

LITERATURE REVIEW: THE RELATIONSHIP OF KNOWLEDGE LEVEL OF ANEMIA PREGNANT WOMEN WITH CONSUMING IRON (Fe) TABLETS

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Keywords

Anemia, Pregnancy, Iron tablets

ABSTRACT

Introduction

Anemia is a condition in which the body has too few red blood cells (erythrocytes), where the red blood cells contain hemoglobin that serves to carry oxygen throughout the body's tissues. Knowledge is to include what a person knows is related to health and illness or ways of maintaining health. Pregnant women's knowledge of anemia, iron source foods as well as the need to take iron tablets (Fe) is relatively low. Knowledge is also related to the formation of one's behavior because knowledge is a very important domain in shaping behavior. The prevalence of anemia in pregnant women in Indonesia is 37.1%. Literature aims to find out how the relationship of knowledge level of pregnant women anemia by taking iron tablets (Fe).

Method(s)

The method used in this study is a literature review with article data sources through Google Scholar and Mendeley (2013-2021) to retrieve the appropriate articles and published in Indonesian and English language. Related keywords are anemia, pregnancy, and iron tablets (Fe). Design inclusion studies using Literature Review.

Result(s)

Literature review results from 8 journals show that there is a significant association between the knowledge of pregnant women anemia and taking iron tablets (Fe).

Conclusion(s)

Overall from the 8 journals it can be concluded that knowledge is an important factor in pregnant women in the behavior of taking iron tablets (Fe).

INTRODUCTION

Fetal growth and development begins from conception and ends until the onset of labor is pregnancy (Manuaba, et al., 2012). A mother will experience changes in her body as a form of adaptation during pregnancy. One of the changes that occur are hematological changes, in the form of an increase in maternal blood volume, a decrease in hemoglobin and hematocrit, an increase in iron requirements, changes in the immunological system and leukocytes, as well as coagulation and fibrinolysis (Cunningham et al., 2013) in (Ratih,

2018) . During pregnancy, a mother often experiences iron deficiency in her body. Iron is a mineral that is needed in the body to form red blood cells (hemoglobin). Iron acts as a component to form myoglobin or a protein that carries oxygen to muscles, collagen or a protein found in bone, cartilage, and connective tissue and enzymes. Iron also functions in the body's defense system (Oktaviani, et al., 2016).

Anemia is a condition in which the body has too few red blood cells (erythrocytes), where the red blood cells contain hemoglobin which functions to carry oxygen throughout the body's tissues (Anggraini, 2017). According to the

World Health Organization (WHO) in 2014, the main causes of death for anemic pregnant women in developed countries include hypertension, infection, bleeding, and other causes. In Indonesia, anemia is generally caused by a lack of iron (Fe) so it is more often called iron deficiency anemia. One of the groups that are prone to iron deficiency anemia are pregnant women. Anemia in pregnant women is a condition where the hemoglobin level is below 11 g/dl in the first and third trimesters or below 10.5 g/dl in the second trimester (Rizki et al., 2018). Indication of anemia during pregnancy if the hemoglobin concentration is less than 11.0049 g/dl. Included in the category of mild anemia if the hemoglobin level is 9-10 g/dl, moderate anemia has a hemoglobin level of 7-8 g/dl, and severe anemia the hemoglobin level is less than 7 g/dl5 (Putri, 2019).

Anemia of pregnancy is called potential danger to mother and child or "potential danger to mother and child". The incidence of anemia in pregnant women can increase the risk of maternal death compared to mothers who do not experience anemia. Therefore anemia requires serious attention from the parties involved in health services (Keswara & Hastuti, 2017). The effects of anemia during pregnancy include LBW and bleeding.

