

## RESEARCH

### **The Relationship Compliance with Iron Tablet Consumption with the incidence of anemia in Pregnant Women in the working area of the Tanjung Pati Health Center, Nagari Sarilamak in 2022**

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#### **Abstract**

**Backgrounds:** Anemia prevention program for pregnant women in Indonesia by giving 90 iron tablets during pregnancy. However, pregnant women's refuse or don't comply with this advice for various reasons so that prevalence of anemia in pregnant women is still high.

**Purpose:** To determine the relationship between adherence to consuming iron tablets and the incidence of anemia in pregnant women in the Tanjung Pati Nagari Sarilamak Health Center in 2022.

**Methods :** The scope of this research is Obstetrics and Gynecological science. The study was conducted in June - July 2022. The type of research is cross sectional study. The affordable population in the study was pregnant women in the Tanjung Pati Nagari Sarilamak Health Center working area as many as 74 samples with accidental sampling technique. Univariate data analysis is presented in the form of frequency distribution and bivariate analysis using the Kolmogorov-Smirnov, data processing using the computerized SPSS version IBM 25.0.

**Results:** the highest pregnant women age is 20-35 years, which is 58 people (78.4%), the highest education is high school, which is 32 people (43.2%). The highest parity pregnant women is multipara, which is 30 people (40.5%), the highest gestational age in the 2nd trimester, which is 35 people (47.3%), pregnant women who are not anemic, which is 60 people (81.1%), pregnant women with compliance consuming iron tablets was good, which is 58 people (78.4%), and the relationship between adherence to consuming iron tablets and the incidence of anemia in pregnant women in the Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022 ( $p = 0.000$ ).

**Conclusion:** There is a relationship between the compliance of pregnant women in consuming iron tablets and the incidence of anemia in the Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022

**Keywords:** Anemia, Pregnant Women, Compliance, Consumption of Iron Tablets

## INTRODUCTION

Maternal mortality rate (MMR) is one of indicator success of health services. *From the World Health Organization (WHO)* there are 303,000 MMR in the world. Meanwhile, the MMR in ASEAN is 235 per 100,000 live births.<sup>1</sup> Based on the Indonesian Demographic and Health Survey (IDHS), the MMR in Indonesia increased from 228 per 100,000 live births in 2002-2007 to 359 per 100,000 live births in 2007-2012. Meanwhile, in 2012-2015 MMR decreased to 305 per 100,000 live births and in 2019 there was 4,221 cases of maternal deaths in Indonesia.<sup>2</sup>

Maternal mortality in Indonesia is caused by many factors, one of anemia. Pregnant women are considered anemic if the hemoglobin levels <11 g/dl.<sup>2</sup> From WHO in developing countries, anemia in pregnancy contributed for 4% of maternal deaths.<sup>3</sup> Meanwhile, from the results of the Basic Health Research (Riskesdas) 2018, the prevalence of anemia in pregnant women in Indonesia increased to 48.9% compared to the 2013 Riskesdas which was 37.1%.<sup>4</sup>, anemia in Indonesia occurs due to lack of iron (Fe) is needed for the formation of haemoglobin.<sup>5</sup> In Indonesia, 48.9% of pregnant women experience anemia and as much as 84.6% anemia in pregnant women occurs in the 15-24 year age group.<sup>2</sup>

The anemia prevention program for pregnant women in Indonesia is by giving 90 iron tablets during pregnancy. However, many pregnant women refuse or do not comply with this recommendation for various reasons so that the prevalence of anemia in pregnant women is still high.<sup>11</sup> A pregnant woman is said to be obedient to taking iron tablets if 90% of the amount should have been taken. The results of the 2018 Basic Health Research (Riskesdas) showed that 87.6% of women aged 10-54 years received iron tablets. Pregnant women who obediently consume iron tablets for 90 days or more are only 37.7%. Meanwhile, pregnant women who do not comply consume iron tablets as much as 62.3%.

