

Factors Associated with the Level of Anemia in Third Trimester Pregnant Women in the Work Area of the Situmeang Habinsaran Community Health Center in 2020

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ABSTRACT

Anemia is a decrease in hemoglobin, hematocrit and erythrocyte count below normal values, which is less than 11 g / dl. The purpose of this study was to determine the factors associated with anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020. The design of this study was an analytical survey with a cross sectional approach. The population was 30 trimester III pregnant women. Sampling used was total sampling, the respondents were pregnant women in the third trimester who experienced anemia as many as 30 respondents. Based on the results of the analysis using the Chi Square test, it shows that the significant probability value (Asymp.Sig) is that there is a relationship between parity and anemia in pregnant women with a p-value = 0.003, there is a relationship between antenatal care in pregnant women with a p-value = 0.005. There is a knowledge relationship with anemia in pregnant women with a p-value = 0.011, there is a relationship between compliance with anemia in pregnant women with a p-value = 0.028. The conclusion in this study is that there is a relationship between parity, antenatal care, knowledge, adherence to taking Fe tablets with anemia in third trimester pregnant women. It is hoped that pregnant women should check their pregnancy and strive to frequently check their Hb and pay attention to the food consumed during pregnancy because healthy mothers do not necessarily have normal Hb levels.

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1. Introduction

Pregnancy is a physiological process that occurs in women due to fertilization between male sex cells and female sex cells. In other words, pregnancy is the fertilization of the ovum by spermatozoa, so that it is bullied in the uterus and develops until the birth of the fetus. There are women who are not worried about their physical changes during pregnancy and make their psychology not disturbed, and not a few of them are worried about their physical changes during pregnancy and make their psychology disturbed. During the pregnancy process, not all occur normally, there are also pregnancies that cause complications to the mother and the fetus, one of which is anemia in pregnant women. The impact of anemia in pregnancy varies from very mild complaints to the occurrence of pregnancy progression disorders (abortion, immature or premature labor), disruption of the delivery process (inertia, atony, prolonged labor, atonic bleeding), disorders during the puerperium (sub-involution of the uterus, endurance against infection and stress, lack of low milk production), and fetal disorders (abortion, dysmaturity, microsomy, LBW, and perinatal mortality). (1)

The results of the Basic Health Research (Riskesdas) in 2018 stated that the proportion of anemia in pregnant women was 48.9% in 1000 population. The proportion of anemia in pregnant women based on age 15-24 years was 33.7%, in the age group 25-34 years as much as 33.6%, in the 35-44 years age group as much as 33.7% and in the 45-54 years age group as much as 24%. To prevent anemia, every pregnant woman is expected to get a blood supplement (TTD) of at least 90 tablets during pregnancy.(2)

According to the Health Profile of North Sumatra Province in 2018, the highest coverage of pregnant women who received TTD (blood-added tablets) was in West Nias Regency at 97.80%, Deli Serdang Regency at 96.25% and Sibolga City at 93.83%. Meanwhile, the lowest coverage was in Padang Lawas Regency at 43.75%, North Nias Regency at 47.39%, and Dairi Regency at 51.97%. The total coverage of pregnant women who received TTD (blood-added tablets) in North Sumatra was 82.76%. There are 18 districts / cities that have achieved the target of the 2013-2018 North Sumatra Provincial Health Service Strategic Plan, namely 80% of pregnant women get TTD.(3)

The results of the initial survey conducted by researchers in the working area of the Situmeang Habinsaran Community Health Center to 10 respondents, there were 4 pregnant women

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who had anemia, by checking their Hb levels with a digital Hb check tool, namely 4 mild anemia. From the results of interviews conducted by researchers to 4 mothers with anemia who did not regularly perform ANC, did not regularly consume Fe tablets and had parity > 3 times. Meanwhile, 6 pregnant women who did not experience anemia regularly performed ANC examinations, regularly consumed Fe tablets and had parity < 3 times. Based on the data above, researchers are interested in researching "Factors Associated with Anemia in Trimester III Pregnant Women at Situmeang Habinsaran Public Health Center in 2020".

