



## **FACTORS INFLUENCING PREGNANT WOMEN'S COMPLIANCE IN CONSUMING IRON (Fe) TABLETS IN THE WORKING AREA OF THE INGIN JAYA PUSKESMAS, ACEH BESAR DISTRICT, 2023**

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### **ABSTRACT**

Pregnant women usually complain of fatigue, headaches, shortness of breath, pale faces, and various other complaints. All these complaints are an indication that the pregnant woman is suffering at the Ingin Jaya Health Center, Aceh Besar Regency. This study aimed to determine the relationship between factors that influence pregnant women's compliance with iron tablets and their relationship to the incidence of anemia at the Ingin Jaya Community Health Center. This research method is analytical with a *Cross-Sectional* study research design. The sampling technique was purposive sampling with a sample size of 42 people—data analysis using *Chi-Square*. The results showed that from 42 samples, 54.8% of pregnant women were categorized as non-compliant, 66.7% had low knowledge, 42.9% had negative attitudes, 100% had good health services and 59.5% lacked family support. All research variables have a significant relationship with knowledge, attitudes, family support, and compliance with the incidence of anemia. It is recommended that pregnant women adhere to taking iron tablets during pregnancy and know the consequences if they are not consumed properly. Iron tablets that have been given by health workers.

**Keywords:** *Compliance, Knowledge, Attitude, Health Services and Family Support*

### **INTRODUCTION**

Pregnancy is one of the targets of reproductive health services that requires special attention and gets top priority, because at any time diseases

arise that can threaten the lives of the mother and the fetus she is carrying. Every couple wants the pregnancy to go well, the baby to thrive as expected, and the birth of a baby who is healthy and physically perfect with sufficient body weight. Pregnancy is an important phase in a child's growth because the prospective mother and the baby she carries require a lot of nutrition (Ministry of Health of the Republic of Indonesia, 2010). Pregnant women will physically feel tired, weak, lethargic, and so on, so they depend on the people around them (Raehan et al., 2021).

One of the dangerous conditions that pregnant women often experience is anemia (Raehan et al., 2021). Anemia in pregnant women is a health problem related to its high incidence and complications that can arise for both the pregnant mother and her fetus. Anemia is a health problem that often occurs but is still difficult to eliminate, especially iron deficiency anemia during pregnancy (Syafitasari et al., 2019). According to WHO, 40% of maternal deaths in developing countries are related to anemia in pregnancy. Most anemia in pregnancy is caused by deficiency and acute bleeding (Sutanto et al., 2021). Based on data from the World Health Organization (WHO) in 2019, it was reported that the prevalence of anemia in pregnant women in the world was 41.8% and the prevalence of anemia in pregnant women in Asia was 48.2% (WHO, 2019).

The incidence of anemia in Indonesia is still high, there are 37.1% of pregnant women who experience anemia, including 3.8% in the first trimester, 13.6% in the second trimester, and 24.8% in the third trimester (Indonesian Health Profile, 2020). According to data from the Aceh Health Service, the number of pregnant women who experience anemia is 19.2%, while in North Aceh Regency the number of pregnant women who experience anemia is 35.1% (Aceh Health Service, 2020). Data from the Aceh Besar Health Service, prevalence of anemia in pregnant women. Puskesmas Ingin Jaya as much as 39.1%, as many as 140 pregnant women experienced anemia out of 316 pregnant women, this figure is in fifth position out of 20 community health centers in Aceh Besar Regency. (Aceh Besar District Health Service Year End Report 2021).

Giving blood supplement tablets aims to overcome iron deficiency which can cause anemia in pregnancy. Fe tablet supplementation is one of the most effective prevention and control programs for iron deficiency anemia in increasing hemoglobin levels in pregnant women and can reduce the prevalence of anemia in pregnant women by 20-25%. Anemia factors in pregnancy include iron deficiency anemia, megaloblastic anemia, and hypoplastic anemia. Maternal compliance plays a very important role in increasing Hb levels. This compliance includes the correct number of tablets consumed, the correct method of consuming them, and the regularity of the frequency of consuming Fe tablets (Raehan et al., 2021). Maternal non-compliance in consuming Fe tablets can provide a greater opportunity or impact on developing anemia (Sutanto et al., 2021). Based on this, this researcher looked at the factors that

influence the compliance of pregnant women with iron deficiency anemia to take iron tablets at the Ingin Jaya Health Center in Aceh Besar in 2023.

## METHODS

The research design used is analytical research, namely to see the relationship between independent and dependent variables in the working area of the Ingin Jaya Community Health Center, Aceh Besar Regency. The research method used was a *Cross-Sectional* Study, where the variables of knowledge, attitudes, health services, and family support and the variable of compliance of pregnant women in consuming Fe tablets were observed at the same time as questionnaires and the incidence of anemia by checking Hb levels. Data analysis using *Chi-Square*.

