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Factors Related to the Incidence of Anemia in Pregnant in Women at the Kolaka Health Center and Pomalaa Health Center in Kolaka District

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ABSTRACT

Introduction: Anemia in pregnancy is a national problem because it reflects the value of the socio-economic welfare of the community and has a very large influence on the quality of human resources. WHO reports that the prevalence of pregnant women worldwide WHO experience anemia is 41.8%.

Method: The type of research used in this study is a quantitative study,namely a cross-sectional study, the research sample size is 98 people obtained by simple random sampling. The data was processed using the chi-square test.

Result: This study shows that there is a significant relationship between ANC service quality and anemia in pregnant women with a p-value=0.000. There is a relationship between diet and anemia in pregnant with p-value= 0.009. There is a relationship between adherence to consuming Fe tablets with anemia in pregnant with p-value=0.000.

Conclusion: ANC service quality, diet, and Fe consumption compliance have a relationship with the incidence of anemia in pregnant women at the Kolaka Public Health Center and Pomalaa Health Center, Kolaka Regency.

Introduction

Anemia is one of the risk factors that cause maternal death. The maternal mortality rate due to anemia in Indonesia is 70% (7 out of 10 pregnant women). The high level of anemia in pregnant women can reflect the economic inability of the family or all components due to values that do not meet health requirements.[1]

According to the results of the Basic Health Research in Indonesia in2018, theprevalence of anemia in pregnant women in Indonesia is 48.9%. Meanwhile, the prevalence of anemia in pregnant women in Southeast Sulawesi is 67.3%. As many as 84.6% of anemia in pregnant women occurred in the age group 15-24 years.[2] Data on the prevalence of anemia in pregnant women in Southeast

Sulawesi Province in 2020, Kolaka Regency with a percentage of 43%.Kolaka Regency has 14 Health Centers, the working area of Kolaka Health Center and Pomalaa Health Center is the work area with the first and second highest anemia cases among other Health Centers in Kolaka Regency.

Anemia or often referred to as lack of blood is a condition in which the number of red blood cells decreases and causes a lack of ability to provide oxygen to meet the physiological needs of the body. The physiological body needs vary and each individual varies based on age, sex, altitude above sea level, smoking, and stage of pregnancy. It is estimated that 18% of women living in developed countries experience anemia, while in developing countries the figure increases to 56% and is a contributing factor to women's problems and death during pregnancy and childbirth.[3]

Anemia in pregnancy can be characterized by pregnant women who experience an iron deficiency in their blood. In addition, anemia in pregnancy can also be said to be a condition of the mother with hemoglobin (Hb) <11 g/dl in the first and third trimesters, while in the second trimester, the hemoglobin level is <10.5 g/dl. The Centers for Disease Control and Prevention's definition of anemia in pregnancy considers normal hemodilution in pregnancy where the hemoglobin level is below 11 g/dl in the first and third trimesters, and below 10.5 g/dl in subsequent trimesters. With the various limits of weakness in the next trimester and others, each assessment result needs to pay attention to the normal limits of weakness that have been set previously.[4]

Signs and symptoms of anemia are very different, they can be almost asymptomatic, side effects of the underlying disease are striking or indications of weakness can be traced along with the underlying infection. Side effects of pallor can include dizziness, lightheadedness, weakness, fatigue, lethargy, dysphagia, enlarged spleen, reduced appetite, reduced body health, and impaired wound healing.[5]

Women need more iron than men, both during pregnancy and non-pregnancy because women menstruate as much as 50-80 cc each month and lack iron by 30-40 mg. Furthermore, pregnancy requires extra iron to build red blood cells and the platelet structure of the fetus and placenta. The more often a woman becomes pregnant, the more iron is lost and the more anemia.[6]During pregnancy, pregnant women experience an increase in blood plasma by 30%, and platelets by 18%, but Hb only increases by 19%, so anemia in pregnancy is very high. Diseases in pregnancy can be prevented by assuming that the mother has a good diet before pregnancy to have sufficient iron reserves in the body.[5],[7]

Significant changes occur when the mother is pregnant. The amount of blood in the body increases by about 20-30%, to increase the need for iron and vitamins to make hemoglobin. When pregnant, the body produces more blood to share with the baby. The body needs up to 30% more blood than when not pregnant. If the body does not have enough iron, then the body cannot make the red blood cells needed to make extra blood. Hemoglobin is a protein found in red blood cells whose job is to carry oxygen to other cells in the body. Many women develop an iron deficiency in the second and third trimesters. When the body needs more iron than is available, anemia is likely to occur.[8]

Based on the study of the problem, the researcher is interested in conducting a studywith the title "Factors Related to the Incidence of Anemia in Pregnant Women at the Kolaka Health Center and Pomalaa Health Center in Kolaka District".

