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Factors Affecting Compliance of ThirdTrimester Pregnant Women in Consuming Iron (FE) Tables

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Abstract

Giving Fe tablets is one of the important efforts and is an effective way to prevent and overcome anemia due to iron and folic acid deficiency. To know the factors that influence the compliance of third-trimester pregnant women in consuming Iron (Fe) Tablets at Pesanggrahan Health Center, South Jakarta City in 2024. The research design used cross-sectional. The sample of this study was 78 respondents. The data collected were secondary data using a control card sheet for taking Iron (Fe) tablets in the respondent's Maternal and Child Health Book (MCH book) and primary data using a questionnaire Data analysis was univariate and bivariate. Data analysis used a chi-square test. Pregnant women who obediently consume Fe tablets are 49 respondents (62.8%). There was a significant relationship between the variables of knowledge, attitude, and family support with the compliance of pregnant women consuming Fe tablets. While the variable of side effects showed no significant relationship with the compliance of pregnant women to consume Fe tablets. Based on the Odd Ratio value, it was obtained that the Knowledge Variable more dominantly influenced the condition of pregnant women consuming Iron Tablets. It is expected that midwives can provide information about Fe tablets so that mothers are obedient in consuming Fe tablets.

Keywords: compliance, consuming Fe tablet, pregnant women

Introduction

Giving iron tablets (Fe) is one of the important efforts and is an effective way to prevent and overcome anemia due to iron deficiency. Iron (Fe) tablets are essential microelement tablets for the body that are needed in hemopoboesis (blood formation), namely hemoglobin (Hb) synthesis. Iron (Fe) tablets are given to women of childbearing

age and pregnant women (Kemenkes RI, 2018). By giving Iron (Fe) tablets to pregnant women at least 90 tablets during pregnancy, the government hopes to prevent anemia in pregnant women (Kemenkes RI, 2015).

However, according to the Indonesian Health Survey (2023) the prevalence rate of anemia in pregnant women (current pregnancy) in Indonesia is 27.7% and it is stated that 91.4% of pregnant women have obtained Iron (Fe) Tablets from their respective regional government facilities, while in DKI Jakarta Province it was 88.5% (Ministry of Health RI, 2023). The proportion of history of Iron (Fe) Tablets received by pregnant women less than 90 tablets during the last child's pregnancy in DKI Jakarta Province was 51.8% while those taken were 59.1%. Meanwhile, the proportion of the history of Iron (Fe) Tablets received by pregnant women more than 90 tablets during the last child's pregnancy was 48.1% while those taken were 40.7% (Kemenkes RI, 2023).

According to Arlym, et al, (2024) mentioned there is an influence between the mother's knowledge and her compliance in consuming Iron (Fe) tablets. In addition, there is also an influence between the mother's attitude towards the compliance of pregnant women in consuming Iron (Fe) Tablets, with the results of pregnant women who have a negative attitude almost entirely (86.1%) are not compliant with taking Iron (Fe) Tablets. In a study conducted by Putri A & Rukmaini, (2023) it was said that there was a relationship between perception and family supports with compliance of pregnant women in consuming iron tablets (Fe).

Many factors cause pregnant women to be non-compliant in consuming Iron (Fe) Tablets. The main reasons why pregnant women did not forget to take Iron (Fe) Tablets from the government program in DKI Jakarta Province were 5.2% because they felt unnecessary or not useful, 27.1% forgot, 11.9% felt that the taste and smell were bad, 26.1 because they were nauseous and vomiting during pregnancy, 8.9% because of uncomfortable side effects, 1.5% thought that Iron (Fe) Tablets were medicine, 3.7% it was not time to finish, 9.3% felt bored and 6.4% others (Kemenkes RI, 2023).

Impact of non-compliance of pregnant women in consuming Iron (Fe) Tablets can cause anemia in pregnant women (Cogswell et al., 2003). Anemia is a condition where a person's Hemoglobin (Hb) level in the blood is lower than normal according to the threshold value according to age (Bencaiova et al., 2012; Fatmah, 2016; Sifakis & Pharmakides, 2006).

According to the World Health Organization (WHO) in 2019 the global prevalence of anemia was 39.8% the number of cases of anemia in pregnant women worldwide is still high, which is 43.9%. While in developing countries there are about 40% of maternal deaths related to anemia in pregnancy World Health Organization (WHO) (2021). The incidence of anemia in pregnant women in Indonesia is still relatively high, which is 48.9% (according to the Indonesian Ministry of Health in 2019).

