



Profil of Knowledge and Compliance Pregnant Women in Consuming Iron Supplement tablet at Lubuk Kilangan Community Health Centre in Padang City, Indonesia

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ABSTRACT: Knowledge is one of the factors that influence the formation of health behavior. This research is an analytical observational with a cross-sectional approach to study the profile of knowledge and compliance of pregnant women in consuming iron supplement tablet at Lubuk Kilangan Community health centre Padang. This research was conducted in the working area of Lubuk Kilangan Community health centre Padang. This research was conducted in June-August 2022. Data collection using a questionnaire consisting of 10 questions to study the level of knowledge and 5 questions to study compliance. Data was obtained through a total sampling of 45 respondents of pregnant women who visit the Lubuk Kilangan Community Health Center, Padang City. From the results of the research that has been done, it can be concluded that the level of knowledge is in the "sufficient" category while compliance is in the "good" category.

KEYWORDS: Knowledge, Compliance, Iron supplement tablet, Lubuk Kilangan

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I. INTRODUCTION

Pregnancy is the most important period of life. Where the mother must prepare herself as well as possible to welcome the birth of her baby. A healthy mother will give birth to a healthy baby. One of the factors that affect maternal health is the nutritional state of the mother [1]. In pregnancy, anemia can adversely affect maternal and infant morbidity and mortality. The impact of anemia on the fetus includes intrauterine growth retardation (IUGR), babies born prematurely, babies with congenital defects, Low Birth Weight (LBW), and an increased risk of fetal death in the womb. The impact of anemia on pregnant women is shortness of breath, fatigue, palpitations, hypertension, sleep disturbances, preeclampsia, abortion, and increased risk of bleeding before and during labor even maternal death. Anemia in pregnant women is still one of the main nutritional problems in Indonesia [2].

Based on the results of WHO (World Health Organization) report, the maternal mortality rate that occurs in developing countries including Indonesia is related to the high rate of anemia that occurs in pregnancy. The most common causes of pregnancy anemia are iron deficiency [3]. 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 maternal and infant morbidity and mortality. One of the factors causing this high prevalence of anemia is the low compliance of pregnant women in consuming iron during pregnancy [4]. Pregnant women are said to have anemia if hemoglobin levels are <11 gr/dl in the first and third trimesters, while in the second-trimester hemoglobin levels are <10.5 gr/dl. This is because the second trimester is the peak of hemodilution [3].

The government has sought the health of pregnant women, which is realized in the provision of antenatal care (ANC) at least four times during pregnancy. These services include receiving a minimum of 90tablet of iron supplementation during pregnancy as well as a simple laboratory test service, namely a

hemoglobin (Hb) test. It is interesting to see that the incidence of anemia in pregnant women increases from year to year which is directly proportional to the proportion of pregnant women who get iron supplement tablet (Fe tablet) (73.2%) but when viewed in more detail the percentage of pregnant women who get iron supplement tablet (Fe tablet) ≥ 90 items is only 38.1% and the rest get < 90 items [2]. Knowledge or cognitive domain is a domain that is very important in shaping actions. someone (overt behavior). Behavior based on knowledge will be more lasting than behavior that is not based on knowledge [5]. Knowledge is one of the factors that influence the formation of health behavior. If pregnant women know and understand the consequences of anemia and how to prevent anemia, they will have good health behavior so that they are expected to avoid various consequences or risks of pregnancy anemia. Such behavior can affect the decrease in the incidence of anemia in pregnant women [6].

Knowledge is one of the factors that influence the formation of health behavior. If pregnant women know and understand the consequences of anemia and how to prevent anemia, they will have good health behavior so that they are expected to avoid various consequences or risks of pregnancy anemia. Such behavior can affect the decrease in the incidence of anemia in pregnant women [6]. Non-compliance of pregnant women taking Fe tablet can cause a great opportunity to get anemia. Providing information about anemia will increase their knowledge about anemia because knowledge is very important so that pregnant women can adhere to taking Fe tablet. [7] Adherence to iron tablet can be measured by the accuracy of the number of iron tablet consumed, the accuracy of how to take iron tablet, and the use of iron tablet per day [8].

