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THE RELATIONSHIP BETWEEN AGE FACTORS AND THE INCIDENCE OF ANEMIA IN PREGNANT WOMEN AT PMB PRATAMA MADINA MEDAN TEMBUNG DELI SERANG REGENCY IN 2024

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ABSTRACT

Anemia in pregnant women remains a public health problem that significantly impacts maternal and fetal health. Anemia in pregnancy is primarily caused by iron deficiency, but this condition is also significantly influenced by the mother's overall nutritional status. This study aims to determine the relationship between age and the incidence of anemia in pregnant women at PMB Pratama Madina Medan Tembung, Deli Serdang Regency in 2024. This study used a cross-sectional design. The population was all 32 pregnant women at PMB Pratama Madina Medan Tembung, Deli Serdang Regency. The sample size was 32 people obtained using total sampling. The data analysis technique used chi-square analysis. The results obtained in this study were from 32 respondents, there was a relationship between age and the incidence of anemia in pregnant women at PMB Pratama Madina Medan Tembung, Deli Serdang Regency in 2024, with a p-value of 0.003 (p-value <0.05).

Keywords: Age Factor, Anemia Incidence, Pregnant Women

Introduction

Anemia in pregnant women remains a major health problem that significantly impacts maternal and fetal health, particularly in developing countries, including Indonesia. Anemia in pregnancy is defined as a condition where the hemoglobin (Hb) level is less than 11 g/dL, which is generally caused by iron deficiency, although it can also be influenced by other factors such as infection, chronic disease, and socioeconomic conditions.(Organization, 2022). Anemia in pregnant women can reduce work capacity, cause fatigue, increase the risk of infection, and contribute to complications during pregnancy and childbirth.

Anemia during pregnancy can cause various health problems and can even endanger the mother's life. During pregnancy, anemia can be said to occur if the hemoglobin level in the blood is <11 gr/dl10 (Kebidanan, 2024)

During pregnancy, if anemia is not treated until late in pregnancy, it can affect the postpartum period. The current government program to prevent anemia involves giving pregnant women at least 90 iron tablets containing 320 mg FeSO4 (60 mg iron and 0.25 mg folic acid) during pregnancy. This program aims to prevent

and address the incidence of anemia in pregnant women (Fitri Handayani et al., 2024).

The most common anemia in pregnancy is iron deficiency anemia, this is caused by a lack of iron intake in food due to impaired reabsorption, digestive disorders and bleeding (Manurung, 2023).

The impact of anemia during pregnancy is not only felt by the mother, but also by the fetus. Pregnant women with anemia are at higher risk of bleeding during delivery, premature birth, and preeclampsia. Meanwhile, in the fetus, maternal anemia can cause intrauterine growth retardation, low birth weight (LBW), neonatal asphyxia, and even increase the risk of perinatal death. Therefore, anemia in pregnant women remains an indirect cause of high maternal mortality rates (MMR) and infant mortality rates (IMR) (Kemenkes, 2021).

Malnutrition during pregnancy will affect the growth, formation and development of organs and the function of fetal organs will be less than optimal. It is feared that there will be congenital defects in the baby that is born and the baby's head size can even be small due to the lack of nutritional intake of the fetus for brain development so that brain development is not optimal (Parningotan Simanjuntak et al., 2023).

One of the factors that plays a significant role in the incidence of anemia in pregnant women is maternal age. The biologically healthy reproductive age ranges from 20 to 35 years. Pregnancy occurring at an age below 20 or above 35 is categorized as high-risk. In adolescent pregnant women (<20 years), reproductive organs and physiological conditions are not yet optimally developed, so nutritional needs, including iron, must be divided between the needs of maternal growth and fetal development. This condition makes young pregnant women more susceptible to iron deficiency and anemia. The incidence of anemia in the world ranks third with a prevalence of anemia in pregnant women of 74%. According to the WHO, 40% of maternal deaths in developing countries are related to anemia during pregnancy (Endang Wahyuningsih et al., 2023).

Meanwhile, in pregnant women over 35, there is a decline in physiological organ function and an increased likelihood of comorbidities, such as hypertension, diabetes mellitus, or other metabolic disorders. These conditions can affect the absorption and utilization of iron in the body, thereby increasing the risk of anemia. Furthermore, pregnancy at an advanced age is often accompanied by a history of recurrent pregnancies and short birth spacing, which also increases the risk of anemia due to inadequate iron recovery (Prawirohardjo, 2020).