2. Research methods

Research design is a part of the research that contains descriptions of the research flow describing the researcher's mindset in conducting research which is commonly called the research paradigm. (4)

The design used in this study is an analytical survey in which research that tries to explore how and why this phenomenon can occur with a cross sectional approach (cross sectional surgery), namely the dependent variable and the independent variable are carried out at the same time. (5) The aim is to find out "what factors are related to the level of anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020". The location which is the research site is in the work area of the Situmeang Habinsaran Community Health Center. When the research was carried out in November 2020 until it was finished and started from literature search, title consultation, data collection, initial survey and as well as data processing, and data analysis. The population in this study amounted to 30 trimester III pregnant women and the sample was the total sampling.

3. Research Results and Discussion

Table 1.

Frequency Distribution of Respondent Characteristics Based on Age, Education, Occupation of Third Trimester Pregnant Women in the Work Area of the Situmeang Habinsaran Community Health Center in 2020.

No.	Age	amount	
		F	%
1	Late Adolescence (17-25 years)	9	30
2	Early Adulthood (26-35 years)	15	50
3	Late Adulthood (36-45 years)	6	20
Total		30	100

No.	Education	amount	
		F	%
1	Junior High	7	23.3
2	High school	21	70
3	Bachelor	2	6,7
Total		30	100

No.	Profession	amount	
		F	%
1	IRT	22	73.3
2	entrepreneur	6	20
3	Civil servants	2	6,7
Total		30	100

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Journal Homepage: www.midwifery.iocspublisher.org**Table 2.**

Distribution of Parity Frequency in the Work Area of the Situmeang Habinsaran Community Health Center in 2020

Parity	Frequency	Percentage (%)
Grandemultipara	2	6,7
Multiparous	17	56.7
Primipara	11	36.7
Total	30	100%

Based on table 2, it shows that of the 30 respondents a small proportion of them had Grandemultipara parity of 2 respondents (6.7%), Multipara parity was 17 respondents (56.7%), and had primiparous parity of 11 respondents (36.7%).

Table 3.

Distribution of Frequency of Pregnancy Examinations in the Work Area of the Situmeang Habinsaran Community Health Center in 2020, 2020.

No.	Frequency of Pregnancy Check-ups	Frequency	Percentage (%)
1	Not a routine	22	73.3
2	Routine	8	26.7
	Total	30	100

Based on table 3. above, it shows that of the 30 respondents, 20 respondents (73.3%) did not routinely carry out antenatal care and as many as 10 respondents (26.7%) routinely performed antenatal care.

Table 4.

Distribution of Knowledge Frequency in the work area of Puskesmas Situmeang Habinsaran in 2020

Knowledge	Frequency	Percentage (%)
Less	16	53.3
Enough	13	43.3
Good	1	3,3
Total	30	100

Based on table 4, it shows that of the 30 respondents who had poor knowledge as many as 16 respondents (53.3%) and respondents who had sufficient knowledge were 13 respondents (43.3%) and a small portion had good knowledge as many as 1 respondent (3.3%).

Table 5.

Distribution of Compliance Frequency of Fe Tablet consumption in the work area of the Situmeang Habinsaran Community Health Center in 2020

Obedience Take Fe Tablets	Frequency	Percentage (%)
Not obey	25	83.3
Obey	5	16.7
Total	30	100

Based on table 5, it shows that of the 30 respondents, most of them who did not comply with consuming Fe tablets were 25 respondents (83.3%) and a small proportion who obeyed consuming Fe tablets were 5 respondents (16.7%).

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Table 6.
Distribution of Anemia Frequency in the Work Area of the Situmeang Habinsaran Community Health Center in 2020.

Anemia	Freq	Percentage (%)
Severe Anemia (<7 gr / dl)	1	3,3
Moderate anemia (7-8 gr / dl)	9	30
Mild anemia (9-10) gr / dl)	20	66.7
Total	30	100

Based on table 6. above shows that of the 30 respondents, most of them had mild anemia as many as 20 respondents (66.7%), moderate anemia by 9 respondents (30%) and severe anemia by 1 respondent (3.3%).

Bivariate analysis in this study was conducted to determine whether or not there was a relationship between predisposing factors for anemia in the working area of the Situmeang Habinsaran Community Health Center. The statistical test used the chi-square test with a confidence level of $\alpha = 5\%$.

Table 7.
Cross tabulation of the relationship between parity and anemia in pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020.