II. RESEARCH METHODS

An analytical observational research with a cross-sectional approach, which is a research design conducted to determine the relationship between the independent variable and the dependent variable where measurements are taken at one time (simultaneously) [9]. This research was conducted in the working area of the Lubuk Kilangan Padang Health Center. This research was conducted in June-August 2022. The research population This research population is all pregnant women who visited and consumed Iron supplement tablet at the Lubuk Kilangan Padang Community Health Center during the study period. Total 45 pregnant women were participate in this reseach with total sampling method, by Arikunto 2006 statement, that if the subject is less than 100, all subjects should be sampled so that the study is a population study [10]. Data collection in this study used a questionnaire adapted from Herlina 2013 modified [11], which consisted of 10 questions to see the level of knowledge and 5 questions about compliance. To measure knowledge and compliance, a questionnaire with a total of 15 questions was used, with the answer options being true and false with a score if the answer was true/yes, the score was 1, and if false/no, the score was 0. The level of knowledge was categorized with the following measurement scale, good (if score ≥ 7), moderate (if score 5-7), poor (if score ≤ 5), and for compliance was categorized with the following measurement scale, compliant (if score ≥ 3), and non-compliant, (if score ≤ 2).

The formula used to measure the percentage of answers obtained from the questionnaire is : [10]

$$\text{Percentage correct} = \frac{\text{Correct scores}}{\text{Total scores}} \times 100 \%$$

Based on the total number of answers obtained by each respondent, the knowledge variable is then divided into 3 categories [10]: "Good", if the respondent can answer correctly 76 - 100% of all statements, "sufficient" if the respondent can answer correctly 60 - 75% of all statements, and "less" if the respondent can answer correctly $< 59\%$ of all statements. The data obtained were then processed and tabulated in the form of a table so that the level of knowledge and compliance of respondents was known, then scoring was carried out and a chi-square test was carried out to see the relationship between knowledge and compliance. Scoring for inference is determined by comparing the maximum score [10].

III. RESULTS AND DISCUSSION

The age profile of respondents is, < 20 years 4 people, 20-35 years 33 people, and > 35 years 8 people. The respondents' education level is, elementary school 2 people, junior high school 7 people, high school 18 people, college 18 people

Table 1 Knowledge profile of respondents

No	Question	Answer				Total
		Correct	%	Wrong	%	
1	Iron supplement tablet (Fe tablet) are tablet that contain the following substances iron	45	100%	0	0%	45
2	Iron supplement tablet (Fe tablet) are an important mineral needed by during pregnancy	44	98%	1	2%	45
3	Administration of iron supplement tablet (Fe tablet) is 1 time tablet every day	37	82%	8	18%	45
4	Administration of Iron supplement tablet (Fe tablet) of at least 90 tablet during pregnancy	36	80%	9	20%	45
5	Iron supplement tablet are best taken in nighttime	29	64%	16	36%	45
6	Iron supplement tablet are best taken 1 hour before a meal or on an empty stomach	28	62%	17	38%	45
7	Iron deficiency during pregnancy, if left untreated, can lead to causes anemia	25	56%	20	44%	45
8	Iron supplement tablet (Fe tablet) may cause nausea vomit	26	58%	19	42%	45
9	Iron supplement tablet may cause side effects such as diarrhea	25	56%	20	44%	45
10	Abdominal cramping is not a side effect of taking iron supplement tablet	18	40%	27	60%	45
	Total	313/450 x 100 %= 69,55%		137/450 x 100%= 30,45%		450

The distribution of respondents' answers based on Table 1 above on the first question of iron supplement tablet (Fe tablet) is a tablet containing iron. Each iron supplement tablet contains iron equivalent to 60 mg of elemental iron in the form of Ferrous Sulfate, Ferrous Fumarate, or Ferrous Gluconate and Folic Acid of 0.400 mg [12]. Of the 45 pregnant women, 45 answered correctly and 0 incorrectly, the knowledge of pregnant women is classified as good because 100% of pregnant women stated correctly that iron supplement tablet (Fe tablet) are tablet containing iron. This is because the pregnant women know what they are consuming and pregnant women find out what they are consuming. The second question iron supplement tablet (Fe tablet) are an important mineral required during pregnancy. Iron works with protein chains to transport electrons that play a role in the final steps of energy metabolism. These proteins transfer hydrogen and electrons from energy-producing nutrients to oxygen to form water to produce iron-containing protein molecules from red blood cells and myoglobin in muscles. Iron is very important in the immune system as an immune response by T-lymphocytes that can destroy bacteria that cannot work actively in a state of iron deficiency [13]. Of the 45 pregnant women, 44 pregnant women answered correctly and 1 wrong for the second question, the knowledge of pregnant women was classified as good. This is because pregnant women are given counseling about the benefits of iron supplement tablet conducted by the health center Lubuk Kilangan Padang.

