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Factors Related to Fe Tablet Consumption Compliance among Pregnant Women in The Work Area of Pasir Jaya Health Centre Tangerang District

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Abstract

Background: The prevalence of anemia in pregnant women in Indonesia is 70%, or 7 out of 10 pregnant women suffer from anemia. The low adherence of pregnant women in taking iron supplements is one of the reasons the prevalence rate of anemia is still high.
Purpose: To determine the factors related to compliance with consumption of Fe tablets in pregnant women in the work area of the Pasir Jaya Health Center, Tangerang Regency in 2022
Methods: The research design used is descriptive correlation. This research uses the Cross Sectional method. The number of samples or respondents is 77 respondents with the Simple Random Sampling technique.
Result: The results of the study showed that of the 77 respondents used as the research sample, the results obtained were that 27 respondents had non-compliant compliance criteria with a percentage of 35.1%, and 50 respondents had compliance criteria with a percentage of 64.9%. There is a relationship between knowledge and non-compliance with the sig value. of 0.046, there is a relationship between perception and compliance with the sig value. of 0.018, there is a relationship between family/husband support and compliance with the sig. of 0.016, and there is no relationship between the support of health workers and adherence to the sig. of 0.836.
Conclusions: It is recommended that pregnant women adhere to consuming iron tablets during pregnancy and know the consequences if they are not consumed properly. Iron tablets that have been given by health workers.

Keywords: pregnant women, adherence, Fe tablets.

Introduction

Pregnancy is an important period in the first 1000 days of life so it requires special attention. Pregnant women are one of the nutritionally vulnerable groups. Nutritional intake of pregnant women greatly influences fetal growth.[1] Pregnancy is a process that starts from the conception stage until the birth of the fetus. The normal duration of pregnancy is 280 days (40 weeks) counting from the first day of the last menstruation.[2]

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The need for iron during pregnancy increases because it is used for the formation of new cells and tissues. In addition, iron is an important element in the formation of hemoglobin in red blood cells. Deficiency of hemoglobin is called anemia or is called anemia which can endanger the health of the mother and baby such as low birth weight, bleeding and an increased risk of death. Fish, meat, liver and tempeh are good types of food for pregnant women because of their high iron content. Pregnant women are also advised to consume one iron tablet per day during pregnancy and continue during the postpartum period.[3]

Anemia is a nutritional problem that needs attention and is a public health problem in Indonesia that can be experienced by all age groups, from toddlers, adolescents, pregnant women to the elderly. Anemia can be caused by various things, including iron deficiency, vitamin B12 deficiency, folic acid deficiency, infectious diseases, congenital factors and bleeding. Provision of iron tablet supplementation is an effort by the government to intervene to prevent anemia during pregnancy.[4,6] Anemia is referred to as one of the indirect causes of death which can contribute to the occurrence of maternal mortality in Indonesia.[7,8]

The prevalence of anemia in pregnant women in Indonesia is 70%, or 7 out of 10 pregnant women suffer from anemia, which can contribute to increasing the chances of morbidity and mortality of mothers and babies. One of the contributing factors to the high prevalence of anemia is the low compliance of pregnant women in consuming iron during pregnancy.[9] Blood hemoglobin (Hb) is a parameter used to determine the prevalence of anemia.[10]

The increased plasma volume causes the hemoglobin concentration to decrease somewhat during pregnancy. As a result, the overall viscosity of the blood is reduced. The normal Hb value at the end of pregnancy averages 12.5 g/dL, and about 5% of pregnant women have an Hb level of less than 11.0 g/dL. Hb values below 11.0 g/dL especially in late pregnancy should be considered abnormal and are usually caused by iron deficiency and not due to hypervolemia of pregnancy. Hemoglobin is a dye found in red blood cells and is used to transport oxygen and carbon dioxide in the body, hemoglobin is a protein bond, iron salts, dyes. Most pregnant women will experience some degree of anemia because iron is needed to produce red blood cells in the fetus.[11]

Anemia that occurs in the third trimester tends to be more due to the need for iron

which increases according to gestational age while iron stores in the body are insufficient so that many third trimester pregnant women experience iron deficiency anemia unless the pregnant women are given iron supplements. If the anemia becomes severe and lasts a long time, the amount of blood to carry oxygen decreases, as a result, the fetus cannot get enough oxygen it needs for normal growth, especially in the brain. Pregnant women who experience severe anemia will experience symptoms such as excessive fatigue, shortness of breath, headaches, and dizzy eyes. The risk of preterm increases during delivery. In a society whose daily diet is mostly derived from vegetable sources, the presence of infectious diseases and parasitic infections play a major role in iron anemia. The low levels of iron contained in vegetable sources are only part of the reason for the high prevalence of nutritional anemia in Indonesia.[11]

