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Research Article

Compliance with Fe Tablet Consumption and Anemia Incidence in Pregnant Women at Tanjung Health Center

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Abstract: Anemia in pregnant women is a serious health concern, as red blood cells play a crucial role in delivering essential nutrients and oxygen to the developing fetus. Adequate iron intake during pregnancy is necessary, as maternal anemia is a risk factor for negative perinatal outcomes, such as low birth weight (LBW) and preterm birth. Additionally, anemia during labor can lead to complications, with a 17.24% rate of bleeding directly attributed to this condition. This study aims to explore the relationship between compliance with Fe tablet consumption and the incidence of anemia among pregnant women at the Tanjung Health Center, Tabalong Regency, South Kalimantan. An analytical survey design using a cross-sectional approach was applied, focusing on identifying relationships between two or more variables. The sampling technique employed was total sampling, involving 25 pregnant women, and data was collected using a checklist sheet. Chi-square analysis was performed using SPSS to test the data. The results showed a P-value (asymp. Sig 2-tailed) of 0.000, which is less than 0.05, indicating a significant relationship between Fe tablet consumption compliance and anemia incidence in pregnant women. Therefore, the null hypothesis (H0) was rejected, and the alternative hypothesis (H1) was accepted, concluding that there is a significant relationship between compliance with Fe tablet consumption and the incidence of anemia in pregnant women. This finding highlights the importance of proper iron supplementation in preventing anemia and improving maternal health outcomes during pregnancy.

Keywords: Anemia; Fe Adherence; Pregnant Women

1. Introduction

Anemia during pregnancy is a disorder characterized by a hemoglobin (Hb) level of less than 11%. Symptoms include weakness, pale skin, blurred vision, and even palpitations. When a woman is pregnant, she should start taking steps to be healthy, such as improving her diet and food consumption, as the fetus is still in the womb. Nutritional Status during pregnancy can affect the growth of the baby being born. The nutritional condition of pregnant women can be assessed by measuring hemoglobin (Hb) levels. If Hb levels are known, anemia can be diagnosed. Anemia of a pregnant woman is a complicated problem because red blood cells are essential for transporting nutrients and oxygen to a developing fetus. more than half of pregnant women worldwide suffer from anemia. According to some studies, anemia in "mothers during pregnancy is a risk factor for negative perinatal outcomes, including preterm labor and low birth weight (LBW). Therefore, it is important for every expectant mother to ensure that she meets her iron needs during pregnancy. A healthy and balanced diet is usually sufficient to meet the iron requirement when not pregnant. However, during pregnancy, the amount of iron that comes from food is still not enough, so blood supplement pills are needed. Every pregnant woman should take at least 90 Fe pills during her pregnancy,

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according to the Ministry of Health. The recommended amount is 60 mg (Fajrin, 2020). Anemia is the tenth most significant health problem in today's era. Women of childbearing age, pregnant women, school-age children, and adolescents are populations that have a higher risk of developing anemia. Reports that there are about 303,000 maternal deaths, or about 216 deaths per 100,000 live births in the world (WHO,2019). The global prevalence of anemia among pregnant women is 41.8%. Iron deficiency is responsible for almost half of all cases of anemia. In Africa, 57.1% of pregnant women have anemia, while in Asia, the figure is 48.2%. In Europe, the incidence rate is 25.1%, and in America, 24.1% (Nuristigfarin & Rifkiyatul Islami, 2022).

Rates of anemia among pregnant women are 57.1% in Africa, 48.2% in Asia, 25.1% in Europe, and 24.1% in the Americas (WHO,2018). According to the World Health Organization, 75% of pregnant women in underdeveloped countries are anemic. At the same time, Riskesdas data in 2018 shows that the percentage of pregnant women in Indonesia who experience anemia is increasing. In 2013, the percentage of pregnant women with anemia was 37.1%, and in 2018 it was 48.9%. According to Riskesdas (2018) data, the prevalence of pregnancy is 84.6% for those aged 15 to 24 and 33.7% for" those aged 25 to 44 (Norfitri & Rusdiana, 2023).