## RESULTS AND DISCUSSION

### Univariate Analysis

#### 1. Respondents' Knowledge

**Table 4.1.** Frequency Distribution of Respondents Based on Knowledge

No	Knowledge Category	f	%
1	Low	20	47.6
2	Tall	22	52.4
Total		42	100

Based on Table 4.1. The majority of respondents in the Working Area of the Ingin Jaya Community Health Center, Aceh Besar Regency in 2023 were in the high knowledge category, namely 22 respondents (52.4%).

#### 2. Respondent's Attitude

**Table 4.2.** Frequency Distribution of Respondents Based on Attitudes

No	Attitude Category	f	%
1	Negative	18	42.9
2	Positive	24	57.1
Total		42	100

Based on Table 4.2. Respondents in the Working Area of the Ingin Jaya Community Health Center, Aceh Besar Regency in 2023 were in the positive attitude category, namely 24 respondents (57.1%).

### 3. Health Services

**Table 4.3.** Frequency Distribution of Respondents Based on Health Services

<i>No</i>	<i>Health Services Category</i>	<i>f</i>	<i>%</i>
1	Not enough	0	0.0
2	Good	42	100
Total		42	100

Based on Table 4.3. Respondents in the Working Area of the Ingin Jaya Public Health Center, Aceh Besar Regency in 2023 were in the good health service category, namely 42 respondents (100%).

### 4. Family Support

**Table 4.4.** Frequency Distribution of Respondents Based on Family Support

<i>No</i>	<i>Family Support Category</i>	<i>f</i>	<i>%</i>
1	Not enough	25	59.5
2	Good	17	40.5
Total		42	100

Based on Table 4.4. Respondents in the Working Area of the Ingin Jaya Public Health Center, North Aceh Besar Regency in 2023 were in the category of lacking family support, namely 25 respondents (59.5%).

### 5. Compliance of Pregnant Women in Consuming Fe Tablets

**Table 4.5.** Frequency Distribution of Respondents Based on Compliance with Pregnant Women Consuming Fe Tablets

<i>No</i>	<i>Compliance Category for Pregnant Women</i>	<i>f</i>	<i>%</i>
1	Not enough	23	54.8
2	Good	19	45.2
Total		42	100

Based on Table 4.5. Respondents in the Working Area of the Public Health Center of the Ingin Jaya Public Health Center, Aceh Besar Regency in 2023 were in the category of inadequate compliance with pregnant women consuming Fe tablets, namely 23 respondents (54.8%).

### Bivariate Analysis

#### 1. Adherence to Consuming Fe Tablets Against the Occurrence of Anemia

**Table 4.7.** The Influence of Pregnant Women's Compliance with Fe Tablets on the Incidence of Anemia in Respondents

No	Anemia levels	Compliance of Pregnant Women				Amount		P-Value
		Not obey		Obedient		f	%	
		f	%	f	%			
1	Anemia	19	73.1	7	26.9	26	61.9	0.003
2	Not Anemic	4	25.5	12	75.5	16	38.1	
	Total	23	54.8	19	45.2	42	100	

Based on Table 4.7. respondents in the Working Area of the Ingin Jaya Community Health Center, Aceh Besar Regency in 2023, of the 26 respondents who experienced anemia, there were 19 respondents (73.1%) who were disobedient in consuming Fe tablets. Of the 16 respondents who did not experience anemia, there were 12 respondents (75.5%) who adhered to consuming Fe tablets. After carrying out statistical tests using statistical tests, the value  $p=0.003$  was obtained with a degree of significance ( $\alpha=0.05$ ), so the result was that  $p<\alpha$ , meaning  $H_a$  was accepted, meaning there was an influence between adherence to consuming Fe tablets and the incidence of anemia in the work area. Ingin Jaya Community Health Center, Aceh Besar Regency in 2023.

## 2. The Influence of Knowledge on Compliance with Fe Tablets

**Table 4.8.** The Influence of Knowledge on Compliance with Pregnant Women Taking Fe Tablets

No	Knowledge	Compliance of Pregnant Women				Amount		P-Value
		Not obey		Obedient		f	%	
		f	%	f	%			
1	Low	18	90.0	2	10.0	20	100	0,000
2	Tall	5	22.7	17	77.3	22	100	
	Total	23	54.8	19	45.2	42	100	