Compliance in consuming iron tablets is the obedience of pregnant women in carrying out the recommendations of health workers to consume iron tablets. Compliance with consuming iron tablets is measured by the accuracy of the number of iron tablets consumed, the accuracy of how to consume iron tablets, the frequency of consumption of iron tablets per day.[12] Apart from being needed for the needs of the fetus, iron is also needed in connection with an increase in maternal blood volume by 30 percent.[13] For this reason, the government recommends supplementing iron tablets needed during pregnancy, namely 90 tablets with a dosage content of 30-60 mg/tablet with daily drinking rules, it is consumed regularly, namely once a day, but often pregnant women do not comply with the instructions given.[5,13,14]

Non-compliance has become a serious problem faced by health workers, therefore it is important to know about the level of adherence. Accurate assessment of non-compliant individuals is a difficult task.[4,6] Kasl in Niven revealed that to measure non-compliance of pregnant women it can be seen from the iron tablets given that are not spent.[4] Compliance of pregnant women in consuming iron during pregnancy cannot be separated from the level of knowledge possessed by pregnant women. Extensive knowledge regarding the importance of consuming iron and even knowledge of pregnant women regarding the side effects that can be the cause of a lack of adherence to consuming iron tablets properly so that the purpose of giving these tablets is not achieved.

The percentage of pregnant women who have anemia is 48.9%. This means that about 5 out of 10 pregnant women in Indonesia suffer from anemia. Anemia in pregnant

women will have an impact on the optimal growth and development of the fetus in the womb and has the potential to cause complications of pregnancy and childbirth, and even cause death of mother and child. The Program for Giving Blood Supplement Tablets (TTD) to pregnant women began in 1990 which aims to prevent and treat iron deficiency anemia and to become one of the specific interventions in an effort to accelerate the reduction of stunting. During the Covid-19 pandemic, giving iron supplements to pregnant women must still be carried out with due regard to social and physical distancing.[15]

Based on an initial survey at the Pasir Jaya Health Center, Tangerang Regency, data were obtained in September 2022. The impact that often occurs due to anemia in the Working Area of the Pasir Jaya Health Center in 2021 is bleeding of 3 people (0.1%), LBW of 5 people and decreased which is very significant in 2022, that there are no pregnant women who experience bleeding (0%), and LBW 7 was people. In 2021, out of 2,134 pregnant women, 83 people (3.9%) will have anemia. In 2022 there will be 24 anemic pregnant women for the September 2022 period with a percentage of 1.9%. There has been a decrease in the prevalence of anemia in the work area of the Pasir Jaya Health Center in 2022 to 2%. It can be seen that there is still a problem of anemia in pregnant women who are in the work area of the Pasir Jaya Health Center even though Fe coverage has reached the target (90%).

The results of interviews with 7 pregnant women about the importance of pregnant women consuming Fe tablets regularly, it was found that 4 people knew the importance of taking Fe tablets regularly, while 3 people did not know that they had to consume them regularly. In terms of maternal adherence in consuming Fe tablets, it was found that 2 people consumed Fe tablets regularly, while 5 mothers consumed Fe tablets irregularly because the mother forgot to take them and no family members reminded her, let alone their husbands. Apart from that, pregnant women feel nauseous when they take Fe tablets. The low adherence of pregnant women in consuming iron supplements is one of the reasons why the prevalence rate of anemia is still high.

From the results of research conducted in 2019 it was found that there was a relationship between the adherence of pregnant women to consuming Fe tablets and the incidence of anemia.[16] There is a significant relationship between knowledge and adherence of pregnant women in consuming Fe tablets.

Method

1. Research design

The research design used is descriptive correlation using quantitative methods and using the Cross Sectional method.

