 5. Relationship of socioeconomic status with the incidence of anemia in pregnant women at Puskesmas Timika, Mimika Regency Year 2018

No	Social economy	Anemia occurrence				n	%
		Anemia		Not anemia			
		n	%	n	%		
1	Low	20	33,3	40	66,7	60	100
2	High	12	37,5	20	62,5	32	100
Total		32	34,8	60	65,2	92	100
<i>p-value</i> = 0,865; RP = 0,889 CI95% (0,501– 1,576)							

Table 5 shows that of 60 mothers with low socioeconomic status there were 20 people (33.3%) with anemia and 40 people (66.7%) not anemic. While 32 of the women with high socioeconomic status were 12 (37.5%) with anemia and 20 (62.5%) were not anemic. = 0,05) obtained p-value 0,865 or $p < \alpha$. The result of chi square statistic test at significance value 95% ($> \alpha$ (0,05). This means that there is no relation between the socioeconomic status of the mother and the occurrence of anemia in Timika District Health Center of Mimika Regency. The result of RP = 0.889 CI95% (0,501- 1,576) with value < 1 , so socioeconomic status is not a significant factor with the occurrence of anemia.

f. The relationship of ANC frequency to the incidence of anemia in pregnant women

Table 6. ANC frequency relationship with the incidence of anemia in pregnant women at Puskesmas Timika Mimika Regency Year 2018

No	ANC Frequence	Anemia occurrence				n	%
		Anemia		Not anemia			
		n	%	n	%		
1	Iirregular	11	32,4	23	67,6	34	100
2	Regular	21	36,2	37	63,8	58	100
Total		32	34,8	60	65,2	92	100
<i>p-value</i> = 0,882; RP = 0,894 CI95% (0,493– 1,619)							

Table 6 shows that of 34 mothers with irregular ANC frequency there were 11 people (32.4%) with anemia and 23 (67.6%) were not anemic. Whereas from 58 mothers with ANC frequency there were 21 people (36,2%) with anemia and 37 people (63,8%) were not anemic. = 0,05) obtained p-value 0,882 or $p < \alpha$. The result of chi square statistic test at significance value 95% ($> \alpha$ (0,05). This means that there is no regular ANC frequency relationship with the occurrence of anemia at the Timika Puskesmas Mimika

Regency. The result value of RP = 0.894 CI95% (0.493-1.619) with a value < 1 , so the frequency of ANC is not a significant factor with the incidence of anemia.

g. Relationship Status GIzi with the incidence of anemia in pregnant women

Table 7. Relationship Status of GIzi with the incidence of anemia in pregnant women at Puskesmas Timika Regency Mimika Year 2018

No	Nutrition status	Kejadian Occurrence				n	%
		Anemia		Not anemia			
		n	%	n	%		
1	KEK	15	62,5	9	37,5	24	100
2	Not KEK	17	25	51	75	68	100
Total		32	34,8	60	65,2	92	100
<i>p-value</i> = 0,002; RP = 2,500 CI95% (1,493– 4,185)							

Table 7 shows that of 24 women whose nutritional status KEK had 15 people (62.5%) with anemia and 9 people (37.5%) were not anemic. Whereas from 68 women whose nutritional status was not KEK there were 17 people (25%) with anemia and 51 people (75%) were not anemic. = 0,05) obtained p-value 0,002 or $p < \alpha$. The result of chi square statistic test at significance value 95% ($< \alpha$ (0,05). This means that there is a relationship of mother's nutritional status with the incidence of anemia in Puskesmas Timika of Mimika Regency. The results of RP = 2,500 CI95% (1,493-4,185) were interpreted that women with SEZ nutritional status had a risk with anemia incidence as high as 25 times higher than mothers with NEC or normal nutritional status.

h. Consumption of Fe tablets with anemia occurrence in pregnant women

Table 8. Consumption of Fe Fe tablets with anemia occurrence in pregnant women at Puskesmas Timika of Mimika Regency Year 2018

