

Compliance with the Use of Fe Tablets by Pregnant Women in Preventing and Handling Anemia

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Compliance with iron consumption significantly impacts the health of pregnant women and their fetuses. Anemia is a major public health problem worldwide, especially for women of reproductive age. For pregnant women, anemia contributes to an increased prevalence of maternal mortality and morbidity, and for infants, it can increase the risk of infant morbidity and mortality, as well as Low Birth Weight (LBW). The contribution of anemia to maternal and infant mortality is estimated to be even higher, between 50-70%. This figure can be reduced if pregnant women receive a daily intake of 90 iron tablets and supplementation with vitamin B12 and folic acid. The causes of anemia in pregnant women are iron deficiency caused by a lack of iron-containing food sources, adequate food sources with low iron content resulting in insufficient iron absorption, and foods consumed containing substances that inhibit iron absorption. This study aimed to determine the compliance of pregnant women in consuming iron tablets. This was a quantitative descriptive study, with all pregnant women at the Rasana'e Timur Community Health Center (Puskesmas) participating. Data analysis used a frequency distribution table.

Keywords: Pregnant, Preventing, Handling Anemia

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1. Introduction

The contribution of anemia to maternal and infant mortality is estimated to be even higher, between 50-70%. This figure can be reduced if pregnant women receive a daily intake of 90 iron tablets and supplementation with vitamin B12 and folic acid. The causes of anemia in pregnant women are iron deficiency caused by a lack of iron-containing foods, adequate food but with low iron content resulting in insufficient iron absorption, and foods consumed containing substances that inhibit iron absorption [1].

WHO data indicates that 40% of maternal deaths are caused by anemia during pregnancy, 34% by eclampsia, 26% by disease, and 12% by infection. According to the World Health Organization (WHO), Indonesia ranks fifth among ASEAN countries for the highest maternal mortality rate (MMR). One of the health issues currently of global concern is maternal and child health (MCH). This is because the maternal mortality rate (MMR) and infant mortality rate (IMR) are indicators used to assess global health. The international maternal mortality rate is very high [2]. Meanwhile, in West Nusa Tenggara Province, the incidence of anemia is 56.5% [3]. Providing iron tablets is an important and effective measure because it can prevent and treat anemia caused by iron and/or folic acid deficiency. Iron tablets are given to women of childbearing age and pregnant women. Pregnant women are given iron tablets daily during pregnancy, or a minimum of 90 tablets. Iron tablets are a blood supplement that helps prevent iron deficiency in pregnant women. All biological processes in the body require iron tablets. Iron is a necessary component for hemoglobin formation [4], [5], [6].

Iron deficiency before pregnancy can lead to anemia in pregnant women if left **untreated**. This condition can put the baby at risk of giving birth to a low birth weight (LBW), the fetus and mother are susceptible to

infection, increasing the risk of premature birth, miscarriage, and death during childbirth. Non-compliance in pregnant women can be caused by the mother's knowledge, history of anemia itself, and side effects experienced while taking iron tablets [7], [8].

2. Literature Review and Problem Statement

Anemia in pregnancy is a global health problem that significantly affects most pregnant women worldwide, with a prevalence rate of 30% among women of childbearing age. Anemia is defined as a condition where the hemoglobin level is below the average value of <11 mg/dL, resulting in a decreased capacity of red blood cells to transport oxygen to the tissues. During pregnancy, as the fetus grows, the mother experiences metabolic changes, fluctuating hormone levels, and an increase in blood volume.

The need for folic acid, iron, and other nutrients increases significantly to support fetal growth and development, as well as to meet the mother's increased blood volume needs. Increased needs during pregnancy often put pregnant women at higher risk of anemia if their daily nutritional intake is inadequate. Providing iron tablets is an important and effective way to prevent and treat iron deficiency anemia. Iron tablets are given to women of childbearing age and pregnant women. Pregnant women are given iron tablets daily throughout their pregnancy, or a minimum of 90 tablets. Iron tablets are a blood supplement that helps prevent iron deficiency in pregnant women. All biological processes in the body require iron tablets. Iron is a necessary component for hemoglobin formation [4],[5],[6].

Iron deficiency before pregnancy can cause anemia in pregnant women if left untreated. This condition can increase the risk of giving birth to a low birth weight (LBW) baby, making the fetus and mother susceptible to infection, and increasing the risk of premature birth, miscarriage, and stillbirth. Non-compliance among pregnant women can be caused by maternal knowledge, a history of anemia, and side effects experienced while taking iron supplements. Furthermore, women with severe anemia also have a higher risk of preeclampsia, cesarean section, premature birth, postpartum hemorrhage, and neonatal asphyxia. Research has shown that maternal age, BMI, economic status, and education level are associated with hemoglobin levels during pregnancy. [7], [8].

3. Method

This study uses quantitative descriptive research, a method that describes the characteristics of the population or phenomenon being studied. Therefore, this research method primarily focuses on explaining the object of study, thus answering the events or phenomena occurring. This research explores information about a current phenomenon, namely compliance with the use of iron tablets among pregnant women in preventing and managing anemia. The population in this study was all pregnant women in the working area of the Rasana'e Timur Community Health Center in Bima City, while the sample in this study was a subset of the population of pregnant women in the working area of the Rasana'e Timur Community Health Center in Bima City, totaling 30 pregnant women. The data collection technique in this study used accidental sampling, a sampling technique based on the specific time period during which the study was conducted. Data analysis was carried out by calculating the frequency distribution using a cross-sectional approach.

