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RELATIONSHIP BETWEEN GESTATIONAL AGE, PARITY, SEZ STATUS, AND ANEMIA HISTORY OF PREGNANT WOMEN IN CIAMPEL SUB DISTRICT

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Abstract

Anemia, especially in pregnant women, is a major problem for global health. Anemia is also known as iron nutritional anemia, a condition where the mother has a hemoglobin level below 11 grams/dl. The purpose of this study was to determine the relationship between maternal age, parity and SEZ status with anemia history of pregnant women in Ciampel District, Karawang Regency. This research method is a correlative analytic research with a cross sectional design. The place of research implementation in Ciampel District, Karawang Regency, with a population of 30 pregnant women. The sampling technique used sampling techniques with data collection techniques through questionnaires. The results of research on maternal age and parity with anemia history of pregnant women obtained insignificant results with a p-value of 1.000 (p>0.05) and a p-value of 0.210 (p>0.05), while the results of research on SEZ status obtained a significant value with a p-value of 0.001 (p<0.05). The conclusion of this study shows that there is a significant relationship between SEZ status and the incidence of anemia in pregnant women, while the relationship between maternal age and parity has no significant relationship with the history of anemia in pregnant women.

Keywords: Age, Parity, SEZ Status, Maternal Anemia

Introduction

Anemia, especially in pregnant women, is a major problem for global health. Iron (Fe) deficiency anemia, also known as iron nutritional anemia (AGB), is a condition where the mother has a haemoglobin level below 11 grams/dl (Azamti et al., 2022).

Data from the World Health Organization (WHO) in 2019 showed that 40% of pregnant women worldwide suffer from anemia. Of the eleven countries in Southeast Asia, Indonesia ranks fifth in terms of the prevalence of anemia in women of reproductive age. Cambodia peaked with 47.1%, followed by Myanmar 42.1%, Laos 39.5%, Malaysia 32%, and Indonesia 31.2% (World Health Organization., 2019).

In West Java Province from 2015 to 2020, the number of pregnant women with anemia during pregnancy was highest in 2019, with 85,826 cases, but in 2020, this number dropped to 63,246 cases. Despite the decrease, the prevalence of anemia in West Java Province in 2020 remains quite high (kemenkes, 2021).

In Karawang Regency, 8,090 pregnant women experienced anemia, with 681 mothers with Hb levels below 8 grams and 7,435 mothers with Hb levels above 9 grams (Karawang district health office., 2019). Chronic energy deficiency (CED), age, parity, nutritional status, consumption patterns, and low iron intake are risk factors for anemia. Low iron intake can also be caused by low iron absorption which can be caused by the consumption of foods containing phytates and phenols (Azamti et al., 2022).

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In addition to affecting the growth and development of the fetus and the mother herself, the age of the pregnant woman is also very important. The age of the pregnant woman affects the amount of nutrition required. Young women under the age of twenty need additional nutrients because in addition to being used for their own growth and development, they are also used to share nutrients with the fetus they are carrying. Older women over the age of 35 require a greater amount of energy as their organ functions are weakened and have to work fully. However, to support an ongoing pregnancy, additional energy is required (Pomalingo & Setiawan, 2018).

Too frequent pregnancies can lead to malnutrition because the body's nutrient reserves have been depleted and the reproductive organs have not returned to their ideal state before pregnancy. When a person gives birth too many times her organs, especially reproductive organs, are not optimal. A body in this condition craves energy to repair it or even to maintain it. However, when the body needs a lot of energy, the pregnant woman has to share that energy with her fetus. This will lead to long-term energy deficiency (Novelia et al., 2021).

There are two possibilities that a pregnant woman is suffering from SEVERITY based on the LILA measurement; the LILA threshold for pregnant women at risk of SEVERITY in Indonesia is 23.5 cm; if the LILA measurement is less than 23.5 cm or in the red part of the LILA band, the woman is at risk of SEVERITY and is expected to give birth to a low birth weight baby (LBW), which has a risk of death, malnutrition, impaired growth, and impaired child development (Heryudarini Harahap, 2002).

