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Research Article

Knowledge is Not Related to Iron Tablets Consumption Compliance in Pregnant Women

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Abstract

Aim: In Indonesia, anaemia is one of the leading causes of maternal mortality. Inadequate iron (Fe) supplementation is one of the causes of anaemia in pregnant women. Researchers have found that what pregnant women know affects how they act when they take Fe tablets. Still, the most recent research shows that good knowledge is not always linked to taking Fe tablets in a good way. This study aims to determine the relationship between iron tablet compliance and the knowledge of pregnant women.
Method: This study was a correlational study with a cross-sectional design in 2019. The sample in this study was 53 pregnant women obtained using the stratified proportional random sampling technique in Bandung. A questionnaire was used to collect data, and Spearman rank correlation was used to analyze the data.
Result: The correlation test showed a significance level of 0.627 (value > 0.05), which means there is no correlation between pregnant women's knowledge about Fe tablets and compliance.
Conclusion: A good understanding of pregnant women does not always correspond with women's observation of Fe tablet consumption. Other factors must be examined more closely. Pregnant women must be motivated and have good family support during their pregnancy.

Keywords:
Anemia, Pregnancy, Iron supplementation, Knowledge, Compliance

INTRODUCTION

The Association of South East Asian Nations (ASEAN) has the world's highest maternal death rate (MMR). WHO estimates the maternal mortality rate (MMR) and infant mortality rate (IMR) in the ASEAN region are 170,002 and 1,300,000 per year, respectively. Up to 98% of all maternal and infant deaths occurred in India, Bangladesh, Indonesia, Nepal, and Myanmar (1). The MMR in Indonesia is 305 per 100,000 live births, and the IMR is 19 per 100,000 (2). IMR in Bandung City, based on Bandung Health Profile in 2020, was 28 per 1,000 live births. Based on the latest BPS sources from 2004, the MMR in Bandung City was 164.70 per 100,000 live births (3).

The health problems faced by the Indonesian people today include the still high MMR and IMR. Anaemia, the most common cause of MMR, is when the body has too few red blood cells (erythrocytes), which contain haemoglobin that carries oxygen to all body tissues(4). In Indonesia, anaemia is most commonly caused by a lack of iron, which is required to produce

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haemoglobin and results in iron deficiency anaemia (2).

Anaemia in pregnant women can lead to a high risk of miscarriage, bleeding, a low birth weight, uterine atony, uterine inertia, and a placenta that stays in the uterus . According to the WHO, anaemia during pregnancy ranges from 20% to 89% when Hb 11 g/dL is set. Pregnancy anaemia rates occur at 3.8% in the first, 13.6% in the second, and 24.8% in the third (5).

Pregnant women have a high rate of anaemia because they don't take their iron tablets as prescribed. Compliance with taking Fe tablets was measured by how well they were taken, how many times a day, and how many Fe tablets were taken. Noncompliance with iron tablets by pregnant women increases their risk of developing anaemia (4,5).

Knowledge, education, accommodation, changing social and environmental factors, and the amount of direct contact pregnant women have with midwives are all things that affect whether or not they take iron tablets. The low level of knowledge affects the noncompliance of pregnant women with the importance of consuming iron tablets. Knowledge affects the behaviour of pregnant women in maintaining their pregnancy, including the importance of iron needs during pregnancy, because, in reality, not all pregnant women know the benefits of iron tablets and take them regularly (5).

Based on Bandung City Health Office data in 2015, the province with the highest coverage of visits by pregnant women was UPT Cibuntu, namely K1 as many as 2735 pregnant women (101.72%), and K4 as many as 2,775 pregnant women (103.215%). Based on the interviews with midwives at the Cibuntu Health Center, the coverage of visits by pregnant women during the last six months was 254 people. According to a preliminary study conducted in the working area of the Cibuntu Health Center, 4 out of 15 respondents said they knew the functions and side effects of iron tablets. The other 11 respondents said they did not know about iron tablets. Five out of 15 respondents said they always take iron tablets regularly, while the others said they did not take them regularly.