Method

This study used a cross-sectional research design. The research location is in Kolaka Health Center and Pomalaa Health Center, Kolaka Regency. The sample in this study was 98 respondents. To find out the relationship between the dependent variable and the independent variable was done using the Chi-Square test with a significant level ($\alpha = 0,05$).

Result

Table 1 shows that out of 98 respondents (100%), who lack services, there are 37 people are anemic (84.1%) and 7 people are not anemic (15.9%). Meanwhile, those who have adequate service quality are 21 people who are anemic (38.9%) and 33 people who are not anemic (61.1%).

Table 2 shows that out of 98 respondents (100%), who lack a diet, there are 40 people are anemic

(70.2%) and 17 people are not anemic (29.8%). While those who have an adequate diet 18 people are anemic (43.9%) and not anemic as many as 23 people (56.1%).

Table 3 shows that out of 98 respondents (100%), who did not comply with taking Fe tablets, there were 50 people were anemic (89.3%) and 6 people were not anemic (10.7%). While those who obediently consume Fe tablets, there are 8 people are anemic (19.0%) and 34 people are not anemic (81.0%).

Table 1
The Relationship Between the Quality of ANC Services and Anemia in Pregnant Women at the Kolaka Health Center and Pomalaa Health Center, Kolaka Regency

Quality of Service ANC	Anemia Status				Total		X^2	OR95% Cl
	Anemia		No Anemia					
	n	%	n	%	n	%		
Not enough	37	84.1	7	15.9	44	100	0,000	8,306
Enough	21	38.9	33	61.1	54	100		
Total	58	59.2	40	40.8	98	100		

Table 2
The Relationship Between Diet and Anemia in Pregnant Women at the Kolaka Health Center and Pomalaa Health Center, Kolaka Regency

Dietary habit	Anemia Status				Total		X^2	OR95% Cl
	Anemia		No Anemia					
	n	%	n	%	n	%		
Not enough	40	70,2	17	29,8	57	100	0,009	3,007
Enough	18	43,9	23	56,1	41	100		
Total	58	59,2	40	40,8	98	100		

Table 3
The Relationship Between Compliance with Fe Consumption and Anemia in Pregnant Women at Kolaka Health Center and Pomalaa Health Center, Kolaka Regency

Compliance Consuming Fe	Anemia Status				Total		X^2	OR95% Cl
	Anemia		Anemia					
	n	%	n	%	n	%		
Not obedient	50	89,3	6	10,7	56	100	0,000	35,417
Obedient	8	19,0	34	81,0	42	100		
Total	58	59,2	40	40,8	98	100		

Discussion

Quality of ANC Services and the Incidence of Anemia in Pregnant Women

Antenatal care with re-examination standards (K1-K4) is an important part of health services for pregnant women because, in terms of this health disorder, it can be felt so that prompt and appropriate treatment is carried out. The implementation and examination of ANC have several standards, but what is often used is the 10T standard, which is an update from the 7T standard which was previously used by health workers as a reference for antenatal care services. Quality ANC services have an important position in efforts to reduce maternal and infant mortality because, through professional and quality ANC services, pregnant women receive education on how to keep themselves healthy, prepare for the birth of a healthy baby, and increase awareness and

knowledge about the possibility of having a healthy baby. risk or occurrence of complications in pregnancy, so that optimal health can be achieved in the face of childbirth and postpartum.[2]

The results of statistical analysis obtained the value of Odds Ratio (OR) = 8.306 (95% CI = 3.131-22.036) (OR> 1), this means that mothers with poor service quality will be at risk of having anemia 8.306 times greater than mothers with sufficient service quality. Because the OR (8.306) >1, then there is a relationship between the quality of ANC services and the incidence of anemia in pregnant women at the Kolaka Public Health Center and the Pomalaa Health Center in Kolaka Regency.