According to the World Health Organization (WHO) in 2016, the percentage of anemia in pregnant women was 40.1%. The percentage of anemia in pregnant women is estimated to be 48.2% in Asia, 57.1% in Africa, 24.1% in America and 25.1% in Europe (Salulinggi, 2020). Based on the results of the 2013 Basic Health Research (Riskesdas) in Indonesia, the prevalence of anemia in pregnant women is 37.1%. While the percentage of iron tablets (Fe) in 2012 was 85%. This percentage has increased compared to 2011 which was 83.3%. Although the government has carried out an anemia control program in pregnant women, namely by giving 90 iron (Fe) tablets to pregnant women during the pregnancy period with the aim of reducing the anemia rate of pregnant women, the incidence of anemia is still high (Anggraini, 2017).

The results of the Riskesdas data in 2018 the percentage of pregnant women who experienced anemia increased to 40.1% compared to the results of the Riskesdas in 2013 which was 37.1%. With the highest number of pregnant women experiencing anemia at the age of 15-24 years at 84.6%, aged 25-34 years at 33.7%, aged 35-44 years at

33.6%, and aged 45-54 years at 24% (Suwardi, 2021). DIY Province is higher at 73.9% compared to 3 other provinces on the island of Java, such as West Java 71.5%, Central Java 62.5%, and East Java 57.8%.

The incidence of anemia in Indonesia is mostly caused by iron (Fe) deficiency (Hastanti, 2016). Iron is the most needed micron mineral in the human body. Iron is a component of hemoglobin, myoglobin, catalase enzyme cytorane, and peroxidase. Iron is an iron salt in the form of tablets / capsules if taken regularly can increase the number of red blood cells. Pregnant women experience red blood cell dilution so they need additional iron to increase the number of red blood cells and for fetal red blood cells (Rasmaliah, 2004 in Hidayah, 2012).

The most common anemia that occurs during pregnancy is caused by a lack of knowledge about the nutritional needs of pregnant women (Indri O. et al., 2019). Factors related to the occurrence of anemia during pregnancy, one of which is the lack of coverage of iron tablets (Fe) and factors from pregnant women themselves such as the lack of knowledge of consumption of iron tablets (Fe) which is still low, and consumption behavior of iron (Fe) tablets.) mothers who are still not good (Reni Meta D.V., 2017).

From the results of research conducted by (Anggeriani, 2016) that the incidence of anemia is caused by lack of knowledge, causing pregnant women not to consume iron (Fe) tablets.

Based on the above data, the factors that cause anemia in pregnancy are the lack of knowledge and attitudes of anemic pregnant women by consuming iron (Fe) tablets. So based on this phenomenon, the authors are interested in conducting a literature review on "The Relationship between Knowledge Levels of Pregnant Women with Anemia and Consuming Fe Tablets".

METHODS

This writing uses a literature review method, namely research based on a summary of several studies related to the research topic that has been determined (Pamungkas, R. A & Usman, A. M, 2017). The framework used uses PICOS (Population/Problem, Intervention, Comparison, Outcome, Study Design).

Articles used through searches with databases from Google Scholar between 2013 and 2020 and Mendeley. The study strategy used the keywords Anemia AND, Pregnancy

AND Iron Tablets. "Anemia and Pregnant Women and Iron Tablets" Articles were collected and selected according to predetermined keywords. The research method of the articles used is not limited. The review includes the title, research objectives, research methods and research results. The selected articles are research articles that can be accessed online complete.

The review consists of quantitative research related to the relationship between knowledge of pregnant women with anemia and consuming iron (Fe) tablets. The research was conducted in various health care facilities. The research design consisted of literature study, analytical survey, and cross sectional study. Search strategy using google scholar 60 articles and Mendeley 4 articles, 56 were not selected on the grounds that they did not meet the inclusion criteria and could not be opened completely, 8 journals were used in this study. The details of the journals reviewed can be seen in the following table:

No	Category	F	%
A Years Publications			
1	2013	1	12,5
2	2016	1	12,5
3	2017	2	25
4	2019	2	25
5	2020	1	12,5
6	2021	1	12,5
	Total	8	100
B Research Design			
1	Studi Cross Sectional	1	12,5
2	Survey Analitik Cross Sectional	2	25
3	Analistik Obsevational Cross Sectional	3	37,5
4	Analitik Kuantitatif Cross Sectional	1	12,5
5	Analitin Cross Sectional	1	12,5
	Total	8	100
C Sampling			
1	Purposive Sampling	2	25
2	Concecutive Sampling	1	12,5
3	Accidental Sampling	1	12,5
4	Total Sampling	2	25
5	Simple Random Sampling	2	25
	Total	8	100
D Instrument			
1	Kuesioner	7	87,5
2	Observasi	1	12,5

RESULTS

Based on the results of a study of several literatures, knowledge is very important to change the attitude of pregnant women in consuming iron (Fe) tablets.

According to a review of the results of research conducted by Suyati Suwardi, et al (2021), Rabitha Rachmaniar, et al (2013) stated that good knowledge will affect the reduction of risk and the occurrence of anemia in pregnant women, compared to pregnant women who have less knowledge.

Other information obtained from the research of Widya Nurul Fatimah, et al (2019), Rini Anggeriani (2016), Rena Regina Erwin, et al (2017), which has been reviewed, shows that the results of the chi-square statistical test obtained a probability value of 0.000 (<0.05), which means that H1 is accepted, that is, there is a relationship between the level of knowledge of pregnant women about anemia in pregnancy and the behavior of consuming iron supplements in pregnant women.

Rizka Anggrainy's research (2017), states that if pregnant women have good knowledge, they will show a good attitude in preventing pregnancy anemia.

According to research by Abdu Oumer, et al (2019), more than half of the respondents have good knowledge, also have an attitude of supporting the prevention of iron deficiency anemia. implement the practice of preventing iron deficiency anemia.

In addition to knowledge of the role of health workers in providing education regarding how to consume iron tablets, this is also very important, according to research conducted by Nichi Astapani, et al (2020), which is that there is a relationship between the role of health workers and the incidence of iron deficiency anemia in pregnant women.

From eight reviewed journals, it was found that good knowledge will greatly affect the behavior/attitude of pregnant women in consuming iron (Fe) tablets. This is reinforced by the results of research written by Iswanto (2017) in Fatima, et al (2019), namely knowledge is related to the formation of one's behavior because knowledge is a very important domain in shaping behavior.

Behavior that is based on knowledge will be better than behavior that is not based on knowledge. The knowledge gained through the hearing of pregnant women on health information during pregnancy will affect the behavior of pregnant women in maintaining

their health.

DISCUSSIONS

Based on a literature review from eight research journals, it can be concluded that there is a significant relationship between knowledge of anemic pregnant women and consuming iron (Fe) tablets. The higher the level of knowledge of pregnant women, the lower the incidence of anemia. This is because if the knowledge level of pregnant women is high or good, the attitude or behavior of the mother in consuming iron (Fe) tablets will be good.

The importance of health workers, especially in areas that are difficult to reach by visual or non-visual media, to provide health education is related to the importance of consuming iron tablets for pregnant women, this is because based on the results of research in reviewed journals, it shows a significant relationship between knowledge and attitude of consuming iron (Fe) tablets.