According to research, knowledge significantly influences the behaviour of pregnant women who take iron tablets. Still, new research shows that having a lot of knowledge does not always go hand in hand with taking iron tablets. Based on the above description, this study will examine the relationship between pregnant women's knowledge and compliance with Fe tablets.

METHODS

There was a quantitative study that used correlation methods in 2019. With this method, the researcher wanted to determine if there was a correlation between how much pregnant women in the Cibuntu Health Centre working area knew about iron tablets and how often they took them during their second and third trimesters.

This study included every pregnant woman in the Cibuntu Health Centre., which had as many as 254 people. Stratified proportional random sampling was used on 53 pregnant women from three villages in the community based on pregnancy scheduled visits.

A questionnaire with 25 questions was used to determine how much people knew about iron tablets, what they were for, where they could get iron, how to take them, and their benefits and drawbacks. Compliance was assessed using a self-report analysis of the frequency of pregnant women taking iron tablets given by the public health centre following the recommendation of 1 pill per day. The reliability test was obtained for the knowledge questionnaire at 0.525 > 0.361 and the compliance questionnaire at 0.907 > 0.361. Both measuring tools for knowledge and compliance were declared reliable.

Statistical tests were carried out using a Spearman rank bivariate analysis approach

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in SPSS 19 to test the relationship between knowledge and consumption behaviour of Fe tablets.

RESULTS

1. Characteristic of respondent

Tabel 1. Distribusi Frekuensi Responden Berdasarkan Usia Di Wilayah Kerja Puskesmas Cibuntu

Age	f	%
17-25	50	94,3 %
26-35	3	5,7 %
	53	100%

The table shows that most respondents aged 17-25 years were 50 people (94.3%) and 26-35 years were 3 people (5.7%).

2. Mother's Knowledge

Table 2. Frequency Distribution of Pregnant Women

Knowledge	f	%
Good	28	52.8
Less	25	47.2
	53	100

The study results obtained data on maternal knowledge, including an understanding of iron tablets, iron needs, sources of iron, how to consume iron, and the benefits and side effects, in 52.8% of pregnant women. With a history of education, most pregnant women graduated from high school (67.9%).

3. Fe Tablet Consumption Compliance

The compliance data of pregnant women consuming Fe tablets was low, with 92.5% not complying with the prescription. Nearly all pregnant women do not adhere to the once-daily consumption of Fe tablets as recommended by health professionals.

Table 3. Frequency Distribution of Fe Tablet Consumption Compliance

Compliance	f	%
Compliance	4	0.5
Noncompliance	49	92.5
	53	100

4. Association Between Knowledge and Compliance on Iron Intake

The relationship between knowledge and maternal compliance in consuming Fe tablets was negatively correlated with a p-value of 0.627 > 0.05. Since H0 is accepted and Ha is rejected, it can be concluded that there is no relationship between pregnant women's knowledge of iron tablets and their consumption.

Table 4. Knowledge Relationship with Mother's Obedience

Knowledge	Compliance		Total	P-Value
	Compliance	Not Compliance		
Good	1.9	50.9	52.8	0.627*
Less	5.7	41.5	47.2	
Total	7.5	92.5	100	

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The knowledge about iron tablets showed that more than half of the respondents had good knowledge, 28 people (52.8%), and respondents who had less knowledge were as many as 25 (47.2%). The results demonstrated that respondents with superior knowledge outnumbered those with inferior knowledge.

DISCUSSION

Knowledge or cognition is essential to shape people's actions. Knowledge is the result of knowing an object through the senses that are owned, primarily through the sense of hearing and the sense of sight. The intensity of attention and perception of an object dramatically influences the reason that is held in producing knowledge (6,7).

