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COMPLIANCE RELATIONS MAKE AN ANTENATAL CARE (ANC) VISIT WITH THE INCIDENT OF ANEMIA IN PREGNANT WOMEN IN THE WORK AREA MELUR HEALTH CENTER, PEKANBARU CITY

[1]Fatmaricha Rahmana*, [2]Yadriati Maya Pesa, [3]Nia Desriva
[1]Midwivery, STIKes Pekanbaru Medical Center
[2]Midwivery, STIKes Tengku Maharatu
[3]Midwivery, Faculty of Health, Al Insyirah Institute of Health and Technology
*fatmaricharahmana@gmail.com

ABSTRACT

Pregnant women are susceptible to anemia because during pregnancy the body experiences significant changes, one of which is characterized by a high need for oxygen to share with the fetus (L. Brown, 2010). Anemia in pregnancy is caused by the need for iron during pregnancy tends to increase. The impacts that will arise if a pregnant woman experiences anemia include abortion, babies born prematurely, impaired fetal growth, low birth weight (LBW) and babies born with anemia.This research is to find outThe relationship between adherence to ANC visits and the incidence of anemia in pregnant women. This research design is quantitative with an observational analytical study using a Cross Sectional Study design. The number of samples was 19 pregnant women determined using stratified random sampling techniques. The data analysis used was the Chi-Square test (X2) and obtained a p value ranging from 0.000 - 0.002 (p < 0.05) which shows that there is a significant relationship between the incidence of anemia and ANCp-value0.000 (p<0.05), Early detection is needed to prevent anemia in pregnant women.

Keywords : anemia, pregnant women

INTRODUCTION

Maternal Mortality Rate (MMR) is an indicator of the success of a country's health services. Based on data from the World Health Organization (WHO) in 2020, around 10% of live births experience postpartum bleeding which causes death in the mother. This can be caused by anemia during pregnancy. Meanwhile, the overall prevalence of anemia in pregnant women throughout the world has decreased by 4.5% over the last 19 years from 2000 to 2019 (WHO, 2020). Meanwhile, the number of maternal deaths compiled from family health program records at the Ministry of Health in 2020 showed 4,627 deaths in Indonesia. This number shows an increase compared to 2019 of 4,221 deaths.

Based on causes, most maternal deaths in 2020 were caused by bleeding.

Based on the 2021 Riau Provincial Health Service Profile, there are 3 causes of death for pregnant women, namely Covid-19 as many as 66 people (37%), bleeding (28%) and others (15%). Other causes here are death, one of which is possibly due to complications such as anemia. Meanwhile, the provision of Fe tablets decreased by 14.2%, in 2018 it reached 79.3%, and in 2019 it decreased to 65.1%. The decrease in pregnant women receiving Fe tablets needs attention considering the importance of consuming Fe tablets to prevent anemia in pregnancy and prevent bleeding during childbirth (Riau Province Health Office Profile, 2021). The prevalence of anemia in pregnant women in Pekanbaru City has also

decreased, where in 2018 there were 13,155 cases (51.6%), in 2019 there were 11,832 cases (46.3%) and in 2020 there were 10,485 cases (40.8%). The highest incidence of anemia in pregnant women in 2020 was at the Melur Pekanbaru Community Health Center, namely 92.4% (Pekanbaru City Health Office, 2020).

Based on Afritayeni's research in 2021 in the Rejosari Community Health Center working area, there were 5 pregnant women, 4 of whom said they knew what anemia in pregnancy was, but they did not understand how dangerous it was and how to prevent it and 3 pregnant women also stated that the Fe tablets they were given Midwives are sometimes not consumed because of the side effects they cause (Afritayeni, 2021). Elvanita's research in 2019 on pregnant women in the UPTD work area of Siak Hulu I and III Community Health Centers, showed that the proportion of pregnant women who were anemic was 118 people (55.9%), pregnant women who did not consume enough Fe tablets was 52.6% (Elvanita, 2019).). This shows that anemia in pregnant women is still a public health problem. This shows that anemia in pregnant women is still a public health problem.