No	Consumption of Fe tablet	Anemia occurrence				n	%
		Anemia		Not anemia			
		n	%	n	%		
1	Less	26	49,1	27	50,9	53	100
2	Good	6	15,4	33	64,6	39	100
Total		32	34,8	60	65,2	92	100
<i>p-value</i> = 0,002; RP = 3,189 CI95% (1,454– 6,994)							

Table 8 shows that of 53 mothers who consumed Fe tablets there were 26 people (49.1%) with anemia and 27 people (50.9%) were not anemic. Whereas from 39

mothers who consumed Fe tablet either there were 6 people (15,4%) with anemia and 33 people (64,6%) not anemia. = 0,05) obtained p-value 0,002 or $p < \alpha$ The result of chi square statistic test at significance value 95% ($< \alpha$ (0,05). This means that there is a relation of consumption of Fe mothers tablet with the occurrence of anemia at Puskesmas Timika of Mimika Regency. The result of RP value = 3.189 CI95% (1,454- 6,994) interpreted that mothers who consumed Fe tablet have a risk with anemia incidence 3,189 times higher than mother who consumed FE tablet well.

- i. The relationship of malaria with the incidence of anemia in pregnant women

Table 9. Malaria relationship with incidence of anemia in pregnant women at Puskesmas Timika Mimika Regency Year 2018

No	Malaria	Anemia occurrence				n	%
		Anemia		Not anemia			
		n	%	n	%		
1	Yes	13	68,4	6	31,5	19	100
2	None	19	26	54	74	73	100
Total		32	34,8	60	65,2	92	100

p-value = 0,001; RP = 2,629 CI95% (1,606– 4,303)

Table 9 shows that of 19 maternal males there were 13 people (68.4%) with

No	Variables	<i>p-value</i>	RP	95% C. I. for Exp (B)	
				Lower	Upper
1	Age	0,206	1,571	0,901	2,741
2	Paritay	1,000	0,848	0,315	2,285
3	Education	0,167	1,596	0,887	2,871
4	Occupation	0,174	0,596	0,303	1,173
5	Social economy	0,865	0,889	0,501	1,576
6	Frekuensi of ANC	0,882	0,894	0,493	1,619
7	Nutrition status	0,002	2,500	1,493	4,185
8	Fe tablet consumption	0,002	3,189	1,454	6,994
9	Malaria	0,001	2,629	1,606	4,303

Table 10 shows that the variables included and tested together are the variables are age, education, nutritional status, consumption of Fe tablets and malaria tested using logistic binary regression which can be seen in Table 11.

Table 11. Analysis of Multiple Logistic Regression Variables

No	Variables	B	<i>p-value</i>	RP	95% C. I. for Exp (B)	
					Lower	Upper
1	Nutrition status	2,054	0,001	7,797	2,334	26,048
2	Fe tablet consumption	1,489	0,012	4,430	1,389	14,131
3	Malaria	2,464	0,000	11,746	3,078	44,823
	Constant	9,217	0,000	0,000		

Table 11 above, the dominant variable with the incidence of anemia in pregnant women is nutritional status, consumption of

anemia and 6 (31.5%) were not anemic. While from 73 non-malaria mothers there were 19 people (26%) with anemia and 54 people (74%) were not anemic. = 0,05) obtained p-value 0,001 or $p < \alpha$ The result of chi square statistic test at significance value 95% ($< \alpha$ (0,05). This means that there is a maternal malaria relationship with the incidence of anemia in the Puskesmas Timika of Mimika Regency. The result of RP = 2,629 CI95% (1,606- 4,303) interpreted that malaria mothers had a risk with anemia incidence of 2,629 times higher than mothers with no malaria.

3.2 Multivariate Analysis

Multivariate analysis was used to find out which factors influenced the nutritional status of children under five, it is necessary to do bivariate analysis and continued on multivariate test. Bivariate modeling using logistic regression test begins with bivariate modeling where each independent variable is tested against dependent variable gradually with p value < 0.25 which can be seen in Table 10.

Fe tablets and malaria, where malaria has the highest risk with the incidence of anemia.

