

ORIGINAL ARTICLE:**Knowledge of pregnant women about anemia is related with adherence to iron tablets****Baksono Winardi***, **Elga Caecaria Grahardika Andani**

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ABSTRACT

Objectives: to identify association between knowledge of pregnant women about anemia and the adherence to consume iron tablets in BPM Titik Suharti, Surabaya, Indonesia

Materials and Methods: Observational analysis cross sectional study. Population consisted of 55 trimester pregnant women in BPM Titik Suharti, Surabaya, in March-April 2017. Samples were recruited using consecutive sampling. The number of sample was 35 respondents. Data were analyzed using chi-square test.

Results: This research showed that all of the less knowledgeable women on anemia (100.00%) were non-adherent to consume iron tablets, almost all moderately knowledgeable women (92.9%) were adherent, and all of the fully knowledgeable women (100.00%) were adherent. Fisher exact test in significance level of 0.05 revealed p value equal to 0.0001, indicating association between knowledge about anemia and adherence to consume iron tablets at BPM Titik Suharti, Surabaya, Indonesia.

Conclusion: There is an association between knowledge of pregnant women about anemia with adherence to iron tablets.

Keywords: knowledge; anemia; adherence; iron tablet

ABSTRAK

Tujuan: mengetahui hubungan antara pengetahuan ibu hamil tentang anemia dengan kepatuhan mengkonsumsi tablet besi di BPM Titik Suharti, Surabaya, Indonesia.

Bahan dan Metode: penelitian analisis observasional cross sectional. Populasi ibu hamil adalah ibu hamil trimester kedua di BPM Titik Suharti, Surabaya, Indonesia, pada bulan Maret-April 2017, yaitu 55 orang. Teknik samplingnya adalah Consecutive sampling. Jumlah sampel sebanyak 35 responden. Analisis data menggunakan uji Chi-square.

Hasil: Penelitian mendapatkan 12 orang yang berpengetahuan kurang tentang anemia. Seluruhnya (100.00%) tidak patuh mengkonsumsi tablet besi. Dari 14 orang yang berpengetahuan cukup tentang anemia, hampir seluruhnya (92.9%) patuh mengkonsumsi tablet besi, dan dari 9 orang yang berpengetahuan baik tentang anemia, seluruhnya (100.00%) patuh mengkonsumsi tablet besi. Hasil uji Fisher exact dengan tingkat signifikansi 0,05 mendapat nilai p sebesar 0,0001, berarti ada hubungan antara pengetahuan tentang anemia dengan kepatuhan mengkonsumsi tablet besi pada BPM Titik Suharti Surabaya.

Simpulan: Terdapat hubungan antara pengetahuan ibu hamil tentang anemia dengan kepatuhan terhadap tablet besi.

Kata kunci: pengetahuan; anemia; kepatuhan; tablet besi

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INTRODUCTION

Globally, the prevalence of anemia in pregnant women around the world is 41.8%.¹ According to the results of Basic Health Research (Riskesdas) in 2013, the prevalence of anemia in pregnant women in Indonesia was 37.1%, and according to East Java Health Profile (2014) the prevalence rate of anemia in pregnant women in East Java was 25.3%.^{2,3}

Anemia in pregnancy is a condition of the mother with a hemoglobin level below 11 g% in trimesters 1 and 3 or <10.5 g% in trimester.^{2,4} These limits and the difference with non-pregnant women is present due to hemodilution, especially in the second trimester. Most anemia in pregnancy is caused by iron deficiency and pregnant women have a high risk of iron deficiency anemia.⁴ The high prevalence of anemia in pregnant women can lead to various effects of abortion, fetal death, fetal growth in the uterus, pos-partum hemorrhage, and infection.⁵

Efforts to prevent and overcome iron-deficiency anemia are performed through the administration of blood booster tablets in a daily dose of 1 tablet (60 mg elemental iron and 0.25 mg of folic acid) at least 90 days during pregnancy.¹ Adherence in taking iron supplements is a matter of concern, although the report indicates that the number of pregnant women who received iron supplements is large, but if it is not consumed then the expected effect of iron supplement consumption will not be achieved.⁶

Adherence of the pregnant women in consuming iron tablets is influenced by several factors, ie the predisposition factors such as age, education, income, knowledge about anemia and prevention; the supporting factors such as the number of iron tablets received, iron tablet acceptability, side effects; the driving factors such as the number of ANC visits, use of reminder techniques, and family support; and the environmental factors such as the availability of ANC facilities and access to ANC facilities.⁷

A preliminary study of 10 pregnant women of trimester 2 at BPM Titik Suharti, Surabaya, in November 2016 showed that of 2 well-knowledgeable respondents (100%) adherently consumed iron tablets, of 3 moderately knowledgeable respondents most (66.7%) adherently consumed iron tablets, and of 5 less-knowledgeable respondents most not adherently consumed iron tablets. This study aims to analyze the association of knowledge of pregnant women about anemia with adherence to consume iron tablets.