Anemia in pregnancy is a condition of a mother with a hemoglobin level below 11 gr% in the first and third trimesters of pregnancy or a hemoglobin level of less than 10.5 gr% in the second trimester. Anemia in pregnant women can increase the risk of premature birth, antepartum hemorrhage, postpartum hemorrhage which results in maternal and child death, and infectious diseases. 55.6% of pregnant women who experience anemia give birth to low birth weight (LBW) babies. Anemia in pregnant women is closely related to mortality and morbidity in mothers and babies, because pregnant women are susceptible to anemia as the body's need for iron and nutrients increases during pregnancy and anemia will cause conditions with feelings of fatigue, weakness, dizziness and paleness (Sulung et al, 2022).

Anemia in pregnant women related to "14 T" is Hb examination. There are various methods for determining hemoglobin levels, but the ones that are often used in the laboratory are those based on visual colorometics, the Sachli method, and the photoelectric cyanmethemoglobin/hemoglobin cyanide method. The most common method is the sachli method. For health workers, what is done to prevent anemia is to have regular visits during pregnancy (ANC) and check Hb regularly, namely at least in the first and third trimesters and give at least 90 blood supplement tablets during pregnancy. The functions of iron include: to form new hemoglobin, to return hemoglobin to normal values after bleeding, to take up small amounts of iron that are consistently excreted by the body, especially through urine, feces and sweat, to replace iron lost through the body's blood, during lactation for milk secretion.

RESEARCH METHODOLOGY

This research design is quantitative with an observational analytical study using a Cross Sectional Study design. The number of samples was 19 pregnant women in 5 (villages) working areas of the Melur Kora Health Center Pekanbaru, which was determined using the stratified random sampling technique.

Maternal Mortality Rate (MMR) is an indicator of the success of a country's health services. Based on data from the World Health Organization (WHO) in 2020, around 10% of live births experience postpartum bleeding which causes death in the mother. This can be caused by anemia during pregnancy. Meanwhile, the overall prevalence of anemia in pregnant women throughout the world has decreased by 4.5% over the last 19 years from 2000 to 2019 (WHO, 2020). Meanwhile, the number of maternal deaths compiled from family health program records at the Ministry of Health in 2020 showed 4,627 deaths in Indonesia. This number shows an increase compared to 2019 of 4,221 deaths.

Based on causes, the majority of maternal deaths in 2020 were caused by bleeding with 1,330 cases, hypertension in pregnancy with 1,110 cases, and circulatory system disorders with 230 cases (Indonesian Health Profile, 2020).

Based on the 2021 Riau Provincial Health Service Profile, there are 3 causes of death for pregnant women, namely Covid-19 as many as 66 people (37%), bleeding (28%) and others (15%). Other causes here are death, one of which is possibly due to complications such as anemia. Meanwhile, the provision of Fe tablets decreased by 14.2%, in 2018 it reached 79.3%, and in 2019 it decreased to 65.1%. The decrease in pregnant women receiving Fe tablets needs attention considering the importance of consuming Fe tablets to prevent anemia in pregnancy and prevent bleeding during childbirth (Riau Province Health Office Profile, 2021). The prevalence of anemia in pregnant women in Pekanbaru City has also decreased, where in 2018 there were 13,155 cases (51.6%), in 2019 there were 11,832 cases (46.3%) and in 2020 there were 10,485 cases (40.8%). The highest incidence of anemia in pregnant women in 2020 was at the Melur Pekanbaru Community Health Center, namely 92.4% (Pekanbaru City Health Office, 2020).

Based on Afritayeni's research in 2021 in the Rejosari Community Health Center working area, there were 5 pregnant women, 4 of whom said they knew what anemia in pregnancy was, but they did not understand how dangerous it was and how to prevent it and 3 pregnant women also stated that the Fe tablets they were given Midwives are sometimes not consumed because of the side effects they cause (Afritayeni, 2021). Elvanita's research in 2019 on pregnant women in the UPTD work area of Siak Hulu I and III Community Health Centers, showed that the proportion of pregnant women who were anemic was 118 people (55.9%), pregnant women who did not consume enough Fe tablets was 52.6% (Elvanita, 2019).). This shows that anemia in pregnant women is still a public health problem. This shows that anemia in pregnant women is still a public health problem.