## METHODS

Study this covers room scope Padang Obstetrics and Gynecology. The place study this will done in the Posyandu Nagari Sarilamak, Harau District, Lima Puluh Kota Regency and this research will be conducted in June to July 2022. This type of research is *observational* research by design *cross sectional*. Population target on study this is pregnant women who consumed iron tablets during pregnancy at Tanjung Pati Public Health Center, Nagari Sarilamak. The inclusion criteria in this study is pregnant women who consumed iron tablets during pregnancy in the Tanjung Pati Health Center Work Area, Nagari Sarilamak, while pregnant women who didn't consume iron tablets during pregnancy would be excluded. Method taking sampling on study this use *accidental sampling*. Criteria for assessing compliance questionnaire of pregnant women in consuming iron tablets measured using the guttman scale with the total scores obtained from the questionnaire compared with the total score of the questionnaire to get the percentage (%) of pregnant women's compliance. According to (Arikunto, 2021a) the assessment categories can be categorized as good,

sufficient and less. The criteria are as follows: good category if : 76% - 100%, sufficient category if : 56% - 75%, bad category if : < 55%.

## RESULT

### A. Maternal Age

Result from table 1 concluded that from 74 respondents pregnant women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022, age pregnant women the most is 20-35 years, that is 58 people (78.4%).

**Table 1. Frequency Distribution Of Pregnant Women By Maternal Age in The Working Area Tanjung Pati Nagari Sarilamak Health Center in 2022**

<b>Maternal age</b>	<b>F</b>	<b>%</b>
<20 years	1	1.4
20-35 years	58	78.4
>35 years	15	20.3
<b>Total</b>	<b>74</b>	<b>100.0</b>

### B. Education

Result from table 2 concluded that from 74 respondents pregnant women in Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022, the most education is Senior high school, that is 32 people (43.2%).

**Table 2. Frequency Distribution Of Pregnant Women By Education in The Working Area Tanjung Pati Nagari Sarilamak Health Center in 2022**

<b>Education</b>	<b>F</b>	<b>%</b>
Elementary School	4	5.4
Junior High School	15	20.3
Senior High School	32	43.2
College	23	31.1
<b>Total</b>	<b>74</b>	<b>100.0</b>

### C. Parity

Result from table 3 concluded that from 74 respondents pregnant women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022, the most parity is multipara, that is 30 people (40.5%).

**Table 3. Frequency Distribution of Pregnant Women by Parity in the Working Area of Tanjung Pati Nagari Sarilamak Health Center in 2022**

Parity	<i>F</i>	%
Primigravida	25	33.8
Primipara	18	24.3
Multipara	30	40.5
Grande multipara	1	1.4
<b>Total</b>	<b>74</b>	<b>100.0</b>

#### D. Gestational Age

Result from table 4 concluded that from 74 respondents pregnant women in Tanjung Pati Nagari Sarilamak Health Center working area in 2022 with the most gestational age of trimester 2, that is 35 people (47.3%).

**Table 4. Frequency Distribution of Pregnant Women by Gestational Age in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022**

Gestational Age	<i>F</i>	%
Trimester 1	10	13.5
Trimester 2	35	47.3
Trimester 3	29	39.2
<b>Total</b>	<b>74</b>	<b>100.0</b>

#### E. Anemia Incidence

Result from table 5 concluded that from 74 respondents pregnant women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022, experiencing anemia that is 14 people (18.9%).

**Table 5. Frequency distribution of Anemia in Pregnant Women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022**

Anemia Occurrence	<i>F</i>	%
No Anemia	60	81.1
Anemia	14	18.9
<b>Total</b>	<b>74</b>	<b>100.0</b>

## F. Compliance with Consuming Iron Tablets

Result from table 6 concluded that from 74 respondents, the most pregnant women in the Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022 with good adherence to consuming iron tablets, that is 58 people (78.4%).

**Table 6. Frequency Distribution of Compliance with consuming Iron Tablets in Pregnant Women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022**

<b>Compliance with Taking Iron Tablets</b>	<b>F</b>	<b>%</b>
Good	58	78.4
Enough	16	21.6
<b>Total</b>	<b>74</b>	<b>100.0</b>

G.The relationship between the compliance of pregnant women in consuming iron tablets with the incidence of anemia

Result from table 7 concluded that from 74 respondents, the incidence of anemia was more in respondents with sufficient compliance in consuming iron tablets (13.5%) compared with good adherence to consuming iron tablets (5,4%). Statistical test with Kolmogorov-Smirnov obtained a value of  $p = 0.000$  ( $p < 0.05$ ) which means that there is a relationship between the compliance of pregnant women in consuming iron tablets with the incidence of anemia in the Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022.