MATERIALS AND METHODS

This study used cross-sectional observational design, conducted at BPM Titik Suharti, Surabaya. The population used was the second trimester pregnant women who obtained as many as 30 iron tablets, who visited BPM Titik Suharti, Surabaya, in March-April 2017, comprising 55 patients.

The sampling technique used was consecutive sampling, with inclusion criteria willing to be respondents by signing informed consent, and the exclusion criteria of trimester II pregnant women who were allergic to iron tablets, suffering from infectious and declining diseases, and hemoglobin levels <10.5 g%. The number of samples was 35 respondents. Respondents were given with an explanation on the purpose of this study as well as the informed consent sheet. Pregnant women who were willing to sign the informed consent were then given with questionnaire. Data analysis in this study used Chi-square test with 5% significance level to identify the association existence of knowledge of the pregnant mother about anemia with adherence to consume iron tablet.

RESULTS AND DISCUSSION

Table 1. General characteristics of the respondents

No	Characteristics	Frequency	Percentage
1	Age		
	< 20 years	12	34.28
	20-35 years	8	51.43
2	Education		
	Elementary	16	45.70
	Secondary	12	34.30
3	High	7	20.00
	Visiting day		
	< 30 days	2	5.71
	30 days	14	40.00
	> 30 days	19	54.29

Table 1 shows that of 35 respondents, most (51.43%) are between 20-35 years old, almost half (45.7%) have basic education, and most (54.29%) make re-visitation in more than 30 days. The analysis results were tested using Chi-Square test.

Of 12 patients who had less knowledge about anemia, all (100.00%) did not adhere to iron tablets. Of 14 patients who had sufficient knowledge about anemia, almost all (92.9%) had adherence to consume iron tablets. Of 9 patients who had good knowledge about anemia, all (100.00%) had adherence to consume iron tablets.

Table 2. Chi-Square test results

Knowledge	Adherence				Total	%	p value
	Adherent	%	Not adherent	%			
High	9	100.00	0	0.0	9	100.00	0.0001
Moderate	13	92.90	1	7.10	14	100.00	
Less	0	0.0	12	100.00	12	100.00	
	22	62.85	13	37.15	35	100.00	

The bivariate test using chi square test shows the number of cells with the expected frequency of 33.3%, while the chi square test itself required no more than 20%, so the fisher exact test was used as an alternative with the significance level of 0.05, and p value 0001 ($p < 0.05$), showing a significant association between knowledge of anemia and adherence to iron tablets. This was confirmed by the result of coefficient contingency with significance value 0.0001 between knowledge and adherence to consuming iron tablets, showing strong association (0.685).

Knowledge of anemia are things that a person knows about hemoglobin levels that are less than normal. Knowledge of anemia includes the understanding, causes, signs and symptoms, and consequences of anemia; benefits and instructions in taking supplements; and the selection of foods rich in iron.^{8,9} Knowledge is influenced by several factors: education, age, occupation and income, information exposure, experience, and social culture. Adherence with iron tablets is the accuracy of a person's behavior in taking iron tablets according to the advice of medical personnel, ie a daily dose of 1 tablet (60 mg elemental iron and 0.25 μ g of folic acid) at least 90 days during pregnancy, trimester 2.^{1,6} Adherence of pregnant mother in consuming iron tablet is influenced by several factors that are predisposition factor, supporting factor, driving factor, and environmental factor.

The shortcoming of the subjective data retrieval is the honesty and openness to the questions on the questionnaires as the answers are still regarded as private. In addition, to clearly identify the adherence to iron tablets, it is not enough just to ask, without direct observation, or just using the techniques of remembrance. Maternal knowledge about anemia is not the only factor affecting maternal adherence in consuming iron tablets. Many other factors are involved, such as other predisposing factors, supporting factors, driving factors, and environmental factors. However, the authors did not examine these factors, so that the subsequent studies are expected also to cover other comprehensive factors.

CONCLUSION

The knowledge of pregnant women about anemia shows a profile that most pregnant women have moderate knowledge, more than those with full and less knowledge. Pregnant women who consumed iron tablets are mostly adherent. There is a relation between the knowledge of pregnant women about anemia with adherence to iron tablets. Pregnant women are expected to be more active in improving knowledge about anemia and awareness of the importance of taking iron tablets. Midwives need to improve health education to pregnant women, especially good education in the administration of iron tablets to prevent anemia. Subsequent studies should examine other comprehensive factors about maternity adherence in taking iron tablets.

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