Pregnant women are susceptible to anemia because during pregnancy the body experiences significant changes, one of which is characterized by a high need for oxygen to share with the fetus (L. Brown, 2010). Pregnancy anemia is called "potential danger to mother and child", which is why anemia requires serious attention from all parties involved in health services (Manuaba, 2010). In general, red blood cells contain hemoglobin which functions to carry oxygen to all body tissues. The condition of the body with too few red blood cells or erythrocytes is called anemia (Tampubolon et al, 2021).

Anemia in pregnancy is a condition of a mother with a hemoglobin level below 11 gr% in the first and third trimesters of pregnancy or a hemoglobin level of less than 10.5 gr% in the second trimester. Anemia in pregnant women can increase the risk of premature birth, antepartum hemorrhage, postpartum hemorrhage which results in maternal and child death, and infectious diseases. 55.6% of pregnant women who experience anemia give birth to low birth weight (LBW) babies. Anemia in pregnant women is closely related to mortality and morbidity in mothers and babies, because pregnant women are susceptible to anemia as the body's need for iron and nutrients increases during pregnancy and anemia will cause conditions with feelings of fatigue, weakness, dizziness and paleness (Sulung et al, 2022).

During pregnancy, iron deficiency often occurs, resulting in a decrease in Hb levels caused by hermodilution in the body of pregnant women and poor diet and consumption of foods containing iron. Meanwhile, an unbalanced diet will cause an imbalance of nutrients entering the body and can cause nutritional deficiencies or conversely, an unbalanced consumption pattern will also result in an excess of certain nutrients and cause overnutrition (Alamsyah, 2020)

One of the basic factors that causes anemia in pregnant women is the low level of education and lack of knowledge of pregnant women. The low level of education of pregnant women can cause limitations in efforts to deal with family nutrition and health problems, including overcoming anemia problems related to iron intake. The mother's level of knowledge influences her behavior, the higher the education or knowledge, the higher the awareness of preventing anemia (Verawati et al, 2021). The impact of anemia in pregnancy can be dangerous for the mother and fetus, such as abortion, premature birth, obstacles to the growth and development of the fetus in the womb, easy infection, antepartum bleeding, premature rupture of membranes (KPD), and in the postpartum period causing postpartum bleeding, facilitating infection and breast milk production (AS1) is reduced (Aryanti et al, 2013).

According to research by Hidayah et al in 2018, out of 611 births, 32 cases of mothers experienced postpartum hemorrhage and 189 cases (30.93%) of mothers experienced anemia (HB < 11). Based on these data, it is known that 17 mothers experienced postpartum hemorrhage caused by anemia (53.125%). If anemia occurs early in pregnancy, it can cause premature labor. Very severe anemia with Hb less than 4gr/100ml can cause cord decompensation.

Health workers play an important role in reducing the risk of anemia and its complications. One of the efforts established is routine pregnancy checks (Antenatal Care). According to the 2020 Guidelines for Antenatal, Childbirth, Postpartum and Newborn Services in the Adaptation to New Habits Era of the Indonesian Ministry of Health, Antenatal Care (ANC) in normal pregnancies is a minimum of 6x with details of 2x in Trimester 1, 1x in Trimester 2, and 3x in Trimester 3. At least twice checked by a doctor during the 1st visit in Trimester 1 and during the 5th visit in Trimester 3.

Practical application of ANC services according to the Research and Development Agency of the Ministry of Health of the Republic of Indonesia, the minimum standard for ANC services is "14 T" namely: ask and greet the mother in a friendly manner, measure BB and TB, find abnormalities, measure BP, press/pelpate the breast (lumps), breast care, breast exercises, press the point (accu pressure) to increase breast milk, measure the height of the uterine fundus, determine the position and heart rate of the fetus, determine the condition (palpation) of the liver and spleen, determine the level of HB, therapy and prevention of anemia (Fe tablets), TT immunization, level physical fitness (accumulator pressure) and pregnancy exercises, danger signs of pregnancy, instructions to avoid danger during pregnancy and childbirth and counseling interviews.