In 2019, 21.17% of pregnant women in South Kalimantan province experienced anemia. This figure dropped to 20.13% in 2020. Meanwhile, the percentage of pregnant women in South Kalimantan province who received iron (Fe) pills in 2019 was 80.81%. This proportion is lower compared to 79.12% in 2020. According to statistical data from the South Kalimantan provincial government in 2023, there were 122 cases of anemia in pregnant women in Tabalong Regency, which is 24.65% of the total population (Norfitri & Rusdiana, 2023).

When pregnant women follow the advice of a health care provider and take iron pills, then they have complied with the instructions. The accuracy of the number of iron tablets eaten, the accuracy of how to take iron tablets, and the frequency of consumption of iron tablets daily are indicators used to measure compliance in taking iron tablets. One of the most important ways to prevent and treat anemia, especially iron deficiency anemia, is by iron supplementation or administration of iron tablets. Iron supplementation is an effective method because it contains iron and folic acid which can help prevent anemia. Pregnant women who do not take iron supplements are at higher risk of anemia (Mardhiah & Marlina, 2019).

The need for iron during pregnancy is more than before pregnancy, that is, twice as much. This happens because the amount of blood in the body increases by 50% during pregnancy, which means that more iron is needed to produce hemoglobin. In addition, the placenta and rapidly developing fetus need significant amounts of iron. If you are not pregnant, you can usually get the iron you need from a healthy and balanced diet (Salman et al., 2016).

There are several variables "that can influence the incidence of anemia during pregnancy, including age, maternal education, income, pregnancy spacing, parity, adequacy of iron tablets, and nutritional conditions. Iron deficiency Anemia is one type of anemia that is often found during pregnancy. It occurs when there is a lack of nutrient intake in the diet due to poor reabsorption, impaired use, or bleeding. In addition, the incidence of anemia in pregnancy can occur due to various variables such as adherence to taking Fe pills, pregnancy checks, and the mother's lack of understanding of the dangers of anemia in pregnancy (Salsabilah & Suryaalamsah, 2022).

A direct consequence of anemia in pregnant women during childbirth is a 17.24% chance of bleeding. This disease, of course, needs special attention to reduce maternal and child mortality. The government has started a program to minimize the number of pregnant women who develop anemia by giving them 90 iron pills during their pregnancy. However, the number of pregnant women who experience anemia is still high (Ramadhini & Dewi, 2021).

To avoid nutritional anemia in pregnant women, TTD supplementation " is administered in a daily dose of one tablet (60 mg of iron and 0.4 mg of folic acid) for at least 90 days during pregnancy. In East Java, 88.9% of pregnant women have received 90 TTD pills in 2021. The administration of Fe tablets has reached the target of 81% coverage, which is an increase from the previous year. RPJMN has set a target of 81% for the achievement of Fe-3 coverage in 2021 (Nuristigfarin & Rifkiyatul Islami, 2022).

If pregnant women do not take iron supplements, then it can be seen how much impact they have on anemia. It is very important to provide pregnant women with information about anemia. If expectant mothers become more knowledgeable, it will have an impact on their pregnancy. This is because it is very important for pregnant women to understand anemia to ensure that they take iron pills (Pratiwi & Safitri, 2021).

Based on the description of the background of the above problems, the formulation of the problem of this study is whether there is a "Relationship of Fe tablet consumption compliance with the incidence of Anemia in pregnant women at the Health Center Tanjung Kab. Tabalong South Kalimantan".

2. Research methods

This study utilizes analytical survey research design cross-sectional method, which is a type of research used to assess the presence or absence of two or more variables. All participants in this study were pregnant women who were undergoing treatment at the Tanjung Health Center. Sample collection was conducted using a complete sampling approach of 25 people by utilizing checklist sheets. The Data were then analyzed by Chi Square analysis using SPSS to determine the relationship between compliance with the use of birth control pills with the incidence of anemia in pregnant women.