The results of knowledge about iron tablets found that more than half of the respondents had good knowledge, namely 28 people (52.8%) and respondents with less knowledge, namely 25 people (47.2%). The results showed more respondents with good knowledge than those with less knowledge. Knowledge influences include education, age, information/mass media, socio-cultural and economic contexts, environment, and experience (8). Judging from age, most of the respondents in this study were included in the adult age range, which would affect receiving information provided by health workers related to iron tablets because the more mature the period, the more exposure to lead (9). In addition, one of the factors that influence knowledge is education. When viewed from the respondent's educational perspective in this study, most of their education was in high school. Formal education affects the nature of knowledge. Education and knowledge are closely related, and it is expected that a person with a higher level of education will have more excellent knowledge (6).

Formal education only gives you a little knowledge, but non-formal education can. Knowledge can be obtained from direct experience or the experience of others conveyed to people. In addition, it can also be obtained by attending counselling through communication media, such as television, radio, newspapers, and others. In addition, the factor that affects knowledge is the environment. All of the external factors humans are exposed to are collectively called "the environment,". Due to these factors' underlying, interactive naturethey can significantly impact the growth and actions of individuals and communities (4,9).

Compliance with iron tablets refers to pregnant women's willingness to follow healthcare providers' recommendations to take iron tablets daily. Low awareness of how important it is to take iron tablets has less of an effect on how well pregnant women follow the rules. Most likely, how pregnant women feel about taking iron tablets depends on how much they know about nutrition. The accuracy of the number of iron tablets consumed, the proper way to swallow iron tablets, and the number of times each day that pills were taken were used as measures of compliance with taking iron tablets (10).

The number of people who didn't take iron tablets showed that more than half of the people who answered the survey, 49 people (92.5%) and four people (7.5%), didn't take them. The results of this study show that people who don't follow the rules consume more iron tablets than those who do. A person's health behaviour is influenced by 3 factors, namely predisposing factors (knowledge and beliefs), supporting factors (availability of facilities and infrastructure), and driving factors (factors that encourage or occur behaviour) (11). Based on the results of research conducted in the work area of the Cibuntu Health Center, most of the respondents were disobedient in consuming iron tablets, one of the factors that can influence adherence in consuming Fe tablets is predisposing factors (knowledge and attitudes) and driving factors (factors that encourage or occur behavior). According to the research in the Cibuntu Health Centre's work area, most people do not take iron tablets as

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prescribed. Predisposing factors (knowledge and attitudes) and driving factors (factors that encourage or occur behaviour) can both affect compliance in swallowing Fe tablets.

Based on the researcher's analysis of the compliance factors above, most of the respondents were disobedient because there was a lack of knowledge of the respondents related to iron tablets, as many as 25 people (47.2%). Some respondents become disobedient after consuming iron tablets. The number of respondents who often forget to take iron tablets is as high as 49 people, and the absence of family support is one factor that affects compliance.

The factor of family participation significantly affects pregnant women's compliance with consuming iron tablets during pregnancy. Efforts are needed to include family participation as a primary essential factor for pregnant women by empowering family members, especially husbands, to help pregnant women increase their adherence to consuming iron tablets.

The analysis results that the researchers carried out using the Spearman rank correlation statistical test found no relationship between knowledge about iron tablets and their consumption compliance in the II and III-trimester pregnant women in the Cibuntu Health Center Work Area. The results of the Spearmen rank correlation test show a P-value greater than 0.05, indicating that hypothesis H0 is accepted while hypothesis Ha is rejected. It is reasonable to conclude that there is no connection between the knowledge of pregnant women in the Cibuntu Community Health Center Work Area regarding iron tablets and their consumption in their second and third trimesters of pregnancy.

The study's findings yielded a p-value of 0.638 which indicates no correlation between the level of knowledge and attitudes of pregnant women regarding the consumption of Fe tablets and anaemia in pregnant women. The discrepancy in this study could occur because of other factors that affect compliance and research variables, such as deficiency of nutritional intake from foods containing iron, folic acid, protein, vitamin C, vitamin A, zinc, and vitamin B12.