4. DISCUSSION

4.1 Age relationship with the incidence of anemia in pregnant women

The result showed that there was no relation between maternal age and the occurrence of anemia at Timika Health Center of Mimika Regency. Pregnant women <20 years old and over 35 years old were 47.8% with anemia while mothers aged 20-35 years were 30.4% with anemia. This suggests that the proportion of pregnant women is equally at risk with the incidence of anemia.

The results of the prevalence ratio test show the presence of risk but not significant. This is due to the age of the mother is influenced by the physical readiness of pregnant women in performing pregnancy care, balanced nutrition intake associated with maternal nutritional status. According to Prawirohardjo (2012) age > 35 years of age are at risk for pregnancy due to age > 35 years, where the reproductive tool of pregnant women has decreased and the strength to take the time of delivery is reduced so that anemia occurs at the age of > 35 years.

Age factor is a risk factor for anemia in ibuhamil. The age of the mother is related to the reproductive tools of women. The healthy reproductive and safe reproductive age is 20-35 years. Pregnancy diusia <20 years and over 35 years can cause anemia because pregnancy in <20 years of age is not optimal yet emotional tend to be unstable, mentally immature so easy to experience shock resulting in a lack of attention to the fulfillment of nutritional needs during pregnancy. While at age > 35 years associated with retardation and decreased endurance and various diseases that often menimpadiusia this. The results of the study found that maternal age at the time of pregnancy is very influential on the incidence of anemia (Amirrudin and Wahyuddin, 2014).

4.2 Relationship parity with the incidence of anemia in pregnant women

The result of the research showed that there was no relation between mother parity and the incidence of anemia at Timika Health Center of Mimika Regency. Mothers with high parity as high as 30% with anemia and 7 mothers with low parity as many as 35.4% with anemia. This indicates a similar risk to the mother with high or low nparitas and from the result of prevalence ratio test, it is found that parity is not significant with the incidence of anemia in pregnant mother.

In this study, no relationship can be caused by the number of high parity respondents are small, so that the meaning does not occur with the incidence of anemia in pregnant women. In addition, high parity has considerable experience in the treatment of pregnancy included in the fulfillment of balanced nutrition intake, so as to have good status gizi and prevent infectious diseases as well as in the past and did not have a bad obstetric history such as bleeding that causes the condition of maternal health worsening and impacting on subsequent pregnancies.

4.3 The relationship of education with the incidence of anemia in pregnant women

The results obtained that there is no relationship of maternal education with the incidence of anemia in Puskesmas Timika Mimika Regency. Low-educated mothers were 42.6% with anemia and well-educated mothers 26.7% with anemia. It shows a low proportion of anemia in high-educated pregnant women. This is also reinforced by the prevalence ratio test results that education is at risk of anemia but not significant. The absence of meaningful educational relationships is due to stronger learning factors affecting education, whereas highly educated mothers are easier to absorb information than low-educated mothers. However, this source of information is an important factor in the improvement of knowledge, so that low educated mothers can have a high knowledge when exposed to continuous information in a pregnancy visit.

4.4 Employment relationship with the incidence of anemia in pregnant women

The result of the research showed that there was no relation between mother's job and the incidence of anemia in Puskesmas Timika of Mimika Regency. The working mother was 24,2% with anemia and mother who did not work there was 40,7% with anemia. Mothers who work as much as 75.8% are not anemic and as many as 59.3% of mothers who are not working are not anemic. This suggests that lower working mothers experience anemia. This is probably due to the information obtained from working mothers because more interaction so easy to get information. This spendapata according to Mubarak (2011) that the work environment can make a person gain experience and knowledge, either directly or indirectly. The absence of work-based relationships is largely the case of working mothers in the formal sector and mothers working as vegetable sellers in the market. The absence of this relation on the work of a working mother has the same risk to an unemployed mother, where the unrelated ibn - sammengeluarka energy is not unlike the mother who works like washing pring, washing clothes and cleaning the house. Someone takes a lot of sweat. This leads to an increase in iron intake with a sweat. Pregnant women who perform heavy workloads require a lot of food for the condition of harmfulness and for their energy needs, so that the necessary nutrients must be fulfilled.