There are many risk factors for anemia among pregnant women in Karawang, which can be either direct or indirect factors. Direct factors include maternal health factors such as gestational age, number of children (parity), spacing of pregnancies, and prenatal check-ups. Another direct factor is the nutritional status of the mother. So the purpose of this study is to determine the relationship between maternal age, parity and SEZ status with anemia history of pregnant women in Ciampel village, Karawang Regency.

Method

This study is a correlative analytic study with a cross sectional design to determine the relationship between maternal age, parity, and SEZ status with the history of anemic pregnant women in Karawang. The research was conducted in Ciampel Subdistrict, Karawang Regency and the implementation time was in April-May 2024 with a population of 30 pregnant women. The sampling technique used total sampling with data collection techniques through questionnaires.

The data were used for univariate and bivariate analysis. This analysis was conducted with a 95% confidence level using primary data from respondents and secondary data from the Puskesmas, which included the identity of respondents, Hb values in Medical Records, and MCH books.

Results

One of the factors affecting anemia in pregnant women is gestational age, parity, and SEZ (Chronic Energy Deficiency) status during pregnancy. This study also reviewed the history of anemia in pregnant women as a relevant variable. The results of the relationship between gestational age and history of anemia in pregnant women can be seen in Table 1, while the relationship between parity and history of anemia is presented in Table 2. The relationship between SEZ status and history of anemia in pregnant women can be seen in Table 3.

Table 1. Results of Analysis of the Relationship between Maternal Age and Anemia History of Pregnant Women

Mother's age	Anemia of pregnant women				Total	*p-value*
	No history		There is history			
	n	%	n	%		
Too young	0	0	0	0	0	
healthy reproduction	16	66,7	8	33,3	100,0%	1,000
Too old	4	66,7	2	33,3	100,0%	

Table 1 shows that there is no significant relationship between maternal age and the history of anemic pregnant women in Ciampel District, Karawang with a p-value of (1.000). In this study, maternal age is not related to the incidence of anemia on the contrary, the age of younger pregnant women will have an impact on their nutritional needs.

Table 2. Results of Analysis of the Relationship between Parity and Anemia History of Pregnant Women

Parity	Anemia of pregnant women				Total	*p-value*
	No history		There is history			
	n	%	n	%		
Low	15	75,0	5	25,0	100,0%	
Safe	4	44,4	5	55,6	100,0%	0,210
High	1	100,0	0	0,0	100,0%	

Table 2 shows that there is no significant relationship between parity and the history of anemic pregnant women in Ciampel District, Karawang with a p-value of (0.210). This is because both mothers with more than 1 parity or at risk of anemia.

Table 3. Results of Analysis of the Relationship between SEZ Status and Anemia History of Pregnant Women

SEZ Status	Anemia of pregnant women				Total	*p-value*
	No history		There is history			
	n	%	n	%		
Less	12	40,0	10	60,0	100,0%	0,001
Normal	8	100,0	0	0,0	100,0%	

Based on Table 3, there is a significant relationship between SEZ status and the history of anemic pregnant women in Ciampel District, Karawang with a p-value of (0.001). Pregnant women with SEZ have low energy reserves and nutrients, especially iron, protein, and folic acid, which are very important for the formation of hemoglobin. This hemoglobin deficiency is the main cause of anemia.

Discussion

In this study, maternal age is not related to the incidence of anemia, on the contrary, the age of younger pregnant women will have an impact on their nutritional needs, according to Soejoeti, (2019), young pregnant women are often at risk of undernutrition, which can affect their body's ability to form sufficient hemoglobin, making them more prone to anemia. In addition, young pregnant women often lack experience or knowledge regarding the importance of providing nutrition during pregnancy, which can reduce the risk of anemia. Although this study did not find a significant association, monitoring the nutritional needs of young pregnant women is still important to prevent complications that may occur.