3. Results and Discussion

Table 1. Frequency Distribution of Respondents Based on Age, Education, Employment, Parity, Compliance, and Incidence of Anemia in Health Center Tanjung Kab. Tabalong South Kalimantan

Characteristics Of Respondents	f	%
Age		
< 20 thn	**1**	**4,0**
20-35 thn	**22**	**88,0**
> 35 thn	**2**	**8,0**
Education		
SD	**2**	**8,0**
SMP	**9**	**36,0**
SMA	**12**	**48,0**
PT	**2**	**8,0**
Employment		
IRT	**22**	**88,0**
Wiraswasta	**2**	**8,0**
PNS	**1**	**4,0**
Pariy		
Primipara	**6**	**24.0**
Multipara	**16**	**64.0**
Grandemultipara	**3**	**12.0**
Compliance		
Obedient	**15**	**60,0**
Disobedient	**10**	**40,0**
Incidence of Anemia		
Anemia	**12**	**48,0**
No Anemia	**13**	**52,0**

"Based on Table 1, it can be seen that the characteristics of respondents based on age, a small percentage of respondents aged <20 years, namely 1 respondent (4.0%), respondents aged between 20-35 years, namely 22 respondents (88.0%), aged >35 years, namely 2 respondents (8.0%). Based on the characteristics of Education, a small percentage of respondents with elementary education are 2 respondents (8.0%), respondents with junior high school education are 9 respondents (36.0%), respondents with high school education are 12 respondents (48.0%), and a small percentage of respondents with PT education are 2 respondents (8.0%). Based on the characteristics of work, most respondents who work as IRT are 22 respondents (88.0%), respondents who work as self-employed are 2 respondents (8.0%), and a small percentage who work as civil servants are 1 respondent (4.0%). Based on the characteristics of parity, the respondents were primiparous yalitu 6 respondents (24.0%), most of the respondents were multiparous yalitu 16 respondents (64.0%), and a small portion of the grandemultipara namely 3 respondents (12.0%). Based on the characteristics of compliance, respondents who comply consume Fe tablets as many as 15 respondents (60.0%), respondents who do not comply consume Fe tablets are 10 respondents (40.0%). Based on the characteristics of the incidence of anemia, respondents who experienced anemia as many

as 12 respondents (48.0%), who did not experience anemia as many as 13 respondents (52.0%).

Table 2. The Relationship Between Compliance With FE Tablet Consumption With The Incidence Of Anemia In Pregnant Women At The Tanjung Kab Health Center. Tabalong South Kalimantan

Compliance	Incidence of Anemia				Total		*P-value*
	Anemia		No Anemia				
	f	%	f	%	f	%	
Obedient	**2**	**13,3**	**13**	**86,7**	**15**	**100,0**	**0,000**
Disobedient	**10**	**100,0**	**0**	**0**	**10**	**100,0**	

Based on Table 2 shows "respondents who obey using Fe tablets and suffer from anemia a number of 2 people (13.3%), and respondents who obey using Fe tablets and do not suffer from anemia a number of 13 people (86.7%). In addition, disobedient respondents used Fe tablets and suffered from anemia in the number of 10 people (100%).

Based on the results of data analysis using Chi-Square test with SPSS to determine the relationship between the observance of Fe tablet consumption with anemia suffered by pregnant women obtained the value of P-value (asymptp. Sig 2-tailed) of 0.000 < 0.05 which means there is an influence between the observance of Fe tablet consumption with the incidence of anemia in pregnant women. Then reject H0 and accept H1, then obtained the conclusion that there is a relationship of Fe tablet consumption compliance with anemia suffered by pregnant women.

This study is in line with previous research carried out by Ni Kadek Omasti, Gusti Ayu Marhaeni, Ni Made Dwi Mahayati (2021) with the title "the relationship of iron Tablet consumption compliance with the incidence of Anemia in pregnant women at the Klungkung II Health Center in 2021", the P value (0.000) is based on the results of The Chi-square test, which means H0 is rejected. The results of this study indicate that there is a relationship between the use of iron tablets with the incidence of anemia in pregnant women.