4.5 Relationship of socioeconomic status with the incidence of anemia in pregnant women

The result of the research shows that there is no correlation between maternal socioeconomic status and the occurrence of anemia in Puskesmas Timika of Mimika Regency. Mothers with low socioeconomic status were 33.3% with anemia and women with high socioeconomic status were 12 (37.5%) with anemia and 20 (62.5%) were not anemic. The absence of an association

of socioeconomic status is due to maternal knowledge factors on how to meet family feeding needs. Although ibi has a high socioeconomic status, but it is not appropriate in the selection of food needs or the high expenditure of other yag than food causes mothers at risk with less balanced nutritional intake. Conversely, the mother of low socio-economic status but able to manage its finance in the fulfilment of food needs so that the nutritional intake of pregnant women.

4.6 The relationship between the frequency of ANC visits and the incidence of anemia in pregnant women

The result of the research showed that there was no relation of ANC frequency of mother with anemia occurrence at Puskesmas Timika of Mimika Regency. Mothers with irregular ANC frequency of 32.4% with anemia and maternal frequency of ANC were 36.2% with anemia. Antenatal care is supervision before delivery is primarily aimed at the growth and development of the fetus in the womb (Manuaba, 2013). An ANC visit is the visit of pregnant women to health services to obtain health services performed by professional health personnel during pregnancy; services that pregnant women get at ANC visits are weight weighing, height measurement, blood pressure measurement, TT immunization, measurement of fundal height of uteri and gaining minimal iron tablets of 90 tablets during pregnancy. An ANC service standard is a minimum of four visits during pregnancy once in the first quarter (KI) one calipada quarter II and two visits in the third quarter (K4) (Kemenkes RI, 2012). Mariantity Research 2012) revealed that there is an ANC visitation freckle relationship to the incidence of anemia. The absence of ANC frequency relationship to the occurrence of anemia caused the mother has no history of infant diseases and irregular mother due to good health condition of pregnant mother and good

nutritional status so that mother does not have anemia.

4.7 The relationship of nutritional status to the incidence of anemia in pregnant women

The results obtained that there is a relationship of maternal nutritional status with the incidence of anemia in Puskesmas Timika Mimika Regency. Women with nutritional status KEK were 62.5% with anemia compared to mothers who were not KEK as many as 25% with anemia. Chronic energy deficiency (SEZ) is the result of an imbalance between intake for energy needs and expenditure (Department of Nutrition and Public Health, 2013). Pregnant women with less chronic energy are mothers with Lila borders less than 23.5 cm indicating chronic energy deficiency (Sulistyoningsih, 2010). Another important source of food for pregnant women is animal protein. Consumption of animal protein can increase the absorption of iron in the body. Low protein consumption can cause low absorption of iron by the body. The existence of a nutritional status relationship with the incidence of anemia in pregnant women resulted in the body of iron deficiency and can cause anemia. Repeatnya consumption and absorption of iron by the body in pregnant women can disebabkan because of the low kemampuankargaarga to serve foods rich in specialties animal protein in the daily menu, in the processing of foods especially vegetables and the habit of drinking tea after eating.

4.8 The relationship of Fe tablet consumption to the incidence of anemia in pregnant women

The result showed that there was a correlation between consumption of Fe mothers tablet with anemia occurrence at Puskesmas Timika of Mimika Regency. Mothers who consumed less Fe tablets were 49.1% with anemia and mothers who consumed Fe tablets were either 15.4% with anemia or lower than in mothers who did not take FE tablets well. The result of RP value = 3.189 CI95% (1,454- 6,994)

interpreted that mothers who consumed Fe tablet have a risk with anemia incidence 3,189 times higher than mother who consumed FE tablet well.