REFERENCE

- Admin, & Veradilla. (2019). Gambaran Kadar Hb Ibu Hamil Trimester Ii Di Puskesmas Kertapati Palembang Tahun 2018. *Jurnal Kesehatan Dan Pembangunan*, 9(18), 123–129.
<https://doi.org/10.52047/jkp.v9i18.51>
- Adventus, Jaya, I. M. M., & Mahendra, D. (2019). *Buku Ajar Promosi Kesehatan*. Pusdik SDM Kesehatan, (1), 6–8.
- Amallia, S., Afriyani, R., & Utami, S. P. (2017). Faktor Risiko Kejadian Anemia pada Ibu Hamil di Rumah Sakit BARI Palembang. *Jurnal Kesehatan*, 8(3), 389.
<https://doi.org/10.26630/jk.v8i3.639>
- Anggeriani, R. (2016). Hubungan Tingkat Pengetahuan Dan Konsumsi Tablet Fe Dengan Kejadian Anemia Ibu Hamil Di Puskesmas Tulang Ratu Palembang. *Jurnal Kesehatan Abdurahman Palembang*, 5(2), 21–28.
<http://ejournal.stikesabdurahman.ac.id/index.php/jkab/article/view/57>
- Anggraini, Y. (2017). Ibu Hamil Di Wilayah Kerja Puskesmas Guguak Panjang Kota Bukittinggi Tahun 2017. *Jurnal Ilmiah Kebidanan*, 8(2), 47–56.
- Angrainy, R. (2017). Hubungan Pengetahuan dengan Sikap Ibu Hamil dalam Pencegahan Anemia Pada Kehamilan Di Puskesmas Rumbai Bukit Tahun 2016. *Jurnal Endurance*, 2 (1), 62.
<https://doi.org/10.22216/jen.v2i1.1654>
- Dara. (2019). Faktor- Faktor Yang Mempengaruhi Kepatuhan Ibu Hamil Dalam Mengonsumsi Tablet Zat Besi Dan Kaitannya Dengan Kejadian Anemia Pada Ibu Hamil Di Puskesmas Muaro Kiawai Kabupaten Pasaman Barat Tahun 2019. 1–179.
[http://repo.stikesperintis.ac.id/316/1/SKRI PSI PDF.pdf](http://repo.stikesperintis.ac.id/316/1/SKRI%20PSI%20PDF.pdf)
- Erwin, R. R., Machmud, R., & Utama, B. I. (2018). Hubungan Pengetahuan dan Sikap Ibu Hamil dengan Kepatuhan dalam Mengonsumsi Tablet Besi di Wilayah Kerja Puskesmas Seberang Padang Tahun 2013. *Jurnal Kesehatan Andalas*, 6(3), 596.
<https://doi.org/10.25077/jka.v6i3.744>
- Fatimah, W. N., Widajadnya, I. N., & Soemardji, W. M. (2019). Hubungan Tingkat Pengetahuan Ibu Hamil Tentang anemia Dalam Kehamilan Terhadap Perilaku Konsumsi Suplemen Zat Besi Di Wilayah Kerja Puskesmas Talise. *Jurnal Ilmiah Kedokteran*, 6(1), 1–8.
- Gizi, J., & Kesehatan, P. (2011). Hubungan Kepatuhan Ibu Hamil Dalam Mengonsumsi Tablet Besi (Fe) Dengan Kadar Hemoglobin (Hb) Di Wilayah Puskesmas Ranomut Kota Manado. 8(2), 35–44.
- Hastanti. (2016). Hubungan Pengetahuan Dengan Kepatuhan Ibu Hamil Dalam Mengonsumsi Tablet Zat Besi (Fe) Di Wilayah Kerja Puskesmas Lawanga Kabupaten Poso. 68–70.
- Indri O, A. N., Endah W, A., & Amareta, D. I. (2019). Hubungan Faktor Predisposisi terhadap Kepatuhan Ibu Hamil dalam Mengonsumsi Tablet Besi dan Kadar Hemoglobin di Puskesmas Mangli Kabupaten Jember. *Jurnal Kesehatan*, 5(3),