The 9T antenatal care services in question include services for measuring weight and height, blood pressure, uterine fundal height, tetanus toxoid immunization, giving 90 Fe tablets, counseling, routine laboratory examinations, measuring upper arm circumference, and checking the fetal pulse. 7T services include services for measuring weight and height, blood pressure, uterine fundal height, tetanus toxoid immunization, giving 90 Fe tablets, counseling, and routine laboratory examinations. 5T services include measurement of weight and height, blood pressure, uterine fundal height, tetanus toxoid immunization, and administration of 90 Fe tablets.[2]

Diet and the Incidence of Anemia in Pregnant Women

A balanced diet consists of a variety of foods in appropriate amounts and proportions to meet a person's nutritional needs. An unbalanced diet will cause an imbalance of nutrients that enter the body and can lead to malnutrition or vice versa, an unbalanced consumption pattern also results in more than certain nutrients and causes excess nutrition. Lack of nutritional intake in pregnant women during pregnancy in addition to having an impact on the birth weight of the baby will also have an impact on pregnant women, which will cause anemia in pregnant women.[9]

The results of statistical analysis obtained the value of Odds Ratio (OR) = 3,007 (95% CI = 1,300-6,951) (OR>1) this means that mothers who eat less will be at risk of experiencing anemia, 3,007 times greater than mothers whose diet is adequate. Because the OR value (3.007) > 1, there is a relationship between diet and the incidence of anemia in pregnant women at the Kolaka Public Health Center and the Pomalaa Health Center in Kolaka Regency.

Pregnant women are also encouraged to eat a variety of foods that are processed from four main types of food, namely: rice or its alternatives, fruits, vegetables, and meat or alternative substitutes. The food consumed every day should consist of these four kinds of food. This is because each of these food groups contains different nutrients, for example, meat and its substitutes contain protein, but do not contain vitamin C which is needed by the body. By being observant in choosing the variety of food needed, we can ensure that the food we consume contains balanced nutrition. If this balanced diet is not met, it tends to cause anemia during pregnancy. In addition, the role of health promotion officers at the health center is also very necessary in providing understanding to the community that a good diet during pregnancy can prevent anemia. Therefore, it is necessary to carry out continuous counseling to the community, and it is necessary to increase the capacity of health promotion officers at the Kolaka Health Center and Pomalaa Health Center.[10]

1. Compliance with Fe Consumption and the Incidence of Anemia in Pregnant Women

The Centers for Disease Control and Prevention (CDC) definition of anemia of pregnancy considers normal hemodilution in pregnancy where the hemoglobin level is below 11 g/dl in the first and third trimesters, and below 10.5 g/dl in subsequent trimesters. Blood supplement tablets are often called iron tablets. Iron is a mineral that is needed by all biological systems in the body. Iron is a component of hemoglobin, peroxide, and the enzyme catalase.[4]

The results of statistical analysis obtained the value of Odds Ratio (OR) = 35,417 (95% CI = 11.274 - 111,257) (OR> 1) this means that mothers who do not adhere to consuming Fe tablets will be at risk of experiencing anemia, which is 35.417 times greater than mothers who are obedient in consuming Fe tablets. Fe tablets. Because the OR (35,417)>1, there is a relationship between adherence to consuming Fe tablets and the incidence of anemia in pregnant women at the Kolaka Public Health Center and the Pomalaa Health Center in Kolaka Regency.

Fe requirements increase during pregnancy to meet Fe needs due to increased blood volume, to provide Fe to replace blood loss during childbirth. Increased absorption of the long phase of the second trimester of pregnancy helps increase demand. For pregnant women, take one tablet daily for at least 90 days of pregnancy and 40 days after giving birth. Consuming an inadequate amount of Fe tablets will have an impact on the effectiveness of adding red blood cells which is not optimal. Whereas this Hb level can be overcome by consuming blood-boosting tablets that have been given by health workers. The provision of 90 Fe tablets during pregnancy is sufficient to meet the iron needs of pregnant women and fetuses. Intending to know the behavior of pregnant women in using Fe tablets, it is necessary to carry out continuous health education, for example in classes for pregnant women, screening or monitoring the consumption of Fe tablets, including involving health cadres.[11]

Conclusion

Based on the results of the research conducted, the following conclusions are there is a relationship between the quality of ANC services and the incidence of anemia in pregnant women at the Kolaka Public Health Center and the Pomalaa Health Center, Kolaka Regency. There is a relationship between diet and the incidence of anemia in pregnant women at Kolaka Health Center andPomalaa Health Center, Kolaka RegencyThere is a relationship between Fe Consumption Compliance with the incidence of anemia in pregnant women at the Kolaka Health Center and Pomalaa Health Center, Kolaka Regency.

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