Anemia in pregnant women related to "14 T" is Hb examination. There are various methods for determining hemoglobin levels, but the ones that are often used in the laboratory are those based on visual colorometics, the Sachli method, and the photoelectric cyanmethemoglobin/hemoglobin cyanide method. The most common method is the sachli method. For health workers, what is done to prevent anemia is to have regular visits during pregnancy (ANC) and check Hb regularly, namely at least in the first and third trimesters and give at least 90 blood supplement tablets during pregnancy. The functions of iron include: to form new hemoglobin, to return hemoglobin to normal values after bleeding, to take up small amounts of iron that are consistently excreted by the body, especially through urine, feces and sweat, to replace iron lost through the body's blood, during lactation for milk secretion.

RESEARCH AND DISCUSSION

1. Univariate Analysis

Table 1 Frequency Distribution of Anemia In Pregnant Women

No	Variable	N	
1.	ANC visit		
	≤ 2 times during pregnancy	15	78.9
	> 2 times during pregnancy	4	21.1
2.	Parity		
	Low Risk	4	21.1
	High risk	15	78.9
3.	Age of Pregnant Mother		
	Low	3	15.8
	Tall	16	84.2
4.	Gestational Age		
	Low	2	10.5
	Tall	17	89.5

Based on table 1, it states that out of 19 pregnant women, the highest number of pregnant women who experienced high risk were in the category of mothers who had ANC visits.≤ 2 times during pregnancy, namely 15 pregnant women (78.9%), while pregnant women who visited ANC at least 2 times during pregnancy 4 pregnant women (21.1%) were at low risk. As for pregnant women whose parity > Parity 2, which is a high risk of experiencing anemia, is 15 pregnant women (78.9%) and parity 1 is a low risk pregnant mother who does not experience anemia, namely 4 pregnant women (21.1%). Then, for pregnant women in the age group ≤ 20 years or ≥ 35 years (high risk) there were 15 pregnant women (78.9%) who experienced anemia and in general, pregnant women aged 20-35 years (low risk) did not experience anemia as many as 3 mothers pregnant (15.8%). Furthermore, 2 pregnant women in the second trimester of pregnancy (low risk) experienced anemia (10.5%) and in the first and third trimesters of pregnancy (high risk) 17 pregnant women (89.5%) experienced anemia.

2. Bivariat Analysis

Table 2 Relationship between ANC and the incidence of anemia in pregnant Women

ANC	Anemia		Not Anemic		Total		p value
	N	%	N	%	N	%	0,000
≤ 2 times during pregnancy	15	78.9	0	0	15	78.9	
> 2 times during pregnancy	1	5.3	3	15.8	4	21.1	
TOTAL	16	84.2	3	15.8	19	100	

Based on table 2, it states that the results of the analysis test using chi square found a p value = 0.000 (p<0.05) which means that there is a significant relationship between ANC and the incidence of anemia in pregnant women.

Table 3 Relationship between parity and the incidence of anemia in pregnant women

Parity	Anemia		Not Anemic		Total		p value
	N	%	N	%	N	%	0.002
Low Risk	2	10.5	3	15.8	5	26.3	
High risk	14	73.7	0	0	14	73.7	
TOTAL	16	84.2	3	15.8	19	100	

Based on table 3, it states that the results of the analysis test using chi square found a value of p= 0.002 (p<0.05), which means that there is a significant relationship between parity and the incidence of anemia in pregnant women.

Table 4 Relationship between the age of pregnant women and the incidence of anemia in pregnant women

Age of Pregnant Mother	Anemia		Not Anemic		Total		p value
	N	%	N	%	N	%	0,000
Low Risk	0	0	2	10.5	2	10.5	
High risk	16	84.2	1	5.3	17	89.5	
TOTAL	16	84.2	3	15.8	19	100	

Based on table 4, it states that the results of the analysis test using chi square found a value of p= 0.000 (p<0.05) which means that there is a significant relationship

between the age of pregnant women and the incidence of anemia in pregnant women.

Table 5 Relationship between gestational age and the incidence of anemia in pregnant women

UK	Anemia		Not Anemic		Total		p value
	N	%	N	%	N	%	0.001
Low Risk	0	0	2	10.5	2	10.5	
High risk	16	84.4	1	5.3	17	89.5	
TOTAL	16	84.2	3	15.8	19	100	

Based on table 5, it states that the results of the analysis test using chi square found a value of p= 0.001 (p<0.05) which means that there is a significant relationship between gestational age and the incidence of anemia in pregnant women.