2. Settings and samples

The research location was conducted at the Pasir Jaya Health Center, Tangerang Regency. The time of the research was carried out in October - December 2022. The population in this study were all third trimester pregnant women who made antenatal care visits at the Pasir Jaya Health Center in October - December 2022 which consisted of 330 people. Calculation of the sample size with the Slovin formula and results in 77 respondents. The sampling method uses Simple Random Sampling.

a. Inclusion Criteria

1) Third trimester pregnant women who have received at least 90 tabs of Fe tablets
2) Pregnant women who have a *KIA* book
3) Willing to be a respondent

b. Exclusion Criteria

1) Pregnant women who refuse to be respondents
2) Pregnant women who are sick
3) Pregnant women who were not present at the time the study was conducted.

3. Measurement and data collection

The instruments used in this study were questionnaires and data collection had been done by interviews.

4. Data analysis

Data analysis used the chi square statistical test.

Results

Univariat Analysis

Table 1.
Frequency Distributin Results

Variabe	Frecuency	Percentage (%)
Compliance		
Not comply	27	35.1
Comply	50	64.9
Total	77	100
Knowledge		
Low	16	20.8
High	61	79.2
Total	77	100
Perception		
Negative	31	40.3
Positve	46	59.7
Total	77	100
Husband/ Family Support		
Negatve	40	51.9
Positive	37	48.1
Total	77	100
Health Care Provider Support		
Negative	33	42.9
Positve	44	57.1
Total	77	100

Bivariat Analysis

Table 2.
The Relationship between Knowledge and Compliance

Knowledge		Compliance			P-Value
		Not comply	Comply	Total	
Low	n	9	7	16	
	Expected Count	5.6	10.4	16.0	
	%	11.7%	9.1%	20.8%	
High	n	18	43	61	
	Expected Count	21.4	39.6	61.0	0.046
	%	23.4%	55.8%	79.2%	
Total	n	27	50	77	
	Expected Count	27.0	50.0	77.0	
	%	35.1%	64.9%	100.0%	

Table 3.
The Relationship Between Perception and Compliance

Perception		Compliance		Total	P-Value
		Not coomply	Comply		
Negatve	N	6	25	31	0.018
	Expected Count	10.9	20.1	31.0	
	%	7.8%	32.5%	40.3%	
Positive	N	21	25	46	
	Expected Count	16.1	29.9	46.0	
	%	27.3%	32.5%	59.7%	
Total	N	27	50	77	
	Expected Count	27.0	50.0	77.0	
	%	35.1%	64.9%	100.0%	

Table 4
The Relationship Between Husband/ Family Support and Compliance

Husband/ family support		Compliance		Total	P-Value
		Not comply	Comply		
Negatif	N	9	31	40	0.016
	Expected Count	14.0	26.0	40.0	
	%	11.7%	40.3%	51.9%	
Positif	N	18	19	37	
	Expected Count	13.0	24.0	37.0	
	%	23.4%	24.7%	48.1%	
Total	N	27	50	77	
	Expected Count	27.0	50.0	77.0	
	%	35.1%	64.9%	100.0%	

Table 5
The Relationship Between Health Care Providers' Support and Compliance

Health Care Providers' Support		Compliance		Total	P-Value
		Not comply	Comply		
Negatif	N	12	21	33	0.836
	Expected Count	11.6	21.4	33.0	
	%	15.6%	27.3%	42.9%	
Positif	N	15	29	44	
	Expected Count	15.4	28.6	44.0	
	%	19.5%	37.7%	57.1%	
Total	N	27	50	77	
	Expected Count	27.0	50.0	77.0	
	%	35.1%	64.9%	100.0%	

Discussion

1. The Relationship Between Knowledge of Pregnant Women and Adherence To Consumption of FE tablets in pregnant women in Tangerang district in 2022

The results of the analysis found that pregnant women who had low knowledge were 16 respondents with details of 9 respondents (11.7%) having non-compliant compliance and 7 respondents 9.1% having obedient compliance. Whereas in good

knowledge there were 61 respondents with details of 18 respondents (23.4%) having non-compliant compliance and 43 respondents (55.8%) having obedient compliance. In addition, the sig. of 0.046, the value is <0.05, which means that H0 is rejected and H1 is accepted, thus it can be concluded that there is a relationship between knowledge and compliance.