Parity	Anemia								pv
	Severe Anemia		Moderate Anemia		Mild anemia		amount		
	f	%	f	%	F	%	f	%	
Grandemul tipara	1	3,3	1	3,3	0	0	2	6,7	
Multiparous	0	0	6	20	15	50	17	70	.00
Primipara	0	0	2	6,7	5	16.7	11	23.3	3
Total	1	3,3	9	30	20	66.7	30	100	

Based on table 7. above shows the results of cross tabulation between parity and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center, of the 30 respondents who have Primipara parity, most of them have mild anemia as many as 5 respondents (16.7%), most of the multiparous parity 15 respondents (50%) had mild anemia and a small proportion of grandemultipara had severe anemia as much as 1 respondent (3.3%). After conducting a bivariate analysis using the chi-square statistical test, the p-value = 0.003 ($p < 0.05$), which means that there is a relationship between parity and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Public Health Center in 2020.

Table 8.
Cross-tabulation of the Relationship between the Frequency of Pregnancy Examinations and Anemia in Pregnant Women in the Work Area of the Situmeang Habinsaran Health Center in 2020

Examination Pregnancy	Anemia								p-value
	A. Heavy		A. Moderate		A. Light weight		amount		
	f	%	F	%	f	%	F	%	
Not a routine	1	3.3	3	10	18	60	22	73.3	
Routine	0	0	6	20	2	6,7	8	26.7	0.005
Total	1	3,3	9	30	20	66.7	30	100	

Based on table 8 above shows the results of cross tabulation between the frequency of pregnancy checks and anemia in third trimester pregnant women in the work area of the

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Situmeang Habinsaran Community Health Center in 2020 from 30 respondents, namely pregnant women who do not routinely check their pregnancies with mild anemia as many as 18 respondents (60%), A small proportion of pregnant women who routinely checked their pregnancies experienced mild disease as much as 2 respondents (6.7%). After conducting a bivariate analysis using the chi-square statistical test, the p-value = 0.005 ($p < 0.05$), which means that there is a relationship between the frequency of pregnancy examinations and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Public Health Center in 2020.

Table 9.

Cross Tabulation of Knowledge Relationship with Anemia in pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020

Knowledge	Anemia						amount		pv
	A. Heavy		A. Moderate		A. Light weight		F	%	
	f	%	f	%	f	%			
Less	0	0	9	30	6	20	16	53.3	
Enough	0	0	0	0	13	43.3	13	56.7	.01
Good	0	0	0	0	1	3.3	5	3.3	1
Total	0	0	9	30	20	66.7	30	100	

Based on table 9 above shows the results of cross tabulation between knowledge and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020, of the 30 respondents who had less knowledge, most of whom had mild anemia as many as 6 respondents (20%), most of whom had mild anemia. 13 respondents (43.3%) had enough knowledge to experience mild anemia and 1 respondent (3.3%) who had good knowledge had mild anemia. After the bivariate analysis was carried out using the chi-square statistical test, the p-value = 0.011 ($p < 0.05$) was obtained, which means that there is a relationship between knowledge and anemia in third trimester pregnant women.

Table 10.

Cross tabulation of the relationship between compliance with iron tablets and anemia in pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020

Compliance with Tablet Fe	Anemia						amount		pv
	A. Heavy		A. Moderate		A. Light weight		F	%	
	f	%	f	%	f	%			
Not obey	1	3.3	5	16.7	19	63.3	25	83.3	
Obey	0	0	4	13.3	1	3.3	5	16.7	.028
Total	1	3.3	9	30	20	66.7	30	100	

Based on table 10. above shows the results of cross tabulation between compliance with iron tablets with anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020, most of the 30 respondents who did not comply with taking Fe tablets during pregnancy experienced anemia as many as 19 respondents (63, 3%) and 1 respondent (3.3%) had mild anemia. After the bivariate analysis was carried out using the chi-square statistical test, the p-value = 0.028 ($p < 0.05$) was obtained, which means that there is a relationship between adherence to taking Fe tablets with anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Public Health Center in 2020.