The third question The administration of iron supplement tablet (Fe tablet) is 1 tablet every day. In pregnant women, iron supplement tablet are consumed every day, and at least 90 tablet [12]. Of the 45 pregnant women, there were 37 who answered correctly and incorrectly 8 for the third question is still classified as good. This is due to the counseling conducted by the health center Lubuk Kilangan Padang and the awareness of pregnant women about the importance of iron supplement tablet during pregnancy.

The fourth question is giving iron supplement tablet (Fe tablet) during pregnancy. Previous research explains that pregnant women who consume ≥ 90 tablet during pregnancy have a lower risk of experiencing anemia problems than pregnant women who only consume ≤ 90 tablet during pregnancy [14]. Of the 45 pregnant women, 36 answered correctly and 9 answered incorrectly, the knowledge of pregnant women was classified as good, and pregnant women had begun to know how many iron supplement tablet should be consumed during pregnancy. The fifth question is whether iron supplement tablet are best taken at night. Participants took iron tablet at night to prevent nausea after taking iron tablet. In this study, iron tablet were taken at night to prevent nausea. This was done on the advice of health workers. Of the 45 pregnant women, 29 pregnant women

answered correctly and 16 who answered incorrectly, the knowledge of pregnant women was declared sufficient. This is because not all pregnant women take iron supplement tablet at night.

Sixth question, iron supplement tablet are best taken 1 hour before meals or on an empty stomach. The acidity of the stomach affects the solubility and absorption of iron in the body. Iron supplements are better consumed on an empty stomach or before meals, because iron is more effectively absorbed when the stomach is acidic (low pH). Of the 45 pregnant women, there were 28, and 17 answered incorrectly, the mothers' knowledge was considered sufficient. The seventh question, iron deficiency during pregnancy if not addressed can cause anemia. Pregnant women are vulnerable to the problem of anemia [15]. Of the 45 pregnant women, there were 25 answered correctly, and 20 answered incorrectly, the knowledge of the mothers was classified as sufficient, but there were still pregnant women who did not know that anemia could be caused by iron deficiency. The eighth question, iron supplement tablet (Fe tablet) can cause nausea and vomiting. Increased iron absorption may increase the intensity of side effects experienced by pregnant women. Oral iron supplements can cause nausea, vomiting, dizziness, gastric cramps, ulcer pain, and constipation (sometimes diarrhea). The degree of nausea depends on the amount of elemental iron absorbed. Iron doses above 60 mg (200 mg dry sulfate refosus) can cause unacceptable side effects in pregnant women resulting in non-compliance with drug use. Vomiting and abdominal cramps are side effects as well as early signs of iron toxicity. Consuming iron can also cause constipation and discoloration of the stool which becomes dark [13]. Out of 45, there were 26 correct answers and 19 wrong answers, the knowledge of pregnant women is considered sufficient. Some pregnant women experience nausea and vomiting and some do not, it can also be a consideration for pregnant women to fill out the question.

The ninth question is that iron supplement tablet may cause side effects such as dizziness. Increased iron absorption may increase intensity of side effects experienced by pregnant women. Oral iron supplements can cause nausea, vomiting, dizziness, stomach cramps, ulcer pain, and constipation (sometimes diarrhea) [13]. Of the 45 pregnant women there were 25 answered correctly and 20 answered incorrectly, the knowledge of the mothers was classified as sufficient. In this case, some pregnant women experience dizziness and some do not, it can also be a consideration for pregnant women to fill in the question. In the tenth question, abdominal cramps are not a side effect of taking iron tablet. Iron doses above 60 mg (200 mg dry refosus sulfate) may cause unacceptable side effects in pregnant women resulting in non-compliance with medication use. Vomiting and abdominal cramps are side effects as well as early signs of iron toxicity. Taking iron can also cause constipation and discoloration of the stool which becomes dark [13]. Of the 45 pregnant women, there were 18 answered correctly, and 27 answered incorrectly, the knowledge of pregnant women was classified as lacking, in this case, pregnant women rarely experience these side effects, therefore pregnant women do not know these side effects.