3. Relationship between ANC and the incidence of anemia

From the research results, it was found that pregnant women who underwent ANC < 2 times during pregnancy experienced The most anemia is 15 people (78.9%) and pregnant women who had pregnancy checks > 2 times during pregnancy, 4 people (21.1%) did not experience anemia. From the results of the bivariate test, the p-value was obtained 0.000 (p<0.05) and thisshows that the relationship between ANC and the incidence of anemia in pregnant women is statistically significant. This is in line withresearch by Sugma (2015) revealed that there is a relationship between the regularity of ANC and the incidence of anemia in pregnant women with a p-value of 0.002. This research also shows that pregnant women who make regular ANC visits have a lower risk of developing anemia than pregnant women who have irregular antenatal care visits. Apart from that, mothers who regularly have ANC will also find it easier to identify abnormalities experienced from the start of pregnancy and can be detected early. These results are in line with previous research that there is a relationship between ANC services and the incidence of anemia in

third trimester pregnant women at the Sedayu I Bantul Yogyakarta health center (p=0.004), and are also in line with other research, which states that ANC is significantly related to anemia in pregnant women. third trimester at Bernung Pesawaran Community Health Center (p=0.001).

4. The Relationship between Parity and the Incidence of Anemia

Likewise with Parity, where parity ≥ 2 has a higher risk of experiencing anemia, namely 14 pregnant women (73.7%) compared to 5 parity 1 pregnant women (26.3%). This result is in line with the results of the bivariate test with *p-value* 0.002 (p<0.05) which means there is a statistically significant relationship between parity and the incidence of anemia in pregnant women.The results of this study are also in line with research by Purwandari (2016) with the highest distribution being high parity, namely 64.3% compared to low parity 40.4%, which shows that there is a relationship between parity and the incidence of anemia in pregnant women. This is in accordance with the theory that the higher the parity, the higher the risk of the mother experiencing anemia during pregnancy because women who have given birth frequently can result in damage to the blood vessels and vascularization of the uterine wall due to previous births, resulting in inadequate blood flow to the placenta, which ultimately results in can reduce its function and affect the circulation of nutrients to the fetus. In addition, having a history of heavy bleeding can cause anemia in subsequent pregnanciesThis is not in line with Purwandari's (2016) research on distribution The highest is high parity, namely 64.3% when compared to low parity as much as 40.4%. This research also shows that there is The relationship between parity and the incidence of anemia in pregnant women. This is appropriate with the theory that the higher the parity, the higher the mother's risk for experiencing anemia in pregnancy. High parity can improve

frequency of complications in pregnancy and childbirth, because women who have Frequent childbirth can result in damage to blood vessels and vascularization of the uterine wall due to previous labor, resulting in blood flow to the placenta is inadequate, which can ultimately reduce its function and affects the circulation of nutrients to the fetus. Plus, it has a history Bleeding a lot can cause anemia next pregnancy.

5. The relationship between the age of pregnant women and the incidence of anemia

The age of pregnant women also influences the occurrence of anemia where from the test results of pregnant women aged 20 - 35 years, 2 people (10.5%) experienced anemia, while those aged ≤ 20 years and ≥ 35 years 17 people (89.3%) experienced anemia. anemia.This result is also in line with the results of the bivariate test with*p-value* 0.000 (p<0.05) which means there is a statistically significant relationship between the age of pregnant women and the incidence of anemia in pregnant women.The results of this study are in line with research conducted by Astriana (2017) which stated that pregnant women with an age at risk were 199 people (71.8%) higher than the age not at risk in previous research, and ages without risk were 78 people (28.2%). %). In theory, the age of 20-35 years is safe, healthy, not at risk and productive because the reproductive organs function well during pregnancy and childbirth, however, biologically, the mental health at the age of 20-35 years is not optimal with emotions that tend to be unstable and immature so easily experience shocks which can affect attention to meeting nutritional needs related to decreased body resistance and various diseases that often affect this age range (Neil Niven & Waluyo, 2013).