Age is also closely related to maternal health behaviors. Pregnant women at risk often have lower levels of knowledge about pregnancy health, diet, and the importance of taking iron supplements (IBT). Compliance with iron supplements and regular antenatal care (ANC) visits significantly impact a mother's hemoglobin status during pregnancy. A lack of ANC visits often results in anemia going undetected early, resulting in suboptimal treatment (Kemenkes, 2021).

In addition, physiological changes during pregnancy, such as a greater increase in blood plasma volume compared to red blood cell mass, cause physiological hemodilution. This condition results in decreased hemoglobin levels, especially in the second and third trimesters of pregnancy. If this condition is not balanced with adequate iron intake, the risk of anemia will increase, especially in pregnant women of high-risk age (Organization, 2022).

Research Method

The research method used was analytical observational. Surveys or studies attempt to explore how and why health phenomena occur. The cross-sectional measurement design was used to determine the risk factors for anemia in pregnant women at the Madina Medan Tembung Primary School, Deli Serdang Regency, in 2024.

Result

The study, entitled "The Relationship between Age and the Incidence of Anemia in Pregnant Women at the Madina Medan Tembung Primary School in Deli Serdang Regency in 2024," involved a sample of 54 individuals. The incidence of anemia in pregnant women at the Madina Medan Tembung Primary School in Deli Serdang Regency can be seen in Table 4.1 below:

Table 1. Frequency Distribution of Anemia Incidence in Pregnant Women at PMB Pratama Madina Medan Tembung Deli Serdang Regency in 2024

No	incidence of anemia	f	%
1	Anemia	11	34,4
2	Not Anemia	21	65,6

Based on the table above, it can be seen that based on the incidence of anemia in pregnant women, it is known that 11 people (34.4%) experienced anemia compared to 21 people (65.6%) who did not experience anemia.

Table 2. The Relationship Between Age and the Incidence of Anemia in Pregnant Women at the Madina Primary Health Center in Medan Tembung, Deli Serdang Regency in 2024

Usia	incidence of anemia						RP (95%CI)	P-value
	Anemia		Not anemia		Total			
	n	%	n	%	n	%		
Risky	8	25	2	6,3	10	31,3	2,258	0,003
No Risk	12	37,4	10	31,3	22	68,7	(1,63-8,03)	

Based on the table above, it can be seen that based on the incidence of anemia in pregnant women, it is known that 11 people (34.4%) experienced anemia compared to 21 people (65.6%) who did not experience anemia

Discussion

The results of the bivariate analysis of the relationship between the variable of age with the incidence of anemia in pregnant women at PMB Pratama Madina Medan Tembung Deli Serdang Regency in 2024 can be seen that the proportion of anemia incidents at risk ages was 10 people (31.3%) compared to the incidence of anemia at non-risk ages of 22 people (68.7%). The results of the chi square statistical test showed that the p value <0.05 was 0.003, so it can be concluded that there is a significant relationship between age and the incidence of anemia in pregnant women at PMB Pratama Madina Medan Tembung Deli Serdang Regency.

Anemia is a condition in which the amount of hemoglobin in the blood is

below normal. Hemoglobin is produced in red blood cells, so anemia can occur either because red blood cells contain too little hemoglobin or because there are not enough red blood cells. Anemia during pregnancy can have a poor prognosis for the fetus, labor, and the postpartum period (Y.N et al., 2023).

According to research, anemia in pregnant women must be detected as early as possible and given appropriate management. Calculating the prevalence of anemia in pregnant women is useful for knowing the number of pregnant women at risk and requiring proper attention and treatment to prevent mothers from giving birth to babies with iron deficiency anemia, which will inhibit the growth of brain cells and other body cells that can manifest in the form of stunting and wasting. Anemia requires serious attention from all parties. Iron deficiency originating from food due to the family's limited economic capacity is the main cause of pregnant women experiencing anemia. The purpose of community service carried out to the community, especially pregnant women, is to determine hemoglobin levels in pregnant women and socialize about preventing anemia during pregnancy (Adethia et al., 2022).

The results of this study align with previous research entitled "Factors Influencing the Incidence of Anemia in Third Trimester Pregnant Women at the Kunti Sari Lubis Pregnant Women's Health Center in Perbauangan District in 2023." A Chi-square statistical test showed a p-value of 0.001 < 0.05, indicating a significant relationship between maternal age and the incidence of anemia in third trimester pregnant women (Fitriani et al 2023)

Conclusion and Suggestion

The conclusion obtained from this study is that there is a significant relationship between age and the incidence of anemia in pregnant women with a p value <0.05, namely 0.003, so it can be concluded that there is a significant relationship between age and the incidence of anemia in pregnant women at PMB Pratama Madina Medan Tembung, Deli Serdang Regency in 2024

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