**Table 7. The Relationship between the Compliance of Pregnant Women in Consuming Iron Tablets with the Incidence of Anemia in Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022**

<b>Compliance with Taking Iron Tablets</b>	<b>Incidence of Anemia</b>						<b>P value</b>
	<b>Not</b>		<b>Anemia</b>		<b>Total</b>		
	<b>F</b>	<b>%</b>	<b>F</b>	<b>%</b>	<b>f</b>	<b>%</b>	
Good	54	73.0	4	5.4	58	78.4	0.000
Enough	6	8.1	10	13.5	16	21.6	
<b>Total</b>	<b>60</b>	<b>81.1</b>	<b>14</b>	<b>18.9</b>	<b>74</b>	<b>100.0</b>	

## DISCUSSION

### A. Frequency Distribution age in Pregnant Women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022.

The result of research obtained from 74 respondents, Ages pregnant women the most in the Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022 is 20-35 years, that is 58 people (78.4%). This research in line with study sustenance about the Characteristics of Anemia in Pregnant Women at the Sanden Bantul Health Center Yogyakarta, the most pregnant women with anemia was 20-35 years, that is 54 pregnant women (84.4%) and also study Maulidanita's 2018 about The relationship between the characteristics of pregnant women and anemia status in the second and third trimesters at the Pantai Cermin Public Health Center, Serdang Bedagai Regency, the highest pregnant women age is 20-30 years (58.8%).<sup>8,9</sup>

The age group of 20-35 years is a safe age to get pregnant so that many women get pregnant at that age, where the reproductive organs are very fertile and safe for pregnancy and childbirth, at the age of 20-35 years many are pregnant with various influencing factors and it is possible that even the mature age to get pregnant, the incidence of anemia is higher.

### B. Frequency distribution education in Pregnant Women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022.

The result of research obtained from 74 respondents, education pregnant women the most in the Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022 is senior high school, that is 32 people (43.2%). This research in line with study Milah in 2019 about the Relationship of Fe Tablet Consumption with the Incidence of Anemia in Pregnant Women in Baregbeg Village, Baregbeg Health Center Work Area, Ciamis Regency in 2018, that the highest pregnant women education was SMA (48.9%) but it was different with study from Izzati's 2021 about the Relationship between the Compliance Level of Fe Tablet Consumption and the Incidence of Anemia in Pregnant Women at the Margasari Health Center, that the most pregnant women education was elementary school (44.4%).<sup>10,11</sup>

Anemia is influenced by low education. People with high school education tend to think objectively and broadly. However, the level of family education is not the only thing that determines a person's ability to absorb knowledge.<sup>12</sup>

### C. Frequency Distribution Parity on Pregnant Women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022.

The result of research obtained from 74 respondents, parity pregnant women the most in Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022 is multipara, that is 30 people (40.5%). This research is line with study Khasanah 2016 in Yogyakarta, the highest maternal parity was multipara, that is (57.8%) and also study Milah's 2019 In Baregbeg

Village, Baregbeg Health Center Work Area, Ciamis Regency, the highest maternal parity was multipara, that is (61, 3%).<sup>8,10</sup>

Research by Widyawati in 2013 that parity 1-3 is the safest in terms of maternal mortality. High parity >3 has a higher maternal mortality rate. The risk at parity can be managed with better midwifery care, while the risk at high parity can be reduced/prevented by family planning. Parity > 3 years can increase the frequency of complications in pregnancy and childbirth, such as increasing the risk of fetal death in the womb and bleeding before and after childbirth, more common in pregnant women who are anemic and this can be fatal, because pregnant women who are anemic can't lose blood.<sup>13</sup>

D. Frequency Distribution of Gestational Age in Pregnant Women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022.

The result of research obtained from 74 respondents, gestational age pregnant women the most in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022 is the second trimester, that is 35 people (47,3%). This research was different with study Mahmudah in 2022 about the characteristics of pregnant women with anemia in PMB, Utami's wife the most in the 3rd trimester that is 8 respondents (61.5%) and study Putri in 2014 about pregnant women with the second and third trimesters at the Tegalrejo Health Center Yogyakarta, that is 15 people (50%) of pregnancy in the second trimester and 15 people (50%) in the third trimester of pregnancy.<sup>14,12</sup>

In this study the sampling method was accidental sampling technique, meaning that the sampling technique was based on chance, that is, every pregnant woman who happened to meet the researcher could be used as a sample, if it was considered that the person who happened to be met was suitable as a data source.<sup>15</sup> So that in this study pregnant women with the most gestational age were in the 2nd trimester.