This is in line with research Ariyani, (2016) which also shows that there is no relationship between maternal age and the number of cases of anemia in pregnancy. According to Ningrum, (2012) the study showed that there is a tendency that the older the age of pregnant women, the more cases of anemia are reported, but this study has not found an association between maternal age and the number of reported cases of anemia. This is a result of the unbalanced distribution of the sample, with 80% of both case and control groups coming from maternal ages 20-35 years at pregnancy.

The relationship between parity and the history of anemic pregnant women in Ciampel District, Karawang is not significant. This is because both mothers with more than 1 parity or at risk of anemia. This may be due to the fact that other factors, such as nutrient intake, overall health status, and lifestyle, play a more dominant role than maternal age in determining the incidence of anemia. However, in theory, maternal age, especially teenage or young age (<20 years old), can affect nutritional requirements during pregnancy. Younger pregnant women are still growing, so they need additional nutrients not only to support fetal development, but also for their own body growth.

According to Manuaba, (2010), multiparous mothers often experience a decrease in iron reserves due to cumulative body needs during pregnancy and lactation. The risk of anemia in primiparas is also quite high due to their lack of experience in maintaining nutritional intake during pregnancy. Other factors, such as diet, socioeconomic status, or access to health services, may have a more dominant influence than parity in the incidence of anemia. This shows that both low (primiparous) and high (multiparous) parity mothers have almost the same risk of anemia. Parity may affect the risk of anemia because mothers who have experienced multiple pregnancies and deliveries tend to have decreased iron reserves due to increased nutritional needs during previous pregnancies.

The absence of a significant association in this study could be due to health interventions, such as equitable iron supplementation, that reduce the risk of anemia regardless of the number of births. The results of this study contradict the theory that mothers who give birth frequently are at risk of anemia in subsequent pregnancies if they neglect their nutritional needs, as nutrients will be shared between the mother and fetus during pregnancy. Women who give birth more frequently experience a greater risk of blood loss, which results in decreased Hemoglobin levels. By giving birth each time, the amount of iron lost is estimated at 250 mg (Rismawati, 2018).

The relationship between SEZ status and the history of anemic pregnant women in Ciampel District, Karawang has a significant relationship this indicates that pregnant women with SEZ status have a much higher risk of anemia compared to pregnant women who are not experiencing SEZ. SEZ refers to a condition in which pregnant women experience energy deficiency due to inadequate nutrient intake over a long period of time. This condition results in low energy reserves and essential nutrients, such as iron, protein, and folic acid, which are necessary for hemoglobin formation. According to Manuaba (2010), SEZ can cause impaired formation (hematopoiesis) due to lack of nutrients that play a role in hemoglobin synthesis, thus increasing the risk of anemia in pregnant women. Mothers with SEZ also tend to have decreased immune and metabolic function, which impairs the body's ability to absorb and utilize nutrients from food. Iron deficiency is common in women with SEZ and the welfare of anemia, which not only affects the mother but can also affect the health of the fetus, such as low birth weight and prematurity.

This is in line with Sirait research, (2018), that according to the results of Fisher's exact test there is a relationship (p=0.000) between SEZ and the incidence of anemia in first trimester mothers. Pregnant women have a 22.256 times greater risk of developing anemia during their pregnancy. The study is also in line with Simbolon theory, (2018), that chronic energy deficiency (SEZ) is a condition where the mother experiences a calorie and protein deficit or commonly called malnutrition. This lasts chronically or chronically so that it causes the appearance of disorders in pregnant women which are usually characterized by the results of LLA measurements <23.5 cm. It can be assumed that pregnant women with SEZ will have the opportunity to get anemia.

Pregnant women without SEZ are less likely to develop anemia than those with anemia. This is because pregnant women without SEVERITY usually take better care of their nutritional intake during pregnancy. For example, by eating foods that have balanced nutritional values, such as micronutrients and macronutrients and consuming Vitamin C so that getting anemia is less likely (Sandhi & E.D., 2021).

Conclusion

This study concluded that there was no significant relationship between maternal age and the incidence of anemia in pregnant women, parity also did not show a significant relationship with anemia in pregnant women, there was a significant relationship between SEZ status (Chronic Energy Deficiency) and the incidence of anemia in pregnant women.