3.1 Discussion

Based on the table above, it shows that of the 30 respondents it is known that the distribution of the frequency of parity, a fraction of which has Grandemultipara parity of 2 respondents (6.7%), multiparity parity of 21 respondents (70%), and has primiparous parity of 7 respondents (23.3%).), while the frequency of pregnancy examinations was as many as 20 respondents (73.3%) did not routinely carry out antenatal care and as many as 10 respondents (26.7%) routinely performed antenatal care. The frequency distribution of knowledge has poor knowledge as many as 16 respondents (53.3%) and respondents who have sufficient knowledge are 13 respondents (43.3%) and a small proportion have good

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knowledge as many as 1 respondent (3.3%), and compliance Most of the people who did not comply with consuming Fe tablets were 25 respondents (83,

Parity is the state of women in relation to the number of children born. Parity of the second child and parity of the third child is the safest parity in terms of maternal mortality.(8)

According to the assumptions of researchers from the research results, it is known that one of the internal factors in the incidence of anemia in pregnancy is the parity factor or the number of children born. That the more often a person experiences pregnancy and childbirth, the more iron they lose, leading to anemia. Pregnant women who regularly check their pregnancies will receive counseling about pregnancy and receive iron tablets to prevent complications during pregnancy, while pregnant women who do not routinely perform ANC are likely to experience pregnancy complications.

Pregnant women who do not comply or do not meet their iron needs will experience anemia because it is estimated that around 5.6 mg of iron absorbed per day (3.5-8.8 mg / day) is needed during the II-III trimester or around 4.2 mg / day exceed the requirements of nonpregnant women. Total iron requirements continue to increase after 25 weeks to 36 weeks for the needs of the placenta and fetus. The total iron requirement near the end of the second trimester is about 3.5 mg per day and about 7 mg per day in the third trimester.

a. Anemia in Trimester III Pregnant Women in the work area of the Situmeang Habinsaran Community Health Center in 2020.

Based on the table above, it shows that of the 30 respondents, most of them had mild anemia as many as 20 respondents (66.7%), moderate anemia by 9 respondents (30%) and severe anemia by 1 respondent (3.3%).

Anemia in pregnancy is a condition of the mother with a hemoglobin (Hb) level of <11 g% in the first and third trimesters, while in the second trimester the hemoglobin level is <10.5 g%.(6)

According to the assumptions of researchers from the results of research that has been done, the distribution of respondents who had mild anemia was 20 respondents (66.7%), moderate anemia was 9 respondents (30%), and severe anemia was 1 respondent (3.3%) due to factors associated with the anemia.

b. The relationship between parity and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020

Based on the table, it can be seen that cross tabulation between parity factors and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020, it is known that from 30 respondents, 5 respondents (16.7%) had mild anemia, as many as 5 respondents with primiparous parity. 2 respondents (6.7%) had moderate anemia, 0 respondents (0%) had severe anemia, 15 respondents (50%) had mild anemia, 6 respondents (20%) had moderate anemia), while anemia weight as many as 0 respondents (0%), parity grande multigravida as many as 0 respondents (0%) who had mild anemia, as many as 1 respondent (3.3%) had moderate anemia and as much as 1 respondent (3.3%) had severe anemia. From the results of the chi-square test, the p value (0.003) <(0,

The results of this study are in line with research conducted by Atik Purwandari, Freike Lumy, and Feybe with the title of factors related to anemia. 27%) had mild anemia, 1 person (2%) had moderate anemia and 1 person (2%) had severe anemia, 36 people (64%) had multiparous anemia, 23 people (41%) had mild anemia, 8 people (14%) moderate anemia, 5 people (9%) severe anemia, grandemultipara 3 people (6%) consisting of moderate anemia. The results of statistical tests showed that there was a significant relationship between parity and anemia with the value of $X^2 = 14,761$ and $p = 0.005$ CI 95% = 0.006 to 0.010.(7)

According to the researchers' assumption, first parity and high parity (more than three) have a risk of developing anemia, this depends on the fulfillment of Fe tablets during pregnancy and from foods containing iron that the mother consumes during pregnancy. Mothers who have high parity, namely more than three, have a higher maternal mortality rate. Therefore, primigravida and multigravida mothers should check their pregnancies as often as possible so that they are not at risk of maternal death. At low parity, pregnant women do not really understand about pregnancy and the importance of antenatal care.