Anemia is a condition that occurs when the number of red blood cells in the body is less than normal or when red blood cells do not contain enough hemoglobin. A pregnant woman is called anemic if her hemoglobin level is below 12.0 grams per 100 milliliters of 12.0 gr/100 ml (12 gr/dl).. Iron deficiency is a cause of anemia during pregnancy, and" levels can reach about 95% (Nadiya et al., 2023).

Pregnant women who have anemia have lower iron stores in their body while their need for iron is greater, which is generally between 1 and 2 mg of iron (Fe). On average, pregnant women need about 800 milligrams of iron. This requirement consists of approximately 300 mg necessary for the fetus and placenta, as well as an additional 500 mg used to increase the mass of the mother. Pregnant women will produce as much as 100 mg of iron during pregnancy, which lasts 288 days. This means that pregnant women still do not get enough iron (Wigati et al., 2021).

It is important for pregnant women to take iron pills to increase hemoglobin levels and increase the number of red blood cells in the body. This will help them avoid anemia during pregnancy. Iron (Fe) is needed to improve iron absorption and storage. If the source of iron from food is insufficient, blood supplement pills (Fe tablets) can be used to increase iron intake. Blood supplement pills should be given over a long period of time and at low doses rather than giving them in large quantities at once (Dolang, 2020).

Anemia can be caused by a number of reasons, including nutritional conditions, chronic diseases, bleeding, pregnancy spacing, inadequate "absorption " of iron, increased body fluids (plasma volume), and low levels of iron from the diet. Furthermore, demographic characteristics of pregnant women associated with predisposing variables include parity, age, education, and gestational distance (Millah, 2019).

The accuracy of the number of iron pills taken, the accuracy of the method of taking iron tablets, and the frequency of intake per day were all used to assess compliance with taking iron tablets. One of the most important ways to prevent and treat anemia, specifically iron deficiency anemia, is through iron supplementation or the use of iron pills. Iron supplementation is a successful method because its iron content is supplemented with folic acid, which can prevent anemia" caused by folic acid deficiency (Nursari, 2021).

The knowledge of the person responding is a component that affects compliance. Knowledge is one of the variables that can influence a person's behavior in taking blood supplement pills, because knowledge is the most important aspect in determining how a person acts. Knowledge is information that a person obtains from outside himself, along with an understanding of such knowledge (Putra et al., 2020).

Harmless and usually moderate side effects can occur when using Fe pills. These side effects include abdominal pain, nausea, difficulty defecating, and dark stools. Pregnant women are often advised to take Fe pills at night before bed to reduce these side effects." It is also recommended to consume fruits such as bananas, oranges and papaya after taking Fe tablets. Therefore, the attendant must explain to the expectant mother that the side effects that occur after the use of Fe birth control pills are minimal and do not harm. The officer should also explain the steps that can be taken to prevent these side effects (Purnamasari et al., 2016).

Pregnant women must be able to carry out their responsibilities as health workers. For this reason, services to pregnant women should be increased. This can be done by giving or informing pregnant women about the importance of iron tablets, "the danger of anemia, and encouraging pregnant women to take iron (Fe) tablets correctly and regularly. For example, by providing regular counseling (Kenang et al., 2018)

4. Conclusions

Based on the analysis of data with Chi-Square test, there is a significant relationship between compliance with the consumption of Fe tablets with the incidence of anemia in pregnant women (p-value 0.000 < 0.05). This study is in line with the results of previous studies which also showed a significant relationship.

Anemia in pregnancy is mostly caused by iron deficiency, which results in insufficient red blood cell count and hemoglobin levels. Regular consumption of Fe tablets is one of the effective efforts to increase hemoglobin levels and prevent anemia, especially since the need for iron increases during pregnancy.

Compliance with the consumption of Fe tablets "is influenced by the knowledge of pregnant women, which can be improved through education by health workers. Health workers play an important role in providing information about the importance of Fe tablets, the dangers of anemia, and how to deal with mild side effects such as nausea or indigestion. Regular counseling and good health services can encourage compliance by pregnant women in taking Fe tablets regularly.

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