- 154–165. <https://doi.org/10.25047/j-kes.v5i3.56>
- Keswara, U. R., & Hastuti, Y. (2017). Efektifitas Pemberian Tablet Fe Terhadap Peningkatan Kadar Hb Pada Ibu Hamil. *Jurnal Dunia Kesmas*, 6(1), 17–21.
- Lestari, N. D. A. (2018). Gambaran Pengetahuan Keluarga Dalam Merawat Anggota Keluarga Dengan Komplikasi Gangre. *Skripsi*, 5–29.
- Millah, A. S. (2019). Hubungan Konsumsi Tablet Fe Dengan Kejadian Anemia Pada Ibu Hamil Di Desa Baregbeg Wilayah Kerja Puskesmas Baregbeg Kabupaten Ciamis Tahun 2018. *Jurnal Keperawatan Galuh*, 1(1), 12. <https://doi.org/10.25157/jkg.v1i1.1787>
- Oktaviani, I., Makalew, L., & Solang, S. (2016). Profil Haemoglobin Pada Ibu Hamil Dilihat Dari Beberapa Faktor Pendukung. *Jurnal Ilmiah Bidan*, 4(1), 90985.
- Oumer, A., & Hussein, A. (2019). Knowledge, Attitude and Practice of Pregnant Mothers towards Preventions of Iron Deficiency Anemia in Ethiopia: Institutional Based Cross Sectional Study. *Health Care : Current Reviews*, 07(01), 1–7. <https://doi.org/10.35248/2375-4273.19.07.238>
- Putri, D. K. (2019). Hubungan Pengetahuan dan Sikap Ibu Hamil Trimester III Dalam Konsumsi Tablet Fe dengan Terjadinya Anemia Di BPM Mardiani Ilyas Aceh Tahun 2018. *Jurnal Midwifery Update (MU)*, 1(1), 47. <https://doi.org/10.32807/jmu.v1i1.40>
- Rachmaniar, R., Nelasari, H., & Widiwanto, B. (2017). Hubungan Antara Pengetahuan Tentang Anemia Pada Ibu Hamil Trimester Ii Dan Iii Dengan Resiko Terjadinya Anemia Dalam Kehamilan Di Puskesmas Sukorame Kediri. *Saintika Medika*, 9(2), 99. <https://doi.org/10.22219/sm.v9i2.4137>
- Ratih, R. H. (2018). Pengaruh Pemberian Zat Besi (FE) terhadap Peningkatan Kadar Hematokrit pada Ibu Hamil yang mengalami Anemia di RSIA X Pekanbaru Tahun 2015. *Jurnal Ners Dan Kebidanan (Journal of Ners and Midwifery)*, 5(1), 034–038. <https://doi.org/10.26699/jnk.v5i1.art.p034-038>
- Reni Meta D.V. (2017). Hubungan Tingkat Pengetahuan Dan Perilaku Konsumsi Tablet Tambah Darah Dengan Kejadian Anemia Pada Ibu Hamil Trimester Iii. *Journal of Chemical Information and Modeling*, 53(9), 1689–1699.
- Rizki, F., Lipoeto, N. I., & Ali, H. (2018). Hubungan Suplementasi Tablet Fe dengan Kadar Hemoglobin pada Ibu Hamil Trimester III di Puskesmas Air Dingin Kota Padang. *Jurnal Kesehatan Andalas*, 6(3), 502. <https://doi.org/10.25077/jka.v6.i3.p502-506.2017>
- Salulinggi, A. (2020). Hubungan Pengetahuan Dan Perilaku Ibu Hamil Tentang Konsumsi Tablet Tambah Darah (Ttd) Dengan Kejadian Anemia Di Kecamatan Leitimur Selatan Dan Teluk Ambon. 6(1), 229–236.
- Suwardi, S., & Harahap, N. R. (2021). Faktor Yang Berhubungan Dengan Anemia Pada Ibu Hamil Associate. 4(1), 6.
- Tri, E., Subaktilah, Y., & Elisanti, A. D. (2020). Hubungan Cara Konsumsi Tablet Fe Dan Peran Petugas Kesehatan Dengan Kejadian Anemia Pada Ibu Hamil Di Desa Baru Wilayah Kerja Puskesmas Siak Hulu Iii Tahun 2019. Volume 1, No2 2020 *Jurnal Kesehatan Tambusai*, 8(1), 10–15. <https://journal.universitaspahlawan.ac.id/index.php/jkt/article/view/1107>