Based on preliminary studies conducted by researchers at the Pesanggrahan Health Center in May 2024, it was found that there were 13 pregnant women in Trimester III who received Iron (Fe) Tablets when conducting pregnancy checks at the Puskesmas but there were only 4 pregnant women who obediently took the Iron (Fe) Tablets regularly while the other 6 mothers took them but not routinely only if they remembered and felt their body condition was unhealthy and 3 others did not want to take Iron (Fe) Tablets because they tasted nauseous and made it difficult to defecate. This study will look for factors related to maternal compliance in consuming Iron (Fe) Tablets.

Method

Method should be structured as follows:

1. Research design

This study was a quantitative study and uses analytical methods with a cross sectional approach, the implementation of the study was conducted in July 2024 at Pesanggrahan Health Center, South Jakarta City.

2. Setting and samples

The population in this study were 362 third trimester pregnant women. The sample size used the slovin formula so that a sample of 78 people was obtained. Sampling using purposive sampling technique.

3. Measurement and data collection

Maternal compliance was assessed based on the number of blood supplement tablets consumed by pregnant women at least 90 tablets. Maternal knowledge about anemia in pregnancy and its treatment. Maternal attitudes related to anemia and iron (Fe) tablets. Family support related to attention and support system reminding to consume iron tablets. Side effects based on those experienced by respondents while consuming iron tablets (Fe).

The data collected were secondary data using a control card sheet for taking Iron (Fe) tablets in the respondent's Maternal and Child Health Book (MCH book) and primary data using a questionnaire instrument that had been tested for validity and reliability.

4. Data analysis

Data processing using chi-square statistical test.

Results

Table 1
Frequency distribution of adherence, knowledge, attitude, family support and side effects

Variable	Frequency	%
Compliance		
Compliance	49	62,8
Not compliance	29	37,2
Knowledge		
Good	47	60,3
Poor	31	39,7
Attitude		
Positive	50	64,1
Negative	28	35,9
Family Support		
Supportive	59	75,6
Less supportive	19	24,4
Side Effects		
Mild	70	89,7
Severe	8	10,3

Based on Table 1, it was found that the majority of respondents were compliant in consuming Iron (Fe) Tablets (62,8%) dan were not compliant (37,2%). Based on knowledge, it was found that most respondents had good knowledge (60.3%) and less (39.7). Based on attitudes, it was found that most respondents had positive attitudes (64.1%) and negative attitudes (35.9%)/ Based on family support, it was found that most respondents had supportive families (75.6%) and less supportive (24.4%). Based on side effects, it was found that most respondents had mild side effects (89.7%) and severe side effects (10.3%). Bivariate analysis was conducted to analyze the relationship between two variables because the variables were categorical data, so at this stage, the Chi-square statistical test was performed.

Table 2
Relationship between Knowledge and Adherence to Taking Iron (Fe) Tablets

Variable	Compliance with consuming Iron (Fe) Tablets				Amount		P-Value	OR
	Compliance		Not Compliance					
	n	%	n	%	n	%		
Knowledge								
Good	46	97,9	1	2,1	47	100	0,001	429 (42.556 - 4331)
Poor	3	9,7	28	90,3	31	100		
Attitude								
Positive	44	88	6	12	50	100	0,001	33,73 (9.290-122.487)
Negative	5	17,9	23	82,1	28	100		
Family Support								
Supportive	42	71,2	17	28,8	59	100	0,001	4,23 (1,425-12.587)
Less Supportive	7	36,8	12	63,2	19	100		
Side Effect								
Mild	46	65,7	24	34,3	70	100	0,239	0,313 (0,069-1,423)
Severe	3	37,5	5	62,5	8	100		
Total	49	62,8	29	37,2	78	100		

Based on Table 2, it was found that respondents who were not compliant in consuming iron (Fe) tablets were respondents who had low knowledge (90.3%) with a p value of 0.001 which indicated that there was a relationship between knowledge and compliance in consuming iron (Fe) tablets. The Odds Ratio value was 429 which means that the respondent's chance of consuming Fe tablets would be 429 times greater if the respondent had good knowledge. Respondents who were not compliant in consuming iron (Fe) tablets were respondents who had a negative attitude (82.1%) with a p value of 0.001 indicating that there was a relationship between attitude and compliance in consuming iron (Fe) tablets. The Odds Ratio value was 33.7, which means that the respondent's chance of consuming Fe tablets would be 33.7 times greater if the respondent had a positive attitude.

Respondents who were not compliant in consuming iron (Fe) tablets were respondents who lacked family support (63.2%) with a p value of 0.001 indicating that there was a relationship between family support and compliance in consuming iron (Fe) tablets. The Odds Ratio value obtained was 4.23, which means that the respondent's chance of consuming Fe tablets would be 4.23 times greater if the respondent received support from their family. Respondents who were not compliant in consuming Fe tablets were respondents who had severe side effects (62.5% with a p value of 0.239, which indicates that there is no relationship between side effects and compliance in consuming iron (Fe) tablets.