4. Results and Discussion

This section presents the results of the study and discusses the characteristics of pregnant women, side effects experienced during iron tablet consumption, patterns of iron tablet use, knowledge regarding iron tablet intake during pregnancy, and compliance with iron tablet consumption for anemia prevention.

Characteritics of pregnant women

Respondent characteristics will be displayed in table 1 below:

Tabel 1. Characteristics of pregnant women include age, education, occupation, parity, incidence of anemia, ANC visits

Age (Years)	f	%
<20 years	0	0
20-35 years	7	23,33
>35 Years	23	76,67
Amount	30	100
Education	f	%
Basic Education	6	20
Midle Education	17	56,67
High Education	7	23,33
Amount	30	100
Job	f	%
Non job	5	16,67
Working	25	83,33
Amount	30	100
Parity	f	%
Primipara	9	30
Multipara	8	26,67
Grandemultipara	13	43,33
Amount	30	%
Anemia Incidents	f	%
No	26	86,67
Yes	4	13,33
Amount	30	100
ANC Visiting	f	%
<6x Visiting	18	60
6X Visiting	12	40
Amount	30	%

The characteristics of pregnant women examined in this study included age, education, occupation, parity, anemia, and number of ANC visits. The recommended number of ANC visits is six during pregnancy, and it is expected that the mother will not experience anemia during pregnancy. Pregnant women can maintain normal blood hemoglobin levels, which are >11g/dl.

Side Effects During Consumption of Fe Tablets

The distribution of the frequency of side effects of using Fe tablets in pregnant women is shown in the following table 2 :

Tabel 2. Side Effects During Consumption of Fe Tablets

Side Effect	f	%
No complaint	3	10
Heratburn	7	23,33
constipation	2	6,67
Black stools	5	26,67

Nausea and vomiting	13	43,33
Amount	30	100

Many pregnant women refuse or fail to comply with this recommendation for various reasons. Compliance with iron tablet consumption is important if the iron tablet intake is greater than 90% of the recommended dose. Compliance with iron tablet consumption is crucial for ensuring increased hemoglobin levels [9]. Compliance with iron tablet consumption is the extent to which pregnant women follow the recommendations of health workers to take iron tablets. Compliance with iron tablet consumption is measured by the accuracy of the number of tablets consumed, the correct method of consumption, and the frequency of daily consumption. Iron supplementation, or the administration of iron tablets, is an important effort in preventing and managing anemia, particularly iron deficiency anemia. Iron supplementation is effective because it contains iron, supplemented with folic acid, which can prevent anemia caused by folic acid deficiency. Non-compliance with iron tablet consumption by pregnant women can increase the risk of developing anemia [10].

Iron Tablet Consumption Patterns during Pregnancy

The frequency distribution of Fe tablet use patterns in pregnant women is shown in Table 3 below:

Tabel 3. Iron Tablet Consumption Patterns during Pregnancy

Iron tablet consumption pattern	f	%
10-30 tablets	13	43,33
31-60 tablets	8	26,67
61-90 tablets	9	30
Amount	30	100

Consuming iron tablets and healthy foods such as vegetables, fruit, eggs, meat, and milk is important for maintaining fetal growth and development and protecting pregnant women from malnutrition. This is in line with research by Kamaruddin, who stated that iron tablets and food intake are very important for fetal development and maintaining maternal health, especially in terms of weight gain according to gestational age [16].

Pregnant women's knowledge about the use of iron tablets during pregnancy

The frequency distribution of knowledge of pregnant women regarding the use of Fe tablets during pregnancy is shown in the following table 3 below :

Tabel 4. Pregnant women's knowledge about the use of iron tablets during pregnancy

Knowledge	f	%
Not enough	11	36,67
Enough	13	43,33
Good	6	20
Amount	30	100

The more pregnant women know about the benefits of taking iron tablets, the more they will consider taking iron. According to the theory above, pregnant women will make repeat visits and be compliant in taking iron (Fe) tablets because they already know the benefits of iron (Fe) tablets for their health from previous checkups and the consequences of not taking them [11].

Compliance of pregnant women in using Fe tablets

The distribution of the frequency of compliance with the use of Fe tablets during pregnancy is shown in Table 5 below:

Tabel 5. Compliance of pregnant women in using Fe tablets

Compliance	f	%
Not obey	24	80
Obedient	6	20
Amount	30	100

This is in line with research [12], which states that consuming iron tablets is effective in reducing anemia during pregnancy because they can increase hemoglobin levels in pregnant women with anemia. Furthermore, Purwandari [13] explains that consuming iron tablets regularly is very important for pregnant women, at least 90 tablets during pregnancy. Compliance with iron tablet consumption during pregnancy is one factor in preventing anemia [14], [15].

5. Conclusion

Based on the research findings and the preceding discussion, several conclusions can be formulated. The results indicate that a substantial proportion of pregnant women experience side effects in the form of nausea and vomiting, accounting for 43.33% of the respondents. In terms of iron tablet consumption, the majority of pregnant women reported taking between 10 and 30 iron tablets, which also represents 43.33% of the sample. Furthermore, the level of knowledge among pregnant women regarding the use of iron tablets during pregnancy is generally categorized as adequate, with 43.33% falling into this category. However, despite this level of knowledge, adherence to iron tablet consumption during pregnancy for the prevention and treatment of anemia is predominantly low, as 80% of pregnant women were classified as non-compliant

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