Based on Table 4.8. respondents in the Working Area of the Ingin Jaya Community Health Center, Aceh Besar Regency in 2023, of the 20 respondents who had low knowledge, there were 18 respondents (90%) who were not compliant in consuming Fe tablets. Of the 16 respondents with high knowledge, 17 respondents (77.3%) were compliant with consuming Fe tablets. After carrying out statistical tests using statistical tests, the value  $p=0.000$  was obtained with a degree of significance ( $\alpha=0.05$ ), so the result was that  $p<\alpha$ , meaning  $H_a$  was accepted, meaning there was an influence between knowledge and consumption compliance in the working area of the Ingin Jaya Community Health Center. Aceh Besar Regency in 2023

### 3. The Influence of Attitude on Compliance with Fe Tablets

**Table 4.9.** The Influence of Attitudes on Pregnant Women's Compliance Taking Fe Tablets

No	Attitude	Compliance of Pregnant Women				Amount		P-Value
		Not obey		Obedient		f	%	
		f	%	f	%			
1	Negative	14	77.8	4	22.2	18	100	0,000
2	Positive	9	37.5	15	62.5	24	100	
	Total	23	54.8	19	45.2	42	100	

Based on Table 4.9. respondents in the Working Area of the Ingin Jaya Community Health Center, Aceh Besar Regency in 2023, of the 18 respondents who had a negative attitude, there were 14 respondents (77.8%) who were disobedient in consuming Fe tablets. Of the 24 respondents who had a positive attitude, 19 respondents (45.2%) were compliant with consuming Fe tablets. After carrying out statistical tests using statistical tests, a value of  $p=0.010$  was obtained with a degree of significance ( $\alpha=0.05$ ), so the result was that  $p<\alpha$ , meaning that  $H_a$  was accepted, meaning there was an influence between attitudes towards consumption compliance in the working area of the Want Jaya Community Health Center. Aceh Besar Regency in 2023.

### 4. Family Support for Compliance with Fe Tablets

**Table 4.10.** The Influence of Family Support on Pregnant Women's Compliance with Taking Fe Tablets

No	Family support	Compliance of Pregnant Women				Amount		P-Value
		Not obey		Obedient		f	%	
		f	%	f	%			
1	Not enough	20	80.0	5	20.0	25	100	0,000
2	Good	3	17.6	14	82.4	17	100	
	Total	23	54.8	19	45.2	42	100	

Based on Table 4.10. respondents in the Working Area of the Ingin Jaya Community Health Center, Aceh Besar Regency in 2023, of the 25 respondents whose family support was lacking, there were 20 respondents (80.0%) who were disobedient in consuming Fe tablets. Of the 24 respondents whose family support was good, 14 respondents (82.4%) were compliant in consuming Fe tablets. After carrying out statistical tests using statistical tests, the value  $p = 0.000$  was obtained with a degree of significance ( $\alpha = 0.05$ ), so the result was that  $p < \alpha$ , meaning that  $H_a$  was accepted, meaning that there was an influence between family support on consumption compliance in the working area of the Health Center. Ingin Jaya Aceh Besar Regency in 2023.

## 5. Health Services on Compliance with Taking Fe Tablets

**Table 4.11.** The Influence of Health Services on Pregnant Women's Compliance with Taking Fe Tablets

No	Health services	Compliance of Pregnant Women				Amount		P-Value
		Not obey		Obedient		f	%	
		f	%	f	%			
1	Not enough	0	0	0	0	0	100	0,000
2	Good	23	54.8	19	45.2	42	100	
	Total	23	54.8	19	45.2	42	100	

Based on Table 4.11 of respondents in the Working Area of the Ingin Jaya Community Health Center, Aceh Besar Regency in 2023, of the 42 respondents whose health services were in the good category, there were 23 respondents (54.8%) who were not compliant in consuming Fe tablets.

## DISCUSSION

### The Influence of Pregnant Women's Compliance with Fe Tablets on the incidence of anemia

Based on the results of 20 respondents with low knowledge, there were 18 respondents (90%) who were not compliant in consuming Fe tablets. The results of this study are from several studies that have been carried out previously, namely research conducted at the Bojonggede Community Health Center, Bogor Regency with an analytical observational research design with a *cross-sectional* approach which shows that there is no significant relationship between knowledge and adherence to consuming iron tablets (Eva Belington Fe-Di et al., 2021).

According to the World Health Organization (WHO), anemia in pregnant women is the condition of mothers with hemoglobin (Hb) levels in their blood of less than 11.0 g%, while according to Saifuddin anemia in pregnancy is the condition of mothers with Hb levels below 11.0 g% in the first trimester. I and II or levels < 10.5 g% in the third trimester (MOH RI, 2016). The incidence of anemia in pregnant women can be caused by several factors, namely the amount of compliance, knowledge, attitudes, health services, and family support. By Emma Wirakusumah's theory, the factors that cause anemia are direct and indirect. The researcher assumes that the impact of anemia on pregnant women is large, so efforts are needed to reduce the incidence of anemia in pregnant women. There needs to be intervention from health workers to provide education to pregnant women about the impact of anemia on pregnant women, the factors that cause anemia, and how to prevent anemia during pregnancy.