Discussion

In this study, 49 respondents (62.8%) were obedient to taking iron (Fe) tablets. Research by Arlym et al. (2024) showed that pregnant women who have a good knowledge tend to be more compliant in consuming this supplement. The study found that a comprehensive education program can improve pregnant women's knowledge and awareness of the importance of iron (Fe) tablets, which in turn improves their adherence. This is in line with research in Kuningan and Ethiopia (Desta et al., 2019; Rahim, 2020).

This study showed a significant relationship between pregnant women's knowledge about iron tablets (Fe) and compliance with taking iron tablets (Fe), as evidenced by a p-value of 0.001 and an Odds Ratio (OR) value of 429. This finding is in line with the opinion of Notoatmodjo (2010) which states that knowledge is a key factor influencing a person's health behavior. Study in Philipines showed higher health programme knowledge were positively associated with taking Iron (Fe) tablets (Lutsey et al., 2008)

According to Notoatmodjo, individuals who have good knowledge about health tend to have more positive behavior and adhere to medical recommendations. Thus, increasing pregnant women's knowledge about the importance of iron (Fe) tablets is essential to improve their compliance (Notoatmodjo, 2007). Pregnant women's attitude towards iron (Fe) tablets is an important factor influencing their adherence to taking this supplement. A positive attitude towards iron (Fe) tablets includes belief in the benefits of the supplement, perception of risks and side effects, and motivation to maintain health during pregnancy. From the results of this study obtained p-value = 0.001 ≤ 0.05. So it can be concluded that there is a relationship between the attitude of pregnant women and their compliance in consuming iron tablets (Fe) at Pesanggrahan Health Center, South Jakarta City. The OR value of 33.7 means that pregnant women who have a positive attitude are 33.7 times more likely to adhere to taking iron tablets (Fe) compared to pregnant women who have a negative attitude. In addition to knowledge and attitude, family support also plays a significant role in the compliance of pregnant women. Based on the results of research on family support variables, the p-value = 0.015 ≤ 0.05. So it can be concluded that there is a relationship between family support and compliance in taking iron tablets (Fe) at Pesanggrahan Health Center, South Jakarta City. The OR value

= 4.235 means that pregnant women who get positive support from the family in consuming iron tablets (Fe) are 4.2 times more likely to be obedient than pregnant women who get negative support for iron tablets (Fe).

Susanti et al. (2024) revealed that pregnant women who get emotional and practical support from their families, especially from their spouses, are more likely to be compliant in taking iron (Fe) tablets. Family support can be in the form of regular reminders, assistance in overcoming side effects, and moral encouragement. This suggests that interventions that involve families can be more effective than interventions that only focus on individuals. Currently, in the Maternal and Child Health book, there is a control card for taking iron tablets by families (Kemenkes RI, 2020).

Family support is also one of the other important factors affecting pregnant women's compliance in taking iron (Fe) tablets. According to social support theory, support from family, especially from spouses, can increase motivation and provide a significant emotional boost for pregnant women (Heiby et al., 2005; Notoatmodjo, 2010). Research by Nurhaida et al. (2024) showed that pregnant women who get emotional and practical support from their families tend to be more compliant in consuming iron (Fe) tablets. This support can be in the form of regular reminders to consume iron (Fe) tablets, assistance in overcoming side effects, and moral encouragement.

Side effects of iron (Fe) tablets are often a major barrier to adherence among pregnant women. According to Galloway & McGuire (1994) side effects such as nausea, constipation, and abdominal discomfort can reduce the desire of pregnant women to continue taking these supplements. This study emphasizes the importance of providing information and strategies to overcome these side effects as part of the education program. For example, providing advice on taking iron (Fe) tablets with meals or at specific times of the day may help reduce side effects and improve adherence. In this study, the variable of side effects showed no relationship between family support and compliance in consuming iron tablets (Fe) at Pesanggrahan Health Center, South Jakarta City, p-value = 0.239> 0.05 while OR value = 0.313. This shows that it is not in accordance with the theory that says the side effects felt by pregnant women when taking iron tablets (Fe) can adhere to taking iron tablets (Fe) and is not in line with the following studies. According to research by Oiye et al. (2020), side effects such as nausea, constipation, and indigestion are common complaints and can cause pregnant women to be reluctant to continue taking

iron tablets. This study emphasizes that negative experiences related to side effects can greatly influence pregnant women's perceptions and attitudes toward these supplements, ultimately lowering their adherence rates.

Conclusion

Knowledge, attitude, and family support are related to the compliance of pregnant women in consuming Fe tablets while the side effects of Fe tablets do not affect the compliance of pregnant women in consuming Fe tablets. Based on the Odd Ratio value, it was obtained that the Knowledge Variable more dominantly influenced the condition of pregnant women consuming Iron Tablets.

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