6. Relationship to Gestational Age with the incidence of anemia

From the research results, it was also found that gestational age influences the occurrence of anemia in pregnant women. This can be seen from the test results which show that 17 people (89.5%) of pregnant women who were in the 1st trimester and 3rd trimester experienced anemia and only 2 people (10.5%) of pregnant women who were in the first trimester. 2nd who does not have anemia.This result is also in line with the results of the bivariate test with*p-value* 0.001 (p<0.05) which means there is a statistically significant relationship between gestational age and the incidence of anemia in pregnant women. According to Tadesse et al (2017). Anemia in the first trimester can be caused by loss of appetite, morning sickness, and the start of hemodilution at 8 weeks of pregnancy. Meanwhile in the 3rd trimester it can be caused by high nutritional requirements for fetal growth and the sharing of iron in the blood with the fetus which will reduce the mother's iron reserves. The nutritional needs of pregnant women continue to increase with increasing gestational age, one of which is iron. During pregnancy there is dilution (hemodilution) which continues to increase according to gestational age and the peak occurs at 32 to 34 weeks of gestation (Manuaba, 2010). The results of this study are in line with research by Putri and Yuanita (2019), where of the 16 respondents aged 28-40 weeks, most of them experienced anemia of 10 respondents (62.5%), while most of the 14 respondents aged 13-27 weeks' gestation did not experience anemia as many as 12 respondents (85.7%). Based on the results of the chi-square test, the p-value was 0.021 < (0.05), this shows that there is a relationship between gestational age and the incidence of anemia in pregnant women at the Bukit Sangkal Health Center, Palembang. The results of this study are in line with research by Susianty (2017), where there were 45 pregnant women with anemia, there were 30 pregnant women at gestational age who were at risk of experiencing anemia (66.66%), while those who were at risk but did not experience anemia were 15 pregnant women (3.33%), while those experiencing anemia who were not at risk were 10 pregnant women (22.22%), and those who were not at risk

and did not also experience anemia were 35 pregnant women (77.77%). Based on the results of statistical tests using chi square, the value of p = 0.000 shows that there is a significant relationship between gestational age and the incidence of anemia in pregnant women at the Poasia Health Center, Kendari City, Southeast Sulawesi Province.

CONCLUSION

Based on the results of research conducted by researchers regarding the factors that related to the incidence of anemia in pregnant women in the UPTD work area of the Pantai Raja Health Center, several conclusions can be drawn, including the following:

1. Of the 19 respondents who15 people performed ANC ≤ 2 times during pregnancy (78.9 %) experienced anemia and pregnant women who check pregnancy > 2 times during pregnancy, 4 people (21.1%) did not experience anemia.

2. In the parity factor, from 19 respondents there wasParity 1 was 5 pregnant women (26.3%) who had low risk and parity ≥ 2 was14 pregnant women (73.7%) are at high risk of experiencing anemia.

3. Respondents aged 20-35 years had a higher percentage of 2 respondents (10.5%) experienced anemia, compared with respondents aged <20 years and >35 year, 17 respondents (89.5%) experienced anemia.

4. For2 pregnant women (10.5%) experienced anemia in the second trimester of pregnancy (low risk). and in the first and third trimesters of pregnancy (high risk) 17 pregnant women (89.5%) experienced anemia.

5. There is a significant relationship between ANC examinations and the incidence of anemia in mothers pregnant with a p-value 0.000 (p<0.05).

6. There is a significant relationship between parity and the incidence of anemia in mothers pregnant with a p-value 0.002 (p<0.05).

7. There is a significant relationship between the age of pregnant women and the incidence of anemia in mothers pregnant with a p-value 0.000 (p<0.05).

8. There is a significant relationship between gestational age and the incidence of anemia in the mother pregnant with a p-value 0.001 (p<0.05).

Suggestion :

1. For Midwifery Education Institutions
   It is hoped that this research can be used as reference material, especially for midwives in providing education regarding factors which is associated with the incidence of anemia in pregnant women.

2. It is hoped that midwives will carry out information and educational counseling (KIE) for mothers, especially mothers at risk of pregnancy, to pay attention to their nutritional intake by consuming foods that contain high iron so that anemia can be prevented. Mothers at risk parity are expected to take part in a family planning program so that pregnancy is more planned so that The mother does not have high parity which increases the risk of anemia.

3. Future research needs to be developed with a larger sample size and population and conduct further research on other factors related to the incidence of anemia in pregnant women.

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