E. Frequency distribution of Anemia in Pregnant Women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022.

The result of research obtained from 74 pregnant women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022 who experienced anemia that is 14 people (18.9%). Study Arimurti in 2018 found that the incidence of anemia in pregnant women with anemia was half (50%) in the moderate anemia category, that is 53 pregnant women and study Maternity in 2014 about the Relationship of Consumption of Iron (Fe) Tablets with the Incidence of Anemia in Private Practice Midwives ( Bps) Nengah Astiti Sidorejo Lampung, it was found that (46.7%) pregnant women had anemia.<sup>16,17</sup>

incidence of anemia in pregnant women is more common in respondents with higher education, because pregnant women are busy working so they pay less attention to their pregnancies or pregnant women who don't want to consume iron tablets because lack support from their families, especially husbands. A mother, especially pregnant women with higher

education, is expected to be able to balance their consumption patterns, if the consumption is appropriate, the nutritional intake obtained will be fulfilled. So that the possibility of avoiding the problem of anemia. TTD can cause side effects so that a person tends to refuse to take TTD, even though the refusal is actually due to their ignorance that during pregnancy they really need additional TTD.<sup>18</sup>

#### F. Frequency Distribution of Iron Tablet Consumption in Pregnant Women in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022.

The result of research obtained from 74 respondents pregnant women in Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022 with the most good adherence to consuming iron tablets, that is 58 people (78.4%). This research is line by study Pustikasari in 2018 for pregnant women in the Makassar District Health Center, found that most of the respondents (51.7%) were obedient in consuming iron tablets ( $\geq 90$  tablets) during pregnancy<sup>19</sup>. This research was different with study Maywati in 2019 on pregnant women at the Karanganyar Health Center, Tasikmalaya City, it was found that most pregnant women (60%) were not obedient in consuming iron tablets<sup>20</sup>.

In this study, a small proportion of respondents consumed iron tablets in the category of sufficient compliance. Many factors affect adherence to iron tablet consumption, such as pregnant women who still don't understand the procedures for consuming iron tablets regularly, side effects of iron tablets which cause nausea, vomiting, heartburn, and diarrhea, as well as the danger of anemia which causes mothers to refuse to take iron tablets. then, the lack of antenatal care and education about the importance of consuming iron tablets in pregnant women is also a factor that can affect adherence to consuming iron tablets. This is why the compliance of pregnant women has not reached the good category.

#### G. The Relationship Between The Compliance of Pregnant Women In Consuming Iron Tablets With The Incidence of Anemia in Tanjung Pati Nagari Sarilamak Health Center Working Area in 2022.

The result of research obtained from 74 respondents, the incidence of anemia was more in respondents with adequate adherence to taking iron tablets (13.5%) compared to adherence to taking good iron tablets (5.4%). The results of statistical tests using the *Kolmogorov-Smirnov* obtained  $p= 0.000$  ( $p<0.05$ ), it can be concluded that there is a significant relationship between the level of compliance of pregnant women in consuming iron tablets with the incidence of anemia in the Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022.

Study by Maternity in 2014 about the Relationship of Consumption of Iron (Fe) Tablets with the Incidence of Anemia in Private Practice Midwives (Bps) Nengah Astiti Sidorejo Lampung, found that there was a relationship between consumption of iron tablets and the incidence of anemia in pregnant women ( $P$  value =  $0.007 < 0.05$ ) and also study Milah in 2019 about the relationship between Fe tablet consumption and the incidence of anemia in pregnant women in Baregbeg Village, Baregbeg Health Center, Ciamis Regency in 2018, that



there was a relationship between consumption of iron tablets and the incidence of anemia in pregnant women (p value = 0.002)<sup>17,10</sup>

## CONCLUSION

The results in this study on the relationship between the level of compliance of pregnant women in consuming iron tablets with the incidence of anemia in the Tanjung Pati Nagari Sarilamak Health Center Work Area in 2022, concluded that: The most age pregnant women who consume iron tablets is 20-35 years. The most Education pregnant women who consumed iron tablets is senior high school. The most Parity pregnant women who consume iron tablets is multipara. The most Gestational age pregnant women who consume iron tablets is 2nd trimester of pregnancy. The most pregnant women who don't experience anemia than pregnant women who experience anemia. The most pregnant women with good adherence consume iron tablets than pregnant women who consume enough iron tablets. There is a relationship between the compliance of pregnant women in consuming iron tablets with the incidence of anemia.

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