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c. **The relationship between the frequency of pregnancy examination and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020**

Based on the table, it can be seen that cross tabulation between the factors of frequency of pregnancy checks with anemia in pregnant women in the third trimester in the work area of the Situmeang Habinsaran Community Health Center in 2020, it is known that 18 respondents who did not routinely check their pregnancies had mild anemia (60%), moderate anemia was 3 respondents (20%), and severe anemia was 0 respondents, a small proportion of pregnant women who routinely checked their pregnancies had mild anemia as many as 2 respondents (6.7%), moderate anemia were 6 respondents (20%), and severe anemia as many as 0 respondents. After bivariate analysis using the chi-square statistical test, the p-value = 0.005 ($p < 0$,

According to the researchers' assumptions, pregnant women who have regular antenatal care visits have a lower risk of developing anemia than pregnant women with irregular ANC visits. An antenatal care visit is very important to do to find out if there are any complications that occur to pregnant women during pregnancy and to make sure that pregnant women are able to prevent pregnancy complications, deal with childbirth, prepare for breastfeeding, and know about the return to reproductive health after childbirth.

d. **Relationship between Knowledge and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020**

Based on the table, it can be seen that cross tabulation between knowledge factors and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020, it is known that from 30 respondents, 6 respondents with less knowledge had mild anemia, 6 respondents (20%), moderate anemia. as many as 9 respondents (30%), severe anemia by 1 respondent (3.3%). Meanwhile, 13 respondents with sufficient knowledge (43.3%) had mild anemia, and those with moderate and severe anemia did not. Respondents with good knowledge of having mild anemia were 1 respondent (3.3%), moderate anemia and no severe anemia. From the results of the chi-square test, the value of $p (0.011) < 0$,

According to the researcher's assumption, knowledgeable mothers get information sources from health workers, the mass media and from their families regarding the dangers that can occur during pregnancy, one of which is anemia. With increasing information, pregnant women can find out about signs of pregnancy complications and how to prevent them. Mothers who have less knowledge, get less information so they don't know about complications and danger signs of pregnancy, one of which is anemia.

e. **Relationship of Compliance with Fe Tablets with anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020**

Based on the table, it can be seen that the cross tabulation between knowledge factors and anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Community Health Center in 2020, it is known that 19 respondents (63.3%) who did not comply with taking Fe tablets had mild anemia, moderate anemia by 5 respondents (16.7%) and severe anemia by 1 respondent (3.3%). Meanwhile, 1 respondent (3.3%) compliant with iron tablets had mild anemia, 4 respondents (13.3%) had moderate anemia and none had severe anemia. moderate anemia and severe anemia absent. From the results of the chi-square test, the p value $(0.028) < 0$,

According to the assumptions of researchers, the importance of consuming iron tablets regularly and as recommended to avoid anemia during pregnancy. In addition, the importance of providing counseling regarding pregnant women who do not comply with Fe tablets will have a higher risk of developing anemia and help pregnant women deal with the side effects of taking Fe tablets. The incidence of anemia can also be avoided by fulfilling optimal nutrition so that the fetus can grow and develop properly and can motivate pregnant women to obey to take iron tablets to reduce the incidence of anemia. (8)

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4. Conclusion

Based on the results of the research that has been carried out and the discussion previously described regarding "Factors related to anemia in third trimester pregnant women in the work area of the Situmeang Habinsaran Public Health Center in 2020", it can be concluded as follows:

- a. Based on the parity factor, there were 17 respondents in the multiparous category (56.7%), the frequency of antenatal care, there were 22 respondents (73.3%) who did not routinely check their pregnancy, the knowledge factor, there were 16 respondents (53.3%) who were knowledgeable. good, and the compliance factor in taking iron tablets, there were 25 respondents (83.3%) who did not comply with taking iron tablets.
- b. Based on the results obtained, it shows that of the 30 respondents, most of them had mild anemia as many as 20 respondents (66.7%), moderate anemia by 9 respondents (30%) and severe anemia by 1 respondent (3.3%).
- c. There is a relationship between parity and anemia in pregnant women with the result p value = 0.003
- d. There is a correlation between the frequency of antenatal care and anemia in pregnant women with the result of p value = 0.005
- e. There is a relationship between knowledge and anemia in pregnant women with the result p value = 0.011
- f. There is a relationship between compliance with Fe tablets and anemia in pregnant women with the result p value = 0.028

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