Table 2. Respondent Knowledge Category

No.	Category	Number of respondents	Percentage
1	Good	17	37,8%
2	Simply	23	51.1%
3	Less	5	11,1%
Total		45	100%

Based on Table 2 above, it can be seen that pregnant women who have good knowledge are 17 respondents with a percentage of 37.8%, have sufficient knowledge 23 respondents with a percentage of 51.1%, and have less knowledge 5 respondents with a percentage of 11.1%.

Scoring for inference is determined by comparing the maximum score:

$$\begin{aligned}
 \text{Score} &= \frac{\text{Score Achieved}}{\text{Maximum scores}} \times 100 \% \\
 &= \frac{313}{450} \times 100\% \\
 &= 69,55\%
 \end{aligned}$$

Based on the results of the scoring calculation above, the total score obtained is 69.55%, this shows that overall the mother's knowledge is as follows pregnant women about iron tablet at Lubuk Kilangan Community Health Center Padang included in the "enough" category.

Table 3. Respondent compliance

No.	Question	Answer				Total
		Yes	%	Not	%	
1	Do you always take Iron supplement tablet (Fe tablet) every day?	45	100%	0	0%	45
2	Do you never forget to take your tablet? (iron supplement tablet)	41	91%	4	9%	45
3	What do iron supplement tablet (Fe tablet) taste ? Not good?	39	87%	6	13%	45
4	Whether iron supplement tablet (Fe tablet) should not be taken with coffee, milk, or tea.	23	51%	22	49%	45
5	Do the iron supplement tablet (Fe tablet) should be taken with water.	28	62%	17	38%	45
	Total	176/225x100 %= 78,22%		49/225x100%= 21,78%		225

The distribution of respondents' answers is based on Table 3 above on the first question Do mothers always take bloodtablet (Fe tablet) every day? Of the 45 pregnant women, 45 answered yes and 0 no, the compliance of pregnant women was classified as good because 100% of pregnant women consumed their iron supplement tablet given. This can be done because of the counseling conducted by the health center Lubuk Kilangan Padang and the awareness of pregnant women and families of pregnant women in the importance of taking iron supplement tablet. The second question is whether mothers often forget to take iron tablet. Of the 45 pregnant women, 41 pregnant women answered yes and wrong 4 for the second question of pregnant women's compliance was classified as good. Because pregnant women have an awareness of taking iron supplements.

The third question is whether their iron supplement tablet (Fe tablet) taste bad. Out of 45 pregnant women, 39 answered yes, and yes 6 for the third question is still relatively good. This can indicate that pregnant women do take iron supplement tablet. The fourth question was whether iron supplement tablet (Fe tablet) should not be taken with coffee, milk, or tea. Out of 45 pregnant women, 23 answered yes, and 22 answered no to this question. Drinking Fe tablet together with milk or calcium tablet, tea or coffee can bind Fe so that it inhibits the absorption of iron in the body [16]. The fifth question was whether iron supplement tablet (Fe tablet) should be taken with water. Out of 45 pregnant women 28 pregnant women answered yes and 17 who answered no, the compliance of pregnant women was stated to be sufficient. Fe tablet are taken with water, and orange water so that absorption runs smoothly [16].

Table 4. Respondent Compliance Category

No.	Category	Total	Percentage
1	Compliance	36	80%
2	Non-compliance	9	20%
	Total	45	100%

Based on Table 4 above, it can be seen that most pregnant women at Lubuk Kilangan Padang Health Center have a good level of compliance with 36 respondents with a percentage of 80%, and have non-compliant pregnant women as many as 9 respondents with a percentage of 1.9%. Scoring for inference is determined by comparing the maximum score:

$$\text{Score} = \frac{\text{Score Achieved}}{\text{Maximum score}} \times 100 \%$$

$$= \frac{176}{225} \times 100\%$$
$$= 78,22\%$$

Based on the results of the scoring calculation above, the total score obtained is 78.22%, this shows that overall Pregnant women's adherence to iron tablet at Lubuk Kilangan Community health centre Padang was compliant and included in the "Good" category.

IV.CONCLUSION

From the results of research that has been conducted, it can be concluded that the level of knowledge is in the "sufficient" category while compliance is in the "good" category.

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