### The Influence of Knowledge on Compliance with Fe Tablets

Based on the results of the respondents, of the 20 respondents who had low knowledge, there were 18 respondents (90%) who were not compliant in consuming Fe tablets. The results of this study are from several studies that

have been carried out previously, namely research conducted at the Bojonggede Community Health Center, Bogor Regency with an analytical observational research design with a *cross-sectional* approach which shows that there is no significant relationship between knowledge and adherence to consuming iron tablets (Eva Belingon Fe-Di et al., 2021)

According to research, the compliance of pregnant women in consuming iron tablets according to the recommendations of health workers is an impact of their compliance with the importance of adequate iron intake during pregnancy. The knowledge possessed by pregnant women will influence their behavior. Pregnant women with good nutritional knowledge will try to provide adequate nutrition for themselves and their fetuses. Pregnant women's knowledge about iron will have an impact on attitudes towards food by applying the information obtained in providing food that contains sources of iron for needs during pregnancy.

### **The Influence of Attitude on Compliance with Fe Tablets**

Based on the results of 18 respondents whose attitudes were negative, there were 14 respondents (77.8%) who did not comply with consuming Fe tablets. Of the 24 respondents who had a positive attitude, there were 19 respondents (45.2%) who complied with consuming iron tablets. The results of this research showed that more than half of the respondents still had a negative attitude toward consuming iron tablets. Negative attitudes can create disobedient actions so pregnant women's compliance with consuming iron tablets in the Kuta Makmur Community Health Center working area is still relatively low. As a result, the effectiveness of government programs in preventing pregnancy anemia will be more difficult to achieve, especially in this region.

The results of this research are from several studies that have been conducted previously, namely research conducted in Demak Regency with a cross-sectional research design which shows that there is a significant relationship between attitudes and compliance of pregnant women in consuming iron tablets. In line with research conducted in the work area of the Across Padang Community Health Center by Erwin et al in 2017 which showed that respondents who had a positive attitude were more obedient in consuming iron tablets compared to respondents who had a negative attitude (Raehan et al., 2021).

### **The Influence of Family Support on Compliance with Fe Tablets**

Based on the results, of the 25 respondents whose family support was lacking, 20 respondents (80.0%) were disobedient in consuming Fe tablets. Of the 24 respondents whose family support was good, there were 14 respondents (82.4%) who adhered to consuming Fe tablets. The results of the study showed that the proportion of respondents who did not comply with taking iron tablets



occurred mostly in pregnant women with poor family support (80.0%) compared to pregnant women with good family support (17.6%).

The results of this study show that there is a significant relationship between family support for pregnant women in consuming iron tablets ( $p\text{-value} = 0.000 < 0.05$ ). The results of this research show a tendency that pregnant women who receive support from the family, especially husbands, will tend to be obedient in consuming iron tablets, and vice versa, pregnant women who do not receive family support will tend to be disobedient in consuming iron tablets. In this study, family support made the biggest contribution influencing mothers to consume iron tablets.

### **The Influence of Health Services on Compliance with Fe Tablets**

Based on the results, of the 42 respondents whose health services were in the good category, there were 23 respondents (54.8%) who did not comply with consuming Fe tablets. The research results showed that the proportion of respondents who were compliant (45.2%) and non-compliant (54.8%) in consuming iron tablets tended to receive good health services. So it can be concluded that there is no significant relationship between health services and pregnant women's compliance in consuming iron tablets.

According to this researcher, pregnant women with health services can influence compliance in consuming iron tablets. The attention is given by medical personnel in providing health services, adequate health facilities, and affordable access to health services so that the compliance of pregnant women in consuming iron tablets can increase (Arisanti et al. 2022). The results of this research are from previous research conducted in Sidumulyo with a Cross-Sectional research design which showed that there was no relationship between the role of health workers and the compliance of pregnant women with consuming iron tablets with a value of  $P = 0.053 > r = 0.194$  (Handayani, 2017).

### **CONCLUSION**

Based on the results, it can be concluded that from the 42 samples, 54.8% of pregnant women were categorized as non-compliant, 66.7% had low knowledge, 42.9% had negative attitudes, 100% had good health services and 59.5% lacked family support. All research variables have a significant relationship with knowledge, attitudes, family support, and compliance with the incidence of anemia. The better the knowledge about anemia and iron tablets, the higher the adherence to taking iron tablets.

### **ACKNOWLEDGEMENT**

Based on the results of this research, it is recommended for future researchers to be used as a reference source for further conducting similar research with more complete and comprehensive variables related to the causes, impacts, and prevention of anemia in preventing stunting

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