The role of health workers and support from the family is significant to increase the level of adherence of pregnant women in consuming iron tablets. The role of health workers is an activity that is expected of health worker who provides health services to the community to improve public health status. The motivation of health workers is another factor that can influence adherence. If health workers are motivated to consume iron tablets in pregnant women, consumption of iron tablets will be easier to achieve. However, if health workers provide little or no support or motivation, it can result in pregnant women not taking iron tablets. Family participation factors significantly affect pregnant women's adherence to iron tablets during pregnancy. Efforts are made to include family participation as a crucial essential factor around pregnant women by empowering family members, especially husbands, to help them increase their adherence to iron tablets (12,13).

CONCLUSION

There is no correlation between knowledge of iron tablets and compliance with consumption among pregnant women. Other factors affecting noncompliance with Fe tablet consumption must be investigated for the public health centre to design a program to improve pregnant women's welfare.

REFERENCES

1. WHO. Trends in maternal mortality 2000 to 2017: estimates by WHO, UNICEF, UNFPA, World Bank Group and the United Nations Population Division. World Health Organization Geneva; 2019.

https://doi.org/10.33755/jkk

p-ISSN : 2354 8428 | e-ISSN: 2598 8727

Jurnal Keperawatan Komprehensif
Vol. 9 No. 2 April 2023

2. Kemenkes RI. Profil kesehatan Indonesia 2018 [Indonesia health profile 2018]. 2019.
3. Bandung DK. Profil Kesehatan Kota Bandung Tahun 2018. Bandung: Dinas Kesehatan Kota Bandung. 2018;
4. Garzon S, Cacciato PM, Certelli C, Salvaggio C, Magliarditi M, Rizzo G. Iron deficiency anemia in pregnancy: Novel approaches for an old problem. Oman Med J. 2020;35(5):e166.
5. Georgieff MK. Iron deficiency in pregnancy. Am J Obstet Gynecol. 2020;223(4):516–24.
6. Sari DKP. The Correlation Between Knowledge And Attitude With Compliance Of Fe Tablet Consumption In Anemia Of The Third Trimester Pregnant Women. International Journal of Midwifery Research. 2021;1(2).
7. Yosianty E, Darmawati I. Pengetahuan Ibu Berhubungan dengan Kepatuhan Pemberian Imunisasi Campak. Jurnal Keperawatan BSI. 2019;7(1).
8. Darmawati I, Arumiyati S. Pengetahuan Gizi Remaja SMPN 40 Kota Bandung. Jurnal Kesehatan. 2017;10(2):49–57.
9. American College of Obstetricians, Task Force on Hypertension in Pregnancy. Hypertension in pregnancy. Report of the American College of Obstetricians and Gynecologists' Task Force on Hypertension in Pregnancy. In: Obstetrics and gynecology. 2013.
10. Alani AHHDA, Hassan BAR, Suhaimi AM, Mohammed AH. Use, awareness, knowledge and beliefs of medication during pregnancy in Malaysia. Osong Public Health Res Perspect. 2020;11(6):373.
11. Notoatmodjo S. Promosi kesehatan dan perilaku kesehatan. Jakarta: rineka cipta. 2012;45–62.
12. He D, Ren J, Luo B, Xiang J, Wang G, Gu L, et al. Women's psychological health, family function, and social support during their third trimester of pregnancy within the COVID-19 epidemic: a cross-sectional survey. Disaster Med Public Health Prep. 2022;16(5):1822–6.
13. Yuniar D, Darmawati I. Dukungan Keluarga Berhubungan Dengan Kecerdasan Emosional Remaja. Jurnal Keperawatan Komprehensif (Comprehensive Nursing Journal) [Internet]. 2017;3(1):9–17. Available from: http://journal.stikep-ppnijabar.ac.id/index.php/jkk/article/view/79

https://doi.org/10.33755/jkk