It is recommended to increase education to pregnant women on the importance of maintaining a balanced diet and taking recommended supplements to reduce the risk of anemia. Special attention should also be given to pregnant women with low parity to ensure they receive adequate nutrition to maintain their health during pregnancy. In addition, to improve the nutritional status of pregnant women in Ciampel Village, Karawang District, an integrated nutrition intervention program needs to be implemented, including regular nutrition monitoring and increased availability.

References

[1] Ariyani. Arisman. (2016). Penilaian Status Gizi Perorangan Dalam Gizi Dalam Daur Kehidupan. Jakarta: Egc.

[2] Azamti, B. N. A., Pujiantini, A., & Nurhidayah. (2022). Hubungan Umur Dan Paritas Dengan Kejadian Anemia Pada Ibu Hamil Di Wilayah Kerja Puskesmas Kumbe Kota Bima. Jurnal Ilmiah Ilmu Kesehatan, 8(1), 35–45. https://doi.org/10.47506/jpri.v7i1

[3] Dinas Kesehatan Kabupaten Karawang. (2019). Data Ibu Hamil Dengan Anemia. Jurnal Kebidanan.

[4] Heryudarini Harahap. (2002). Faktor- Faktor Yang Mempengaruhi Risiko Kurang Energi Kronis (KEK) Pada Wanita Usia Subur (Wus). Bogor: Departemen Kesehatan Dan Kesejahteraan Sosial.

[5] Kemenkes. (2021). Profil Kesehatan Indonesia 2020. Kementrian Kesehatan Republik Indonesia. 139.

[6] Manuaba, IBG (2010). Ilmu Kebidanan, Penyakit Kandungan, dan KB . Jakarta:E

[7] Ningrum, A. P., & Syaifudin, S. (2012). Hubungan Usia Dengan Anemia Dalam Kehamilan Pada Ibu Hamil Di Puskesmas Wates Kabupaten Kulon Progo Tahun 2012 (Doctoral Dissertation, Stikes'aisyiyah Yogyakarta).

[8] Novelia, S., Rukmaini, & Annisa, E. (2021). Factors Related To Chronic Energy Deficiency Among Pregnant Women. Nursing And Health Sciences Journal (Nhsj), 1(3), 237–241. https://doi.org/10.53713/nhs.v1i3.54

[9] Pomalingo, A. Y., & Setiawan, D. I. (2018). 1) 2) 3). Iv.

[10] Sandhi, S. I., & E.D., D. W. (2021). Pengaruh Kekurangan Energi Kronik (KEK) Terhadap Kejadian Anemia Pada Ibu Hamil. Jurnal Kebidanan Indonesia, 12(1), 78–86.

[11] Sariestya Rismawati, E. R. (2018). Analisis Penyebab Terjadinya Anemia Pada Ibu Hamil.

[12] Simbolon, D. (2018). Modul Edukasi Gizi Pencegahan Dan Penanggulangan Kurang Energi Kronik (KEK) Dan Anemia Pada Ibu Hamil. Deepublish.

[13] Sirait, J. S., Angraini, D. I., & Oktarlina, R. Z. (2018). Hubungan Kurang Energi Kronis (KEK), Umur Ibu , Dan Paritas Terhadap Kejadian Anemia Pada Ibu Hamil Trimester I Di Puskesmas Kemiling Kota Bandarlampung Tahun 2018. Medula (Medical Profession Journal Of Universitas

Lampung), 13(3), 356–362.
[14] Soejoeti, F. (2019). Gizi Ibu Hamil: Pengaruh Usia terhadap Risiko Anemia . Jakarta: Penerbit Gizi dan Kesehatan.
[15] Suparasa, IDN, Bakri, B., & Fajar, I. (2014). Penilaian Status Gizi . Jakarta: EGC.
[16] WHO (2017). Anemia Defisiensi Zat Besi: Penilaian, Pencegahan dan Pengendalian . Jenewa: Organisasi Kesehatan Dunia.
[17] World Health Organization. (2019). Anemia. https://www.who.int/health-topics/anaemia