Iron tablets are blood-boosting tablets to cope with Iron Anemia Nutrition given to pregnant women. The coverage of pregnant women receiving Fe tablets is the coverage of pregnant women who receive 90 Fe tablets during their pregnancy periods in one work area over a period of time (Syafudin and Hamidah, 2009). Mothers who consumed Fe tablets less high risk if the mother also suffered from lack of nutritional status, so found a mother who consumes less Fe tablets but good nutritional status does not occur anemia. So that pregnant women are encouraged to consume tablet Fe 90 tablet during pregnancy in preventing the happening of anemia in pregnancy, because Fe tablet can fulfil requirement of iron in body.

4.9 The association of malaria infection with anemia in pregnant women

The results obtained that there is a relationship malaria infection with the incidence of anemia in Puskesmas Timika. of malaria mothers were 68.4% with anemia and 26% non-malarial mothers with anemia. Malaria is a higher-risk parasite disease in women compared with non-pregnant women, especially during first pregnancies that can cause placental infection, abortion, dies, anemia and low birth weight. Malari can cause blood deficiency because many damaged cells are destroyed or eaten by plasmodium. Malaria also causes Plplacegalas enlarging the spleen which is a typical clinical malaria symptom. Anemia occurs mainly because of the rupture of infected blood cells, plasmodium falciparum infects the entire stages of red blood cells until the anemia can occur in chronic and chronic infections. Anemia is a state of decreased hemoglobin, hematocrit, and red blood cell rupture below the normal value added for individuals (Harijanto, 2012). Mothers who suffer from malaria but not anemia due to good nutritional status while

in mothers with less nutritional status and suffering from malarial infectious diseases have a risk with anemia incidence as much as 2.629 times higher than mothers who have no malaria. Between lack of nutritional status and infection interactions back and forth. Infections can cause undernourishment through the most important mechanisms. The most immediate effect is systemic infection of tissue metabolism. Even mild infections may result in nitrogen loss. Acute infection results in a lack of appetite and tolerance to food (Parii, 2014).

4.10 The dominant factor with the incidence of anemia in pregnant women in Timika District Health Center Mimika.

The results showed that the dominant variables with the incidence of anemia in pregnant women were nutritional status, consumption of Fe tablets and malaria, where malaria had the highest risk with the incidence of anemia. This is because malaria causes a decline in nutritional status and is a direct interaction, because malaria has a cellular destructive mechanism in plasmodium-infected blood that lowers hemoglobin levels and feeds nafrs.

5. CONCLUSION

Based on the results of the discussion can be summarized as follows:

1. There is no correlation between maternal age and the incidence of anemia in Puskesmas Timika of Mimika Regency (p-value 0,206; RP = 1,571; CI95% (0,901-2,741)
2. No maternal parity relationship with anemia occurrence in Puskesmas Timika Kabupaten Mimika (p-value 1,000; RP = 0,848 CI95% (0,315- 2,285)
3. No maternal education relationship with anemia occurrence at Puskesmas Timika of Mimika Regency (p-value 0,167; RP = 1,596 CI95% (0,887- 2,871).
4. No maternal relation with anemia occurrence at Puskesmas Timika of Mimika

Regency (p-value 0,174; RP = 0,596 CI95% (0,303-1,173)

5. There is no relation of socioeconomic status of mother with anemia occurrence at Puskesmas Timika of Mimika Regency (p-value 0,865; RP = 0,889 CI95% (0,501-1,576).
6. No maternal ANC frequency relationship with anemia occurrence at Puskesmas Timika Kabupaten Mimika (p-value 0,882; RP = 0,894 CI95% (0,493-1,619)
7. There is an association of nutritional status of mother with anemia occurrence at Puskesmas Timika of Mimika Regency (p-value 0,002; RP = 2,500 CI95% (1,493-4,185).
8. There is a relation of consumption of Fe mothers tablet with anemia occurrence at Puskesmas Timika of Mimika Regency (p-value 0,002; RP = 3,189 CI95% (1,454-6,994).
9. There is a relationship of mother malaria with the incidence of anemia at Puskesmas Timika of Mimika Regency (p-value 0,001; RP = 2,629 CI95% (1,606- 4,303)
10. Dominant variables with the incidence of anemia in pregnant women are nutritional status, consumption of Fe tablets and malaria, where malaria has the highest risk with the incidence of anemia

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