The results of Fajrin and Erisniwati's research that found the majority had insufficient knowledge about the importance of consuming iron tablets (47.6%). The majority of respondents were disobedient in consuming iron tablets (57.2%). The majority of respondents with less knowledge were disobedient (38.1%), the majority of respondents with sufficient knowledge were obedient (19.1%), while the majority of respondents with high knowledge were obedient (14.3%). There is a relationship between adherence to consumption of iron tablets and the level of knowledge of pregnant women with a p value <0.05.[5]

The results of Hamzah's research (2020) found that this showed that there was a relationship between knowledge, motivation, family support, and the role of health workers with the compliance of pregnant women in consuming Fe tablets with a p value <0.05.[17]

Knowledge is the result of knowing, and this occurs after people sense a certain object. Sensing occurs through the five human senses, namely the senses of sight, hearing, smell, taste and touch. Most of human knowledge is obtained through the eyes and ears.[18]

2. The Relationship Between Perceptions of Pregnant Women and Adherence To Consumption of FE Tablets In Pregnant Women in Tangerang District in 2022

The results of the analysis show that there are 31 respondents with negative perceptions with details of 6 respondents (7.8%) having non-compliant compliance and 25 respondents (32.5%) having obedient compliance. While on the positive perception there were 46 respondents with details of 21 respondents (27.3%) having non-compliant compliance and 29 respondents (32.5%) having obedient compliance. In addition, the sig. of 0.018, the value is <0.05, which means that H0 is rejected and H1 is accepted, thus it can be concluded that there is a relationship between perception and compliance.

The results of Hastuti & Setianingsih's research found that the perception of pregnant women in consuming FE tablets found that the majority of pregnant women had a perception of agreed was 53 respondents (60.9%), had a perception that strongly agreed was (17.2%), had a 14 respondents (16.1%) disagreed with the perception, while 5 respondents (5.7%) had a strongly disagreed perception of consuming FE tablets.[19]

Perception is an experience produced through the senses of sight, hearing, smell, and so on. Everyone has a different perception, even though the object is the same.[20]

3. The Relationship Between Husband/ Family Support and Adherence To Consumption of FE Tablets In Pregnant Women in Tangerang District in 2022

The results of the analysis found that there were 40 respondents who had negative support with details of 9 respondents (11.7%) had non-compliant compliance and 31 respondents (40.3%) had obedient compliance. While on the positive perception there were 37 respondents with details of 18 respondents (23.4%) having non-compliant compliance and 19 respondents (24.7%) having obedient compliance. In addition, the sig. of 0.016, the value is <0.05, which means that H0 is rejected and H1 is accepted, thus it can be concluded that there is a relationship between husband support and compliance.

The results of the research by Khairunnisa found that 27 people (84.4%) were non-adherent in consuming Fe tablets. Based on the chi-square correlation test, the results between the relationship between husband's support and adherence to consumption of Fe tablets in pregnant women is P-value = 0.000 < α = 0.05. It can be concluded that there is a significant relationship between husband's support and adherence to consumption of Fe tablets in pregnant women.[22] The results of Hamzah's research showed that there is a relationship between family support and compliance of pregnant women in consuming Fe tablets (p value 0.000).[17]

Family support is defined by Gottlieb, verbal information, goals, real help or behavior provided by people who are familiar with the subject in their social environment or in the form of presence and things that can provide emotional benefits or influence on acceptance behavior. In this case, people who feel that they have social support feel emotionally relieved to be cared for, get suggestions or pleasant impressions on themselves.[21]

According to Sarason family support is objection, sadness, concern from people who can be relied upon, appreciate and love us, the same view was also expressed by Cobb defining family support as comfort, attention, appreciation or helping people with an attitude of accepting their condition, family support these were obtained from individuals and groups.[21]

4. The Relationship Between Health Care Providers' Support and Adherence To Consumption of FE Tablets in Pregnant Women in Tangerang District in 2022

Based on the results of the analysis that the support of health workers had negative results there were 33 respondents with details of 12 respondents (15.6%) had non-compliant compliance and 21 respondents (27.3%) had adherent compliance. While on the positive perception there were 44 respondents with details of 15 respondents (19.5%) having non-compliant compliance and 29 respondents (37.7%) having obedient compliance. In addition, the sig. of 0.836, the value is > 0.05, which means that H0 is accepted and H1 is rejected, thus it can be concluded that there is no relationship between support and compliance.

The results of Hamzah's research (2021) showed that there was a relationship between the role of health workers and the compliance of pregnant women in consuming Fe tablets (p value 0.002).

Health professional support is needed to improve adherence, the simplest example of this support is the existence of communication techniques. Communication plays an important role for good communication given by health professionals both doctors/nurses can instill words for patients.[21]

Conclusion

There is a relationship between knowledge, perception, family/husband support and compliance and there is no relationship between the support of health care provider and adherence.

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